

DIRECT TESTIMONY
OF
SMART GRID PANEL

1 Q. Will each of the Panel members please state your name and business
2 address.

3 A. (Kiszkiel) My name is Eric J. Kiszkiel and my business address is 284
4 South Avenue, Poughkeepsie, NY 12601.

5 (Butler) My name is Laura Butler and my business address is also 284
6 South Avenue, Poughkeepsie, NY 12601.

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

8 A. We are each employed by Central Hudson Gas & Electric Corporation.

9 (Kiszkiel) My capacity is as Manager-Energy Efficiency. I have overall
10 responsibility for matters pertaining to energy efficiency, inclusive of AMI
11 and Smart Grid initiatives.

12 (Butler) As Team Leader – Smart Grid, I have responsibility for the Smart
13 Grid and AMI projects. Q. Please summarize your educational
14 background and professional experience.

15 A. (Kiszkiel) I received a Bachelor of Science Degree in Mechanical
16 Engineering from Clarkson University in 1996 and a Master of Science
17 from NYU-Poly in 2001. I have been a Licensed Professional Engineer in
18 New York State since 2002. Since 1996, I have been continuously
19 employed by Central Hudson, with assignments in its Mechanical

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1 Engineering, Gas & Mechanical Engineering, and various sections of the
2 Customer Services Group. Prior to my current assignment I served as
3 Director of Electric Distribution Maintenance.

4

5 (Butler) I received a BSEE from Clarkson University in 2003 and am
6 currently pursuing a MSEE at NYU-Poly. I have experience as a
7 Substation Design Engineer, Meter Shop Foreman, and Electric
8 Distribution Operations Engineer.

9 Q. Have you previously testified before this Commission?

10 A. (Kiszkiel) Yes. In Case 08-E-0887 in regard to energy efficiency.

11 (Butler) No, I have not.

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

13 A. The testimony will address Central Hudson's proposed Smart Grid
14 initiative inclusive of Advanced Metering Initiative (AMI).

15 Proposed Smart Grid Initiative

16 Q. Please provide a background summary on the process proceeding the
17 development of the Smart Grid initiative.

18 A. As part of the approved Joint Proposal for Cases 05-E-0934 & 05-G-0935,
19 CHG&E agreed to conduct an evaluation of an Automated Meter Reading

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1 (AMR) system and on December 28, 2006, submitted to the Public
2 Service Commission (Commission) for approval its “Automated Meter
3 Reading (AMR) Pilot Proposal”. Separately, the Commission issued
4 “Order Relating to Electric and Gas Metering Services¹,” issued and
5 effective August 1, 2007, directing CHG&E to study AMI. A “Notice
6 Seeking Comment” followed on October 10, 2007, requesting comments
7 from all Utilities pertaining to the Commission’s Advanced Metering
8 Initiative, which CHGE responded on December 10, 2007. An “Order
9 Rejecting Filing and Requiring New Filing,” issued and effective December
10 19, 2007, rejected CHG&E’s AMR Pilot Proposal and required CHG&E to
11 submit a new AMI proposal. Following a “Notice of AMI Technical
12 Conference” sent on March 3, 2008 an AMI Technical Conference was
13 held on April 14 and 15, 2008 for the purpose of further developing and
14 exploring minimum functionality requirements for an AMI system and the
15 associated costs and benefits. On February 13, 2009, the Commission
16 issued the “Order Adopting Minimum Functional Requirements for
17 Advanced Metering Infrastructure Systems and Initiating an Inquiry Into
18 Benefit-Cost Methodologies”, Case 09-M-0074 which directed three
19 utilities, Con Edison, O&R, and Central Hudson to file an AMI pilot
20 proposal. As directed by the February 13, 2009 Order CHG&E filed its
21 AMI proposal on April 14, 2009.

22 Q. How was this proposal developed?

¹ Related to Cases 94-E-0952, 00-E-0165, and 02-M-0514.

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1 A. The Company has been investigating AMR and AMI solutions for some
2 time, and within the last few years continuing in that technology space with
3 Smart and Intelligent Grid research. This proposal is the result of
4 exploring and evaluating the various technologies available to effect a
5 Smart Grid inclusive of AMI. During the process, the Company has met
6 with multiple vendors and evaluated offerings for various levels of
7 communication, infrastructure, and grid equipment. Further, site visits to
8 other utilities in various states were utilized to view, understand, and
9 analyze what technologies have been implemented, what technologies are
10 planned, and how they relate to the Central Hudson service territory. The
11 proposal is a culmination and hybrid of the various technologies analyzed
12 and reviewed, tailored to the Company's needs and service territory.

13 Q. Are there any changes in the scope of your proposal since the April 14,
14 2009 filing?

15 A. Yes. The AMI proposal has evolved into a Smart Grid Initiative, due to the
16 opportunity to apply for ARRA stimulus funding and availability of
17 additional Smart Grid technology and equipment in general.

18 Documentation describing the Central Hudson Smart Grid Initiative was
19 filed with the Commission on July 2, 2009.

20 Q. Please provide an overview of your current proposal.

21 A. This initiative implements digital upgrades to the electric grid enabling it to
22 work more efficiently, provides capability for advanced integration and

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1 impact measurement of renewable and energy efficient technology
2 inclusive of demand management, and provides data for evaluation in
3 regard to cost-effectiveness, interoperability, reliability, security,
4 environmental impact, and operational flexibility and effectiveness. The
5 project deploys a wireless communication platform, enabling AMI,
6 distribution automation and Smart Grid attributes. Real time data is
7 planned to be integrated with utility systems including OMS, CIS, and an
8 engineering distribution model. A Meter Data Management System
9 (MDMS), once implemented, will manage the influx of data. Home
10 Automation Networks are envisioned to be installed with dynamic rates
11 available and tested. Advanced relaying and control schemes are planned
12 to be implemented for distributed resources such as Photo Voltaic Units
13 and PHEV charging stations. This initiative is projected to provide for
14 delaying or offsetting existing need for infrastructure improvements by
15 increasing operating efficiencies and peak load shifting, and improve
16 circuit performance resulting in greater customer savings and reduced
17 environmental impacts. This project furthers the development of the Smart
18 Grid on multiple levels. It is the intent of the Company to educate
19 consumers through outreach programs such as public forums and focus
20 groups, and a customer web portal for viewing usage and using energy
21 efficiently. Ultimately, CHG&E will gain experience and knowledge for
22 future design, operation, and maintenance of the Smart Grid, with solid
23 inputs for resource cost evaluations and business case development.

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1 Q. What areas of the service territory will be affected by the Smart Grid
2 Initiative?

3 A. There will be three deployments in the service territory, strategically
4 chosen for varying customer type and density, geography, ability to test
5 other attributes associated with applications such as net metering for solar
6 installations and the off-peak charging of PHEV vehicle enabled by smart
7 charging stations. One site is located in the Town of Poughkeepsie in
8 Dutchess County, the second deployment is in Saugerties in Northern
9 Ulster County, and the third in the Modena area of Southern Ulster
10 County. A total of ten circuits will be upgraded with real-time
11 communications and smart grid equipment including reclosers, capacitor
12 banks, and power quality sensors.

13 Q. How many customers will be affected by the initiative?

14 A. In total, there will be approximately 13,500 endpoints, with roughly 10,000
15 customer meters involved. The plan calls for 8,500 electric meters to be
16 replaced, and 1,500 gas meters to be retrofitted with a communication
17 module. The remaining endpoints are reserved for Home Area Network
18 (HAN) applications, and distribution automation equipment
19 communications.

20 Q. Please explain your plan for HAN applications.

21 A. Approximately 1,500 Home Area Networks (HAN) are slated to be
22 installed on a volunteer basis and dynamic customer rate offerings offered
23 to the same subset volunteers. Various combinations of smart load

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1 control devices, smart thermostats, and in-home display devices would be
2 provided to the HAN volunteer group so that they can participate in the
3 dynamic rate programs. Additionally, an interactive web portal application
4 showing items such as energy usage and load is planned to be available
5 for all customers with a smart meter.

6 Q. Please describe the dynamic rate options.

7 A. Central Hudson has had discussions with Staff and worked collaboratively
8 and intends on further developing rates to be tested that focus the
9 capacity cost of energy in various timeframes, rather than spread evenly
10 throughout the year as the standard rate does. Details are available in the
11 July 2, 2009 filing.

12 Q. What is the project duration and schedule?

13 A. This project commenced with the July 2, 2009 filing. Once all funding has
14 been provided and all related rate making established, the schedule
15 includes a 33 month deployment and reporting phase with an additional
16 twelve months of data collection and business case development. The
17 project has been defined by eight critical path elements: 1) Proposal
18 development and subsequent filing (July 2, 2009); 2) Process planning
19 and project approval; 3) AMI and Electric Distribution System technology
20 deployment; 4) Rate tariff approval; 5) Customer enrollment and HAN
21 deployment; 6) Installation, integration, and validation of the Distribution
22 system analysis software, 7) Installation, integration, and validation of

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1 Meter Data Management System; 8) Evaluation, cost benefit analysis,
2 and development of business case recommendation.

3 Q. What are the projected benefits of the initiative?

4 A. In the short term, examples of “hard” benefits that can be projected from
5 this project include reductions in carbon emissions by 3,600 metric tons,
6 system losses by 6,500 MWh, and Customer Services O&M costs by
7 approximately \$260,000 annually, when fully deployed (some O&M
8 savings will be offset by other system costs such as incremental IT labor
9 for the MDMS; data for net savings will be collected during the project
10 which will be part of the overall cost/benefit analysis). In addition SAIFI
11 and CAIDI is projected to improve through the distribution automation
12 schemes and collection of real-time power quality data stemming from the
13 integration of the Meter Data Management System (MDMS) with the
14 existing Outage Management System (OMS) and Customer Information
15 System (CIS). Beyond these hard benefits, insight and experience would
16 be gained by the Company in the arena of customer behavior and
17 response to dynamic rate offerings, as well as experience with deploying
18 new technology. These benefits are projected to culminate towards
19 achieving the expectations of customers related to reliability, energy
20 efficiency, and environmental responsibility. Central Hudson is also aware
21 of the cost benefit framework devised by Staff relating to AMI, and
22 anticipates collecting, analyzing, and compiling results in a manner
23 consistent with adopted guidelines. The results of the benefit/cost

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1 analysis will be a key input to the business case and possible future full
2 deployment.

3 Q. Why have you filed your initiative in this rate case?

4 A. This initiative is included in this rate case as the Company has expended
5 resources to research, design, and develop the Smart Grid initiative, and
6 will necessarily require funding through rates for its internal labor and
7 other cost elements pending approvals and initiative implementation.

8 Q. Please describe the Company personnel structure working on this
9 initiative.

10 A. The Company has formed a dedicated Smart Grid Team, consisting of a
11 Team Leader and an Engineer, with stakeholders assigned to the team
12 from each affected work group of the Company (i.e., Engineering, IT,
13 Accounting, Customer Services, Operation Services, etc.). The Team
14 Leader reports to the Manager of Energy Efficiency.

15 Q. Is the Company seeking ARRA stimulus funding for this initiative?

16 A. Yes. The most recent filing in regard to this matter was submitted on July
17 2, 2009. The Company intends to seek fifty percent of the project cost to
18 be covered under ARRA funding. However, timing for any approval of
19 ARRA funding is uncertain.

20 Q. How does the Company intend to recover the remaining funding required

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1 for the initiative that is not funded through ARRA funding.

2 A. The Company has requested Commission approval to recover the
3 remaining fifty percent of the project cost from customers. Since the
4 Commission has not specified a funding mechanism for these costs, the
5 Company request deferral authority for all increments costs.

6 Q. Since the ARRA funding availability is “up to fifty percent” of the project
7 cost, what is the intent of the Company if less than fifty percent of the
8 project is approved?

9 A. Central Hudson intends to seek Commission approval for cost recovery for
10 any balance of the project that is not funded through ARRA.

11 Q. What cost is the Company currently incurring in this matter?

12 A. At this time, internal start up and incremental costs associated with
13 developing the project, exploring technologies, meeting with vendors, and
14 preliminary design are incremental and being expended.

15 Q. Does the current Smart Grid proposal include O&M costs?

16 A. The current proposal is based on the capital expenditure and operation
17 and maintenance aspects required to develop, file, implement and deploy
18 the AMI and Smart Grid equipment. O&M costs over the life of the
19 equipment beyond the timeline of this project are not included.

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1 Q. Have you developed a forecast of the costs of this program for the time
2 period specified earlier?

3 A. Yes, an estimate of costs inclusive of capital and expense labor, as well
4 as material, equipment and contract support were submitted in the July 2,
5 2009 filing.

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

7 A. Yes.