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June 25, 2009

VIA E-MAIL & FEDEX

Ms. Susan M. Hudson
Clerk
Vermont Public Service Board
112 State Street
Drawer 20
Montpelier, Vermont 05620

Re: Docket No. 7466 – Investigation into Petition Filed by Vermont Department of Public Service Re: Energy Efficiency Utility Structure

Dear Ms. Hudson:

In accordance with Rules 2.204 and 2.213 of the Vermont Public Service Board ("Board") Rules and the June 9, 2009 Board Memorandum, enclosed for filing please find an original and six (6) copies of the direct testimony and exhibits filed by International Business Machines Corporation ("IBM") in the above-referenced proceeding. If you have any questions regarding this filing, please do not hesitate to contact me directly.

Very truly yours,

COUCH WHITE, LLP

Leonard H. Singer

LHS/dap
Enclosures
cc: All Parties on Attached Service List (via E-mail and Fed Ex)
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PSB Docket No. 7466 - SERVICE LIST

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[1]Barton Village, Inc. Electric Department, Village of Enosburg Falls Water & Light Department, Town of Hardwick Electric Department, Village of Hyde Park, Inc. Electric Department, Village of Jacksonville Electric Company, Village of Johnson, Inc. Water & Light Department, Village of Ludlow Electric Light Department, Village of Lyndonville Electric Department, Village of Morrisville Water & Light Department, Northfield Electric Department, Village of Orleans, Inc. Electric Department, Town of Readsboro Electric Light Department, Swanton Village Inc. Electric Department ("Group of Municipal Electric Utilities")

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TESTIMONY OF JONATHAN A. ALDRICH

ON BEHALF OF

INTERNATIONAL BUSINESS MACHINES CORPORATION

SUMMARY OF TESTIMONY

On September 11, 2008, the Vermont Public Service Board ("Board") issued an "Order Opening Investigation and Notice of Prehearing Conference" in Docket 7466, Investigation into Petition Filed by Vermont Department of Public Service Re: Energy Efficiency Utility Structure. The Board initiated this proceeding to evaluate changing the Energy Efficiency Utility ("EEU") structure from the competitive solicitation model to an "Order of Appointment". This testimony supports the opinion of International Business Machines Corporation ("IBM") that the Board should continue with the competitive solicitation model. As set forth herein, IBM believes that conducting the competitive solicitation process every three years assures the Board and the residents of Vermont that the best approach is selected at the least cost to all Vermont ratepayers.

This document consists of sixteen (16) pages of prefiled testimony and one exhibit labeled Exhibit-JAA-1.

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Jonathan A. Aldrich and my business address is 1000 River Street, Essex Junction, Vermont 05452.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by IBM as Site Energy Program Manager.

Q. PLEASE DESCRIBE YOUR RESPONSIBILITIES AT IBM VERMONT.

A. As Site Energy Manager, my responsibilities include site electrical power budget planning and tracking, and site energy conservation and energy management programs.

Q. ON WHOSE BEHALF ARE YOU SUBMITTING TESTIMONY?

A. I am testifying on behalf of IBM Vermont.

Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND YOUR WORK EXPERIENCE.

A. I received a Bachelor's Degree in Mechanical Engineering from Lowell Technological Institute in 1964. I am a registered Engineer in the State of Vermont (#2843) and I am a certified Project Manager by the Project Management Institute. I have over 40 years of experience in managing operations and maintenance of facilities.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to share IBM's view of the proposal to change the method of selecting the EEU provider as IBM is significantly affected by the cost of this program.

Q. PLEASE DESCRIBE IBM'S FACILITIES IN THE GMP SERVICE TERRITORY.

A. The IBM Vermont facility is located in Essex Junction, Essex Town, and Williston, and has a total site square footage of approximately 3,500,000 square feet.

The IBM Vermont facility develops and manufactures state of the art semiconductor products, including logic, microprocessor and custom microchips. These devices are an advanced technology component in nearly all products sold by the IBM Corporation. In addition, we sell our semiconductor technology in the marketplace to leading electronics, computer, and other companies worldwide.

Q. WHAT IS THE FINANCIAL IMPACT THAT IBM VERMONT HAS ON THE STATE AND LOCAL ECONOMIES?

A. IBM Vermont contributes positively to the economy in the Burlington area and in Vermont in general. IBM employees reside in all but 2 counties in Vermont. IBM is the largest private employer in Vermont, exporting more than $2 billion in finished goods from its Vermont facility annually. IBM Vermont also is the largest manufacturing employer in Vermont, employing almost 5,000 people in the Green Mountain Power Corporation ("GMP") service territory. IBM employs a large percentage of the State's manufacturing work force. In addition, IBM contributes to the economy through the payment of income taxes, real property

taxes and sales taxes. Moreover, IBM employees pay millions of dollars in taxes each year.

Q. HOW MUCH ELECTRICITY DOES IBM CONSUME ON AN ANNUAL BASIS?

A. In 2008, IBM Vermont purchased approximately 446 million kilowatt-hours ("kWh") of electricity at its Vermont facility at a total cost of more than $35,000,000. During 2008 IBM paid approximately $1,500,000 into the EEU through GMP.

Q. FOR WHAT DOES IBM USE ELECTRICITY?

A. Electricity is a vital commodity utilized in the manufacture of semiconductors. Besides providing power to operate the numerous pieces of semiconductor manufacturing process equipment, electricity also is used for numerous direct support processes and equipment including HVAC, environmental control equipment, deionized water, high purity gases and chemicals, lighting, central utility plant equipment, chillers, compressors, pumps, and data processing equipment. Production at the IBM Vermont facility proceeds 24 hours per day, 365 days per year, which results in a relatively high load factor.

Q. WHY ARE LOWER ELECTRIC COSTS IMPORTANT TO IBM VERMONT?

A. Lower electric costs are extremely important to IBM. The computer industry and the semiconductor industry are extremely competitive. Our customers continually expect to buy more performance at a lower price. Next year, the semiconductor customer will expect to get more technology performance than this year and pay less for it. In addition, IBM competes on a national and an

international level and therefore faces stiff competition from companies that pay significantly less for electricity than we do in Vermont. We are working hard to enhance our competitiveness in the worldwide marketplace and to maintain jobs within Vermont. To achieve those objectives, it is necessary to reduce the unit cost of our electricity.

Q. PLEASE EXPLAIN THIS FURTHER.

A. The semiconductor products produced at our IBM Vermont facility face stiff competition from both inside and outside the Company. IBM Vermont must complement and compete with IBM manufacturing facilities in other states and in other countries. Moreover, external competitors enjoy significant cost advantages, including those located elsewhere in the United States as well as overseas. Thus, our IBM Vermont facility must meet the competitive challenge both here and abroad if production and employment are to be maintained. A key strategy at IBM Vermont is to reduce all costs in every way possible. For more than fifteen years, energy costs, and specifically electrical energy costs, have received continuous management and engineering attention. Increasing electric unit costs have a direct and significant impact on our present and future competitiveness and profitability. Our electric costs have increased more dramatically than many other costs and we are extremely concerned about the results should this trend continue. We have achieved cost stabilization and cost reductions in many other key commodities and raw materials. We have negotiated price reductions and volume purchase agreements for many commodities, labor, materials, and services. However, we cannot continue to offset increasing electricity prices with increased productivity or additional cost-

cutting efforts in other areas indefinitely. In 2008 we used 5 million kWh less than 2007 yet we paid one million six hundred thousand dollars ($1,600,000) more for electricity.

Q. WHAT MEASURES HAS IBM VERMONT TAKEN TO REDUCE ITS ELECTRIC COSTS?

A. Because energy significantly impacts the production costs of our products, we constantly seek ways and systems to reduce our energy consumption. Over the years IBM Vermont has implemented numerous energy efficiency and conservation measures. In fact, IBM Vermont was practicing energy conservation and load management long before utilities started sponsoring Demand Side Management programs and it intends to continue those practices. IBM, for reasons of economic necessity and competitiveness as well as environmental responsibility, has been and will remain committed to examining and, where appropriate, implementing high-efficiency energy conservation measures where it is cost-effective and practical to do so. Fundamentally, managing or reducing our electric usage is a primary way in which we can reduce our overall energy costs.

Q. PLEASE EXPLAIN THE ENERGY CONSERVATION PROGRAM AT IBM VERMONT.

A. The IBM Vermont site program is self-managed and self-funded. It requires meeting and exceeding IBM corporate goals. Our program is staffed by engineers, working through a network of functional technical representatives in each major organization on site. Each functional organization has an annual

conservation goal, and the engineers and technicians work in teams to identify, evaluate, and implement energy conservation initiatives. The IBM Vermont facility has a long history of aggressively pursuing energy efficiency and conservation, with exceptional results. Applying conservation processes have resulted in a sustained high level of energy consumption reduction and the associated pollution prevention. In addition, significant financial savings have been realized by our business. Recent energy conservation results at the IBM Vermont site are as follows:

SUMMARY OF ENERGY CONSERVATION, AND POLLUTION PREVENTION RESULTS

Summary of IBM Energy Conservation			
Year	Electric Savings in kWh	Savings in Dollars	Savings in % of Annual Use
2006	19,000,000	$1,500,000	4.20%
2007	19,500,000	$1,550,000	4.30%
2008	24,050,000	$1,900,000	5.40%

We credit savings from an energy conservation initiative for twelve consecutive months, beginning with the month of implementation, after which all future energy savings from that initiative become part of the base.

Q. HAS IBM VERMONT RECEIVED ANY AWARDS FOR ITS ENERGY EFFICIENCY INITIATIVES?

A. Yes. In 1999, and again in 2002, IBM Vermont won the Vermont Governor's Award for Environmental Excellence in Pollution Prevention for its energy conservation program. IBM Vermont has received the 1994, and 1998

Chairman's Environmental Affairs Citation from IBM Chairman Lou Gerstner. IBM Vermont was selected in a competition among IBM manufacturing, development, and research sites. IBM Vermont is the only IBM location to have won this prestigious award two times. IBM Vermont was recognized for its strong safety programs, its early leadership and initiative in reducing and eliminating the use and emissions of hazardous chemicals, its broad efforts in conservation and recycling, and its outstanding energy conservation program that consistently exceeds corporate goals.

In January 1996, the IBM Chairman announced that the Microelectronics Division, of which the Vermont plant is a major part, received the 1995 Chairman's Environmental Affairs Citation. Among the achievements for which the division was selected for this award are its comprehensive programs for managing both hazardous and nonhazardous waste and its effective energy conservation programs. In 1992, we received an Exemplary Energy Management Award from Vermont Governor Howard Dean for outstanding contributions to energy efficiency in Vermont involving IBM's five-year master energy plan. In 1988, we received a Corporate Energy Award for specific energy project achievements. In 1985 and 1986, we received a Corporate Energy Award for Outstanding Energy Conservation Achievement.

At the IBM corporate level, the IBM Corporation won, in 1998, the US Environmental Protection Agency ("EPA") Climate Protection Award for long standing energy conservation and pollution prevention achievements. In 1999, the IBM Corporation received the US EPA Climate Wise Partner Achievement

Award for its significant accomplishments in improving energy efficiency and reducing pollution. IBM Vermont was a significant and key contributor to the results that won both of these awards. These awards show IBM's seriousness and commitment towards energy efficiency and conservation.

Q. HAS IBM VERMONT OBTAINED ANY ENERGY EFFICIENCY RELATED CERTIFICATIONS?

A. Yes. In 1996, IBM Vermont first obtained certification to ISO 14001. ISO 14001 is an environmental related standard administered by the International Standards Organization. To obtain this certification, IBM Vermont developed an Environmental Management Program with appropriate programs and goals to address the following environmentally significant aspects:

1. Solid Waste Reduction;
2. Liquid Waste Reduction;
3. Air Emission Reduction;
4. Chemical Reduction;
5. Waste Recycling; and
6. Energy Conservation.

The IBM program and accompanying results were then audited against the program requirements by an independent third party. Initial certification was obtained in 1996. IBM Vermont successfully passed a rectification audit in 1999 and in 2003, after which the independent auditors commented that with the many locations and companies they visit, IBM Vermont has one of the best, if not the best, system for managing our environmental programs and responsibilities. Our certification was last updated in 2008 and is current.

Q. WITH RECENT LEGISLATION THAT WILL ALLOW IBM TO PARTICIPATE IN THE SELF MANAGED ENERGY EFFICIENCY PROGRAM (SMEEP), WHY IS IBM STILL INTERESTED IN WHICH METHOD OF PROVIDING THE ENERGY EFFICIENCY UTILITY IS ADOPTED BY THE BOARD?

A. 1. SMEEP is only a 3 year pilot program.

2. IBM has many suppliers in Vermont. Suppliers pass their cost increases on to their customers, which include IBM. Accordingly, IBM is extremely interested in its suppliers costs.

3. The current EEU process does not appear to be very efficient. In 2008, approximately 45% of the money spent by the EEU was spent on Projects and 55% was spent on overhead. (See Exhibit-JAA-1). We are very concerned with the efficiency of the EEU because the current method to increase funds spent on projects is to simply increase the overall budget rather than focusing on steps that would improve the EEU's efficiency.

Q. DOES IBM RECOMMEND THE PRESENT CONTRACT MODEL OR THE PROPOSED "ORDER OF APPOINTMENT" MODEL BE ADOPTED TO PROVIDE THE EEU SERVICE FOR VERMONT?

A. IBM believes the present competitive bid process is the best process for the following reasons:

1. The selection of the best candidate by the competitive bid process every three years assures the Board that the best approach is selected at the least cost to all Vermont ratepayers;

2. The "Order of Appointment" model may be convenient but does not assure the least cost solution has been selected; and

3. The "Order of Appointment" model ignores the possibility of new innovative ideas from other potential suppliers.

Q. WHAT FACTORS CONTRIBUTE TO IBM'S RECOMMENDATIONS?

A. 1. It is IBM's belief that the electric industry will change significantly over the next several years. The development of the Smart Grid both in distribution of electricity and the management of electrical use by users with Smart Grid controls will significantly alter the entire market. As the market changes, it is our belief that it will be significantly more cost-effective to periodically issue a new contract with new objectives rather than trying to negotiate incremental changes with an incumbent.

2. Long term contracts can lead to complacency and the lack of innovative ideas. New suppliers should be given an opportunity periodically to present new ideas and approaches. Even if a new provider is not selected the potential of losing a contract is a significant incentive for the incumbent provider to find new approaches and new ideas to stay ahead of it competitors.

3. The contract approach is more likely to result in cost savings. It will allow the Board to seek cost savings in either modifying the scope of work or in obtaining lower cost via the bidding cycle.

Q. DOES IBM AGREE THAT A LOT OF BOARD AND DEPARTMENT OF PUBLIC SERVICE (DPS) EFFORT WILL BE SAVED WITH THE APPOINTMENT MODEL?

A. IBM recognizes that a considerable amount of effort is expended on the part of the Board and the DPS each time the contact is bid. We have asked several

times what that represents in dollars but a specific number has not been provided. Our estimate is that it could consume the equivalent of approximately two person years every three years. Given that a three year commitment could be as much as one hundred and twenty million dollars ($120,000,000) an investment of one hundred thousand ($100,000) to one hundred and fifty thousand dollars ($150,000), which is less than one tenth of a percent, to assure all ratepayers that the service is being provided at the least cost is reasonable and prudent.

Q. IN THE PAST ONLY TWO COMPANIES HAVE SUBMITTED BIDS. DOES IBM HAVE ANY COMMENT?

A. IBM understands that only two companies have bid on the current contract. However, as Vermont increases the EEU budget and as other states expand their energy efficiency efforts, more companies should enter the efficiency services market place.

Q. IF THE APPOINTMENT MODEL IS SELECTED, WHAT ASPECTS OF THAT MODEL WOULD BE OF MOST CONCERN TO IBM?

A. The most important aspects of an appointment model to IBM are as follows:

- The term of the appointment;
- Quantitative Performance Indicators ("QPIs"), and the process for establishing them;
- The performance evaluation process;
- Mechanisms for compensation of the appointee; and

- The initial appointment process.

Q. WHAT SHOULD THE TERM OF THE APPOINTMENT BE AND WHY?

A. The current three year cycle has been successful. Three years is a sufficient term length to plan and implement projects, and evaluate results. It allows the Board to formally assess, every three years, the performance of the appointee, set new goals and objectives, and review competitive offerings in the efficiency services market.

Significant changes are expected to occur in energy efficiency services in the next few years. Both electricity delivery and efficiency strategies should see more rapid change in the next few years, driven by the availability of new technologies such as smart grid. It would be unwise for Vermont to be locked in to one provider of efficiency services during such a period of rapid change. A provider that has performed well in the past may not be the best choice for Vermont's future. The Board should retain the flexibility to select, on a three year cycle, the efficiency service provider whose capabilities best match Vermont's changing needs.

A three year appointment would provide a more appropriate level of accountability to ratepayers than a longer term appointment, given the size of the expenditure. Specifically, even without further budget increases, Vermont ratepayers will spend $120 million on electric efficiency over the next three year cycle. In comparison, the total FY 2009 budget for the Vermont Agency of Natural Resources is $86 million.

Q. WHAT WOULD BE THE DIFFERENCE BETWEEN A 3-YEAR CONTRACT AND A 3-YEAR APPOINTMENT?

A. A three year appointment model would not require a competitive solicitation every three years. While IBM does not agree with the appointment model, it is possible under the current Vermont statute that the appointment could be renewed and continue up to twelve (12) years without competition.

Q. HOW SHOULD QPIS BE DESIGNED?

A. The QPIs should be designed to sufficiently evaluate the performance of the EEU over a specified time period. The QPIs should cover all significant activities of the EEU – both resource acquisition and non-resource acquisition activities.

It is necessary to have QPIs because it is vital to have quantifiable and measureable targets. Specifically, the QPIs should be designed to adequately quantify not only acquisition of electrical efficiency and demand resources, but also results from the expanding list of non-resource acquisition tasks. QPIs must also include measurements and associated targets for administrative efficiency and cost control.

QPIs should be established and performance evaluated in a public participation process on a three year cycle.

Q. WHAT IS THE PROPER PERFORMANCE EVALUATION?

A. A public performance assessment should be conducted every three years. This public performance assessment should evaluate the current EEU provider as

1 well as the offerings and capabilities of other potential service providers in the
2 marketplace. Subsequent to the public performance assessment, there should
3 be a public determination of incentive level achievement.
4
5 **Q. WHAT IS THE PROPER COMPENSATION MECHANISM?**
6 A. The Board should implement a compensation mechanism that links
7 compensation with performance and balances the risks and rewards.
8 Specifically, the Board should provide penalties for underperformance as well as
9 incentives for outstanding performance. Compensating the EEU service provider
10 based solely on a rate of return rewards spending, not performance. Total
11 potential compensation should be heavily weighted toward incentive payments
12 for achieving and exceeding established targets. The opportunity to earn
13 incentives must be balanced by penalties for failure to achieve objectives.
14 Without penalties, the risk of underperformance is shifted from the EEU service
15 provider to the ratepayer. The provider should not be shielded from financial risk
16 by being guaranteed a minimum rate of return under all circumstances. Without
17 a compensation mechanism that incentivizes overperformers and penalizes
18 underperformers, there is no short-term financial risk to the appointee, and the
19 only long-term risk is losing the appointment.
20
21 **Q. WHAT SHOULD THE PROCESS BE FOR THE INITIAL APPOINTMENT**
22 A. An initial overall performance assessment is needed prior to the first
23 appointment. This will allow for an initial performance evaluation of the
24 incumbent EEU provider and an assessment of current market conditions and
25 alternative service providers.

In addition, an initial overall performance assessment will send a strong signal to the market that all candidates have an equal opportunity and that the best candidate will be selected.

Q. ISN'T IT COSTLY AND INEFFICIENT TO CHANGE PROVIDERS FREQUENTLY?

A. While there may be some costs associated with transitioning to a new provider, those costs are frequently offset by gains in efficiency and new and more innovative approaches or concepts. Specific transition costs should be quantified and included in the bid evaluation process.

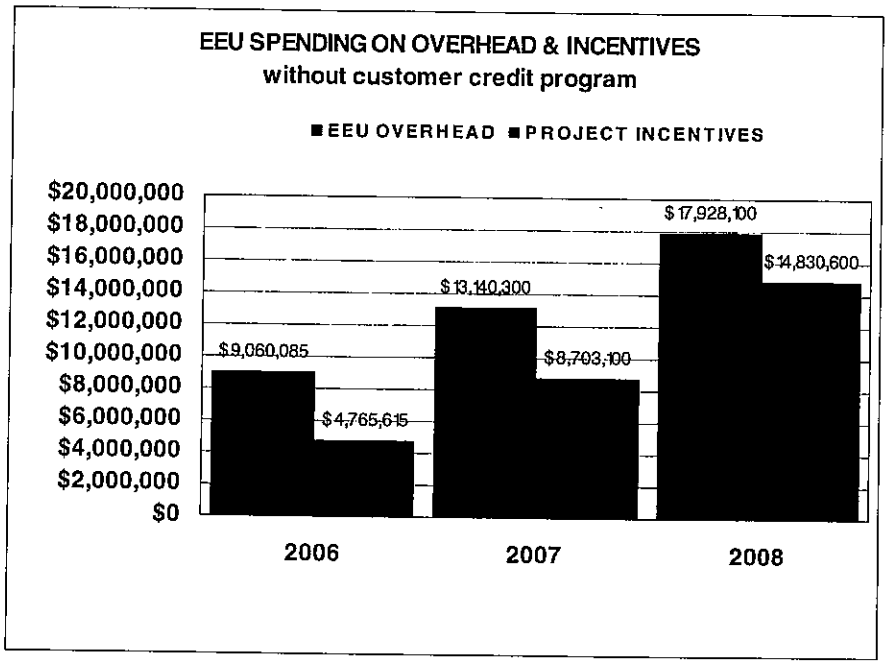
Q. SHOULD THE BOARD ADOPT DPS'S PROPOSAL FOR A ROLLING 6-YEAR TERM?

A. Conducting a competitive solicitation every three years assures the Board and the residents of Vermont that the best approach is selected at the least cost to all Vermont ratepayers. If the competitive solicitation process, conducted every three years, is not the structure that the Board decides to implement, then a three year appointment is preferable. In addition, IBM believes that it is necessary to conduct an Overall Performance Assessment every three years. This will provide a timely, meaningful evaluation.

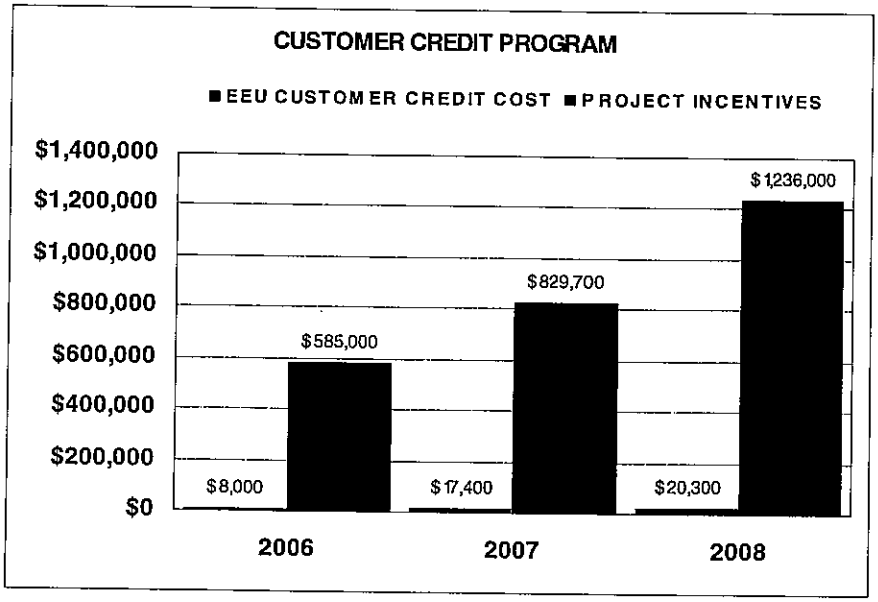
Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

Exhibit JAA-1 Data taken from Efficiency Vermont, Year 2008 Preliminary Savings Claim dated March 23, 2009 page 7. Overhead includes Operating Costs and Technical Assistance Costs.



The EEU spends very little to support the current Customer Credit Program which allows a high percentage of the dollars to be invested in projects.



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