VERIDIAN
CONNECTIONS

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August 3rd, 2012

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge Street
Suite 2700, P.O. Box 2319
Toronto, ON M4P 1E4

Dear Ms. Walli:

**Re: Veridian Connections Inc., Final Disposition of Accounts 1555 and 1556 – Smart Meters**
**Responses to Interrogatories, Board File No.: EB-2012-0247**

Veridian Connections Inc. is pleased to provide the enclosed responses to interrogatories received from Board staff and Vulnerable Energy Consumers Coalition ("VECC") on July 20th, 2012.

Yours truly,

*Original signed by*

George Armstrong
Vice President, Corporate Services

cc Mr. Michael Janigan, VECC
Ms. Laurie McLorg, Veridian Connections Inc.

1. Ref: General
Letters of Comment

**Request**

Following publication of the Notice of Application, the Board has, to date, received three letters of comment. For each, please confirm whether a reply was sent from Veridian Connections Inc. ("Veridian") to the author of the letter. If confirmed, please file that reply with the Board. Please ensure that the author's contact information except for the name is redacted. If not confirmed, please explain why a response was not sent and confirm if Veridian intends to respond.

Response:

Veridian did not reply to any of the three letters of comment that were sent to the Board.

A response was not sent for the following reasons:

1. None of the letters requested a response from Veridian;
2. Veridian is not required to reply to letters of comment; and
3. Contact information has been redacted from the letters of comment, and Veridian is therefore unable to respond to the senders.

For the reasons listed above Veridian does not intend to respond to any of the letters.

2. Ref: Smart Meter Model
Sheet 2 "Smart_Meter_Costs" (Other OM&A Costs)

On sheet 2 of the Smart Meter Model, under 2.1.2 Other, Veridian lists costs labelled as "Meter Base Repairs" for the years 2009 to 2012 inclusive. These costs total about $122,000 for the period 2009 to 2011, and Veridian forecasts $35,000 for 2012

**Request**

a) Given that Veridian has applied for final disposition of its smart meter costs and completed smart meter deployment except for some hard-to reach customers by December 31, 2012, please explain the $35,000 forecasted for 2012.
b) Is the $35,000 forecasted for 2012 a one-time expense or a recurring expense?

Response:

a) & b)

Veridian has estimated that there are approximately 72 customers for which meter base repairs and/or retrofits will be required and are expected to be completed in 2012. Based on quotes obtained, and Veridian's experience with similar previous repairs, the total cost estimate for these repairs is $70,000.

The smart meter model allows for annual recurring costs to be forecast in 2012 and included with the calculation of the 2012 revenue requirement. Any one time expenses would need to be amortized over the period for which the resulting SMIRR would be in place. For Veridian, this would be a two-year period of 2012 and 2013.

Accordingly, Veridian has included $35,000, one half of the $70,000, for meter base repairs within its 2012 Forecast OM&A expenses under 2.1.2 Other OM&A Expenses related to AMCD.

3. Ref: Smart Meter Model
Sheet 2 "Smart_Meter_Costs" (OM&A Costs)

On sheet 2 of the Smart Meter Model, Veridian documents OM&A costs for Maintenance of the Advanced Metering Communications Device ("AMCD") in 2.1.2 (row 114). The costs increase from 2009 to 2012, with OM&A expenses for 2012 estimated at $99,426.

**Request**

a) Please explain the increasing costs for AMCD maintenance over time.
b) Is the 2012 estimate of $99,426 a one-time or recurring expense?

Response:

a) Row 114 of the Smart Meter Model provides total cost for investigation and resolution of Meter Trouble Reports associated with smart meters in each of 2009, 2010 and 2011.

Meter Trouble Reports are generated when trouble or problem conditions are flagged by the AMI system or through review by the AMI system operator.

Common issues encountered include:

1. Blank Display or No Read – may require remote investigation or field visit and/or meter change
2. EEprom Error – Indication of problem with memory function of meter, vendor recommends meter change.
3. Meter not registered to the network – use of handheld device to trouble shoot network LAN issues. May be related to radio frequency equipment within meter and require meter change/replacement.
4. Reverse Energy flow – Field visit required to investigate either possible theft of power or customer equipment installed without Veridian knowledge
5. Modem Reset – Field visit required to power down/up cell modems connected to collectors

As Veridian's smart meter implementation progressed and more meters were installed, higher volumes and added complexity of Meter Trouble Reports were encountered.

The table below provides the volume of Meter Trouble Reports logged from 2009 to June 1st, 2012.

2009 – 87
2010 – 139
2011 – 373
2012 to June 1st – 336

b) The 2012 estimate of $99,426 is a recurring expense.

4. Ref: Smart Meter Model
Sheet 3 "Cost_of_Service_Parameters" (Taxes/PILs Rates)

Veridian has used the maximum taxes/PILs rates input on sheet 3, row 40, for the years 2006, 2007, 2008, 2009, 2010, 2011 and 2012 and beyond. These are summarized in the following table:

| Year | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 and beyond |
|---|---|---|---|---|---|---|---|
| Aggregate Federal and provincial income tax rate | 36.12% | 36.12% | 33.50% | 33.00% | 31.00% | 28.25% | 26.50% |

**Request**

Please confirm that these are the tax rates corresponding to the taxes or PILs actually paid by Veridian in each of the historical years, and that Veridian forecasts it will pay for 2012. In the alternative, please explain the tax rates input and their derivation.

Response:

The tax rates input on sheet 3, row 40 for the years 2006 to 2012 are the aggregate total of Federal and Provincial corporate income tax rates in effect for corporations within the province of Ontario as published by the Canada Revenue Agency and to which Veridian Connections Inc was subject in those years.

5. Ref: Stranded Meter Costs
Manager's Summary, page 5

Veridian noted that it is not seeking recovery of stranded meter costs at this time and continues to include these costs in its rate base for rate-making purposes.

**Request**

a) Please confirm whether Veridian continues to amortize the stranded meter assets currently included in rate base for rate-setting purposes.
b) As Veridian is next expected to rebase its rates through a cost of service application for 2014, please provide the estimated Net Book Value of stranded meters as of December 31, 2013.

Response:

a) Yes, Veridian continues to amortize the stranded meter assets currently included in rate base for rate-setting purposes.
b) The estimated Net Book Value of stranded meters as of December 31, 2013 is $4,420,000.

6. Ref: Other Capital Costs
Manager's Summary, Table 5, page 11

**Request**

Veridian has provided 'Other AMI Capital Costs' of $12,050 in 2009. Please provide a description of these capital costs.

Response:

The 'Other AMI Capital Costs' of $12,050 were professional and legal fees related to smart meter procurement contracts.

7. Ref: Smart Meter Costs
Manager's Summary, page 12

Veridian noted that for its collector installations, Veridian evaluated between a plain, old telephone services ("POTS") solution versus a Wide Area Network ("WAN") solution. Through a comprehensive REF and evaluation process and detailed cost/benefit review, Veridian went with the WAN solution. Veridian indicated that the solution required a small capital investment of approximately $40,000 for modems to be deployed with the collector meters.

**Request**

a) Please provide a summary of the cost/benefit analysis and the reasons that Veridian selected the WAN versus the POTS system.
b) How much are the annual operating costs of the WAN solution? Have these costs been included in the OM&A, and if so, where?

Response:

a) The cost/benefit conducted by Veridian included both quantitative and qualitative components.

The quantitative component included a financial analysis comparing the net present value of cash outflows for both capital costs and operating costs for the two alternatives (WAN vs POTS) under consideration. The NPV of the total capital and operating costs was 15% lower under the WAN solution than under the POTS solution.

While the WAN solution required capital investments initially, the annual ongoing operating costs were significantly lower.

Veridian's initial POTS implementation included approximately 100 collector points. To ensure an adequate cost comparison, a business case was developed on the basis of the installation of a further 100 units under both the WAN and POTS solutions.

| | **WAN Solution** | **POTS Solution** | **Type of Cost** |
|---|---|---|---|
| Modem (100) | $39,095 | None | Capital |
| Configuration, Accessories, Extended Warranty (100) | $35,170 | None | Capital |
| WAN Setup (one-time cost for WAN regardless of # of modems | $14,000 | None | Capital |
| Annual Communication Carrier Costs | $12,720 | $66,000 | Operating |
| Annual Support Costs | $18,000 | None | Operating |

The qualitative component identified the following benefits of the WAN solution over POTS:

1) Long vendor lead time for installation of POTS due to their business processes and requirement for customer permission to install on customer premise with the collector. Much faster deployment with WAN;
2) POTS installations are not under Veridian's control for security and or reliability. WAN solution would be a controlled environment under Veridian's security parameters; and
3) Scalability of WAN to extend to convert existing POTS lines in future.

Veridian chose the WAN solution over POTS as the business case review showed it to be a superior choice on both quantitative (financial) and qualitative basis.

b) Veridian has forecasted WAN costs for 2012 to be $63,180. These costs are included in total OM&A of $727,102, specifically within the total of $151, 119 noted in 2.4.1 - WAN Maintenance on Sheet 2.Smart_Meter_Costs of the Smart Meter Model.

8. Ref: Smart Meter Costs
Manager's Summary, page 13

**Request**

Under the Advanced Metering Control Computer (AMCC), Veridian has noted hardware costs totaled $80,340 and software licensing and configuration costs totaled approximately $281,000. Please provide a reconciliation of these costs with Table 5 on page 11 of the Manager's Summary.

Response:

The hardware and software costs referenced above relate to Veridian's in-house meter data aggregation system. Upon further detailed cost records, Veridian has identified that the software licensing and configuration costs actually totalled $284,119, rather than $281,000 as originally stated on page 13 of the Manager's Summary.

In Table 5 on page 11 of the Manager's Summary, total computer hardware/software-AMCC capital costs are provided as $630,459.

There are two major systems within these total capital costs:

1) Veridian's in-house meter data aggregation system - $364,459
2) Veridian's Operational Data Store ("ODS") - $266,000

9. Ref: Smart Meter Costs
Manager's Summary, page 14

Veridian has noted that problems regularly occur that neither the Advanced Metering Infrastructure ("AMI") nor the Meter Data Management/Repository ("MDM/R") nor the Customer Information System ("CIS") is designed to handle exclusively on their own. These issues are caused by meter exchanges, meter removals, new services, disconnections/reconnects, and data estimations. Veridian's Operational Data Store ("ODS") facilitates these processes. Veridian indicated that the total capital costs for the ODS were approximately $266,000, which includes hardware, software licensing and costs for configuration.

**Request**

a) How frequent do these problems occur on a monthly basis?
b) Please reconcile the $266,000 with Table 5 on page 11 of the Manager's Summary.

Response:

a) For the month of June 2012, these incidents occurred 1009 times (335 disconnects, 335 reconnects, 293 estimations, 46 meter changes).
b) Please see response to Board Staff Interrogatory #8.

10. Ref: Smart Meter OM&A Costs
Manager's Summary, page 16

**Request**

Veridian has indicated smart meter and collector maintenance costs include approximately $192,000 for meter base repairs where retrofit or repair work was required on customers' equipment to enable smart meter installation. Please reconcile this amount with Table 6 on page 15 of the Manager's Summary.

Response:

Veridian notes that upon clarification with Board Staff it was determined that request should read "Please reconcile this amount with Table 7 on page 15 of the Manager's Summary."

Upon review Veridian has determined that the amount of $192,000 for meter base repairs is a typographical error and should have read "Smart meter and collector maintenance costs include approximately $122,000 for meter base repairs ..."

The breakdown by year is as follows:

2009 - $77,799
2010 - $17,618
2011 - $26,672
$122,089 or approximately $122,000

These amounts are included in Table 7 on Page 15 of the Manager's Summary within the first row noted as "Smart Meter Maintenance" totalling $327,140 for 2009 – 2012.
A further breakdown is provided below:

| Cost Type | 2009 | 2010 | 2011 | 2012 | Total |
|---|---|---|---|---|---|
| Meter Base Repairs | 77,799 | 17,618 | 26,672 | 35,000 | **170,051** |
| Other Maintenance – Trouble Calls | 12,459 | 16,657 | 41,509 | 99,426 | **157,089** |
| **Total** | **90,258** | **34,274** | **68,181** | **134,26** | **327,140** |

Veridian notes that the amounts provided in the table above for Meter Base Repairs are the same as those included in the Smart Meter Model on Sheet 2.Smart_Meter_Costs in Row 116 – 2.1.2 Other – Meter Base Repairs. The correct amount has been included in the revenue requirement calculation and the typographical error on page 17 does not impact revenue requirement or rate rider calculations.

11. Ref: Costs Beyond Minimum Functionality
Manager's Summary, page 18

Veridian has indicated that it has incurred capital costs of $32,290 and OM&A expenses of $160,469 that meet the Board's criteria for being identified as expenditures beyond minimum functionality.

**Request**

a) Please describe the modifications that were required to Veridian's CIS.
b) Please reconcile the costs of the minor modifications of $23,300 and the costs of the web presentment of $7,600 to total incurred capital costs of $32,290.
c) Does Veridian anticipate any further capital costs that go beyond minimum functionality with respect to Veridian's CIS and web presentment software?

Response:

a) Two modifications were required to Veridian's CIS for integration with the MDM/R and to facilitate web presentment of smart meter data.

Integration with the MDM/R – Development of a synchronization program between Veridian's CIS and Veridian's internal AMCC was required to ensure timely and accurate transfer of billing determinants from the MDM/R, through the AMCC to the billing system.

Web Presentment - Modifications were required to an existing web presentment tool that would allow the existing software to display smart meter data in customer friendly formats such as usage charts. The modification costs were minor but provided great benefit to customers as a tool for understanding their consumption patterns and understanding shifts in costs related to time of use pricing.

b) Upon further review, Veridian has determined that costs for the synchronization program totalled $24,690.

| | |
|---|---|
| Synchronization - | $24,690 |
| Web Presentment – | $ 7,600 |
| Total | $32,290 |

Veridian confirms that the correct amount of $24,690 for synchronization costs was included in capital costs beyond minimum functionality within the Smart Meter Model on Sheet 2.Smart_Meter_Costs in Row 105 – 1.6.3 Costs for TOU rate implementation, CIS system upgrades, web presentation, integration with the MDM/R.

The correct amount has been used to calculate revenue requirement and rate riders.

c) Veridian anticipates that it will be updating the web presentment tool used by customers sometime during the 2013-2014 timeframe. The anticipated capital cost is $50,000.

12. Ref: SMDR and SMIRR Calculations
Application, page 4 – Foregone Revenues

On page 4 of its Application, Veridian states:

> For purposes of the SMDR calculation, it is necessary to calculate the revenue requirement up to the effective date of the SMIRR which then provides the prospective revenue requirement associated with the approved smart meter investment and related incremental OM&A costs.
>
> The Application proposes an effective date of November 1st, 2012 for the SMIRR rate rider. For purposes of the SMDR calculation, it is then necessary to calculate revenue requirement up to October 31st, 2012.
>
> To determine the 2012 revenue requirement to October 31st, 2012, Veridian has calculated the revenue requirement for the 2012 fiscal year ended December 31st, 2012 and prorated this amount for the ten months to October 31st, 2012.
>
> OM&A costs included in the SMDR are actual audited costs from January 1st, 2009 to December 31st, 2011 and the prorated costs for the ten months in 2012 until the proposed date of the SMIRR.

Veridian's rate year is May 1 to April 30 of the successive year, offsetting the fiscal calendar year by four months. Veridian has also proposed that the SMIRR remain in effect until April 30, 2014, the day before the expected effective date for its next rebased rates resulting from a cost of service rates application.

**Request**

a) With Veridian's proposal of adjusting the SMDR for the revenue requirement up to October 31, 2012 and the SMIRR commencing November 1, 2012 and continuing until April 30, 2014, please confirm that Veridian will be recovering four additional months of SMIRR revenues (i.e., with the four month lag in the rates year, the SMIRR going into effect on November 1, 2012 would be recovering the revenue requirement from mid-year). If not, please explain.
b) The revenue requirement is composed of capital-related costs (i.e. depreciation expense to recover the initial capital principal invested, return on capital and associated taxes/PILs) and OM&A expenses. Veridian states that it prorated the revenue requirement and that the OM&A costs include the prorated costs for 10 months of 2012. Please confirm how Veridian has done the calculations so that it is not double-counting 10 months of revenue requirement and the OM&A pro-ration.
c) Please provide the calculations/derivation of the adjusted revenue requirement on which the SMDR is based.

Response:

a) Veridian's understanding of the SMIRR is that it should be calculated such that the monthly amount and period of the rate rider should recover the incremental revenue requirement not recovered through the SMDR up until the period of rebasing when smart meter revenue requirements would be recovered through base distribution rates.

The total SMIRR amount to be recovered has been calculated in Table 10 on page 22 of the Manager's Summary. It includes 2 / 12 of the 2012 revenue requirement ($1,901,495 X 2/12 = $316,916) and the full 2013 revenue requirement ($1,901,495 – using 2012 revenue requirement as a proxy for 2013) for a total of $2,218,411.

With Veridian's proposal for the SMIRR to commence on November 1st, 2012 and continuing until April 30th, 2014, the SMIRR would be in effect for eighteen months (2 months in 2012, 12 months in 2013 and 4 months in 2014).

Table 11 on page 22 of the Manager's Summary allocates this total between the Residential and the GS < 50 rate classes.

The SMIRR is then calculated in Table 13 on page 24 of the Manager's Summary by dividing the amounts for each rate class by 18, which as noted above is the appropriate recovery period, being from the commencement of the rider (Nov 1st, 2012) to the ending of the rider (April 30th, 2014).

Table 14 on page 24 of the Manager's Summary provides a reconciliation of the total recovery of both the SMDR and SMIRR to illustrate that based on the allocation of the revenue requirement amounts between the SMDR and the SMIRR, the recovery periods proposed and the calculation of the riders, that no over recovery will occur.

b) The total revenue requirement for 2012 is calculated in the Smart Meter Model on Sheet 5. SM_Rev_Reqt in column S as $1,901,495 and include the following components:

| | |
|---|---|
| Total Return on Capital | $ 456,500 |
| Operating Expenses | $ 727,102 |
| Amortization Expense | $ 603,737 |
| Grossed up Taxes/PILs | $ 114,155 |
| Total Revenue Requirement | $1,901,495 |

Veridian has included 10 / 12 of the 2012 revenue requirement ($1,901,495 X 10 / 12 = $1,584,579) in the calculation of the SMDR as shown in Table 8 of page 20 of the Manager's Summary.

Veridian has 'pro-rated' the total revenue requirement and included it in the SMDR calculation but has not additionally pro-rated and included 10 / 12 of the 2012 OM&A costs and confirms that it is not double-counting 10 months of revenue requirement and the OM&A pro-ration.

c) Table 8 on page 20 of the Manager's Summary shows the amount of $1,584,579 included in the SMDR which is 10 / 12 of the 2012 revenue requirement as calculated in the Smart Meter Model on Sheet 5. SM_Rev_Reqt in column S.

13. Ref: Cost Allocation
Application, Sections 7.0 and 8.0 – Cost Allocation

With respect to the cost allocation methodology for the SMDR, Veridian references the cost allocation methodology for the SMIRR in Table 10.

The main difference in the calculation of the SMIRR and the SMDR is the applicability of SMFA revenues and associated interest as an offset to the deferred revenue for the SMDR. There is no SMFA revenue offset for the SMIRR.

Guideline G-2011-0001 states at pages 19-20:

The Board views that, where practical and where the data is available, class specific SMDRs should be calculated based on full cost causality. The methodology approved by the Board in EB-2011-0128 should serve as a suitable guide. A uniform SMDR would be suitable only where adequate data is not available.

Recognizing that SMFA revenues have been collected from all metered customers since May 1, 2006, the Board's decision in EB-2011-0128 also addressed the treatment of smart meter adder amounts collected from customer classes for which smart meter costs were not incurred, as it related to PowerStream's smart meter deployment program. The Board directed PowerStream to allocate the smart meter adder amounts collected from the GS > 50 kW and Large Use customer classes evenly to the Residential and GS < 50kW classes when calculating the true-up for the SMDR. The Board concluded that this approach was appropriate because the amounts involved were not significant enough to warrant a more precise allocation. However, for all customer classes for which smart meter costs have been directly incurred, the SMFA revenues plus carrying costs should be directly used as an offset to the incremental revenue requirement to determine the SMDR for that class.

**Request**

a) Please explain how Veridian has allocated the SMFA revenues and associated interest for the purposes of calculating class-specific SMDRs.
b) A common approach for cost allocation is to do the following:
   - OM&A expenses have been allocated on the basis of the number of meters installed for each class.
   - The Return and Amortization have been allocated on the basis of the capital costs of the meters installed for each class.
   - PILs have been allocated based on the revenue requirement derived for each class before PILs.
   - SMFA revenues and interest on the principal first calculated directly for the Residential and GS < 50 kW classes, with then the residual SMFA revenues and interest collected from other metered customer classes (i.e., GS 50-4999

kW and Large Use) allocated 50:50 to the Residential and GS < 50 kW classes. This approach has been used and approved in some recent cost of service applications, including that for Guelph Hydro's 2012 rates application [EB-2011-0123].

Using the attached spreadsheet taken from Guelph Hydro's draft Rate Order filing, please provide calculations for class-specific SMDRs using a more direct allocation of SMFA revenues.

Response:

a) Veridian calculated class-specific SMDRs from the total residual true-up amount after deducting all of the SMFA revenues and interest from the total revenue requirement calculated for 2009 through to October 31st of 2012. No allocation of the SMFA revenues and interest by rate class was done as part of calculating class-specific SMDRs.

b) Veridian has provided calculations for class-specific SMDRs using the proposed direct allocation of SMFA revenues by completing the spreadsheet taken from Guelph Hydro's draft Rate Order as requested.

A copy of the spreadsheet is attached.

Using this methodology class specific SMDRs are recalculated as follows:

| | Residential | GS < 50 kW |
|---|---|---|
| Originally calculated as per Table 9 on page 21 of Manager's Summary | $0.97/month | $2.45/month |
| Revised class-specific SMDR using direct allocation of SMFA revenues | $0.83/month | $4.15/month |

**Response to Board Staff Interrogatory 13 (b)** **EB-2012-0247**

**VERIDIAN CONNECTIONS - EB-2012-0247**

| | 2009 | 2010 | 2011 | 2012 | Total | Explanation Allocator | Evidence Reference | Total | Residential | General Service Less than 50 kW |
|---|---|---|---|---|---|---|---|---|---|---|
| **Revenue Requirement from Smart Meter Model - Sheet 5.SM_Rev_Reqt** | $1,343,790.48 | $1,657,425.89 | $1,755,576.47 | $1,584,579.36 | **$6,341,372.21** | | | | | |
| **Interest on Operating Expenses from Smart Meter Model- Sheet 9-SMFA_SMDR_SMIRR** | $7,070.84 | $15,092.63 | $46,045.94 | | **$68,209.41** | | | | | |
| **Interest on SMFA revenues from Smart Meter Model - Sheet** | -$3,201.01 | -$12,632.35 | -$41,421.62 | -$58,443.78 | **-$115,698.76** | | | | | |
| **TOTAL** | **$1,347,660.31** | **$1,659,886.17** | **$1,760,200.79** | **$1,526,135.58** | **$6,293,882.85** | | | | | |
| **Total Return on Capital** | $157,056.23 | $364,229.61 | $463,651.92 | $380,417.06 | **$1,365,354.82** | Toal Capital Costs by Class | Table 12 - Page 23 | 100.00% | 76.10% | 23.90% |
| | | | | | **Allocated per Class** | | | $1,365,354.82 | $1,039,035.02 | $326,319.80 |
| **Amortization and interest Expense** | $163,562.08 | $424,518.05 | $568,858.53 | $444,670.71 | **$1,601,609.37** | Toal Capital Costs by Class | Table 12 - Page 23 | 100.00% | 76.10% | 23.90% |
| | | | | | **Allocated per Class** | | | $1,601,609.37 | $1,218,824.73 | $382,784.64 |
| **Operating Expenses** | $1,083,531.66 | $876,480.44 | $616,995.53 | $605,918.39 | **$3,182,926.02** | Number of Smart Meters Installed for each Class | Table 12 - Page 23 | 112,354 | 103,719 | 8,635 |
| | | | | | **Allocated per Class** | | | $3,182,926.02 | $2,938,301.29 | $244,624.72 |
| **Grossed-up Taxes/PILs** | -$56,489.66 | -$5,341.93 | $110,694.82 | $95,129.43 | **$143,992.65** | Revenue Requirement allocated to each Class before PILs | | $6,149,890.20 | $5,196,161.04 | $953,729.16 |
| | | | | | **Allocated per Class** | | | $143,992.65 | $121,662.17 | $22,330.48 |
| | | | | | | | | **Total** | **Residential** | **General Service Less than 50 kW** |
| **TOTAL** | | | | | **$6,293,882.85** | | | **$6,293,882.85** | **$5,317,823.21** | **$976,059.64** |
| | | | | | **Percentage of costs allocated to Residential and GS < 50 kW customer classes** | | | 100.00% | 84.49% | 15.51% |
| | | | | Revenue Generated from Smart Meter Funding Adder | **$4,091,832.76** | | | | | |
| | | | | | | SMFA Revenues directly attributable to class | | | 91.46% | 7.60% |
| | | | | | | Residual SMFA revenues (from other metered classes) attributed evenly | | | 0.47% | 0.47% |
| | | | | | | Total | | | 91.93% | 8.07% |
| | | | | Revenues Generated from SMFA | **$4,091,832.76** | | | | $ 3,761,628.97 | $330,203.79 |
| | | | | Net Deferred Revenue Requirement | **$2,202,050.09** | | | | | |
| | | | | | **Allocated per Class** | | | $2,202,050.09 | $1,556,194.24 | $645,855.85 |
| | | | | | **Number of Metered Customers** (2012) | | | | 104,494 | 8,650 |
| | | | | | **Smart Meter Disposition Rate Rider** | | | | $0.83 | $4.15 |

As reported in Veridian's RRR Filings (except for 2012 - based on customer counts to April 30th)

Smart Meter Funding Adder Revenues

| Year | Number of customers: Residential | GS < 50 kW | Other Metered Customer Classes (GS > 50 kW, Intermediate, Large Use) | Total Metered Customers where SMFA applied | **Estimated Allocation of SMFA Revenues by Rate Class**: Residential | GS < 50 kW | Other Metered Customer Classes | Total | SMFA revenues collected from Smart Meter Model |
|---|---|---|---|---|---|---|---|---|---|
| 2009 | 101,547 | 8,501 | 1,054 | 111,102 | $ 893,053.67 | $ 74,761.93 | $ 9,269.39 | **$ 977,084.98** | $ 977,084.98 |
| 2010 | 102,929 | 8,578 | 1,062 | 112,569 | $ 1,095,246.12 | $ 91,276.72 | $ 11,300.52 | **$ 1,197,823.36** | $ 1,197,823.36 |
| 2011 | 104,060 | 8,595 | 1,054 | 113,709 | $ 1,274,886.70 | $ 105,301.28 | $ 12,913.04 | **$ 1,393,101.02** | $ 1,393,101.02 |
| 2012 - To April 30th | 104,651 | 8,663 | 1,070 | 114,384 | **$ 479,250.97** | $ 39,672.35 | **$ 4,900.08** | **$ 523,823.40** | $ 523,823.40 |
| | | | | | **$ 3,742,437.46** | **$ 311,012.27** | **$ 38,383.03** | **$ 4,091,832.76** | **$ 4,091,832.76** |
| | | | | | **91.46%** | **7.60%** | **0.94%** | 100.00% | |
| | | | | | 84.49% | 15.51% | | | |
| | | | | | 50.00% | 50.00% | | | |
| Even allocation | | | | | **0.469%** | 0.469% | | | |
| Allocation of 0.94% to Res and GS < 50 kW | | | | | **91.93%** | 8.07% | | | |

Schedule of SMFA in effect

| Rate Year | SMFA |
|---|---|
| 2008 | $ 0.73 |
| 2009 | $ 0.73 |
| 2010 | $ 1.00 |
| 2011 | $ 1.00 |

14. Ref: Cost Allocation
Application, Sections 7.0 and 8.0 – Cost Allocation

**Request**

a) If Veridian has made revisions to its Smart Meter Model, Version 2.17 as a result of its responses to interrogatories, please update its proposed class-specific SMDRs.
b) Similarly, please update the calculation of class-specific SMIRRs.

Response:

a) & b)

Veridian has not made any revisions to its Smart Meter Model, Version 2.17 as a result of its responses to interrogatories

1. Ref: Application, Page 3
Smart Meter Recovery Model, V 2.17, Sheet 2

The application on page 3 indicates that Verdian is applying for approval of capital expenditures of $7,730,561 and operating costs of $3,909,071. The Smart Meter Recovery Model, Sheet 2, shows operating costs to the end of 2011 as $2,577,088 and $3,304,110 to the end of 2012.

**Request**

a) Please reconcile the operating costs on Page 3 to the model.

Response:

a) The operating costs of $3,909,071 stated on page 3 of the Manager's Summary are in error. The statement should read "Veridian hereby applies for approved of capital expenditures of $7,730,561 and operating costs of $3,304,110".

2. Ref: Application, Page 6

The application indicates:

"Within the remaining installations to be completed there are some installations that require repairs and/or upgrades to customer meter bases or other equipment in order to complete the installations. Veridian has estimated the cost for these repairs and/or modifications to be $70,000 and this cost has been included in the calculation of the 2012 revenue requirement."

**Request**

a) Please identify where in the smart meter model this cost is included.

Response:

a) The estimated amount of $70,000 for meter base repairs is a one-time cost related to the balance of meter installations still to be completed in 2012.

The smart meter model allows for annual recurring costs to be forecast in 2012 and included with the calculation of the 2012 revenue requirement. Any one time expenses would need to be amortized over the period for which the resulting SMIRR would be in place. For Veridian, this would be a two-year period of 2012 and 2013.

Accordingly, Veridian has included $35,000, one half of the $70,000, for meter base repairs within its 2012 Forecast OM&A expenses under 2.1.2 Other OM&A Expenses related to AMCD.

3. Ref: Application, Page 23

Veridian installed 41,485 smart meters between 2009 and 2011. On Page 23, Veridian indicates that the SMIRR cost attributable to the residential customers is substantially lower than the GS<50 kW customers due to the lower installed cost per meter for this class.

**Request**

a) Please summarize the types of meters installed for each rate class.

b) Please complete the following table to show average customer costs based on meter type.

| Class | Type of Meter | Quantity | Meter Cost | Average Meter Cost | Installation Cost | Average Installation Cost | Total Average Cost |
|---|---|---|---|---|---|---|---|
| Residential | | | | | | | |
| | | | | | | | |
| GS<50 kW | | | | | | | |
| | | | | | | | |

Response:

a) For Residential class customers Veridian installed Elster meter types R1S, R2S and GREX. These meter types were connected on various service configurations up to 240volts and 400amp single phase.

For GS < 50KW class customer Veridian installed the following Elster meter types:

- R2S- on various service configurations up to 240volts and 400amp single phase and up to 200amps on 600volt polyphase services.
- GREX- on services up to 100amp, 120/240v measuring kwh.
- A3TL 10amp single phase 120volt measuring kwh and watt demand.
- A3RL 10 to 200amp from 120volts to 480volts 3 phase measuring kwh, watt and volt ampere demand

b) To obtain quantities by meter type Veridian queried its CIS database. The format of the data available is such that it provides information on all installed meters of the noted types and included installed meters that were for new services in 2009 through 2011 as well as retrofit meters related to Veridian's smart meter implementation program. Veridian has calculated the quantities by meter type related to its smart meter implementation by applying the ratio by meter type from the query for the

overall meter population for those types to the total number of retrofit meters within Veridian's smart meter implementation program.

| Class | Type of Meter | Quantity | Meter Cost | Avg. Meter Cost | Installation Cost | Avg. Installation Cost | Total Avg. Cost |
|---|---|---|---|---|---|---|---|
| Residential | R1S | 1,268 | Not Avail. | $78.00 | Not Avail. | Not Avail. | Not Avail. |
| | R2S | 33,135 | " | $105.66 | " | " | " |
| | GREX | 226 | " | $289.75 | " | " | " |
| GS<50 kW | R2S | 2,680 | " | $105.66 | " | " | " |
| | GREX | 4,598 | " | $289.75 | " | " | " |
| | A3TL | 17 | " | $337.46 | " | " | " |
| | A3RL | 31 | " | $373.64 | " | " | " |

Veridian did not maintain separate cost records of purchase costs or installation costs by meter type within its smart meter capital accounts. As a result some information requested in the table above is not available.

Veridian has provided average meter costs from purchase order records of the various meter types.

4. Ref: Application, Page 12

The application states:

"Late in 2008, Veridian undertook a vendor selection process for the provision of a private Wide Area Network Solution ("WAN"), aided by Util-assist Consulting Services. Veridian sought a turnkey solution that would provide wireless communication and competitive pricing. Through this comprehensive RFP and evaluation process and detailed cost/benefit review of POTS vs WAN solution, a solution with National Wireless was chosen. This solution required a small capital investment of approximately $40,000 for modems to be deployed with the collector meters and annual operating costs were estimated at 50% of the cost of a POTS solution with the equivalent number of collectors."

**Request**

a) Please discuss the outcome of the evaluation process and detailed cost/benefit review of POTS vs. WAN. Please include the cost of each solution.
b) Please provide the annual operating costs of POTS.

Response:

a) Please see response to Board Staff Interrogatory #7
b) The forecast 2012 annual operating costs of POTS is $77,446.

5. Ref: Application, Page 16

Veridian confirms that the avoided costs of manual meter reading were removed from total operating costs within Veridian's Board approved 2010 COS revenue requirement.

Ref: Board Guideline G-2011-0001, Smart Meter Funding and Cost Recovery – Final Disposition, dated December 15, 2011, Page 19

The Guidelines state, "The Board also expects that a distributor will provide evidence on any operational efficiencies and cost savings that result from smart meter implementation."

**Request**

a) Please identify any other operational efficiencies and cost savings (beyond reduced meter reading costs) that Veridian has experienced or anticipates will result from smart meter implementation.
b) Please confirm whether any realized cost savings (beyond reduced meter reading costs) have been included in the rate rider calculations.

Response:

a) With very minor exceptions as detailed in its evidence (Application, page 18), Veridian has implemented smart metering within the confines of the Board's interpretation of minimum functionality. Veridian has not identified any realized operational efficiencies or cost savings beyond the avoided costs of manual meter reading.

   Further investments in Veridian's smart metering infrastructure and business processes that exceed minimum functionality may yield additional efficiencies or cost savings in the future. However, such opportunities have not been identified and such investments have not been made.

b) No realized cost savings beyond reduced manual meter reading costs have been included in the rate rider calculations.

6. Ref: Smart Meter Model (V2_17), 20120531
Application, Page 21, Table 9

Sheet 9 of the Smart Meter Model shows the number of metered customers (average for 2012 test year) as 113,920. Table 9 on Page 21 of the application, uses the number of active metered customers (average 2012) = 113,144 in the calculation.

**Request**

a) Please explain the difference.

Response:

a) The number of metered customers (average for 2012 test year) entered on Sheet 9 of the Smart Meter Model is in error. The number should be that used in Table 9 of page 21 of the Manager's Summary, being 113,144.

Veridian notes that customer count value on Sheet 9 of the Smart Meter Model is informational only and is not used by Veridian in the calculation of either the Smart Meter Disposition Rate Rider or the Smart Meter Incremental Revenue Requirement Rate Rider.

7. Ref: Application, Page 20, Table 8

Table 8 provides the calculation of the true-up amount for the SMDR. The interest on the SMFA revenues is shown as $47,489.

**Request**

a) Please explain the derivation of the $47,489.

Response:

a) The amount of $47,489 is identified as Carrying Costs included within the true-up amount for the SMDR and is a credit which reduces the total Revenue Requirement calculation in table 8.

The credit balance for carrying charges has two components:

1) Interest or carrying charges calculated on the total Funding Adder Revenues Collected from Customers ($115,698.76)
Source: Smart Meter Model, Sheet 8. Funding_Adder_Revs Column M, Row 109

2) Interest or carrying charges calculated on Deferred and forecasted OM&A and Amortization Expense $68,209.41
Source: Smart Meter Model, Sheet 9.SMFA_SMDR_SMIRR Column U, Row 32

Net amount ($47,489.35)

8. Ref: Application, Page 20, Table 8

Table 8 shows the Smart Meter Revenue Requirement – 2012 (Jan 1st to Oct 31st) as $1,584,579.

**Request**

a) Please provide the derivation/calculation of this amount.

Response:

a) The Smart Meter Revenue Requirement – 2012 (Jan 1st to Oct 31st) is calculated as ten twelfths of the annual 2012 revenue requirement calculated within the Smart Meter Model.

2012 Revenue Requirement $1,901,495 X 10/12 = $1,584,579
Source: Smart Meter Model
Sheet 5.SM_Rev_Reqt, Column S, Row 70

9. Ref: Smart Meter Model (V2_17)

Veridian completed the Smart Meter Model provided by the OEB and used the data to arrive at the proposed Smart Meter Incremental Rate Rider and the proposed Smart Meter Disposition Rate Rider.

Ref: Board Guideline G-2011-0001, Smart Meter Funding and Cost Recovery – Final Disposition, dated December 15, 2011, Page 19

The Guideline states, "The Board views that, where practical and where data is available, class specific SMDRs should be calculated on full cost causality."

**Request**

a) Please complete a separate smart meter revenue requirement model by rate class.
b) Please re-calculate the SMDR & SMIRR rate riders based on full cost causality by rate class.
c) Please provide a table that summarizes the total Smart Meter Rate Adder Revenue and associated interest collected by customer class.

Response:

a) b) & c)

Please see response to Board Staff Interrogatory 13 part b)

10. Ref: Smart Meter Model (V2_17)

**Request**

Column S of Sheet 2 shows OM&A expenses for 2012. Please provide a table that summarizes the one-time expenses (in 2012 only) and ongoing expenses.

Response:

The table below summarizes the OM&A expenses for 2012 from Column S of Sheet 2 by amount and classification as One-Time or Ongoing expenses.

| OM&A Cost | Amount | One-Time or Ongoing |
|---|---|---|
| 2.1.1 AMCD Maintenance | 99,426 | Ongoing |
| 2.1.2 Meter Base Repairs | 35,000 | One-Time amount of $70,000 pro-rated over 2 years SMIRR period (2012 & 2013) |
| 2.2.1 AMRC Maintenance | 68,848 | Ongoing |
| 2.3.2 AMCC – Software Maintenance | 92,356 | Ongoing |
| 2.3.2 Other – Software operations labour | 202,337 | Ongoing |
| 2.4.1 WAN Maintenance | 151,119 | Ongoing |
| 2.5.2 Customer Communication | 78,015 | Ongoing |

11. Ref: Application, Page 17

The application states:

In 2009 Veridian undertook the large project of documentation of all internal business processes impacted by smart meters and TOU implementation and staff education and training on new business processes. Veridian engaged an external firm to assist in this endeavour. Veridian developed and implemented a call centre strategy in contemplation of anticipated call volumes resulting from the installation of smart meters and the deployment of TOU rates. Veridian based its strategy on industry assumptions and past experience from market opening and other significant customer related changes in billing practices. Veridian strategy was to contract full and part time staff. These staff supported higher call volumes and back filled regular staff during training and testing sessions through TOU implementation. This strategy allowed Veridian to maintain the standard of 65% of calls answered within 30 seconds as required by the OEB throughout the period of smart meter and TOU implementation.

**Request**

a) Please summarize the full time and part-time staff contracted as part of the call centre strategy.
b) Please confirm the staff is incremental to regular call centre operations.

Response:

a) The following table summarizes the full and part time contract staff utilized as part of Veridian's call centre strategy:

| | Peak # of Contract Staff | |
|---|---|---|
| Year | Part Time Hours | Full Time Hours |
| 2009 | 4 | 0 |
| 2010 | 7 | 4 |
| 2011 | 0 | 6 |

b) Confirmed.

12. Ref: Application, Page 13

Veridian provides a description of the capital costs for the AMCC. Hardware costs totaled $80,340 and software licensing and configuration costs totaled $281,000. Total capital costs for the ODS were $266,000. These amounts total $627,340.

**Request**

a) Please reconcile to $630,459 shown on Sheet 2 of the model. (Cell U70)

Response:

a) Please see response to Board Staff interrogatory #8.