

DIRECT TESTIMONY
OF
PAUL E. HAERING

1 Q. Please state your name and business address for the record.

2 A. My name is Paul E. Haering. I am employed by Central Hudson Gas &
3 Electric Corporation ("Central Hudson"), and my business address is 284
4 South Avenue, Poughkeepsie, New York 12601.

5

6 Q. What is your educational background?

7 A. I graduated from Manhattan College in 1986 with a Bachelor of Engineering
8 in Electrical Engineering degree. In 1992, I received a Masters of Electrical
9 Engineering degree from Polytechnic University. In 2007, I received a
10 Masters in Business Administration from Rensselaer Polytechnic Institute

11

12 Q. In what capacity are you employed at Central Hudson?

13 A. I am Vice President of Engineering and Environmental Services. In that
14 capacity I am responsible for the engineering planning and designs for
15 Central Hudson's gas and electric transmission and distribution systems. I
16 am also responsible for the construction, operation, and maintenance of our
17 electrical substations. In addition I have responsibility for our Environmental
18 Affairs and Special Services organizations.

19

20 Q. Please summarize your professional experience.

21 A. I joined Central Hudson in 1986 as a Junior Engineer in the Substation
22 Design Section. In 1989 I was transferred to work as a staff engineer in the

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1 Operations Services Division, which has responsibility for the operation,
2 maintenance, and construction of the Company's substation facilities. In
3 1994 I was promoted to the position of Operations Supervisor in the
4 Operations Services Division. In 2000, I was transferred to the position of
5 Engineer in the Electric System Protection Section. In 2001, I became
6 Section Engineer for the Distribution Engineering Section. In 2003, I was
7 promoted to the position of Manager of Electric Transmission and
8 Distribution. In 2004, I was promoted to the position of Manger of Electric
9 Engineering Services. In May of 2007 I was named the Assistant Vice
10 President of Engineering and Environmental Services and in December 2007
11 I was named to my current position.

12

13 Q. Have you previously testified before the Commission?

14 A. Yes. I submitted testimony in cases 05-E-0934, 05-G-0935, 08-E-0887 and
15 08-G-0888.

16

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

18 A. My testimony presents the Company's forecast of capital expenditures for the
19 electric, gas and common programs for the period July 1, 2010 through June
20 30, 2011. This forecast is presented in Exhibit __ (PEH-1).

21

1 Q. Was Exhibit __ (PEH-1) prepared by you or under your supervision and
2 direction?

3 A. Yes.
4

5 Q. What is the Capital Forecast set forth in Exhibit__ (PEH-1) based on?

6 A. The Capital Forecast represents the rate year portion of the Company's most
7 recent Five-Year Capital Plan. The Five-Year Capital Plan I have relied upon
8 was developed by me or under my supervision and direction for purposes as
9 part of our standard annual capital planning process. The entire Five-Year
10 Capital Plan is summarized in Exhibit ____ (PEH-2).
11

12 Q. Please explain what is shown on Exhibit __ (PEH-2), Schedule A, entitled
13 "Capital Program – Total."

14 A. Schedule A is a summary of the Capital Plan for the period 2010 through
15 2014 and includes the Rate Year ending June 30, 2011. This schedule
16 includes annual totals for each of the three major categories: Electric, Gas
17 and Common. Additional detailed information for each of these three major
18 categories is included in Schedules B through D, respectively. The indicated
19 figures include allowance for funds used during construction (AFUDC).
20

21 Q. Referring to Exhibit __ (PEH-2), Schedule B, what is included in the

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1 "Production" category of that schedule?

2 A. The "Production" category includes construction expenditures for the Central
3 Hudson hydroelectric generating facilities at Sturgeon Pool, Dashville, and
4 High Falls, and the combustion turbine plants at Cocksackie and South Cairo.
5 Expenditures in 2010 of \$1,280,000, and 2011 of \$1,802,000 are projected
6 for the installation of rubber bladder flashboards for the Sturgeon Pool Dam.
7 This project is the latest in a series of projects that addressed safety,
8 infrastructure and operational efficiency issues at the Sturgeon Pool Dam.
9 The other projects were compliance projects including the pinning of the
10 dam, the installation of a 90% drain, the replacement of the intake rack, and
11 the upgrade of the generators' governors.

12 Expenditures in 2010 of \$177,000, in 2011 of \$360,000, in 2012 of
13 \$3,488,000 and 2013 of \$3,378,000 are projected for fuel modules, stacks,
14 an air compressor at South Cairo, and improved emission controls and
15 monitoring equipment for the combustion turbine plants at Cocksackie and
16 South Cairo. This equipment required to maintain the reliability of service to
17 customers in the Northwest portion of our territory.

18

19 Q. Are expenditures included for major rebuilds of existing lines in the
20 "Transmission" category of Schedule B of Exhibit __ (PEH-2)?

21 A. Yes. It is projected that several existing lines will have construction initiated

1 or to have come into service during this period.

2 Several of the major reconductoring / rebuild projects include the
3 "WM" line rebuild, and the "WH-1", "WH-2", "A", and "C" reconductoring
4 projects. The planning and permitting work on the "WM" rebuild project
5 started in 2006. This project is for the rebuild of an 11.5 mile 69 kV Line in
6 Orange County. The project is being driven by a combination of
7 infrastructure needs and local area growth. Expenditures in 2006 were
8 \$392,000, in 2007 were \$1,246,000, in 2008 were \$767,000, and in 2009 are
9 projected to be \$1,441,000. Anticipated expenditures for the remainder of the
10 project are \$3,386,000 in 2010, \$3,331,000 in 2011, and \$6,599,000 in 2012
11 for a total of \$16,607,000. These costs are based on the current design,
12 which is subject to change. The final design will be determined coincident
13 with the completion of the permitting process. Increases in the cost of the
14 project have been associated with the length of the permitting process, as
15 well as scope and design changes driven by the permitting process.

16 The construction of a new (3.5 mile) 115kV line between the East
17 Fishkill and Wiccopee Substations included in the previous forecast has been
18 deferred. The need for the project was to provide a third input into the
19 Southern Dutchess Area to address a post-contingency load serving
20 capability issue. The load in this area includes several large industrial
21 customers. One of these customers recently announced its intention to

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1 cease operation. This has been accounted for in the load forecast for the
2 Southern Dutchess Area. The need for this project may return as the
3 economy improves and/or new businesses occupy vacant manufacturing
4 space in this area, and the project will be reevaluated at such time as that
5 occurs.

6 The “WH-1”, “WH-2”, “A”, and “C” reconductoring projects are all
7 associated with our Aluminum Conductor Steel Reinforced (ACSR)
8 Conductor Replacement Program. These projects are predicated on
9 conductor failures and subsequent testing of the line conductor. Test results
10 have shown that the existing ACSR conductors on several lines require
11 replacement. The replacement will improve reliability and load serving
12 capability to customers.

13 The 69 kV “WH-1” and “WH-2” lines are 13.8 miles long each and are located
14 in Ulster and Sullivan County. Anticipated expenditures are \$459,000 in
15 2013 and \$4,932,000 in 2014 for a total of \$5,391,000.

16 The 115 kV “A” and “C” lines are a total of 10.8 miles long and are located in
17 Dutchess County (this reconductoring project may be subject to Article VII).
18 Anticipated expenditures are \$105,000 in 2012, \$107,000 in 2013,
19 \$3,288,000 in 2014 and \$4,252,000 in 2015 for a total of \$7,752,000.

20 In 2006, Central Hudson performed a LiDAR survey of its entire
21 transmission system. This cutting-edge surveying technology combined with

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1 the use of PLS-CADD modeling technology allowed Central Hudson's
2 engineers to develop very detailed models of the transmission system under
3 varying loading conditions. The study revealed a number of changes in right
4 of way use, ground profiles and encroachments (compared to what was
5 assumed in the original design). Central Hudson has identified 624 spans
6 that do not meet required clearances and will be including in the transmission
7 sag mitigation program. The detailed design work for the mitigation program
8 is being performed on an ongoing basis and as such the program plan and
9 costs continue to be refined. Although originally it was anticipated that 108
10 spans would be addressed utilizing retensioning, upon analysis of some of
11 the detailed designs it was determined that additional costs would be
12 required to re-tension adjoining spans significantly raising the cost of re-
13 tensioning a span. Based upon this experience, we have reevaluated our
14 mitigation approach and are currently planning to address all 624 spans
15 (1,000 structures) utilizing structure / conductor replacements. Current
16 anticipated expenditures for structure/conductor replacements primarily as a
17 result of this change are \$37,781,000 for the five-year program ending in
18 2013. This amount includes \$8,762,000 for work to be completed in 2009.

19

20 Q. Referring to Exhibit __ (PEH-2), Schedule B, are there any comments that
21 you would like to make on the "Substation" category?

1 A. "Substation" expenditures for the period 2010 through 2014 are projected to
2 total \$63,634,000. These expenditures are for both the installation of new
3 substations and improvements to existing substations. These projects will
4 reinforce the electric system and provide the capability to reliably serve
5 projected area distribution loads as system growth occurs.

6 A new Spackenkill Road substation is planned to address demand
7 growth in the Poughkeepsie area. This station will be rated 50 MVA 115-13.8
8 kV, is currently anticipated to cost \$7,033,000 and is planned to go into
9 service in June 2010. No expenditures are included in the rate period
10 beginning July 1, 2010. The new Galeville substation, which was part of the
11 P & MK lines Article VII approval, is a new 30 MVA 115X69-13.8 kV that is
12 being built to address load growth and prepare for the conversion of the
13 existing MK transmission line facilities to 115 kV. It is anticipated that the
14 Galeville project will be completed in June 2010 with a projected cost of
15 \$7,703,000. No capital expenditures for this project are included in the rate
16 period beginning July 1, 2010.

17 Other substation projects include the upgrade / replacement of
18 three substations, and a systematic program to replace circuit breakers.

19 The Saugerties, Rhinebeck and Grimley Road (Ellenville) Substations
20 are planned to be upgraded / replaced. A new Saugerties station, scheduled
21 for completion in 2012, is planned to address infrastructure and operating

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1 limitations of the existing substation. The new station will be rated 50 MVA,
2 115X69-13.8 kV and will be initially supplied by 69 kV transmission facilities
3 (this design is consistent with the long range plan for this area which will
4 ultimately have this substation served by 115 kV transmission). The total
5 cost for this project is budgeted at \$8,521,000. A 20 MVA 115-13.8 kV
6 transformer primarily serves the Rhinebeck Substation's distribution load.
7 This load is reserved by two 69-13.8 kV transformers. These transformers
8 are over 77 years old and have reached the end of their useful lives. It is
9 planned to replace these two transformers with a second 20 MVA 115-13.8
10 kV transformer to create a firm 50 MVA substation at Rhinebeck. The total
11 cost of this project is currently estimated at \$6,426,000 with an in-service
12 date of 2013. The Grimley Road (Ellenville) project scope is planned to
13 include the replacement of the existing transformers with the transformers
14 from the Galeville Substation, replacement of the wood pole substation
15 structures with steel structures and upgrading protection, control and
16 communications. The total cost of this project is forecasted at \$1,522,000
17 with an in-service date of 2013.

18 The Coombe Road Substation will relocate our existing Neversink
19 Substation distribution facilities. Load growth in the Town of Neversink and
20 surrounding areas served by the Neversink Substation is driving the need for
21 additional transformer capacity. In addition, as a result of a requirement of

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1 transfer of ownership to the New York City Board of Water Supply of the
2 Neversink Hydro Plant, construction at a new location is planned. This new
3 station will be rated 6 MVA 69-13.8 kV, is anticipated to cost \$2,534,000 and
4 is planned to go into service in 2011.

5 Central Hudson has an ongoing plan to address circuit breaker
6 infrastructure issues. These issues include circuit breakers with duties near
7 or above their interrupting ratings, circuit breakers with poor condition
8 assessments, and circuit breakers that are obsolete. The selection criteria
9 used for this program has identified 152 circuit breakers for replacement,
10 including eight 345kV circuit breakers over the next five years at an
11 estimated cost of \$22,433,000. These replacements will improve the
12 reliability of the transmission and distribution system.

13 As mentioned above, the construction of a new 115kV line between
14 the East Fishkill and Wiccopee Substations has been deferred. Substation
15 expansion projects associated with this project at East Fishkill and Wiccopee
16 have been deferred as well.

17
18 Q. Are there any significant programs and or expenditures that are included in
19 the "Distribution Improvements" category?

20 A. The majority of the expenditures relate to the day-to-day capital requirements
21 for distribution facilities. However, \$20,954,000 has been included for

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1 infrastructure improvement programs. Additionally \$5,268,000 is included for
2 the construction of distribution facilities associated with the substation
3 reinforcements previously discussed. These amounts in aggregate are
4 consistent with previous projections.

5 Several infrastructure improvement programs have been identified.
6 These include a program to address 14.4kV paper and lead insulated cable
7 replacement, 14.4kV underground infrastructure, distribution porcelain cutout
8 replacement, distribution pole replacements, Automatic Load Transfer (ALT)
9 switch installations, Distribution Recloser replacements, and other smaller
10 programs.

11 Central Hudson has approximately 55 miles of 14.4kV paper and lead
12 insulated cables much of which is over 60 years old and is nearing the end of
13 its useful life. Failures of these cables are typically associated with cracks in
14 the lead sheath. Central Hudson has developed a systematic plan to replace
15 the highest priority cables and address underground infrastructure
16 (manholes, pullboxes and ductbanks) as part of this program. The majority
17 of this work is associated with cables that feed the secondary network for the
18 City of Poughkeepsie. Planned expenditures for these projects are
19 \$8,225,000 over five years.

20

21 Q. Please explain how forecasted construction expenditures were determined

1 for the electric program categories entitled "New Business", "Transformers",
2 and "Meters" as shown on Schedule B of Exhibit __ (PEH-2).

3 A. Forecasted expenditures for these categories were trended based on recent
4 actual experience. In general these categories are related to the growth in
5 number of residential customers and residential sales. The forecast overall
6 is lower than the previous forecast due to the economic downturn and lower
7 commodity costs.

8

9 Q. Has the Company proposed any projects for which it would plan to seek
10 funding under the American Recovery and Reinvestment Act of 2009
11 (ARRA)?

12 A. Yes, the Company has been monitoring the available funding opportunities
13 under the ARRA. The Company has been evaluating both individual projects
14 as well as collaborative opportunities. On July 2, 2009 the Company filed
15 with the Commission an updated list of projects for which the Company is
16 considering applying for funding through the U.S. Department of Energy
17 Smart Grid Investment Grant Program (SGIG).

18

19 Q. Could you provide some details on the proposed projects?

20 A. The first project is a Company proposal for a Smart Grid deployment. The
21 project will create ten Smart Grid electric distribution circuits through the

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1 installation of AMI, distribution equipment upgrades with automatic control
2 and communication capabilities, Home Area Networks, and PHEV charging
3 stations. More details of this are provided in the testimony of the Smart Grid
4 Panel. Additionally the Company is proposing two collaborative projects with
5 the NYISO and the New York State Transmission Owners. One project is a
6 statewide deployment of Phasor Monitoring Units (PMUs) for which the
7 Company has one installation proposed. The second is the installation of
8 additional statewide reactive resources based on an electric system loss
9 analysis performed by the NYISO. The Company has proposed to install 35
10 MVAR of capacitors as part of this project.

11

12 Q. Has the Company included any of the costs of these projects in its Capital
13 Forecast?

14 A. No. Based on the currently unknown nature of the approval process timing
15 and outcome for federal funding applications for these projects, they have not
16 been included in the Capital Forecast.

17

18 Q. Referring to Exhibit ___ (PEH-2), Schedule C, what are the major projects
19 identified in the Gas Capital Program.

20 A. The major projects identified in the Gas Capital Program are the "CH" system
21 reinforcement, three transmission line valve replacements, three

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1 transmission line valve additions, and two new regulator stations (at North
2 Coxsackie and Vail Road), three regulator station re-builds, 3 regulator
3 station upgrades, and a major road rebuild project on Robinson Avenue
4 (NYS Rte 9W) in Newburgh.

5

6 Q. Referring to Exhibit ___ (PEH-2), Schedule C, are there any comments that
7 you would like to make on the "Transmission" category?

8 A. "Transmission" expenditures for the period 2010 through 2014 are projected
9 to total \$4,448,000. These expenditures are for both the installation of new
10 transmission system components and improvements to the existing
11 transmission system. Many of the capital improvements stem from system
12 load studies or studies performed as part of the pipeline integrity program.
13 Other improvements are from conditions discovered during the operating and
14 maintenance of the system.

15

16 Q. Referring to Exhibit ___ (PEH-2), Schedule C, are there any comments that
17 you would like to make on the "Regulator" category?

18 A. "Regulator" expenditures for the period 2010 through 2014 are projected to
19 total \$3,465,000. These expenditures are for both the installation of new
20 regulator stations and improvements to existing regulator stations. These
21 projects will reinforce the gas system and provide the capability to reliably

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1 serve projected area distribution loads as system growth occurs.

2

3 Q. Are there any specific regulator station projects that are required because of
4 new load development?

5 A. Yes. The Capital Forecast includes the installation of two new regulator
6 stations related to new load development. These stations are the North
7 Coxsackie and Vail Road regulator stations scheduled for 2011. There are
8 three other stations that are being rebuilt due to load increases, the East
9 Fishkill Regulator station in 2013 to support increased load on the "HH"
10 system in southern Dutchess County, the Hudson River Psychiatric Center in
11 2013 to provide redundancy to the "HP" system in the Hyde Park area, and
12 the Austin Road station in 2012 in Carmel to provide redundancy to the "SM"
13 system in Mahopac and Carmel.

14

15 Q. Please explain how forecasted construction expenditures were determined
16 for the categories entitled "New Business" and "Meters" as shown on
17 Schedule C of Exhibit __ (PEH-2).

18 A. Forecasted expenditures for these categories are based on the forecasted
19 residential heating customer growth rate for the service territory. Load
20 growth is allocated to gas systems in locations where there is expected
21 residential development or where there are active discussions for commercial

1 development. Expenditures in these two categories are projected to
2 decrease from prior years based on lower forecasted customer growth.

3

4 Q. Please explain how forecast construction expenditures were determined for
5 the category entitled "Distribution Improvements" as shown on Schedule C of
6 Exhibit __ (PEH-2).

7 A. Forecasted expenditures for this category are based on a combination of
8 distribution improvement initiatives. The category includes service
9 replacements, required cast iron replacement associate with road re-builds or
10 other facility replacements, cast iron or steel main replacements based on
11 system studies, maintenance history, and risk analysis modeling. There are
12 also system reinforcement projects included in this category to ensure
13 system reliability, the most significant of these being the "CH" line
14 reinforcement of the western Orange County area, a continuation of a project
15 started in 2006. The infrastructure replacement projects are reviewed and
16 prioritized based on operating experience and risk reduction. The projected
17 expenditures for the "Distribution Improvements" category total \$45,431,000
18 and reflects a continuation of an accelerated program for gas safety and
19 system reliability improvements. The capital funds related to the
20 replacement of cast iron and steel mains and services is \$36,824,000 over
21 the 5-year forecast.

1

2 Q. Referring to Exhibit ___ (PEH-2), Schedule D, what are the major projects
3 identified in the Common Capital Program.

4 A. The Lands and Building and Office Categories forecast are primarily
5 replacement of existing small capital components. In addition, the Lands and
6 Buildings category includes some major capital replacements at our facilities,
7 such as roofs, windows, and HVAC equipment. There are also two larger
8 facility projects proposed during the period. The first is the construction of a
9 new customer service facility in 2011 in the New Paltz area. This new facility
10 is part of a broader plan that includes the sale of Central Hudson's Eltings
11 Corners facility (subject to Commission approval pursuant to Section 70).
12 The timing of the sale remains unknown at the time of the preparation of my
13 testimony. The second is an expansion of the Fishkill Operating
14 Headquarters storeroom and vehicle maintenance garage in 2012 and 2013.
15 The Land and Buildings category also includes capital improvements for
16 energy efficiency improvements at existing Company facilities.

17 The Tools category provides for normal tool replacement only. No new
18 methods of operation are anticipated that would substantially increase this
19 category's spending.

20 The Transportation and Mobile Tool categories reflect a level required
21 for the normal replacements at the current fleet size.

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1 The I/T and Communication categories reflect expenditures that are
2 consistent with the 5-year I/T Plan. The I/T Plan includes the purchase of a
3 new mainframe in 2012 to replace the mainframe at the Disaster Recovery
4 site, replacement of the map-board and video wall in the system operations
5 center and the continuation of the 5-year PC replacement schedule and the
6 3-year mobile computer replacement schedule. The Communication Plan
7 consists of the replacement of the voice recording systems in the call center
8 and system operations, and replacement of the telephone system at South
9 Road in 2014.

10

11 Q. How did you apportion the forecasted capital requirements in 2010 and 2011
12 into the July 2010-June 2011 rate year?

13 A. A detailed capital forecast was prepared for 2010 that identified expenditures
14 for both the first half of the year and the second half of the year. The 2011
15 forecast was apportioned between the first and second halves of the year.
16 For Gas Production, Transmission, Regulating Stations, New Business and
17 Distribution Improvements categories, the apportionment was based on
18 individual historical trends in expenditures in these categories. For all other
19 categories, one half of the respective annual amount was included.

20

21 Q. Does this conclude your direct testimony?

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1 A. Yes.

2

3