



Control Number: 35639



Item Number: 219

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**DOCKET NO. 35639**

**APPLICATION OF CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC FOR APPROVAL OF DEPLOYMENT PLAN AND REQUEST FOR SURCHARGE FOR AN ADVANCED METERING SYSTEM**

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**PUBLIC UTILITY COMMISSION  
OF TEXAS**

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**ORDER**

This Order addresses the request of CenterPoint Energy Houston Electric, LLC (CEHE or Company) for approval of an advanced metering system (AMS) deployment plan and request for surcharge. CEHE proposes a plan for an AMS which provides for the full deployment of advanced meters within five years to all residential and non-residential retail electric customers in CEHE's service area, except those customers who are required to have interval data recorder meters. CEHE requests approval of a surcharge to recover costs associated with the deployment of the AMS. This docket was processed in accordance with applicable statutes and Public Utility Commission of Texas (Commission) rules.

CEHE; Commission Staff; Office of Public Utility Counsel (OPC); City of Houston; the Gulf Coast Coalition of Cities (GCCC); Texas Coast Utilities Coalition (TCUC); Demand Response Coalition (DRC); Chaparral Steel Midlothian, CMC Steel Texas, and Nucor Steel-Texas (collectively, Steel Mills); Alliance for Retail Markets (ARM); Reliant Energy Retail Services, LLC (Reliant); and Texas Energy Association for Marketers (TEAM) (collectively, Parties) have entered into an unopposed Stipulation resolving all issues in this docket. TXU Energy Retail Company LLC (TXUE) is not a signatory to the Stipulation, but TXUE has affirmed that it does not request a hearing and does not oppose Commission approval of the Stipulation.

The Commission adopts the following findings of fact and conclusions of law.

## I. Findings of Fact

### Procedural History

1. On May 5, 2008, CEHE filed its Request for Approval of AMS Deployment Plan and Request for AMS Surcharge. In the application, CEHE requested a waiver for certain retail customers and service types to include loads that may cause a safety or health issue if disconnected.
2. The following parties intervened in this proceeding and were granted party status: Office of the Public Utility Counsel; City of Houston; Gulf Coast Coalition of Cities; Texas Coast Utilities Coalition; Demand Response Coalition; Chaparral Steel Midlothian; CMC Steel Texas; Nucor Steel-Texas; Alliance for Retail Markets; Reliant Energy Retail Services, LLC; Texas Energy Association for Marketers; and TXU Energy Retail Company LLC.
3. On May 23, 2008, Order No. 2 was issued, which approved CEHE's proposed notice, adopted a procedural schedule, and set a date for the prehearing conference.
4. On June 20, 2008, CEHE filed an affidavit attesting to the provision of notice.
5. On July 23, 2008, the Parties filed a Joint Motion to Abate Procedural Schedule in order to facilitate settlement.
6. On July 30, 2008, Order No. 9 was issued, which granted the Joint Motion to Abate Procedural Schedule.
7. On September 18, 2008, CEHE submitted to the Parties a set of documents to facilitate settlement, which contemplated the filing of a ubiquitous deployment plan of an advanced metering system throughout the Company's service area.
8. Pursuant to Order No. 10, the Parties, on October 31, 2008, filed with the Commission a joint proposed procedural schedule to provide for the contingency that settlement discussions might fail.

9. Pursuant to Order No. 11, the Parties submitted, on November 25, 2008, a joint status report, which indicated that the Parties were working on settlement and expected to offer a fully agreed upon settlement to the Commission within approximately two weeks.
10. On December 3, 2008, the Parties filed a Joint Motion to Abate Adoption of Procedural Schedule to permit continued focus on settlement.
11. On December 11, 2008, an unopposed Stipulation signed by the Parties, except TXUE, was filed. The Stipulation includes additional waivers related to functionality.

**AMS Deployment Plan**

12. Subject to the conditions established in this Order, CEHE's AMS Deployment Plan, which is attached as Exhibit A to this Order, complies with the requirements of P.U.C. SUBST. R. 25.130, is reasonable, and is approved.
13. CEHE's Statement of AMS Functionality is attached as Exhibit B to this Order and references Exhibit H, Exhibit I, Exhibit K, Exhibit L, and Exhibit M to this Order. Subject to the conditions established in this Order, CEHE's Statement of AMS Functionality (a) describes how CEHE will implement the functionality requirements, (b) complies with the requirements of P.U.C. SUBST. R. 25.130, (c) is reasonable, and (d) is approved.
14. CEHE has requested waivers permitting CEHE not to install an advanced meter with all functionalities required by P.U.C. SUBST. R. 25.130(g)(1) in two specific circumstances.
15. CEHE seeks one such waiver so that an advanced meter with disconnect functionality will not be required for loads that may cause safety or health issues if disconnected, such as traffic lights, railroad crossings, police stations, and emergency facilities.
16. CEHE seeks the second waiver from P.U.C. SUBST. R. 25.130(g)(1)(E)(i) and (G) if and only to the extent those rules require real-time access to data for end-use customers. End-use customers will not have access to data through a web portal unless and until (a) provided by their retail electric provider (REP), or (b) the Texas common data repository (hereinafter, Common Repository) and Texas common web portal (hereinafter,

Common Portal) are in place pursuant to the *Implementation Project Relating to Advanced Metering*, Project No. 34610.<sup>1</sup> Once the Common Portal is completed, customers (in addition to REPs and authorized third parties) will have secure access to data through the Common Portal.

17. Approval of CEHE's proposed AMS Deployment Plan will increase the reliability of the regional electrical network; encourage dynamic pricing and demand response; improve the deployment and operation of generation, transmission, and distribution assets; and provide more choices for electric customers.
18. CEHE's AMS Deployment Plan as described in Exhibit A to this Order, including technology, functionalities, services, deployment, operations, maintenance, and cost recovery, is not unreasonably discriminatory, prejudicial, preferential, or anticompetitive. Parties had the right to address whether the AMS Deployment Plan was unreasonably discriminatory, prejudicial, preferential, or anticompetitive.
19. Under the design of the AMS Deployment Plan, CEHE will not be providing any service that is a competitive energy service under P.U.C. SUBST. R. 25.343.
20. In any proceeding referenced in the Stipulation, all Parties may fully participate as parties.

### **AMS Surcharge**

21. CEHE's AMS Surcharge Model is a reasonable method for calculating an appropriate AMS surcharge and reflects an appropriate methodology for calculating the AMS surcharge amount.
22. CEHE's adaptation of the McKinsey Model, whereby CEHE converted it from a cost-benefit model to a revenue requirement model and added a calculation to determine the AMS surcharge, is reasonable.

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<sup>1</sup> *Implementation Project Relating to Advanced Metering*, Project No. 34610 (pending).

23. The estimated costs identified by CEHE in its AMS Surcharge Model are associated with the proposed AMS deployment to residential customers and nonresidential customers, other than those required by ERCOT to have an interval data recorder meter, and are reasonable estimates. Those costs include, but are not limited to: (a) advanced meter costs, (b) costs of communications technologies, (c) costs of back-office systems, (d) CEHE's share of the costs of the Common Repository and Common Portal, (e) CEHE's AMS pilot project costs (including the unrecovered costs of uninstalled meter collars), (f) operation and maintenance expenses, (g) applicable taxes, (h) customer education costs, (i) costs of in-home monitors for low-income customers, (j) CEHE's share of the fees for the participation of Solutions Cube Group LLC in Project No. 34610, (k) travel-related expenses for CEHE's participation in Project No. 34610, (l) severance costs related to meter readers, (m) and rate-case expenses. These costs reflect the Parties' agreement set forth in the Stipulation and should be recovered through CEHE's proposed AMS surcharge to the extent the actual costs are reasonable and necessary and until such time as these costs are included in base rates.
24. The Parties have agreed to support the reasonableness and necessity of CEHE's AMS pilot project costs (\$36.4 million) spent pursuant to contracts included in Exhibit C to this Order in all base-rate cases and reconciliation proceedings in which these costs are at issue. CEHE will make reasonable efforts to sell its uninstalled meter collars to mitigate the unrecovered cost of those collars.
25. The estimated costs identified by CEHE in its AMS Surcharge Model are reasonably based on the functionality described in Exhibit B to this Order and do not account for the resolution of the constraints described in Exhibit B or any additional functionality required by Project No. 34610 or similar, related proceedings. Should resolution of the constraints described in Exhibit B or provision of additional functionality be required by Project No. 34610 or any similar, related proceeding, CEHE will resolve such constraints or provide such additional functionality as and to the extent the means to do so are commercially available. In the event the means to resolve such constraints or provide such functionality are not commercially available, CEHE will use reasonable efforts to develop or encourage the development of such means. Should the cumulative costs of

implementing Project No. 34610 and any similar, related proceeding exceed the estimates included in the surcharge by more than \$5 million, it is reasonable for CEHE to seek an increase in the surcharge to cover such additional costs.

26. CEHE's total estimated capital investment for advanced metering facilities of \$639.6 million, as set forth in Exhibit D to this Order, is a reasonable estimate of investment that is necessary for the provision of advanced metering to 2.4 million retail customers in CEHE's service area and is to be recovered through CEHE's AMS surcharge to the extent the actual investment is reasonable and necessary. These costs are subject to review in a reconciliation proceeding pursuant to P.U.C. SUBST. R. 25.130(k)(6).
27. CEHE's total estimated operating and maintenance expenses of \$207.9 million for 2007 through January 2021, including the amounts through 2015 set forth in Exhibit D to the Order, are reasonable estimates of expenses that are necessary for the provision of advanced metering to 2.4 million retail customers in CEHE's service area and are to be recovered through CEHE's AMS surcharge to the extent the actual expenses are reasonable and necessary. These costs are subject to review in a reconciliation proceeding pursuant to P.U.C. SUBST. R. 25.130(k)(6).
28. CEHE's estimated savings and benefits for the surcharge period of \$120.6 million, as set forth in Exhibit E to this Order, are reasonable estimates. Only savings and benefits in those categories identified in the McKinsey Model will be subject to reconciliation pursuant to P.U.C. SUBST. R. 25.130(k)(6).
29. CEHE's total estimated revenue requirement of \$961,604,475 is reasonable and is to be recovered through the AMS surcharge approved in this Order, and is subject to reconciliation pursuant to P.U.C. SUBST. R. 25.130(k)(6).
30. The seven-year depreciation period utilized in CEHE's AMS surcharge model is reasonable.
31. CEHE's proposed "Rider AMS," which is attached to this Order as Exhibit F, is reasonable and is hereby approved. The monthly nonbypassable AMS surcharges



36. CEHE will record AMS revenues and related AMS costs in a manner that will readily allow for the identification, tracking, and reporting of these amounts on a monthly or other more frequent periodic basis.

**Meters, Communications Networks, and Back-Office Systems**

37. CEHE conducted a reasonable process to select the vendors of advanced meters, communications networks, back-office systems, and other AMS products and services.
38. The terms, including pricing, of the March 20, 2008 contract with Itron, together with the Statement of Work and updated price information sheets dated November 10, 2008 relating to Advanced Metering for Electric Implementation (as filed in Docket No. 35639), are reasonable.
39. The terms, including pricing, of the November 4, 2008 Statement of Work with Itron relating to Advanced Metering for Electric Implementation (as filed in Docket No. 35639) are reasonable.
40. The terms, including pricing, of the March 14, 2008 contract with Itron relating to the AMI Pilot (Extension/Bridge) (as filed in Docket No. 35639) are reasonable.
41. The terms, including pricing, of the November 10, 2008 contract with Itron relating to Electric Pricing (as filed in Docket No. 35639) are reasonable.
42. The terms, including pricing, of the March 20, 2007 Master Agreement with IBM relating to the Intelligent Utility Network Initiative (as filed in Docket No. 35639) are reasonable.
43. The terms, including pricing, of the March 25, 2008 Statement of Work Bridge #1 with IBM relating to Advanced Metering Continuation (as filed in Docket No. 35639) are reasonable.
44. The terms, including pricing, of the March 25, 2008 Statement of Work Bridge #2 with IBM relating to AMS Communications Infrastructure (as filed in Docket No. 35639) are reasonable.

45. The terms, including pricing, of the November 5, 2008 IBM Statement of Work #10 relating to the Advanced Metering System (AMS) Portal Development and Implementation (as filed in Docket No. 35639) are reasonable.
46. The terms, including pricing, of the November 5, 2008 IBM Statement of Work #02 relating to Advanced Metering System (AMS) Field Support and Diagnostics (as filed in Docket No. 35639) are reasonable.
47. The terms, including pricing, of the November 5, 2008 IBM Statement of Work #01 relating to Advanced Meter System (AMS) Deployment and Integration (as filed in Docket No. 35639) are reasonable.
48. The terms, including pricing, of the November 5, 2008 IBM Statement of Work #07 relating to the Program Management Office (PMO) (as filed in Docket No. 35639) are reasonable.
49. The terms, including pricing, of the November 21, 2008 IBM Statement of Work #08 relating to Advanced Meter System (AMS) System Management Infrastructure Tivoli Implementation (as filed in Docket No. 35639) are reasonable.
50. The terms, including pricing, of the September 28, 2006 Supplement #4 – Attachment A – Pricing Summary with Itron relating to Advanced Metering Infrastructure for the Pilot Project (as filed in Docket No. 35639) are reasonable.
51. The terms, including pricing, of the September 28, 2006 Supplement #4 – Attachment B – Statement of Work with Itron relating to Itron Meter Reading System Implementation (OpenWay) for the Pilot Project (as filed in Docket No. 35639) are reasonable.
52. The terms, including pricing, of the February 22, 2006 Project Change Request/Change Authorization #2 with IBM relating to the Pilot Project (as filed in Docket No. 35639) are reasonable.
53. The terms, including pricing, of the February 22, 2006 Project Change Request/Change Authorization #3 with IBM relating to the Pilot Project (as filed in Docket No. 35639) are reasonable.

54. The terms, including pricing, of the February 23, 2006 Project Change Request/Change Authorization #4 with IBM relating to the Pilot Project (as filed in Docket No. 35639) are reasonable.
55. The terms, including pricing, of the February 23, 2006 Project Change Request/Change Authorization #5 with IBM relating to the Pilot Project (as filed in Docket No. 35639) are reasonable.
56. The terms, including pricing, of the March 7, 2006 Project Change Request/Change Authorization #7 with IBM relating to the Pilot Project (as filed in Docket No. 35639) are reasonable.
57. The terms, including pricing, of the April 11, 2006 Project Change Request/Change Authorization #9 with IBM relating to the Pilot Project (as filed in Docket No. 35639) are reasonable.
58. The terms, including pricing, of the April 18, 2006 Project Change Request/Change Authorization #11 with IBM relating to the Pilot Project (as filed in Docket No. 35639) are reasonable.
59. The terms, including pricing, of the August 8, 2006 Project Change Request/Change Authorization #15 with IBM relating to the Pilot Project (as filed in Docket No. 35639) are reasonable.
60. The terms, including pricing, of the August 29, 2006 Project Change Request/Change Authorization #17 with IBM relating to the Pilot Project (as filed in Docket No. 35639) are reasonable.
61. The terms, including pricing, of the September 14, 2006 Project Change Request/Change Authorization #18 with IBM relating to the Pilot Project (as filed in Docket No. 35639) are reasonable.
62. The terms, including pricing, of the September 20, 2006 Project Change Request/Change Authorization #19 with IBM relating to the Pilot Project (as filed in Docket No. 35639) are reasonable.

63. The terms, including pricing, of the October 30, 2006 Project Change Request/Change Authorization #21 with IBM relating to the Pilot Project (as filed in Docket No. 35639) are reasonable.
64. The terms, including pricing, of the November 6, 2006 Project Change Request/Change Authorization #22 with IBM relating to the Pilot Project (as filed in Docket No. 35639) are reasonable.
65. The terms, including pricing, of the November 6, 2006 Project Change Request/Change Authorization #23 with IBM relating to the Pilot Project (as filed in Docket No. 35639) are reasonable.
66. The terms, including pricing, of the November 7, 2006 Project Change Request/Change Authorization #24 with IBM relating to the Pilot Project (as filed in Docket No. 35639) are reasonable.
67. The terms, including pricing, of the November 14, 2006 Supplement No. 11 – Project Change Request/Change Authorization #25 with IBM relating to the Pilot Project (as filed in Docket No. 35639) are reasonable.
68. The terms, including pricing, of the December 7, 2006 Supplement No. 14 – Project Change Request/Change Authorization #26 with IBM relating to the Pilot Project (as filed in Docket No. 35639) are reasonable.
69. The terms, including pricing, of the December 6, 2006 Supplement No. 12 – Project Change Request/Change Authorization #27 with IBM relating to the Pilot Project (as filed in Docket No. 35639) are reasonable.
70. The terms, including pricing, of the December 20, 2006 Supplement No. 19, Notice to Vendor, Supplement No. 17, 15 – Project Change Request/Change Authorization #30 with IBM relating to the Pilot Project (as filed in Docket No. 35639) are reasonable.
71. The terms, including pricing, of the December 21, 2006 Supplement No. 16 – Project Change Request/Change Authorization #31 with IBM relating to the Pilot Project (as filed in Docket No. 35639) are reasonable.

72. The terms, including pricing, of the April 24, 2007 Supplement No. 21 – Project Change Request/Change Authorization #34 with IBM relating to the Pilot Project (as filed in Docket No. 35639) are reasonable.
73. The terms, including pricing, of the May 12, 1999 Customer Agreement with IBM relating to the purchase of machines, licensing of programs and acquisition of services (as filed in Docket No. 35639) are reasonable.
74. The terms, including pricing, of the January 25, 2006 contract with eMeter Corporation (Contract No. 4600020532), as revised on April 25, 2008, relating to the meter data management (MDM) system (as filed in Docket No. 35639), are reasonable.
75. The terms, including pricing, of the April 4, 2008 Supplement No. 4 to the July 27, 2004 contract with AT&T Corporation (Contract No. 4600019334) relating to the GPRS wireless networking services (as filed in Docket No. 35639) are reasonable.
76. The terms of the August 19, 2008 Request for Proposal issued by CEHE for wireless radio service (as filed in Docket No. 35639) are reasonable. CEHE will provide the executed contract with the wireless radio service vendor within 30 days of its execution in a manner that is consistent with the terms of the Protective Order in this proceeding.
77. The OpenWay advanced meters, the cell relays, and the radio frequency (RF) and general packet radio service (GPRS) communications networks are reasonable and prudent technology choices for use in CEHE's AMS Deployment Plan.
78. The OpenWay advanced meters will have on-board meter storage of meter data that complies with current American National Standards Institute (ANSI) C12.19 tables.
79. The AMS technology that CEHE intends to use will comply with ANSI Standard C12.22.
80. CEHE's advanced meters satisfy the requirements of P.U.C. SUBST. R. 25.130(g), and no non-compliant AMS meters will be installed during the deployment period, unless those meters are installed consistent with a waiver described in the Stipulation and approved by the Commission.

81. Beginning 30 days following the conclusion of the month in which meter installation begins, CEHE shall identify in the monthly progress reports required under P.U.C. SUBST. R. 25.130(d)(9) the ESI IDs with advanced meters installed pursuant to the Deployment Plan attached as Exhibit A to this Order. The requirements governing the information that CEHE may make available to all REPs will be determined in Commission Project No. 34610.
82. The average estimated cost for the residential OpenWay advanced meters is \$133.30. The average estimated cost for the non-residential OpenWay advanced meters is \$288.01. The above average costs are based on (a) meter unit prices, (b) remote connect/disconnect adders where applicable, (c) freight charges, (d) project engagement management services, (e) installation costs, (f) applicable sales taxes, and (g) the quantity CEHE expects to install of each meter model.
83. For purposes of determining whether costs spent by REPs under CEHE's Tariff Section 6.3.4.6, Advanced Meter Information Network Agreement, are eligible for reimbursement pursuant to the Commission's final order in Docket No. 35620,<sup>2</sup> it is reasonable to determine the cost of meters and cell relays deployed under CEHE's AMS Deployment Plan by reference to the Itron price list filed in this docket on December 2, 2008. For meters, the cost shall be the sum of (a) the unit price of the appropriate meter on lines 1-5 of the price list, (b) the remote connect/disconnect adder per unit (if applicable) on line 7 of the price list, (c) the per unit freight charges on line 9 of the price list, (d) the total project engagement management services fee on line 11 of the price list divided by 2.4 million meters, (e) the appropriate per unit installation charge from the "Meter Install Bid Pricing Sheet Year 2009-2013" filed with the price list, and (f) applicable sales taxes. For cell relays, the cost shall be the per unit cost on line 8 of the price list plus additional costs to be determined based on the location and timing of the cell relay deployment.

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<sup>2</sup> *Application of CenterPoint Energy Houston Electric, LLC for Approval to Implement Advanced Meter Information Network Pursuant to PURA § 39.107(i), Docket No. 35620, Final Order (Aug. 29, 2008).*

84. CEHE shall provide records of advanced meter failure and repair rates and costs incurred as a result of those failures and repairs, net of warranty payments, if any, in the monthly progress reports required under P.U.C. SUBST. R. 25.130(d)(9).
85. CEHE will be able to support prepaid service (consistent with P.U.C. SUBST. R. 25.498) by the Functionality Date for customers with AMS provisioned meters with remote connect/disconnect capability. The "Functionality Date" shall be the first day of the eighth full calendar month following the filing of a signed final order in this docket. CEHE will include information related to the status of achieving this commitment in its monthly progress reports to the Commission.
86. Pursuant to P.U.C. SUBST. R. 25.498(h)(4), CEHE will reconnect power to a customer, after disconnection of service at the meter, within one hour of receiving notice from the customer's REP through a standard market transaction (i.e., TexSET) requesting that the customer's power be reconnected if the customer has an AMS provisioned meter with remote disconnect/reconnect capability.
87. Beginning no later than the Functionality Date, CEHE will provide or support all of the functionality described in Exhibit B to this Order, except to the extent that Exhibit B expressly states a different date by which the Company will provide or support a particular functionality.
88. The design and cost of CEHE's web portal functionality is dependent on the successful deployment of a Common Portal for access and Common Repository for 15-minute settlement.

**Regulatory Assets/Liabilities**

89. CEHE shall establish one or more regulatory asset or liability accounts in which will be recorded at least annually the difference between the AMS surcharge revenues and the net revenue requirements for the period, based on actual expenses and net investment in AMS.

90. Interest will accrue on the balance in the regulatory asset/liability account based on CEHE's pretax cost of capital. This interest rate shall be adjusted if CEHE's cost of capital is adjusted in a future rate case.
91. The plant balance and accumulated depreciation will not be reduced as the old meters are retired. However, any net salvage value will be charged to/credited to accumulated depreciation.
92. The cost of the existing meters to be replaced and their proportional share of the accumulated depreciation can be determined and CEHE shall put those costs into separate sub-accounts so that they can be easily tracked.
93. The accounting balance of the meter sub-account(s) established in Finding of Fact No. 92, above, at the date the decision is made to move forward with full deployment, shall be amortized by CEHE using the current depreciation rate of 4.66% per year until the accumulated depreciation for that account is equal to the balance in the meter plant account.
94. CEHE shall recover the full cost, including previously depreciated amounts, of its Pilot Program (\$36.4 million) through the surcharge.
95. The cost of CEHE's Pilot Program shall be amortized over seven years beginning in the same month the AMS surcharge goes into effect.
96. CEHE shall recover in the surcharge its costs associated with this AMS proceeding, costs of the customer education program, low-income in-home devices, CEHE's pilot project, employee severance costs, and costs of participation in the Commission's Project No. 34610, subject to reconciliation pursuant to P.U.C. SUBST. R. 25.130(k)(6).
97. In calculating the AMS surcharge, CEHE has not offset the estimated savings and benefits to be generated by its AMS Deployment Plan with any lost revenues that might also be generated by its AMS Deployment Plan.
98. In future base-rate or AMS reconciliation proceedings, CEHE will not seek to recover amounts intended to recoup past revenue reductions generated by its AMS Deployment

Plan (i.e., through increased customer energy efficiency). CEHE will include in base-rate cases and other future filings accurate billing determinants that reflect actual consumption during the period applicable to such filing.

**Return on Equity and Cost of Debt**

99. A return on equity (ROE) of 10.75% and a cost of debt of 6.68% shall be used in the calculation of the AMS surcharge, with a subsequent adjustment to the AMS surcharge factors at the time of the entry of any Commission final order reflecting CEHE's new Commission-authorized ROE and cost of debt for CEHE.

**Customer Education**

100. CEHE shall honor Commission Staff's recommendation reflected in Exhibit G to this Order regarding customer education related to advanced metering and the costs associated with the customer education recommended by Commission Staff will be included in the AMS surcharge.
101. It is reasonable for CEHE to spend and to include in the AMS surcharge a total of \$5.6 million to pay for the costs associated with the customer education proposed by CEHE and the customer education recommended by Commission Staff in Exhibit G to the Order. Exhibit G is intended to be representative of the types of activities and the estimated costs of those activities that will be undertaken in educating customers about advanced meters and is not intended to specify the exact activities to be undertaken or to specify the exact amounts to be spent on each activity.
102. CEHE will begin customer education pursuant to Exhibit G no later than four months following Commission approval of this Order. Thereafter, CEHE will report on its customer education efforts quarterly. Those reports will be filed at the Commission until AMS deployment is complete. CEHE agreed to issue a press release describing the Deployment Plan and proposed surcharge prior to initiating the surcharge.

**Discretionary Service Charges**

103. Although the Commission retains the authority to decide whether to implement all aspects of the agreement set forth in this finding, the Parties agreed as follows. It is

appropriate that all customers in the CEHE service area benefit from the cost savings impact of the deployment of advanced meters on CEHE's meter-related discretionary service charges. These meter-related discretionary service charges include those approved in Docket No. 32093 as Discretionary Service Charges DCS.1, DCS.2, DCS.3, DCS.5, DCS.6, DCS.8, and DCS.9 (the "Existing DSC Charges"). The Existing DSC Charges should continue to apply to customers with poly-phase meters, IDR meters, meters rated above 200 amps, or advanced meters for which CEHE has obtained a waiver from the requirement for remote connect/disconnect ability. For all other customers, it is appropriate to implement new discretionary service charges that revise the Existing DSC Charges to reduce CEHE's meter-related discretionary service charges annually over a period of six years to reflect the progressive reduction in costs resulting from AMS deployment (the "New DSC Charges"). It is reasonable for the Commission and all other regulatory authorities to approve the New DSC Charges on an annual basis and CEHE shall apply to update the New DSC Charges on an annual basis to reflect the then current mix of AMS and non-AMS meters. Such a yearly update mechanism will reasonably capture the cost savings associated with the deployment of advanced metering and provide customers with the cost savings that should result from the use of advanced metering technology. Upon full deployment of AMS, each of the New DSC Charges established in the sixth year shall be no higher than the administrative cost of providing that service not otherwise included in base rates. The New DSC Charges established in the sixth year shall be no higher than \$1.00 (or \$2.00 in the case of the revised DCS.1 Standard Move-In Charge). Nothing in this Order precludes a Party from requesting the inclusion of this administrative cost for recovery in base rates or from requesting a reduction in a meter-related discretionary service charge in a future Commission proceeding.

#### **Web Portal**

104. CEHE will, together with Oncor, or through a consortium involved in developing the Common Portal, hire an independent, third party to conduct a security audit of the common AMS web portal requirements as the development of the Common Portal begins and will provide the results of that audit to the Commission. In addition, CEHE will

include information about the status of the audit in its monthly progress reports to the Commission.

105. By the Functionality Date, CEHE shall have in place the CEHE Interim REP Portal (as defined in Section 5(a) of Exhibit A to this Order) capable of providing 15-minute VEE interval data to REPs via a CEHE-hosted File Transfer Protocol (FTP) site. CEHE will continue to provide REPs with 15-minute VEE interval data through the CEHE Interim REP Portal until the Common Repository and Common Portal are in place pursuant to Project No. 34610.
106. Taken together, the CEHE Interim REP Portal, the Common Repository, and the Common Portal meet the functionality requirements of P.U.C. SUBST. R. 25.130(g)(1), as modified by any waivers granted to CEHE, and are reasonable.
107. The Web Portal Assumptions determined in PUC Project No. 34610 and reflected in Exhibit H to this Order are the assumptions that will form the basis of the Common Portal.
108. The Web Portal Business Requirements determined in PUC Project No. 34610 and reflected in Exhibit I to this Order are the business requirements with which the Common Portal will comply.
109. The estimated capital costs and estimated annual operation and maintenance costs included in CEHE's AMS surcharge to develop, implement, operate, and maintain the Common Portal are reasonable. Such costs will be subject to reconciliation pursuant to P.U.C. SUBST. R. 25. 130(k)(6).

**Low-Income In-Home Monitors**

110. CEHE shall include in the AMS surcharge up to (but no more than) \$7.5 million to cover the costs of (a) funding the specified number and type of in-home monitors to low-income residential customers, (b) the associated administrative costs, and (c) the costs of distribution, training, and provision of information related to the in-home monitors.

111. Following the filing of this final Order, a project will be established and a series of workshops will be held to reach a consensus to design and implement the low-income provisions of the Order. CEHE will provide a facilitator for such workshops. Under Staff leadership, the group will use its best efforts to finalize the plan within 120 days after the filing of this final Order. The goal of the program is to maximize the comprehensive, cost-effective distribution of the in-home devices, including training and education, to the greatest number of eligible low-income customers. It is anticipated that a variety of distribution channels and methods may be used, including but not limited to government agencies, community action agencies, and retail electric providers so long as any particular distribution channel or method achieves the goal. If Parties are not able to reach agreement on the plan, the matter will be brought to the Commission for resolution in the project that has been established.
112. CEHE agrees to include information about the implementation of this program in its monthly progress reports to the Commission.
113. For purposes of this commitment, the definition of “low-income customer” in P.U.C. SUBST. R. 25.5 shall apply.
114. All in-home monitors provided to eligible low-income customers pursuant to this low-income program will be compatible with CEHE’s AMS meters. If in-home monitors are provided pursuant to this low-income program by any third-party entity other than CEHE, it will be that entity’s responsibility to ensure that the monitor is compatible with the ZigBee communication module in CEHE’s AMS meters.
115. The program will require the in-home monitors be provided equitably across the entire CEHE service area.

**Energy Independence and Security Act**

116. CEHE shall pursue funding for AMS available under the Energy Independence & Security Act if CEHE is eligible for that funding, and funds have been appropriated, under the Department of Energy’s requirements and the incremental cost of pursuing that funding will be included in the AMS surcharge. If after the Department of Energy’s

requirements are known, it appears that the costs of seeking funding would be greater than the potential benefit to obtain such funding, then CEHE will not seek the funding. The incremental costs to pursue the funding must be reasonable. CEHE agrees to include information about the status of its efforts pursuant to this commitment in its monthly progress reports to the Commission.

### **Home Area Network**

117. CEHE shall reflect any Home Area Network (HAN) requirements agreed to in PUC Project No. 34610 in a compliance tariff.
118. If HAN requirements are determined in PUC Project No. 34610 by December 31, 2008, CEHE's system relative to the HAN will be operational in January 2010 to the extent the means to provide such functionality are commercially available. If the HAN requirements are determined in PUC Project No. 34610 after December 31, 2008, CEHE's systems relative to the HAN will be operational within 12 months after the requirements are finalized in that project to the extent the means to provide such functionality are commercially available. In the event the means to resolve such constraints or provide such functionality are not commercially available, CEHE will use reasonable efforts to develop or encourage the development of such means. CEHE will use best efforts to use back-office systems and work processes that will provide REPs with the ability to send messages through its communications network before HAN requirements and web portal requirements are fully implemented by CEHE.

### **Settlement at ERCOT**

119. CEHE's AMS will be able to support 15-minute settlement at ERCOT provided (a) the settlement requirements do not exceed those developed in Project No. 34610 as set forth in Exhibit H and Exhibit I to this Order and (b) settlement at ERCOT, prior to the deployment of the Common Repository, follows the interim market schedule for settlement agreed to by the ERCOT Market Advanced Readings and Settlements Task Force as set forth in Exhibit K to this Order.

**Reporting**

120. CEHE will file the reports identified on Exhibit J to this Order in a compliance project, and those reports will be available to all parties in this proceeding. CEHE will follow the applicable rules governing the protection of confidential, highly sensitive, and customer proprietary information.
121. Within one year of the Functionality Date, CEHE will engage an independent security auditor to audit CEHE's mechanism(s) for customer and REP access to meter data and will report the results of such audit in a compliance project.

**Excluded Costs and Activities**

122. By agreement of the Parties, CEHE's \$11.7 million estimate of the costs for administering its share of the Common Repository and Portal (including CEHE's share of a web portal audit) has been limited to four years. Should it later be determined that CEHE should continue in that administrative capacity, the Parties acknowledge that CEHE will be under no obligation to continue in that capacity without appropriate future funding beyond the original \$11.7 million.

**Adjustment and Recovery of Costs**

123. The size, novelty, complexity, and duration of CEHE's AMS Deployment Plan, and other causes beyond CEHE's reasonable control, make it impossible to precisely estimate the final reasonable and necessary cost of CEHE's AMS Deployment Plan. As a result, adjustments to the estimated costs stated in this Order will be necessary in the future. In accordance with P.U.C. SUBST. R. 25.130(k), CEHE will be allowed the opportunity to recover, through the surcharge and base rates, all of its AMS costs, including such costs that are more than what is estimated in this Order, to the extent CEHE proves that those costs were spent, properly allocated, reasonable and necessary, and reduced by the net operating cost savings resulting from CEHE's AMS.

**Rate-Case Expenses**

124. Within 30 days after the filing of this final Order, GCCC, TCUC, and City of Houston shall file and submit to the Commission Staff and CEHE a summary of fees and expenses

together with itemized lists with full documentation of costs incurred (and will make such documentation available to other Parties upon request) in connection with this proceeding. Within 15 days of the filing of such information, Parties may challenge the amounts in such lists; and, in such event, the Commission will make the final decision regarding any such challenges. CEHE shall reimburse such costs within 30 days of the filing of such itemized lists for uncontested costs, or within 15 days after the Commission's decision becomes final regarding any challenged costs that the Commission determines are eligible for reimbursement.

125. Additionally, within 30 days after the filing of this final Order, CEHE shall file and submit to the Commission Staff, GCCC, TCUC, and City of Houston a summary of fees and expenses CEHE incurred in connection with this proceeding. CEHE will at the same time further file and submit to the Commission Staff itemized lists with full documentation of costs incurred (and will make such documentation available to other Parties upon request) in connection with this docket. Within 15 days of the filing of such information, Parties may challenge the amounts in such lists; and, in such event, the Commission will make the final decision regarding any such challenges.
126. Rate case expense amounts set forth below include amounts incurred through the end of November 2008, and estimated amounts for the remainder of the proceeding.
127. CEHE has reasonable estimated rate-case expenses of \$842,369.
128. GCCC has reasonable estimated rate-case expenses of \$80,000.
129. TCUC has reasonable estimated rate-case expenses of \$53,000.
130. City of Houston has reasonable estimated rate-case expenses of \$410,000.

**REP Notice**

131. CEHE agreed to provide notice to REPs no later than December 8, 2008, of the Parties' anticipated possible approval of this Order, and CEHE agreed to hold conference calls for REPs to ask questions regarding the possible implementation of a surcharge consistent with this Order.

**Waiver of P.U.C. PROC. R. 22.35(b)(2)**

132. Pursuant to P.U.C. PROC. R. 22.5(b), good cause exists to waive the requirements of P.U.C. PROC. R. 22.35(b)(2), so that this docket may be considered at the Commission's Open Meeting schedule for December 18, 2008, to avoid any undue delay in the deployment of advanced meters, consistent with PURA § 39.107(i), which supports deploying advanced metering "as rapidly as possible to allow customers to better manage energy use and control costs, and to facilitate demand response initiatives."

**II. Conclusions of Law**

1. CEHE is an electric utility as that term is defined in Section 31.002(6) of the Public Utility Regulatory Act, TEX. UTIL. CODE ANN. §§ 11.001-66.016 (Vernon 2007 & Supp. 2008) (PURA).
2. The Commission has jurisdiction over this proceeding pursuant to PURA § 39.107(h).
3. CEHE's provision of notice in this proceeding complies with P.U.C. PROC. R. 22.55.
4. CEHE's application was processed in accordance with the requirements of PURA and the Texas Administrative Procedure Act, TEX. GOV'T CODE ANN. §§ 2001.001-.902 (Vernon 2008).
5. The Commission's consideration of the Stipulation complies with PURA § 14.054 and P.U.C. PROC. R. 22.206.
6. The terms of the Stipulation are supported by a preponderance of the evidence and comply with the requirements of P.U.C. SUBST. R. 25.130.
7. The Stipulation, taken as a whole, is a fair, just, and reasonable resolution of all issues presented, is supported by the record, and is consistent with the relevant provisions of PURA, and is in the public interest.
8. CEHE's requests for waivers pursuant to P.U.C. SUBST. R. 25.130(g)(3) are reasonable.

9. The surcharge methodology proposed by CEHE is reasonable and consistent with P.U.C. SUBST. R. 25.130(k)(3).
10. The requirements for informal disposition in P.U.C. PROC. R. 22.35 have been met in this proceeding except for subsection (b)(2) that requires the proposed order to be served on all parties no later than 20 days before the Commission is scheduled to consider the petition in an open meeting. Pursuant to P.U.C. PROC. R. 22.5(b), good cause exists to waive the 20-day requirement of P.U.C. PROC. R. 22.35(b)(2).

### **III. Ordering Paragraphs**

Based on the foregoing Findings of Fact and Conclusions of Law, the Commission issues the following order:

1. CEHE's Request for Approval of AMS Deployment Plan and Request for AMS Surcharge are granted to the extent that they are consistent with the Stipulation.
2. The Stipulation is approved and the relief sought by the Stipulation is granted.
3. CEHE's requests for waivers pursuant to P.U.C. SUBST. R. 25.130(g)(3) are approved.
4. CEHE shall directly, or together with Oncor, or through a consortium involved in developing the Common Portal, hire an independent, third party to conduct a security audit of the common AMS Web Portal requirements as the development of the Common Portal begins and shall provide the results of that audit to the Commission.
5. Consistent with the requirements of P.U.C. SUBST. R. 25.130(j)(3), CEHE shall have an independent security audit of the mechanism(s) for customer and REP access to meter data conducted within one year of initiating such access and promptly report the results to the Commission.
6. Unless otherwise ordered in a subsequent proceeding, CEHE shall act in accordance with the following. The Existing DSC Charges shall continue to apply to customers with poly-phase meters, IDR meters, meters rated above 200 amps, or advanced meters for which CEHE has obtained a waiver from the requirement for remote connect/disconnect

ability. For all other customers, CEHE shall implement New DSC Charges that revise the Existing DSC Charges to reduce CEHE's meter-related discretionary service charges annually over a period of six years to reflect the progressive reduction in costs resulting from AMS deployment. CEHE shall file such revised New DSC Charges on each anniversary of the Functionality Date. Upon full deployment of AMS, each of the New DSC Charges established in the sixth year shall be no higher than the administrative cost of providing that service not otherwise included in base rates. The New DSC Charges established in the sixth year shall be no higher than \$1.00 (or \$2.00 in the case of the revised DCS.1 Standard Move-In Charge). Nothing in this Order precludes a Party from requesting the inclusion of this administrative cost for recovery in base rates or from requesting a reduction in a meter-related discretionary service charge in a future Commission proceeding.

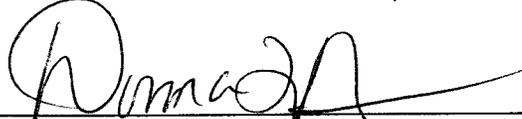
7. Entry of this Order does not indicate the Commission's endorsement or approval of any principle or methodology that may underlie the Stipulation. Entry of this Order consistent with the Stipulation shall not be regarded as a binding holding or precedent as to the appropriateness of any principle that may underlie the Stipulation.
8. All motions or requests for entry of specific findings of fact and conclusions of law, other requests for general or specific relief not expressly granted, are denied.

SIGNED AT AUSTIN, TEXAS on the 22<sup>nd</sup> day of December 2008.

**PUBLIC UTILITY COMMISSION OF TEXAS**



**BARRY T. SMITHERMAN, CHAIRMAN**



**DONNA L. NELSON, COMMISSIONER**



**KENNETH W. ANDERSON, JR., COMMISSIONER**

## EXHIBIT A

### **CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC'S REVISED ADVANCED METERING SYSTEM DEPLOYMENT PLAN**

1. **Purpose.** The purpose of this document is to present CenterPoint Energy Houston Electric, LLC's (CEHE or Company) revised plan for full deployment of an advanced metering system (AMS Deployment Plan). The information required by P.U.C. SUBST. R. 25.130(d)(4) is contained in this document.

2. **Advanced Metering Technology.**

(a) The advanced metering technology that CEHE intends to deploy will provide or support the minimum system features identified in P.U.C. SUBST. R. 25.130(g)(1) adopted by the Public Utility Commission of Texas (Commission). The specific features of the proposed advanced metering technology are described below.

(b) The OpenWay advanced meters CEHE proposes to deploy can be read automatically through a two-way communications system. The communications technologies that CEHE intends to use are described in Section 3, below.

(c) The proposed OpenWay advanced meters rated at 200 amps or less contain a service switch that can be used to remotely connect or disconnect service via the advanced metering system (AMS) network. The service switch also has the capability to open when a configured current limit level is exceeded.

(d) CEHE's proposed advanced meters have the ability to measure, store, display, and report "out-flow" and "in-flow" energy consumption. In addition, all of CEHE's advanced meters have the ability to support fixed block or rolling demand intervals for demand measurement and the capability to monitor voltage.

(e) CEHE's proposed AMS has the capability to time-stamp meter data. Periodic meter reading data is consistent with the American National Standards Institute (ANSI) C12.19 file table standards accepted by ERCOT, and can be time (hour, minute, and second) and date stamped.

(f) CEHE's proposed advanced meters have the capability to provide direct, real-time access to customer usage data subject to the limitations and priorities of the associated network infrastructure.

(g) Both CEHE's proposed residential and non-residential advanced meters have the capability of recording multiple channels of consumption data and storing that data in accordance with ANSI C12.19 standards. The interval length will be programmable for 15- or 60-minute intervals. CEHE's proposed advanced meters have an on-board memory sufficient to store 376 days of single channel 15-minute interval data. Thus, CEHE's proposed AMS system will have the capability to provide 15-minute interval data to Retail Electric Providers (REPs), customers, and ERCOT on a daily basis, consistent with data availability, transfer, and security standards adopted by ERCOT.

(h) The OpenWay advanced meters CEHE proposes to deploy meet the applicable ANSI standards for 0.2 percent accuracy class meters and will be consistent with ANSI Standard C12.22 when this networking standard is adopted and made available.

(i) CEHE's proposed OpenWay advanced meters have the capability to interact with home area network (HAN) devices in a customer's premises. The AMS HAN enabling device in the advanced meter has the capability to communicate with up to five provisioned HAN devices in the home, transmit pricing signals from REPs, support demand response, and pre-payment options. CEHE's proposed AMS will also transmit interval data to the Company's web portal on a daily (no later than day-after) basis. The timeline for development of the Company's web portal is described in Section 5, below. For additional HAN-related information, see Exhibit B to the Order, CEHE's Statement of AMS Functionality.

(j) CEHE will have the ability to upgrade the proposed OpenWay advanced meters as technology advances and, in CEHE's determination, the upgrade becomes economically feasible. CEHE will comply with market notification requirements in P.U.C. SUBST. R. 25.130(g)(5).

(k) For more information on the associated meter technology, see Exhibit B to the Order.

### **3. Communications Technologies.**

(a) CEHE plans to implement a communications network capable of providing communications access to all AMS meters within the CEHE electric service area. The communications system will provide data back-haul from approximately 6,800 Itron-provided cell relays to the existing CEHE microwave/fiber communications backbone network via radio frequency (RF) network communications technology. Each cell relay shall be capable of transmitting to two or more RF take-out sites for redundancy. The data from the RF-connected cell relays shall aggregate to base stations located at each take-out point. The communications system shall transmit data in packet format. Input shall be provided by Ethernet connections at the cell relay radios, or via wireless GPRS. The communications system shall have a network monitoring software package to provide network performance statistics.

(b) RF. CEHE plans to use RF network communications technology. In densely populated areas, RF technology is the most cost-effective option. The planned RF technology solution consists of two elements. The first is to use the Itron OpenWay system for two-way communications between the OpenWay advanced meters and the Itron cell relays, which serve as meter data collectors. The meters form a chain network that uses the Itron OpenWay cell relays to transmit meter data to CEHE's Meter Data Management System (MDMS), or two-way communications of commands with the meter. This meter network has the ability to self-heal as the environment changes (e.g., trees grow leaves, another obstruction blocks the preferred communication path, or equipment fails). That is, if an RF advanced meter cannot communicate with a collector along one path in the RF network, it finds another path in that network through which to communicate with the collector. The RF advanced meter transmits time-differentiated energy usage to the collection system on a predetermined schedule. The second element of the RF network consists of a wireless radio system that will utilize multiple CEHE radio towers. A

wireless radio will be attached to each cell relay that will transmit data to or from the cell relay to a radio base station located at the radio tower. The data can then be transmitted to CEHE's existing data network over a fiber optic or microwave connection for incorporation into CEHE's MDMS. Since the RF communications network is a two-way communications system, it will support advanced meter data collection processes, on-demand services, and HAN messaging.

Specific technical capabilities and limitations of the RF communications network are listed below.

(1) Baseline Technical Capabilities.

- a. The communications system shall provide a minimum of 64 kilobits per second (kbps) of always-on bandwidth from each cell relay to each take-out point.
- b. The communications system shall be upgradeable to a minimum of 128kbps.
- c. The communications system shall be designed for 99.9% average cell relay, cell relay radio, and take-out point radio reliability. This is equal to no more than 526 minutes of outage per year.

(2) Technical Requirements and Specifications.

- a. The cell relay will require a minimum of 64kbps and maximum of 128kbps of dedicated bandwidth from each cell relay radio to the microwave/fiber optic take-out point.
- b. Given that future requirements could require greater bandwidth, the currently planned system has the capability to scale to meet increased bandwidth requirements of up to 400kbps.
- c. The Ethernet port on the cell relay radio shall not exceed 40% of its capacity.
- d. The cell relay radio shall have redundant capabilities which will allow the cell relay to transmit to a minimum of two (2) take-out-points. This will provide for redundant connectivity to the CEHE backbone network.
- e. Each path must have an average of 99.9% reliability.
- f. Network nodes and communications hardware will be capable of being remotely managed via standard network management systems.
- g. MIB data will be available for input to a master network management system.

- h. Communications hardware will be capable of segregation and transport of IP data.
- i. CEHE will provide secure data transport and equipment operation in compliance with Sarbanes-Oxley and NERC requirements.
- j. CEHE will support standard quality of service and features.
- k. CEHE will operate a NEMA radio housing at each node location that will be mounted to a standard utility pole.
- l. Cell relay radio hardware on distribution poles shall be grounded to the adjacent neutral conductor or MGNV.
- m. Cell relay radio hardware shall have capability to be installed indoor and underground as needed.
- n. Cell relay radio hardware shall include a 4-hour battery back up.
- o. CEHE's AMS will have the ability to make communication path choices from multiple take-out points for disaster recovery modes.
- p. CEHE's AMS will interface with existing CenterPoint Energy SONET network Backbone elements via e10/100 Base-T Ethernet.
- q. Ethernet ports will support the following features and standards:
  - 10/100 Base-T port speed
  - Full-duplex operation
  - Auto-negotiation (port speed and duplex)
- r. All equipment must be designed to operate under the following conditions:
  - Ambient Temperature Range: -30 deg to +60 deg Celsius
  - Relative Humidity: 95% non-condensing
  - Radio Frequency Shielding: Equipment will be designed to allow operation in the presence of strong RF fields.
  - Antenna systems and appurtenances will be rated for the local environmental conditions.

(c) Fiber Optic. New fiber optic or microwave connectivity to CEHE's existing data network will be installed in cases in which a new radio tower must be constructed to establish necessary coverage in part of the CEHE service territory. The addition of new fiber optic or microwave connectivity will be an exception to RF technology as CEHE will first try to utilize existing facilities for radio installations.

(d) GPRS. GPRS is a cost-effective solution to provide data transmission capacity and speed to support two-way communication between advanced meters and the Data Collection Engine (DCE) when meter density is low and there is not a significant quantity of data to transmit without compromising AMS performance. In such areas, the Itron OpenWay cell relays will be equipped with GPRS communication circuitry and will operate similar to a cell phone. In GPRS networks, the cell relay communicates with a carrier service, which then communicates directly with the DCE.

(e) Other Technologies. CEHE will continue to monitor advanced metering technology as it evolves and will evaluate any new developments for possible application in CEHE's AMS. Should CEHE determine that a new technology should be implemented in conjunction with (or instead of) RF, fiber optic, and/or GPRS as part of CEHE's AMS, CEHE will file an amendment to its AMS Deployment Plan as required by P.U.C. SUBST. R. 25.130(d)(10).

#### **4. Systems Developed During the Deployment Period.**

(a) For each advanced metering technology described in Section 2, there is a communications network. The communications network includes the collector systems discussed previously. Each communications network also has its own operating system located in the Company's back office that supports the two-way data flow between the advanced meters and the other IT infrastructure. These operating systems perform several functions, such as produce schedules for reading and disconnecting meters and performing the on-demand reads. They also route commands to and from an end-user to ensure that the command goes to the correct advanced meter. These systems monitor the operations of the associated communications networks to determine whether the network is operating properly.

(b) CEHE's existing IT systems will require additions and modifications. For example, the existing MDMS currently stores and processes the data collected by meter readers on existing handheld devices. During the pilot, a limited number of licenses were acquired to install a new DCE system and MDMS that would interface with the new OpenWay meters via newly installed communications networks. The DCE and MDMS evaluate the meter data received and perform validating, editing, and estimating (VEE), if needed. CEHE will upgrade and modify these systems in order to support a full AMS deployment.

(c) As a subset of the MDMS, the Meter Usage Data Repository (MUDR) system supports the accumulation of large meter data volumes for synchronization with an envisioned Texas common data repository (hereinafter, Common Repository) and Texas common web portal (hereinafter, Common Portal).

(d) With the addition of new IT systems, Application Programming Interfaces (APIs) will also be provided. APIs are based on web services often called Systems Oriented Architecture (SOAs) that "push" or "pull" data from one system in one format to another system in possibly another format, and communicate messages in a standard format between systems in support of advanced metering functions (*e.g.*, reconnects, disconnects, and on-demand reads) and HAN transactions.

## **5. Timeline for Web Portal Development.**

(a) CEHE is working with other Transmission and Distribution Service Providers (TDSPs) to implement an envisioned Common Repository and Common Portal pursuant to the *Implementation Project Relating to Advanced Metering*, Project No. 34610. The project is currently in the planning phase. As part of this planning phase, CEHE is analyzing its existing systems and is identifying necessary upgrades to its infrastructure that will be needed as part of the implementation of the Common Portal. During the interim period, before the Common Repository and Common Portal are in place pursuant to Project No. 34610, CEHE will provide meter usage data through a CEHE-hosted secure File Transfer Protocol (FTP) site (Interim REP Portal). During this interim period, CEHE will forward such data directly to ERCOT. End-use customers will not have access to data through a web portal unless and until (A) provided by their REP, or (B) the Common Repository and Common Portal are in place pursuant to Project No. 34610. In addition, CEHE's Interim REP Portal will provide usage information and on-demand reads and HAN functionality (see Exhibit B) accessible one ESI ID at a time. CEHE expects these interim solutions to be available no later than the first day of the eighth full calendar month following issuance of a signed final order in this docket.

(b) See paragraph 8 for additional details.

## **6. Deployment Schedule by Specific Area (geographic information).**

(a) CEHE will begin a full deployment of AMS by implementing the various "back-office" systems needed, during the first 7 months of the 60-month AMS schedule. The communications system will be deployed over a 60-month period in concert with and several months ahead of a geographic deployment of the functional OpenWay RF advanced meters, which will take 59 months and is expected to begin in month 3 after the start of the AMS.

(b) CEHE will begin deploying meters on the first day of the third full calendar month following issuance of a signed final order in Docket No. 35639. Meter deployment will start near the center of CEHE's electric service territory and work outward following meter reading routes, which can then be eliminated as the new meters are installed. As shown in Attachment 1, CEHE plans to install 145,000 advanced meters in 2009, 536,500 advanced meters in 2010, 558,000 advanced meters annually in years 2011-2013, and 46,500 advanced meters in January 2014. During the meter installation period, CEHE will file monthly progress reports with the Commission. During the deployment period, CEHE will equip new homes and businesses with OpenWay meters, but those meters will continue to be read by meter readers until deployment of the communications system reaches the new meter. CEHE has developed a carefully sequenced plan to handle meter installation and AMS deployment for critical care customers and in situations where installation is impeded by the denial of access to meters or damage to existing meter facilities.

(c) Attachment 1 provides a map of existing meter reading districts and a detailed description of the areas and the quarters in which CEHE plans to deploy the proposed AMS. It may become necessary to revise this schedule and sequence over the course of the deployment of AMS due to changing circumstances. Should that be the case, CEHE will report on any changes

to this proposed schedule and sequence in its monthly progress reports that will be filed pursuant to P.U.C. SUBST. R. 25.130(d)(9).

(d) Other factors considered in developing the Deployment Plan were: (1) existing automatic meter reading equipment in the district; (2) the number of field activities required in that district (*e.g.*, number of disconnects/reconnects, move-in/move-out readings, and difficulty to manually read); and (3) the proximity to deployment staging areas.

## **7. Reports.**

(a) A monthly status report meeting the requirements of P.U.C. SUBST. R. 25.130(d)(9) will be posted on the CenterPointEnergy.com website by the 15th of each month during the AMS deployment period. The monthly progress report will include the number of advanced meters installed by ESI ID, variations in the AMS Deployment Plan, significant problems CEHE has experienced, the number of advanced meters replaced as a result of AMS problems, and any status of AMS feature deployment. This monthly report will commence 60 days after PUCT approval of CEHE's AMS Deployment Plan.

(b) Upon request by a REP, CEHE will provide a report to the requesting REP stating the estimated cost and schedule for providing a non-standard advanced meter or non-standard advanced meter features.

(c) CEHE will, jointly with other TDSPs involved in developing the Common Portal, hire an independent, third party to conduct a security audit of the common AMS web portal requirements as the development of the Common Portal begins and will provide the results of that audit to the Commission in a compliance project for reporting. Additionally, CEHE will individually, within one year after initially providing commercial AMS service, engage an independent security auditor to conduct an audit of CEHE's mechanism(s) for customer and/or REP access to meter data consistent with P.U.C. SUBST. R. 25.130(j)(3).

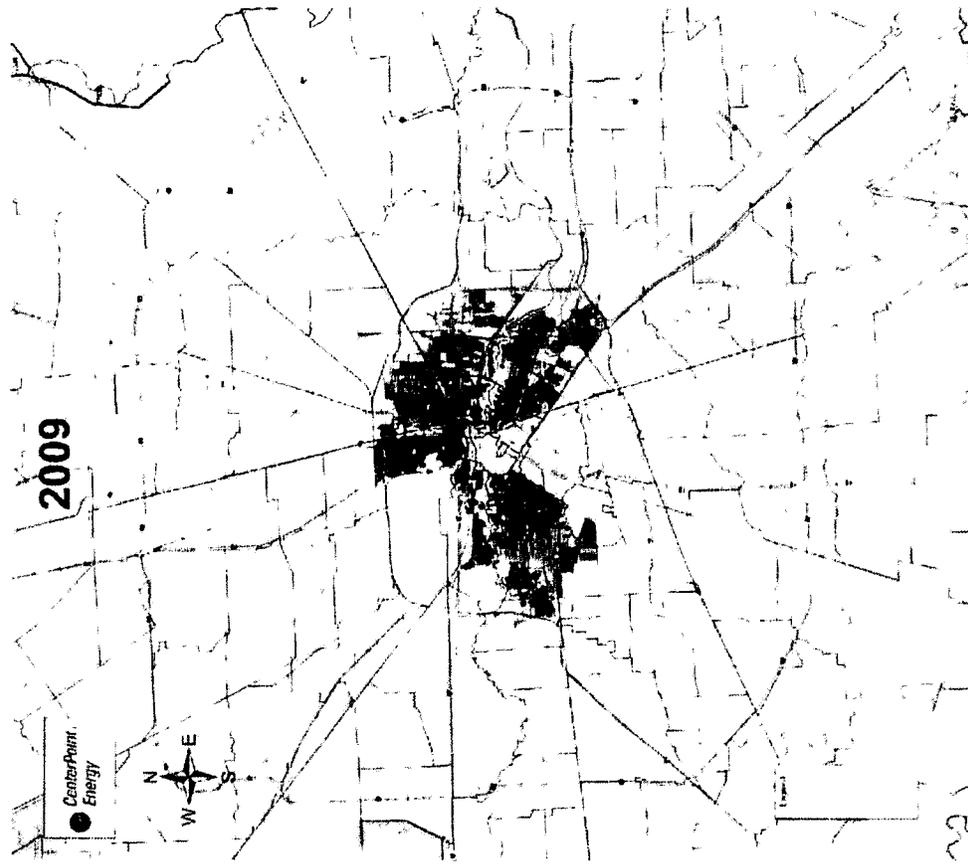
(d) CEHE will provide annual reports to the Commission, which shall include actual costs spent to date in deploying AMS, the actual net operating cost savings, and the variance from the projections used to determine the surcharge. This report will be filed within 90 days after the end of the reporting period.

## **8. Schedule for Deployment of Web Portal Functionalities.**

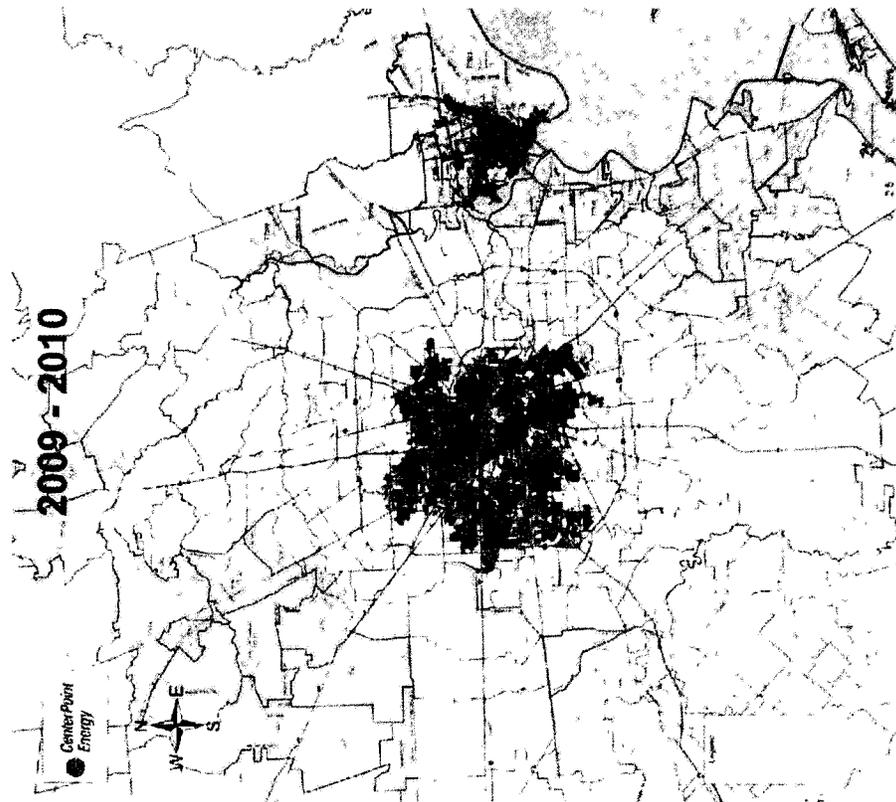
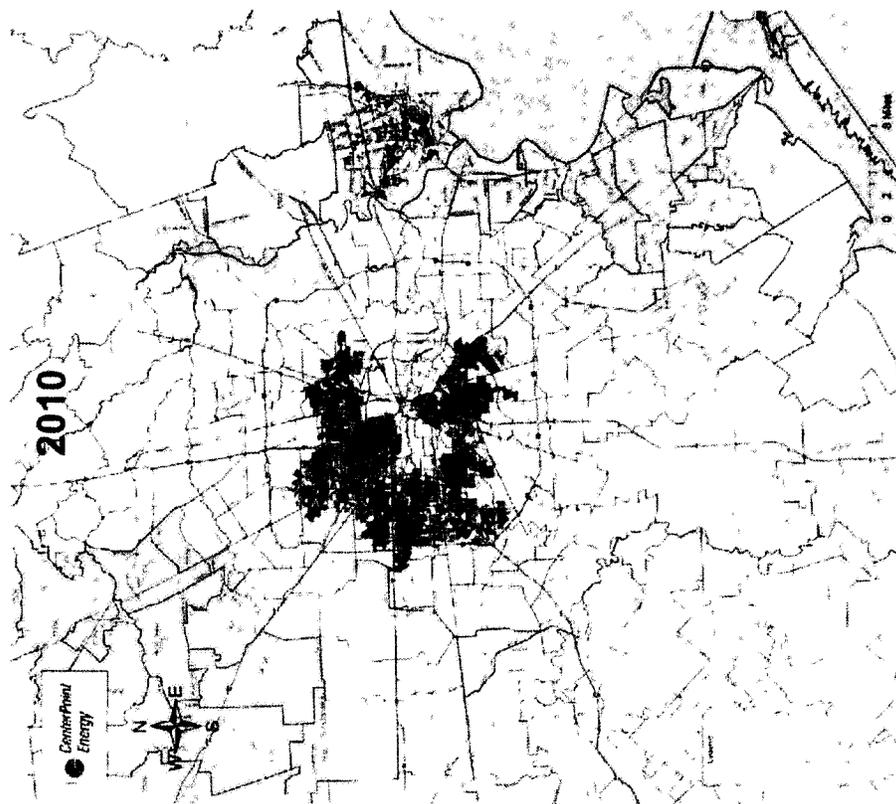
(a) Web portal capabilities will be based on (a) the business requirements developed in Commission Project No. 34610 and (b) the commercial availability of the means required to meet those requirements. In the event the means to meet those requirements are not commercially available, CEHE will use reasonable efforts to develop or encourage the development of such means. Deployment of web portal functionalities will be a multi-phase project with delivery dates for each individual deliverable expected to range from 12 to 36 months after the entry of a Commission-approved order in Docket No. 35639.

(b) It is expected that the development and deployment of the Common Portal will take approximately 12 to 24 months after a system integrator or vendor is selected by the TDSPs.

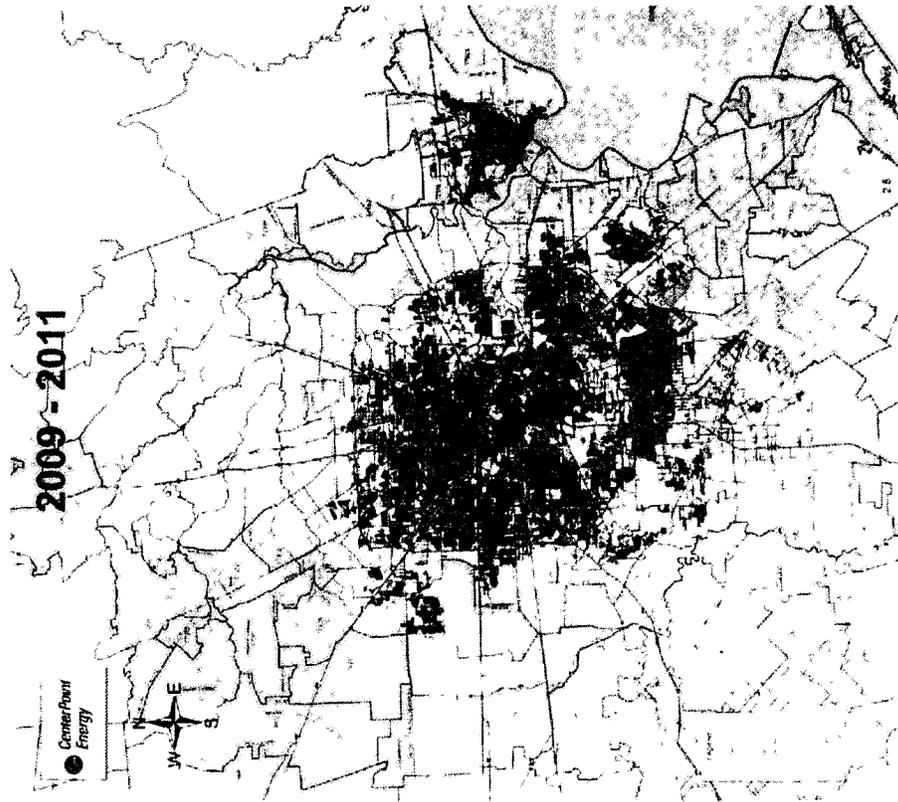
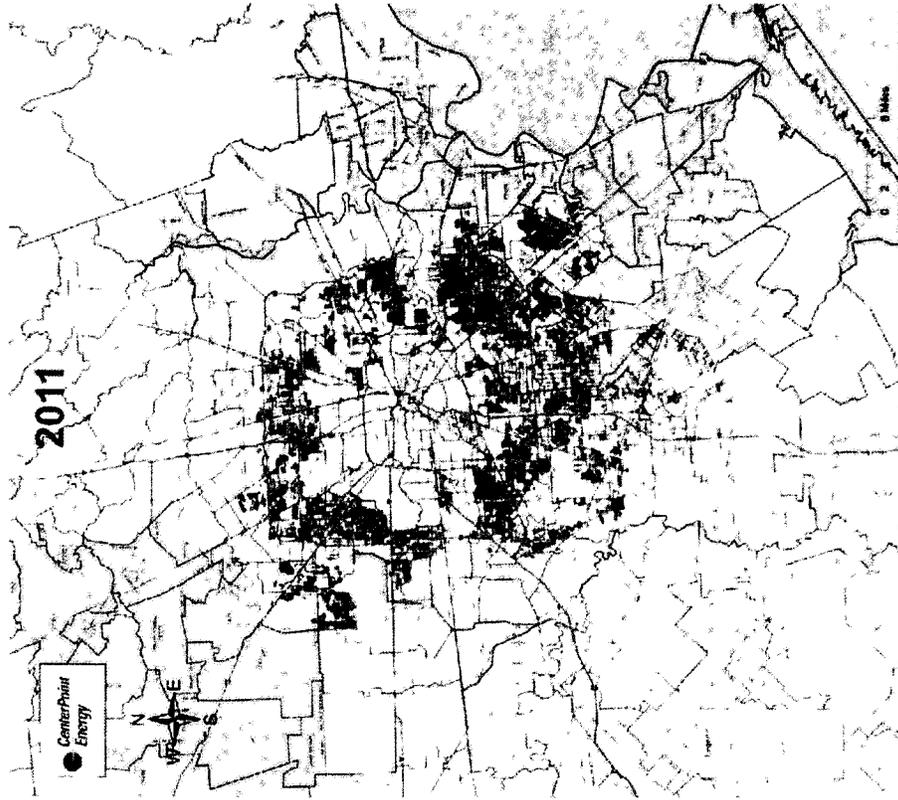
**2009 AMS Meter Deployment**



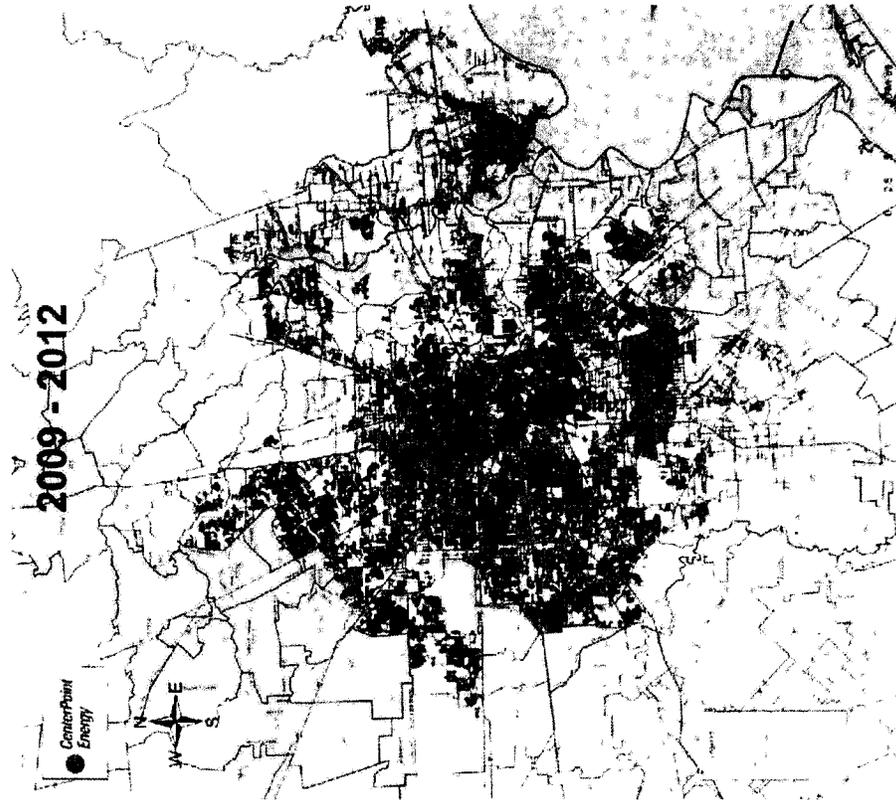
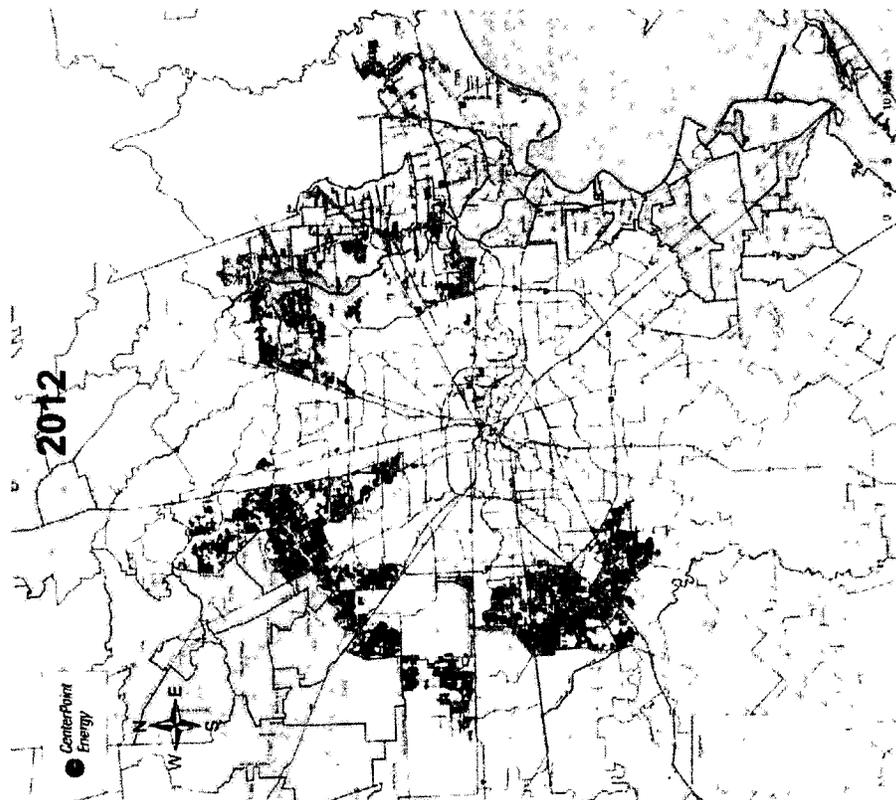
**2010 AMS Meter Deployment**



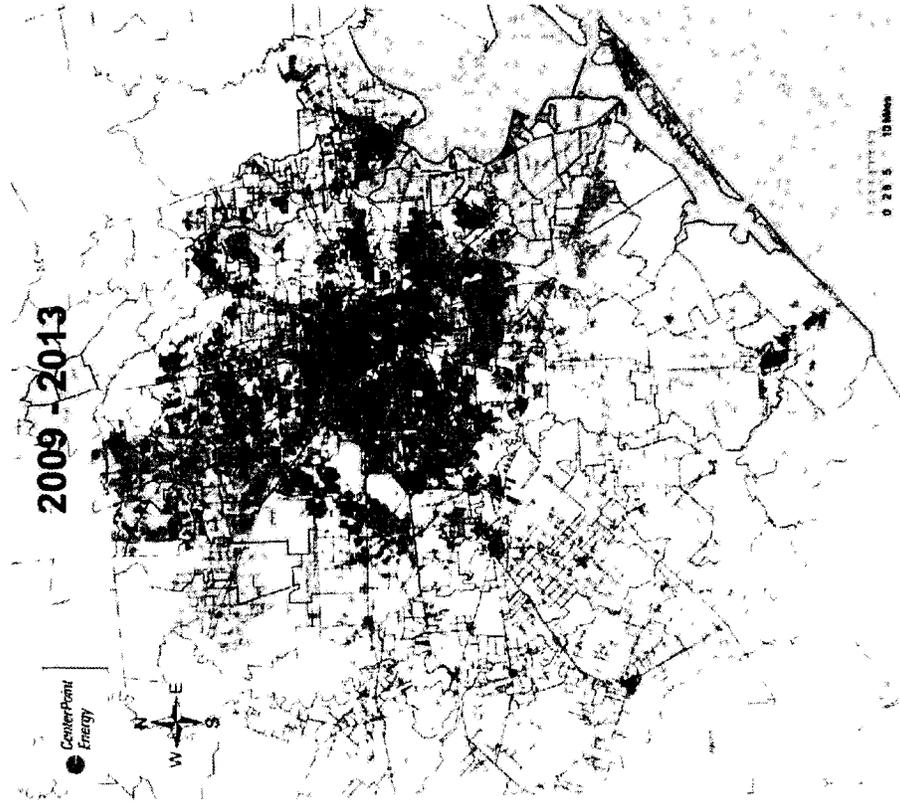
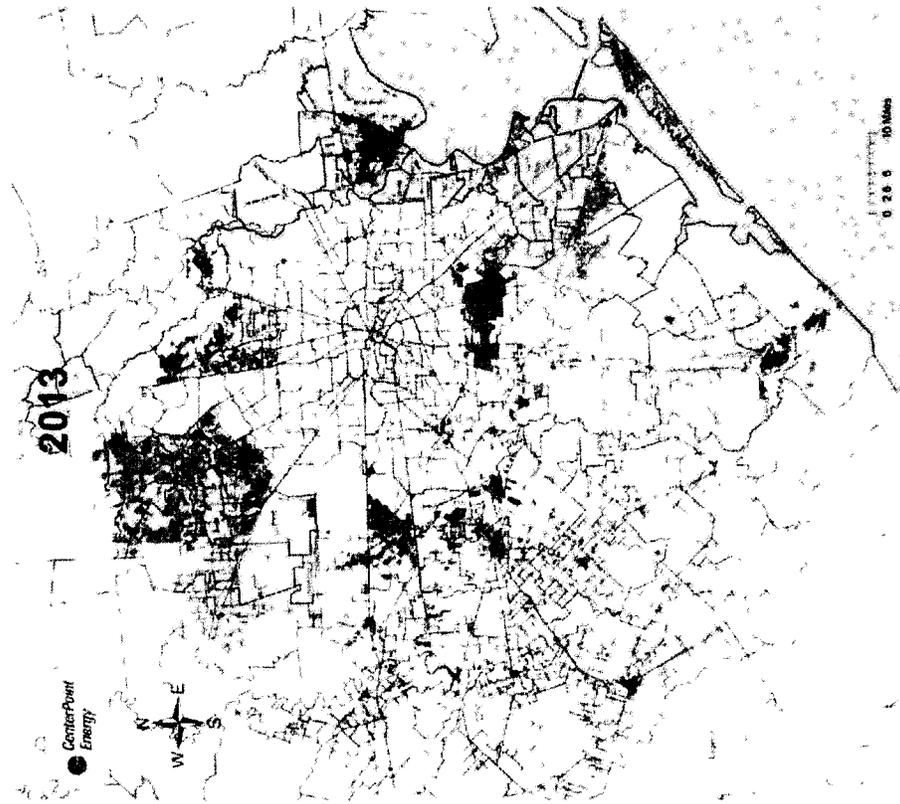
**2011 AMS Meter Deployment**



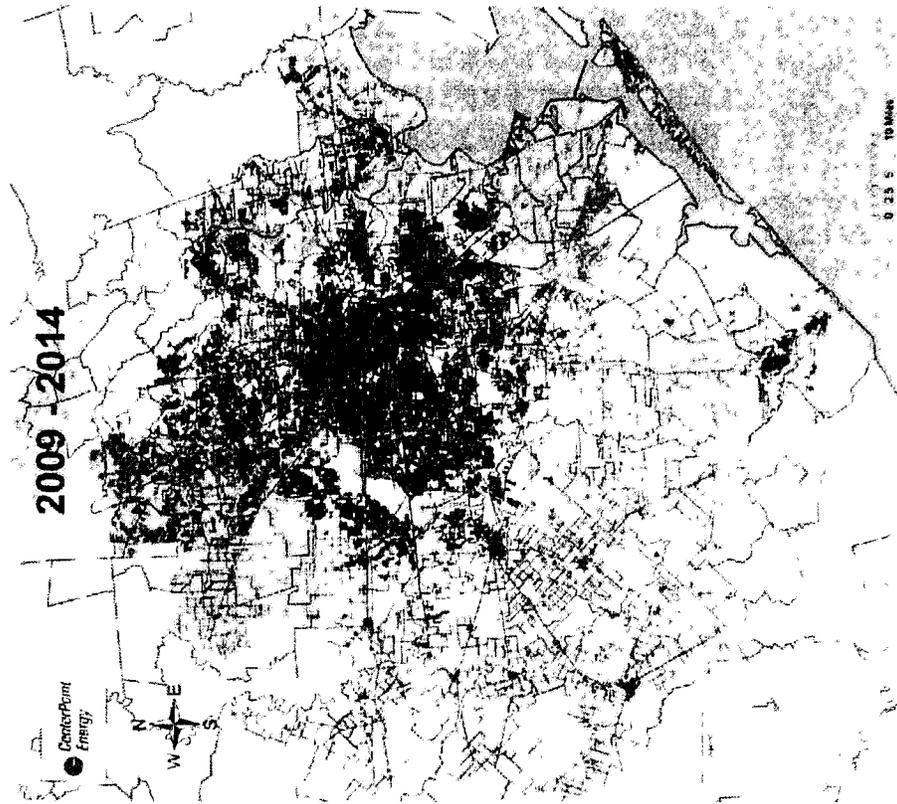
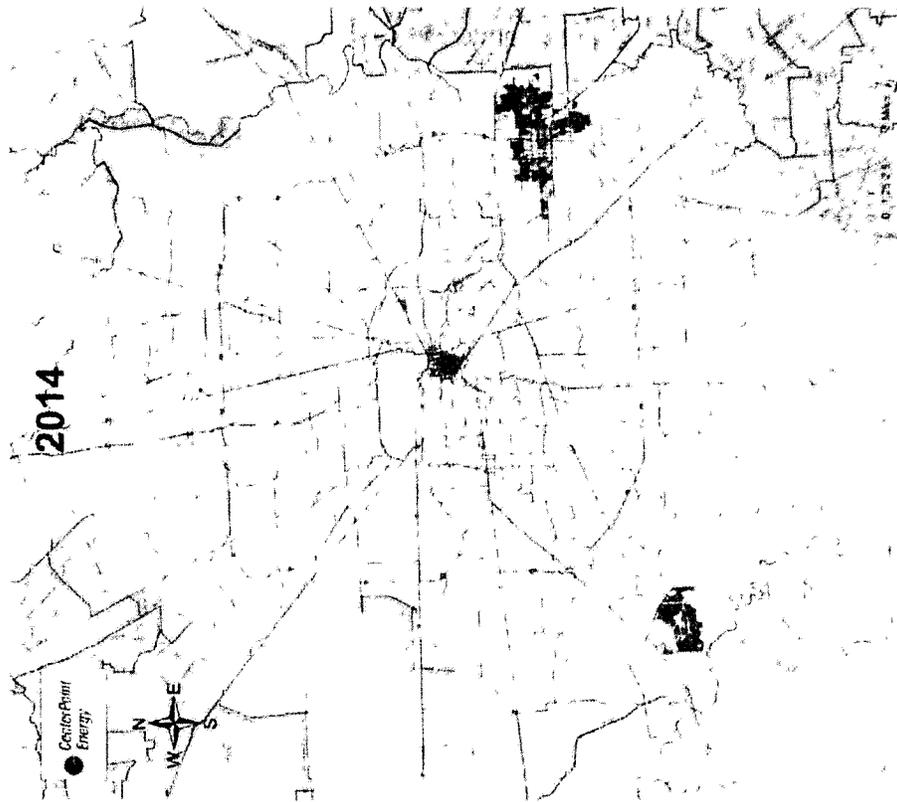
***2012 AMS Meter Deployment***



**2013 AMS Meter Deployment**



**2014 AMS Meter Deployment**



## EXHIBIT B

### **CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC'S REVISED STATEMENT OF AMS FUNCTIONALITY**

1. **Purpose.** The purpose of this document is to present CenterPoint Energy Houston Electric, LLC's (CEHE's or Company's) revised Statement of AMS Functionality. The information required by P.U.C. SUBST. R. 25.130(d)(3) is contained in this document.

2. **Technological requirements.** The advanced meter system described in CEHE's revised AMS Deployment Plan submitted to the Commission as Exhibit A meets the requirements specified in P.U.C. SUBST. R. 25.130(g) with the exception(s) noted in paragraph 4 herein.

3. **Service Area Variances between Technology and Meter Functions.** CEHE plans to use radio frequency (RF) communication technologies in its deployment of advanced meters throughout the Company's service area but reserves the right to deploy general packet radio service (GPRS) technology in areas where customer density is very low, making it cost prohibitive to extend RF technology to those areas. Creating the needed communication network across the Company's large and varied service territory in the most cost-effective manner may require the use of both technologies.

4. **Request for Waivers.** CEHE requests waivers to relieve the Company of the obligation of installing an advanced meter that would have all of the functionalities contemplated by P.U.C. SUBST. R. 25.130 in the following circumstances.

A. An advanced meter with disconnect functionality will not be required for loads that may cause safety or health issues if disconnected, such as traffic lights, railroad crossings, police stations, and emergency facilities.

B. CEHE seeks any and all waivers required from P.U.C. SUBST. R. 25.130(g)(1)(E)(i) and (G) if and only to the extent those rules require real-time access to data for end-use customers. End-use customers, however, will not have access to data through a web portal unless and until (A) provided by their REP, or (B) the Texas common data repository (hereinafter, Common Repository) and Texas common web portal (hereinafter, Common Portal) are in place pursuant to the *Implementation Project Relating to Advanced Metering*, Project No. 34610. Once the Common Portal is completed, customers (in addition to REPs and authorized third parties) will have secure access to data through the Common Portal.

5. **Table of Functionality.** The following table describes how CEHE's AMS meets each of the minimum system features set forth in P.U.C. SUBST. R. 25.130(g)(1).

**TABLE OF FUNCTIONALITY  
MINIMUM SYSTEM FEATURES**

<b>Rule</b>	<b>Requirement</b>	<b>CEHE Implementation</b>
(A)	Automated or remote meter reading;	<ul style="list-style-type: none"> <li>• CEHE will gather 15 minute interval data three times daily from AMS meters.</li> <li>• CEHE will provide a register reading time stamped at 23:59:59 (hh:mm:ss) for each meter.</li> <li>• CEHE will gather meter event log information during the daily data gathering process and will make available to REPs any low priority HAN Device acknowledgement messages as determined in Project No. 34610 as soon as the data is gathered (i.e. 3 times daily).</li> <li>• All collected reading data will be made available no later than day after.</li> <li>• CEHE’s meter data gathering process will include a scheduled demand reset of polyphase meters.</li> </ul>
(B)	Two-way communications;	<ul style="list-style-type: none"> <li>• CEHE will provide two-way communications between the web portal and AMS meter that is based on a secure and open architecture.</li> <li>• CEHE will support REP and consumer ability to directly “ping” or “poll” meters as defined by the PUCT AMIT workshops, Project No. 34610. Please see Section (E), below.</li> <li>• CEHE AMS meters will support two-way communications between the AMS meter and appropriately certified ZigBee SmartEnergy Profile HAN devices.</li> </ul>

**Constraints:**

- CEHE’s AMS does not support at this time, unsolicited messages from HAN devices that are not covered by the ZigBee Alliance SmartEnergy protocols, such as, low battery or other device operating status messages. SmartEnergy profile messages from a provisioned HAN device, such as customer load event opt-out notices, are supported.
- CEHE seeks any and all waivers required from P.U.C. SUBST. R. 25.130(g)(1)(E)(i) and (G) if and only to the extent those rules require real-time access to data for end-use customers. End-use customers, however, will not have access to data through a web portal unless and until (A) provided

by their REP, or (B) the Texas common data repository (hereinafter, Common Repository) and Texas common web portal (hereinafter, Common Portal) are in place pursuant to the *Implementation Project Relating to Advanced Metering*, Project No. 34610. Once the Common Portal is completed, customers (in addition to REPs and authorized third parties) will have secure access to data through the Common Portal.

- (C) Remote disconnection and reconnection for single phase meters rated at or below 200 amps; CEHE will deploy OpenWay advanced meters rated at 200 amps or less that contain a service switch capable of remotely connecting or disconnecting service via the AMS network.
- (D) The capability to time-stamp meter data sent to the independent organization or regional transmission organization for purposes of wholesale settlement, consistent with time tolerance standards adopted by the independent organization or regional transmission organization; CEHE's proposed AMS has the capability to time-stamp meter data. Periodic meter reading data is consistent with the American National Standards Institute (ANSI) C12.19 file table standards accepted by ERCOT, and can be time (hour, minute, and second) and date stamped.
- (E) The capability to provide direct, real-time access to customer usage data to the customer and the customer's REP, provided that:
- (i) hourly data shall be transmitted to the electric utility's web portal on a day-after basis.
  - (ii) the Commission Staff using a stakeholder process, as soon as practical shall determine, subject to Commission approval, when and how 15-minute interval recorder data shall be made available on the electric utility's web portal;
- CEHE's AMS System will be able to support 15-minute settlement at ERCOT provided (a) the settlement requirements do not exceed those developed in Project No. 34610 as set forth in Exhibit H and Exhibit I and (b) settlement at ERCOT, prior to the deployment of the Common Repository, follows the interim market schedule for settlement agreed to by the ERCOT Market Advanced Readings and Settlements Task Force as set forth in Exhibit K to the Stipulation.
- Until the Common Repository and Common Portal are available, CEHE will make meter usage interval data and midnight meter register reads available to REPs via a CEHE-hosted secure File Transfer Protocol (FTP) site. In addition, CEHE will provide an interim REP portal (Interim REP Portal) for usage information and on-demand reads (ODR) and HAN functionality accessible one ESI ID at a time. CEHE expects these interim solutions to be available no later than the Functionality Date. The Functionality Date shall be

the first day of the eighth full calendar month following issuance of a signed final order in this docket.

CEHE's Interim REP Portal solution will support the following functionality.

- AMS Meter Installed at the Premise
- Interval usage in 15 min, hourly, daily and monthly for all ESI IDs owned by the REP of Record (see Section (G) below)
- Download of individual ESI ID
- Print of graphical data displayed
- ODR for meter register
- HAN (workshops in session)– Control of thermostat functionality as a minimum (see Section (J) below)

**Constraints:**

- End-use customers will not have access to data through a web portal unless and until (A) provided by their REP, or (B) the Common Repository and Common Portal are in place pursuant to Project No. 34610.
- Functionality beyond what is contained in the AMIT requirements and future direction such as real time switching or move-ins is out of scope.

**Explicitly excluded functionality:**

- Move in Request
  - Non-Midnight move-ins
  - Two move-ins in the same 24-hour period
  - Real-time move in
  - Customer selected time of move-in
- Switch Request
  - Non-Midnight switch
  - Multiple switches in the same 24-hour period
  - Real-time switching
  - Accelerated first available switch date
  - Customer selected time of switch
- Disconnect For Non-Pay
  - Time-specific disconnect

- Real-time disconnect
- Real-time reconnect after DNP
- Time-specific reconnect
- Cancels / Date Changes
  - Time-specific time changes
  - Real-time cancels
- Move out
  - Time-specific move out

(F) Means by which the REP can provide price signals to the customer;

CEHE will enable REP price signals to ZigBee SmartEnergy in-home HAN display devices over the AMS communications network by the Functionality Date.

(G) The capability to provide 15-minute or shorter interval data to REPs, customers, and the independent organization or regional transmission organization, on a daily basis, consistent with data availability, transfer, and security standards adopted by the independent organization or regional transmission organization;

CEHE is working with other Transmission and Distribution Service Providers (TDSPs) to implement an envisioned Common Repository and Common Portal pursuant to the *Implementation Project Relating to Advanced Metering*, Project No. 34610. The project is currently in the planning phase. As part of this planning phase, CEHE is analyzing its existing systems and is identifying necessary upgrades to its infrastructure that will be needed as part of the implementation of the Common Portal.

Starting no later than the Functionality Date, and during the interim period until the Common Repository and Common Portal are available, CEHE will provide or support the following.

- CEHE will provide REPs with available 15-minute VEE meter usage data via a CEHE-hosted secure File Transfer Protocol (FTP) site on a daily (no later than day-after) basis.
- CEHE will provide daily (no later than day-after) available meter register reads via a CEHE-hosted secure FTP site.
- CEHE will forward such data directly to ERCOT per the Market Advanced Readings and Settlement (MARS) subcommittee guidance and schedule,

which is attached as Exhibit K to the Stipulation.

- CEHE will provide an interim REP portal accessible one ESI ID at a time for:
  - usage information in 15-minute, daily and monthly graphical formats that can be printed or downloaded to an Excel spreadsheet format;
  - on-demand reads; and
  - HAN Functionality (see Section (J) below).

**Limitation:**

End-use customers will not have access to data through a CEHE REP interim web portal or FTP site unless and until (A) provided by their REP, or (B) the Common Repository and Common Portal are in place pursuant to Project No. 34610.

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|-----|---|---|
| (H) | On-board meter storage of meter data that complies with nationally recognized non-proprietary standards such as in American National Standards Institute (ANSI) C12.19;   | The on-board meter storage feature of the OpenWay advanced meter is already C12.19 complaint.   |
| (I) | Open standards and protocols that comply with nationally recognized non-proprietary standards such as in ANSI C12.22, including future revisions thereto;   | The OpenWay advanced meter is already C12.22 complaint.   |
| (J) | Capability to communicate with devices inside the premises, including, but not limited to, usage monitoring devices, load control devices, and prepayment systems through a home area network-(HAN); based on open standards and protocols that comply with nationally recognized non-proprietary standards such as ZigBee, Home-Plug, or the equivalent; and | CEHE's proposed AMS supports communication with ZigBee enabled in-home devices. ZigBee public profile communication support is embedded in each meter. CEHE is an active member of OpenHAN and the ZigBee Alliance and is active within these organizations in developing ZigBee device interoperability and standards.<br><br>CEHE will support the following HAN functionality by the Functionality Date. <ul style="list-style-type: none"><li>• CEHE can support a communication traffic capacity consistent with a 400 meter to cell relay ratio inclusive of HAN operations, Meter operations, Network management, and system overhead.</li></ul> |

- CEHE can support up to 5 provisioned HAN devices.
- One or all supported HAN devices may be a control unit capable of supporting multiple sub-devices.
- CEHE can support the REP HAN use projections (as proposed in PUCT Project No. 34610 on June 2, 2008 and attached as Exhibit L to this Order).
- CEHE can support REP-to-HAN pre-nodal use projections (as proposed in PUCT Project No. 34610 on August 15, 2008 and attached as Exhibit M to this Order) by the Functionality Date with limitations:
  - REPs use multicast (broadcasting) messaging for time-of-use price messaging;
  - HAN device message receipt acknowledgement messages are gathered and returned to REP during normal reading data gathering processes.

**Constraints:**

PUCT Project No. 34610 HAN business and technical requirements are still in development. Several HAN requirements, as listed below, have been proposed that are not covered in CEHE's AMS filing. CEHE will incorporate, to the extent the means to provide such functionality are commercially available, the HAN business and technical requirements as set forth in PUCT Project No. 34610. In the event the means to resolve such constraints or provide such functionality are not commercially available, CEHE will use reasonable efforts to develop or encourage the development of such means.

HAN functionality not covered in CEHE's filing include:

- Signal repeaters or range extenders between AMS meters and provisioned HAN devices;
- Detailed monthly HAN communication and operational activity reporting;
- Extensive real time two-way communication sessions between REPs and provisioned HAN devices, including unsolicited messaging initiated

by HAN devices to the REP;

- AMS bandwidth monitoring sufficient to report in near real time bandwidth availability throughout the AMS communications network;
- HAN message queue monitoring and status reporting for REPs;
- CEHE support for near real time messaging to REPs from provisioned HAN devices; and
- CEHE ability to move HAN provisioning information from one meter to another meter when replacing meters.
- CEHE's AMS per this filing is limited in how it can support two-way communications between REPs and HAN devices. CEHE will support two-way REP-to-HAN communications as follows:
  - HAN device provisioning confirmation messages by 4<sup>th</sup> Quarter 2009;
  - Notification when customer "opts out" of a load control event initiated by a REP by 3<sup>rd</sup> Quarter 2010;
  - Notification a meter fails to deliver a REP message to a provisioned HAN device by 3<sup>rd</sup> Quarter 2010.

(K) The ability to upgrade these minimum capabilities as technology advances and, in the electric utility's determination, become economically feasible.

OpenWay meters can be remotely upgraded with firmware or configuration changes.

## Exhibit C

<b>AMS CONTRACTS</b>				
<b>SCHEDULE</b>	<b>NAME</b>	<b>TITLE</b>	<b>DATE</b>	<b>COMMENTS</b>
I	ITRON	CenterPoint Energy (CNP) Advanced Metering for Electric Implementation Itron, Inc.	3/20/2008 Revised 11/04/2008	Filed Dkt No. 35639
I	ITRON	CenterPoint Energy (CNP) Statement of Work Advanced Metering for Electric Implementation Itron, Inc.	11/04/2008	Filed Dkt No. 35639
I	ITRON	CenterPoint Energy AMI Pilot (Extension / Bridge)	5/1/2008	Filed Dkt No. 35639
I	ITRON	Itron OpenWay Advanced metering Infrastructure (AMI) – Electric Pricing Sheet	Revised 11/10/2008	Filed Dkt No. 35639
II	IBM	Master Agreement: Intelligent Utility Network Initiative Between CenterPoint Energy Service Company, LLC (“CNP”) And International Business Machines Corporation (“IBM”)	3/20/2007	Filed Dkt No. 35639
II	IBM	CenterPoint Energy (CNP) Statement of Work (SOW) Bridge #1 Advanced Metering Continuation -	3/25/2008	Filed Dkt No. 35639
II	IBM	CenterPoint Energy (CNP) Statement of Work (SOW) Bridge #2 AMS Communications Infrastructure	3/25/2008	Filed Dkt No. 35639
II	IBM	CenterPoint Energy (CNP) Statement of Work Advanced Meter System (AMS) Portal (1 Year) Statement of Work	5/1/2008 Revised 11/05/2008	Filed Dkt No. 35639 Re-numbered as SOW #10
II	IBM	CenterPoint Energy (CNP) Statement of Work (SOW) Advanced Metering System (AMS) Field Support and Diagnostics (FS&D) Initial Deployment	5/1/2008 Revised 11/05/2008	Filed Dkt No. 35639 Re-numbered as SOW #2
II	IBM	CenterPoint Energy (CNP) Statement of Work (SOW) Advanced Meter System (AMS) Deployment Integration	5/1/2008 Revised 11/05/2008	Filed Dkt No. 35639 Re-numbered as SOW #1
II	IBM	CenterPoint Energy (CNP) Statement of Work (SOW) #09 Program Management Office (PMO)	5/1/2008 Revised 11/05/2008	Filed Dkt No. 35639 Re-numbered as SOW #7
II	IBM	CenterPoint Energy (CNP) Statement of Work (SOW) Advanced Metering System (AMS) System Management	5/1/2008 Revised	Filed Dkt No. 35639 Re-numbered as

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<b>SCHEDULE</b>	<b>NAME</b>	<b>TITLE</b>	<b>DATE</b>	<b>COMMENTS</b>
		Infrastructure Tivoli Implementation	11/21/2008	SOW #8
III	ITRON – PILOT	Itron Advanced Metering Infrastructure Supplement #4 – Attachment A – Pricing Summary	9/28/2006	Filed Dkt No. 35639
III	ITRON – PILOT	Supplement #4 – Attachment B – Statement of Work for Itron Meter Reading System Implementation – Open Way	9/28/2006	Filed Dkt No. 35639
III	IBM – PILOT	Project Change Request / Change Authorization #2 For IBM Statement of Work, IBM Contract # CFT50VN & CenterPoint #WF00010390	2/22/2006	Filed Dkt No. 35639
III	IBM – PILOT	Project Change Request / Change Authorization #3 For IBM Statement of Work, IBM Contract # CFT50VN & CenterPoint # WF00010390	2/22/2006	Filed Dkt No. 35639
III	IBM – PILOT	Project Change Request / Change Authorization #4 For IBM Statement of Work, IBM Contract # CFT50VN & CenterPoint # WF00010390	2/23/2006	Filed Dkt No. 35639
III	IBM – PILOT	Project Change Request / Change Authorization #5 For IBM Statement of Work, IBM Contract # CFT50VN & CenterPoint # WF00010390	2/23//2006	Filed Dkt No. 35639
III	IBM – PILOT	Project Change Request / Change Authorization #7 For IBM Statement of Work, IBM Contract # CFT50VN & CenterPoint # WF00010390	3/7/2006	Filed Dkt No. 35639
III	IBM – PILOT	Project Change Request / Change Authorization #9 For IBM Statement of Work, IBM Contract # CFT50VN & CenterPoint # WF00010390	4/11/2006	Filed Dkt No. 35639
III	IBM – PILOT	Project Change Request / Change Authorization #11 For IBM Statement of Work, IBM Contract # CFT50VN & CenterPoint # WF00010390	4/18/2006	Filed Dkt No. 35639
III	IBM – PILOT	Project Change Request / Change Authorization #15 For IBM Statement of Work, IBM Contract # CFT50VN & CenterPoint # WF00010390	8/8/2006	Filed Dkt No. 35639
III	IBM – PILOT	Project Change Request / Change Authorization #17 For IBM Statement	8/29/2006	Filed Dkt No. 35639

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<b>AMS CONTRACTS</b>				
<b>SCHEDULE</b>	<b>NAME</b>	<b>TITLE</b>	<b>DATE</b>	<b>COMMENTS</b>
		of Work, IBM Contract # CFT50VN & CenterPoint # WF00010390		
III	IBM - PILOT	Project Change Request / Change Authorization #18 For IBM Statement of Work, IBM Contract # CFT50VN & CenterPoint # WF00010390	9/14/2006	Filed Dkt No. 35639
III	IBM - PILOT	Project Change Request / Change Authorization #19 For IBM Statement of Work, IBM Contract # CFT50VN & CenterPoint # WF00010390	9/20/2006	Filed Dkt No. 35639
III	IBM - PILOT	Project Change Request / Change Authorization #21 For IBM Statement of Work, IBM Contract # CFT50VN & CenterPoint # WF00010390	10/30/2006	Filed Dkt No. 35639
III	IBM - PILOT	Project Change Request / Change Authorization #22 For IBM Statement of Work, IBM Contract # CFT50VN & CenterPoint # WF00010390	11/6/2006	Filed Dkt No. 35639
III	IBM - PILOT	Project Change Request / Change Authorization #23 For IBM Statement of Work, IBM Contract # CFT50VN & CenterPoint # WF00010390	11/6/2006	Filed Dkt No. 35639
III	IBM - PILOT	Project Change Request / Change Authorization #24 For IBM Statement of Work, IBM Contract # CFT50VN & CenterPoint # WF00010390	11/7/2006	Filed Dkt No. 35639
III	IBM - PILOT	Supplement No. 11 - Project Change Request / Change Authorization #25 For IBM Statement of Work, IBM Contract # CFT50VN & CenterPoint # WF00010390	11/14/2006	Filed Dkt No. 35639
III	IBM - PILOT	Supplement No. 14 - Project Change Request / Change Authorization #26 For IBM Statement of Work, IBM Contract # CFT50VN & CenterPoint # WF00010390	12/7/2006	Filed Dkt No. 35639
III	IBM - PILOT	Supplement No. 12 - Project Change Request / Change Authorization #27 For IBM Statement of Work, IBM Contract # CFT50VN & CenterPoint # WF00010390	12/6/2006	Filed Dkt No. 35639
III	IBM - PILOT	Supplement No. 19, Notice to Vendor, Supplement No. 17, 15 - Project Change	12/20/2006	Filed Dkt No. 35639