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Public Utilities Commission of Nevada
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BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA

Investigation Regarding NV Energy’s Advanced)
Service Delivery Program aka Smart Meter and its) Docket No. 11-10007
Implementation)
_____)

Comments of NV Energy

Nevada Power Company d/b/a NV Energy (“Nevada Power”) and Sierra Pacific Power Company d/b/a NV Energy (“Sierra” and, together with Nevada Power, “NV Energy” or “NVE”) respectfully file these comments (the “Comments”) with the Public Utilities Commission of Nevada (the “Commission”). NVE submits the Comments and supporting attachments pursuant to the Commission’s Notice of Second Request for Comments and Notice of Workshop (the “Notice”).

This proceeding involves an investigation into NV Energy’s installation of advanced metering infrastructure (“AMI”) program known as “NVEnergize.” NV Energy’s AMI systems (the “NVE AMI System”) is described in comments filed with the Commission on December 2, 2011. These Comments focus on the rules governing non-standard meter installations and answer questions posed by the Commission in the Notice.

I. Executive Summary

The rules that govern NV Energy’s delivery of electric service have been filed with and approved by the Commission. Before the Commission approved those rules, interested parties investigated, evaluated and, in most cases, provided comments on the rules. In addition, the Commission made a determination that the rules are just and reasonable.

NVE’s service rules obligate NV Energy to install and maintain meters, and make it clear that NVE owns the meter. In addition, the rules give NV Energy the right to (a) access a customer’s premises at all reasonable times for any purpose normally connected with the delivery of electric service, and (b) the right to repair or replace a meter at any time. Because NVE is obligated to provide a meter and bill for its services, it always has had the discretion to select the meter. In 2010, the Commission authorized NVE to pursue NVEnergize and replace

Nevada Power Company d/b/a NV Energy
and Sierra Pacific Power Company d/b/a NV Energy

1 every meter in the northern and southern Nevada service territories with an AMI (or smart)
2 meter. Accordingly, an AMI meter is now NVE’s standard meter. A small group of customers –
3 less than 0.50 percent – have objected to NV Energy’s standard metering arrangement. The core
4 issue before the Commission is how to address that situation.

5 The issue is not an issue of first impression. Not surprisingly, NVE’s service rules
6 provide a roadmap for addressing the issue. Historically, when a customer refused to honor
7 NVE’s rights under Rule 16, NV Energy provided the customer written notice of its intent to
8 install a specific non-standard metering arrangement. NVE then collected a non-standard
9 metering charge from the customer because Rule 16 makes the customer responsible for all
10 incremental costs associated with the non-standard metering arrangement. The Commission
11 should chart the same course today. When a customer expresses the intent to interfere with or
12 limit NVE’s rights under Rule 16, the Commission should authorize NV Energy to install a non-
13 communicating AMI meter as the single, authorized non-standard metering arrangement. Any
14 customer demanding such an arrangement should be responsible for the attendant incremental
15 costs, which should be recovered through a premises-specific one-time fee and a recurring
16 monthly charge.

17 In summary, Rule 16 should be revised to reflect the fact that a communicating AMI
18 meter is NVE’s standard metering arrangement. While the standard meter has changed, the
19 Commission should not alter the existing balance between NVE’s rights and duties, on the one
20 hand, and, on the other hand, the customer’s rights and duties. NVE should remain obligated to
21 provide a standard metering arrangement to each customer; NVE should continue to own meters;
22 and NV Energy should be responsible for maintaining and replacing meters. When a customer
23 indicates that the customer does not want to honor NV Energy’s rights under Rule 16, NVE
24 should provide a non-standard metering arrangement. Any customer served through a non-
25 standard metering arrangement should remain responsible for the incremental costs of providing
26 that service, as well as the cost of restoring NVE’s system to the standard configuration.

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1 Specifically, NVE proposes the following initial and recurring charges for its preferred
 2 non-standard metering arrangement (Alternative C, a non-communicating AMI meter that
 3 records interval data).

	NVE South	NVE North
Initial Charge	\$110.00	\$130.00
Monthly Charge	\$14.86	\$13.02

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9 **II. Discussion and Analysis**

10 **A. NV Energy’s customers already have benefitted from NVEnergize.**

11 Creating a smarter grid should result in a safer, more reliable, efficient and affordable
 12 system.¹ Situational awareness drives those outcomes. In *The Quest: Energy, Security and the*
 13 *Remaking of the Modern World*, Daniel Yergin notes that, by providing utilities with situational
 14 awareness, the smart grid “could go a long way toward reducing the duration of power outages
 15 and limiting their effects.”² In Dr. Yergin’s words, the smart grid “can enhance reliability with a
 16 ‘self-healing’ capability” and facilitate the delivery of safer, more reliable service at a lower
 17 cost.³ By providing customers situational awareness, the smart grid allows customers to
 18 determine, nearly in real time, how much energy they are using, react to that information and
 19 save money.⁴ In summary, according to Dr. Yergin, “The smart grid, in its entirety, could have
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23 ¹ As NV Energy demonstrated in Docket Nos. 10-02009, 10-03022, and 10-03023, the potentially significant
 24 cost savings attributable to NVEnergize benefit customers by reducing the cost of providing safe and reliable
 electric service.

25 ² Daniel Yergin, *The Quest: Energy, Security, and the Remaking of the Modern World* at 639 (2011).

26 ³ *See id.* at 637-38

27 ⁴ *Id.* at 637.

1 what has been described as a ‘transformational impact on how utilities operate their system,
2 interact with their customers, and conduct their business.’”⁵

3 NVE’s customers already are experiencing the benefits of the smart grid. For instance, a
4 customer recently called NVE to discuss an apparent rise in usage that he observed after he had
5 an AMI meter installed on his home. An NVE employee reviewed a checklist with the customer
6 and discovered that the customer had installed a new pool pump about the same time NVE
7 installed a smart meter. NVE then reviewed the customer’s usage data with the customer. After
8 reviewing the usage data, the customer was able to determine that the settings on the pool pump
9 were causing it to cycle too frequently. Put simply, the customer was able to use the tools made
10 available by the smart grid to avoid the inefficient use of energy and save money.

11 In addition, NVEnergize already has facilitated the more efficient delivery of electric
12 service to NV Energy’s customers. In the first sixty days after NVE released the remote
13 connection and disconnection functionality, it successfully completed over 100,000
14 connection/disconnection work orders. The vast majority were customer-requested service
15 connections and disconnections. This functionality not only reduced operating expenses by
16 eliminating the need to send a service technician to the customer’s premises, but satisfied
17 customer requests in a more timely manner.

18 The bottom line is that NVEnergize has the potential to benefit Nevadans. Situational
19 awareness will allow NVE to deliver electricity in a more cost-effective manner to its customers.
20 Situational awareness will allow customers to discover and eliminate inefficient practices. The
21 program thus has the potential to benefit customers through bill reductions as well as by reducing
22 the overall cost of delivering safe and reliable electric service throughout Nevada.

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⁵ Id. at 639.

1 **B. NVE is obligated to provide meters, maintain meters, repair meters, and has**
2 **the right to replace any meter at any time.**

3 Consistent with the rules of service adopted by utility regulatory commissions across the
4 country, Rule 16 obligates NV Energy to install, maintain and repair meters.⁶ Specifically,
5 Nevada Power’s Rule 16(A)(5)(a) and Sierra’s Rule 16(A)(5)(a) both provide that the “Utility
6 will, at its own expense, install a suitable meter on an Applicant’s Premises in a location
7 furnished by it and approved by the Utility, which location shall, at all reasonable times, be
8 accessible for reading, testing and maintaining the Meter.”⁷ Even though meters are located on
9 the customer’s premises, NV Energy owns the meter. Moreover, NVE has the right to repair or
10 replace a meter at any time. Nevada Power’s Rule 16(B) provides:

The service wires, Meters and associated equipment installed by the Utility and located wholly or partially upon a Customer’s Premises will at all times be and remain the property of the Utility which shall have the right to repair or replace them at any time, or to remove them after service to the Customer has been discontinued.⁸

16 ⁶ See, e.g., Re Southwest Gas Corporation, 61 P.U.R.3rd 467, 475 (Cal. Pub. Util. Comm’n 1965)
17 (commenting on the safety considerations that underpin the “long-established concept in gas and electric utility
18 operations of utility ownership of facilities stopping with the meter, and the customer owning all facilities on his
19 side of the meter”); see also Re Wisconsin Power & Light Company, 24 P.U.R. 136, 144 (Wis. Pub. Serv. Comm’n
20 1938) (concluding that all meters should be owned, supplied and maintained by the utility after noting the benefits of
such ownership, which include the ability to carry forward a systematic program of testing and the benefits of
standardization).

21 ⁷ Tariff Schedules Applicable to Electric Service of Nevada Power Company d/b/a NV Energy, Tariff No. 1-
22 B, Rule 16(A)(5)(a); see also Rate Schedules and Rules and Regulations of Sierra Pacific Power Company d/b/a NV
23 Energy, Electric Tariff No. 1, Rule 16(A)(5)(a). The rates and rate structures of Nevada Power and Sierra are based
24 on the balance of rights and obligations established by its rules. In particular, the two companies should and do
25 make the investment necessary to provide every customer a standard meter installation. Thus, the base tariff general
rates charged to all customers are designed to recover the cost of standard metering arrangements. Because non-
standard metering arrangements generally have costs that exceed the cost of the standard metering arrangement,
NVE’s rules of service impose on customers who insist on a non-standard metering arrangement charges designed to
recover the incremental costs associated with that arrangement.

26 ⁸ Tariff Schedules Applicable to Electric Service of Nevada Power Company d/b/a NV Energy, Tariff No. 1-
27 B, Rule 16(B) (emphasis added).

1 Similarly, Sierra’s Rule 16(B) provides:

2 The transformers, meters, service wires, appliances, fixtures and other
3 facilities furnished by the Utility at its own expense and located wholly or
4 partially upon a Customer’s premises for the purpose of delivering electric
5 energy to the Customer will at all times be and remain the property of the
6 Utility which shall have the right to repair or replace them at any time or
7 to remove them after service to the Customer has been discontinued.⁹

8 Because NV Energy owns the meter, it is responsible for maintaining the meter. Both Nevada
9 Power’s Rule 16(C) and Sierra’s Rule 16(C) provide, “The Utility will be responsible for the
10 maintenance of its own property”¹⁰

11 Rule 16, which has the force and effect of law,¹¹ gives NVE the right to access the
12 customer’s property for any purpose connected with the delivery of electric service. Nevada
13 Power’s Rule 16(D) and Sierra’s Rule 16(D) both provide, “The Utility will, at all reasonable
14 times, have the right of access to a Customer’s premises for any purpose normally connected
15 with the furnishing of electric energy and the exercise of the rights secured to it by law or by
16 these rules.”¹² However, Rule 16 is not the only source of NVE’s property access rights. NVE
17 also has a real property interest – an easement – giving it the right to access the customer’s
18 property for any purpose connected with the delivery of electricity. Under Nevada law, every
19 final map subdividing land must include an easement benefitting any public utility providing

20 ⁹ Rate Schedules and Rules and Regulations of Sierra Pacific Power Company d/b/a NV Energy, Electric
21 Tariff No. 1, Rule 16(B) (emphasis added).

22 ¹⁰ Tariff Schedules Applicable to Electric Service of Nevada Power Company d/b/a NV Energy, Tariff No. 1-
23 B, Rule 16(C); see also Rate Schedules and Rules and Regulations of Sierra Pacific Power Company d/b/a NV
24 Energy, Electric Tariff No. 1, Rule 16(C).

25 ¹¹ See, e.g., U.S. West Communications, Inc. v. City of Longmont, 924 P.2d 1071, 1079 (Colo. App. 1995)
26 (“A tariff created through the exercise of properly delegated legislative authority has the force and effect of state
27 law.”).

28 ¹² Tariff Schedules Applicable to Electric Service of Nevada Power Company d/b/a NV Energy, Tariff No. 1-
B, Rule 16(D); see also Rate Schedules and Rules and Regulations of Sierra Pacific Power Company d/b/a NV
Energy, Electric Tariff No. 1, Rule 16(D).

1 service to the parcel.¹³ Typically, the easement provides, “A public utility easement is also
2 hereby granted within each parcel for the exclusive purpose of installing and maintaining utility
3 facilities to that parcel/lot”¹⁴

4 In summary, NV Energy’s rules of service establish three important principles that shed
5 light on the question facing the Commission in this docket. First, NVE should and must provide
6 a standard metering arrangement for each customer. Second, NVE has the obligation to maintain
7 meters and the corollary right to replace a meter at any time with a meter of its choice. Third,
8 customers are obligated to provide NV Energy access to their premises for all purposes
9 associated with the delivery of electricity. As explained in the following paragraphs, NVE’s
10 terms and conditions of service also provide a roadmap for addressing situations where
11 customers object to standard metering arrangements.

12 **C. Rule 16 provides a sound framework for addressing situations where**
13 **customers interfere with or limit NV Energy’s right to install a communicating**
14 **AMI-meter on the customer’s premises.**

15 Nevada Power’s Rule 16(H), Inaccessible Meters, provides:

16 Where a Customer refuses to comply with the provisions of Paragraphs
17 A.5.a. and D. hereof pertaining to right of access for Meter reading the
18 Utility shall give 30 days written notice to the Customer of its intent to
19 install either a remote meter or an adapter to angle the meter on the
20 Customer’s premises so that it can be read from an accessible location. In
21 either case the Customer shall pay to the Utility in advance a remote meter
22 charge set forth in Schedule MC, for the cost of installing the equipment.
23 Should Customer fail to pay in advance the utility may complete the
24 installation and include the remote Meter charge on the Customer’s
25 monthly bill.¹⁵

25 ¹³ See Nev. Rev. Stat. § 278.374(1)(d); Nev. Rev. Stat. § 278.4725(7)(b)

26 ¹⁴ See, e.g., Parcel Map for Johnny Forster et al, Sheet 1 of 2.

27 ¹⁵ Tariff Schedules Applicable to Electric Service of Nevada Power Company d/b/a NV Energy, Tariff No. 1-
28 B, Rule 16(H).

1 Sierra's services rules have a similar provision. Specifically, Rule 16(F), Remote Metering,
2 provides as follows:

3 Remote metering is available to any Customer with 120/240 volt single
4 phase service who does not desire to comply with Section D, Right of
Access, hereto, relative to meter reading.

5 The Customer will be required to pay Utility \$100.00, in advance, for the
6 cost of installing the facilities necessary to provide remote metering. The
7 remote metering equipment will remain the property of Utility, and Utility
will maintain the equipment.¹⁶

8 While these rules address a slightly different situation, the principles provide a sound framework
9 for addressing situations where customers express their intention to deny or interfere with NV
10 Energy's right to replace an existing meter with a communicating AMI meter.

11 With respect to any non-standard metering arrangement, NVE's rules of service contain
12 three key principles. Specifically, NV Energy's rules generally establish (1) a defined non-
13 standard metering arrangement that is (2) available to any customer who, for whatever reason,
14 express the intent to interfere with or limit NVE's rights under Rule 16,¹⁷ (3) so long as the
15 customer is responsible for the incremental costs of providing the non-standard metering
16 arrangement and otherwise complies with the terms and conditions of service.¹⁸ These

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19 ¹⁶ Rate Schedules and Rules and Regulations of Sierra Pacific Power Company d/b/a NV Energy, Electric
Tariff No. 1, Rule 16(F).

20 ¹⁷ Under NV Energy's existing terms and conditions of service, a non-standard metering arrangement is
21 available to any customer who does not honor NVE's rights under Rule 16. Likewise, a non-standard metering
22 arrangement could be made available to any customer for any reason, or even no reason. Furthermore, while NVE
23 demonstrated in its first set of comments that the NV Energy AMI System does not pose a significant human health
24 risk, the issue of whether radio frequency emissions have an adverse effect on human health essentially is outside
25 the scope of this proceeding. The Federal Communication Commission's authority over technical aspects of radio
communications is longstanding and clear. Pursuant to its responsibilities under federal law, the FCC regulates
26 human exposure to RF emissions in order to protect public health and safety. In furtherance of this obligation, the
27 FCC adopted limits on human absorption of RF emissions and monitors the results of research so that its standards
maintain scientific validity. NV Energy's AMI system complies with those standards.

28 ¹⁸ Attachment 1 provides an example of the appropriate language that could be inserted into Rule 16 to
implement a single, non-standard metering alternative.

1 principles, which the Commission previously found to be just and reasonable, establish a
2 framework developing a new tariff provision addressing non-standard metering arrangements.

3 **D. Rule 16 should be revised to require NVE to provide a non-communicating**
4 **AMI meter to any customer who refuses to honor NV Energy’s right to install a**
5 **communicating AMI meter on the customer’s premises.**

6 NV Energy’s standard metering arrangement has changed. The Commission approved
7 NVE’s advanced service delivery program in July 2010, and authorized the replacement of all
8 existing analog and digital meters with an advanced meter capable of two-way communications
9 and providing interval readings. Accordingly, the standard metering arrangement offered to
10 residential and commercial customers is a communicating AMI meter. Rule 16 should be
11 revised to reflect this development. The following paragraphs discuss and explain NVE’s
12 preferred non-standard metering arrangement.

13 One of the benefits of the smart grid is the ability to provide customers and utilities with
14 situational awareness. For customers, situational awareness relates to the ability to review
15 interval usage information to make informed and rational decisions about energy consumption
16 and optional rate schedules. For utilities, situational awareness provides the information
17 necessary to plan, operate and maintain electric generation, transmission and distribution
18 facilities in a more efficient and cost effective manner.

19 Nevada’s energy policy recognizes the value of “situational awareness.” Section 701.010
20 of the Nevada Revised Statutes provides, in relevant part:

- 21 1. The Legislature finds that:
- 22 (a) Energy is essential to the economy of the State and to the health,
23 safety and welfare of the people of the State.
- 24 (b) The State has a responsibility to encourage the maintenance of a
25 reliable and economical supply of energy at a level which is consistent
26 with the protection of environmental quality.
- 27 (c) The State has a responsibility to encourage the utilization of a wide
28 range of measures which reduce wasteful uses of energy resources.

1 (d) The State and the public have an interest in encouraging public
2 utilities to promote and take actions toward energy conservation.¹⁹

3 Because NVE’s standard metering arrangement enhances NVE’s ability to provide reliable
4 electric service in a more cost effective manner, and offers customers information that could
5 reduce “wasteful uses of energy resources,” the standard metering arrangement advances
6 Nevada’s energy policy. So too should any non-standard metering arrangement.

7 NVE proposes to make available to any customer who expresses the intent to interfere
8 with or limit NV Energy’s rights under Rule 16 a non-communicating AMI meter capable of
9 storing and furnishing to NVE interval data when probed by a meter reader. NVE currently has
10 two sources of residential AMI meters, Sensus and Landis+Gyr (“L&G”). NVE has the ability
11 to remove the FlexNet and ZigBee communications module from the L&G meter.²⁰ Even
12 without the communications module, the L&G meter is capable of storing and furnishing interval
13 data to NVE when probed by a meter reader. The Commission should adopt this option – a
14 probable, non-communicating L&G meter – as the single, non-standard metering arrangement.

15 First, the option provides a non-standard metering arrangement that is most consistent
16 with NVE’s obligations under its Smart Grid Investment Grant. The Department of Energy
17 (“DOE”) has indicated that it will reimburse NVE for 50 percent of the cost of purchasing L&G
18 meters, removing the communications module, and installing a L&G meter that does not contain
19 a communications module. This reduces the cost of the option and minimizes the likelihood that
20 a non-standard metering arrangement will jeopardize DOE funding. Second, the non-
21 communicating L&G meter advances Nevada’s energy policy by providing customers with
22 interval usage information, which is necessary to facilitate more informed decision making.
23 Third, as explained in Section III(I), this option generally is consistent with the approach taken
24 by other utility regulatory commissions that have addressed the issue. Commissions in
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26 ¹⁹ Nev. Rev. Stat. § 701.010.

27 ²⁰ See Attachment 2.

1 California, Portland and Maine have determined that a non-standard metering option should be
2 available to any customer whom, for whatever reason, indicates the customer does not want a
3 communicating AMI meter.²¹

4 **E. The Commission should not select an analog meter as the non-standard**
5 **metering alternative.**

6 There are several reasons why the Commission should not adopt an analog meter as the
7 non-standard metering arrangement. First, analog meters do not store interval data and,
8 therefore, do not advance Nevada’s energy policy. Second, analog meters will become
9 increasingly more difficult to obtain and more expensive to maintain. Analog meters are no
10 longer produced by any domestic supplier of meters. Maintaining analog meters would require
11 NV Energy to maintain spare parts, alternative training regimes, and alternative meter testing
12 protocols. Third, using analog meters as the non-standard metering has the potential to shift
13 costs from one group of customers (those served by analog meters) to another group of
14 customers (those with a standard metering arrangement). This is because analog meters can
15 produce a revenue shortfall. Analog meters tend to run slower over time because of friction, can
16 fail to register consumption at very low loads, and are far more susceptible to tamper and theft.
17 Selecting an analog meter as the non-standard metering arrangement thus might be unreasonable
18 because it could appear unfair to customers with modern, more accurate meters.

19 **III. Answers to Commission Questions**

20 **A. Selecting the non-communicating AMI meter as the non-standard metering**
21 **arrangement should not jeopardize DOE funding.**

22 Pursuant to DOE regulations, an assistance agreement can be terminated by the DOE
23 Contracting Officer if the grant recipient “materially fails to comply with the terms and
24 conditions of an award.” The NV Energy assistance agreement anticipated a comprehensive
25 statewide deployment of smart meters. While NV Energy cannot speak definitively for the DOE,
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27 ²¹ See Section III(H), below.

1 a narrowly tailored, non-standard metering offering crafted in a manner that is consistent with
2 existing terms and conditions of service should not result in a material failure to comply with the
3 terms and conditions of the NVE assistance agreement. Moreover, it would be inconsistent for
4 the DOE to reimburse for an alternative metering protocol – the L&G meter with the
5 disconnected radio – and claim, at the same time, that NVE materially failed to comply with the
6 assistance agreement. Accordingly, NVE does not believe that the non-standard metering
7 arrangement described in Section II(D), above, would jeopardize DOE funding.

8 **B. NV Energy can disable the ZigBee communication module in AMI meters.**

9 To develop a response to the Commission’s question, NVE discussed with its suppliers
10 whether the ZigBee communication module in its selected AMI meters can be disabled. The
11 ZigBee communication module cannot be disabled remotely. However, NV Energy can disable
12 the ZigBee communication module by traveling to the customer’s premise and manually
13 disabling it. The preliminary estimate of the direct cost of disabling the ZigBee communication
14 module would be \$89.56 per meter within Nevada Power’s service territory and \$107.33 per
15 meter within Sierra’s service territory.²² NVE did not attempt to quantify attendant costs, such
16 as incremental customer service costs, of responding to a specific request to disable the ZigBee
17 communication module in an AMI meter that would otherwise communicate with the NVE AMI
18 System.

19 **C. NV Energy currently cannot remotely disable the FlexNet communication**
20 **module in an AMI meter.**

21 To develop a response to the Commission’s question, NVE discussed with its suppliers
22 whether the FlexNet communication module in its selected AMI meters can be disabled remotely
23 (i.e., through a transmission from the NVE AMI System “head-end”). Currently, NVE cannot
24 remotely disable the FlexNet communications module in either the Sensus or L&G meters.
25 Sensus has started to develop this capability within the meter. The process of releasing that

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27 ²² These are the labor and transportation costs associated with a site visit.
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1 capability would involve an upgrade to FlexNet and ZigBee firmware as well as the head-end
2 software and would not available before the third quarter of 2012. As noted above, NVE can
3 remove the communications module from the L&G meter.

4 **D. NVE can limit FlexNet transmission to once every 84 hours.**

5 To develop a response to the Commission's question, NVE discussed this issue with
6 Sensus. Sensus indicated that the time between transmissions from a FlexNet enabled meter
7 currently is configurable. The longest allowable time between transmissions currently is 84
8 hours. As such, the FlexNet radio cannot be configured to transmit only once a month. While
9 Sensus might be able to develop a firmware upgrade that would facilitate fewer transmissions,
10 the cost of such an alternative cannot be estimated at this time.

11 **E. Identification and comparison of costs associated with non-standard**
12 **metering arrangements.**²³

13 In response to the Notice, NV Energy attempted to estimate the costs associated with
14 implementing four separate non-standard metering options. NVE used its best efforts to estimate
15 and identify all costs associated with the non-standard metering options; however, it is difficult
16 to conduct a complete and accurate cost study in less than three weeks. Notwithstanding these
17 potential shortcomings, NVE believes that its cost estimates provide a reasonable basis for
18 assessing the cost and developing rates for non-standard metering arrangements.

19 The estimated costs of each non-standard metering arrangement are divided into two
20 categories: up-front (or nonrecurring) costs, and on-going (or recurring) costs. Up-front costs
21 include installation labor, meter testing labor, customer support and application processing labor,
22 ancillary meter supplies, customer communications materials, and the estimated cost of returning
23 NVE's system to its standard configuration.²⁴ On-going costs include system modification

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25 ²³ Question 5 in the Notice asks NV Energy to compare the costs of implementing four separate non-standard
26 metering arrangements. Question 7 asks NVE to identify all costs that would be incurred regardless of how usage
27 data is collected.

28 ²⁴ See, e.g., Attachment 4.

1 expenditures, handheld purchasing costs, meter reading costs, back-office labor costs, materials
 2 costs, and annual hardware and software maintenance costs.²⁵ As explained in Attachment 8,
 3 some of these on-going costs are expensed while others represent the amortization of capitalized
 4 expenditures. The following tables summarize NVE’s cost estimates. Attachments 4 through 7
 5 contain a more detailed explanation of the estimated costs associated with each non-standard
 6 metering alternative.

7 **Table 1 – Estimated Costs of Non-Standard Metering Arrangements**

8 **Nevada Power**

	Non-Standard Metering Alternative A – Analog Meter	Non-Standard Metering Alternative B – Digital Meter	Non-Standard Metering Alternative C – Non-Communicating AMI Meter	Non-Standard Metering Alternative D – Communicating AMI Meter with Limited Radio Transmissions
<i>Total Up-front Costs/Non-Standard Metering Customer</i> ²⁶	\$220.48	\$233.88	\$129.92	\$129.92
Credit for Standard route installation	\$19.99	\$19.99	\$19.99	\$19.99
Less Incremental Meter Cost (to be amortized)	\$22.46	\$35.86	N/A	N/A
Total Up-Front Cost to be Collected through One-Time Charge ²⁷	\$178.03	\$178.03	\$109.93	\$109.93
Monthly On-going Costs/Non-Standard Metering Customer	\$14.04	\$14.04	\$14.08	\$1.08

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 23 ²⁵ Id. Attachment 3 is a letter from Itron to NVE dated December 15, 2008. That letter shows that NVE’s
 24 current manual meter reading system will no longer be supported after December 31, 2012. Accordingly, any non-
 25 standard metering arrangement that relies on manual meter reading would compel NVE to acquire new manual
 26 meter reading systems.

26 ²⁶ NVE calculated Nevada Power’s “per customer” costs by assuming 4,500 residential customers would
 27 refuse to honor NVE’s rights under Rule 16 and would be served using a single, non-standard metering arrangement.

27 ²⁷ See Attachment 8.

Table 2 – Estimated Costs of Non-Standard Metering Arrangements

Sierra

	Non-Standard Metering Alternative A – Analog Meter	Non-Standard Metering Alternative B – Digital Meter	Non-Standard Metering Alternative C – Non-Communicating AMI Meter	Non-Standard Metering Alternative D – Communicating AMI Meter with Limited Radio Transmissions
<i>Total Up-front Costs/Non-Standard Metering Customer</i> ²⁸	\$260.94	\$272.09	\$153.33	\$153.33
Credit for Standard route installation	\$23.40	\$23.40	\$23.40	\$23.40
Less Incremental Meter Cost (to be amortized)	\$24.59	\$35.73	N/A	N/A
Total Up-Front Cost to be Collected through One-Time Charge ²⁹	\$212.95	\$212.95	\$129.93	\$129.93
Monthly On-going Costs/Non-Standard Metering Customer	\$16.99	\$16.99	\$17.24	\$1.08

There are several reasons why the estimated up-front costs for alternatives A, B, C and D do not vary depending on whether a customer currently has an analog meter or a smart meter. All four options require a customer premises visit regardless of the current serving arrangement. The site visit is an essential element of the NVEnergize program. By visiting each customer premises, NVE has the opportunity to identify safety issues associated with customer-owned equipment and, equally important, discover evidence of tampering or theft when it exists. A site

²⁸ NVE calculated Sierra’s “per customer” costs by assuming 3,000 residential customers would refuse to honor NVE’s rights under Rule 16 and would be served using a single, non-standard metering arrangement.

²⁹ See Attachment 8.

1 visit also is necessary even if the Commission were to select non-standard alternative A. It is
2 important for NVE to test and, where necessary, recalibrate analog meters to ensure that slow or
3 fast meters do not result in unidentified cost subsidization. It also is important for NVE to install
4 new meter locking rings and seals. Finally, the cost estimates and charges were designed to
5 reflect NVE's standard meter installation, which should be achieved before the end of 2012. At
6 that point, a site visit will be necessary to provide a non-standard metering alternative because
7 the standard metering arrangement will be a communicating AMI meter. However, because
8 these cost estimates were prepared on a per-customer basis, the costs are sensitive to the number
9 of customers that demand a non-standard metering arrangement.³⁰

10 In summary, the costs of each of the alternative non-standard metering arrangements are
11 not significantly different. The up-front costs of each option range from \$129.92 (for AMI
12 meters with no communications module or limited communications) to \$233.88 (for a digital
13 meter) in Nevada Power's service territory, while the on-going costs range from \$1.08 (for an
14 AMI meter with limited communications) to \$14.08 (for an AMI meter with no communications
15 module) in Nevada Power's service territory. In Sierra's service territory, the up-front costs
16 range from \$153.33 (again for AMI meters with no communications module or limited
17 communications) to \$272.09 (for a digital meter), while on-going costs range from \$1.08 (for an
18 AMI meter with limited communications) to \$17.24 (for an AMI meter with no communications
19 module).

20 Section III(H) of these Comments proposes one-time and recurring charges for each of
21 the alternative non-standard metering arrangements. As explained in Section III(I), below, the
22
23

24 ³⁰ The costs of developing the systems and processes necessary to offer non-standard metering arrangements
25 are, similar to other types of utility investments, subject to the principle of scope and scale efficiency. If the number
26 of customers who demand a non-standard metering arrangement exceeds 15,000 customers, NVE estimates that on-
27 going labor and attendant costs would increase. If the number of customers who demand a non-standard metering
28 arrangement exceeds 25,000 customers, the costs of system modifications and on-going systems costs would
increase.

1 proposed charges are generally consistent with marginal costing principles established by the
2 Commission for setting electric rates.

3 **F. Reducing the frequency of manual meter readings would not reduce on-going**
4 **operating costs associated with non-standard metering arrangements.**

5 NV Energy does not anticipate that quarterly or semi-annual meter readings would reduce
6 on-going costs of a non-standard meter installation. To the contrary, NVE estimates that
7 reducing the frequency of non-standard meter reads would increase the total annual cost of non-
8 standard meter reading.

9 NVE anticipates the need for 3 FTEs in Southern Nevada and 2 FTEs in Northern
10 Nevada to read each of the non-standard metering options. Reducing the frequency of meter
11 reads would not lead to a reduction in the number of FTEs necessitated by any one of the non-
12 standard metering options. The 3 FTEs in Southern Nevada and 2 FTEs in Northern Nevada
13 would read fewer meters each month; however, the FTEs would most likely need to make more
14 spot reads.

15 Furthermore, NVE anticipates that additional back office personnel would be necessary if
16 it were to reduce the frequency of non-standard meter reads. Additional back office personnel
17 would be necessary because NV Energy would have to develop new processes for interacting
18 with customers to obtain usage information and to enter that usage information into the billing
19 systems. Semi-annual audits would impose additional costs. Moreover, the potential for human
20 error could result in additional costs attributable to handling billing exceptions, rebilling, high or
21 low bill verifications.

22 If a customer provided monthly readings that were found to be incorrect and the quarterly
23 read and/or semi-annual audit were performed following a move-out period this could result in
24 lost revenues or collection activity towards the customer. There would be increased cost
25 associated with move-outs and final bills that have not yet been identified as well as limited
26 ability to identify energy theft in a timely manner. Also, if an entire quarter needed to be rebilled
27
28

1 because of an erroneous reading, it would take a period of several days to complete all of the
 2 adjustments. Only one month can be billed each day until the system is uploaded each night to
 3 post the adjustments. In short, NVE expects that the process of monitoring, reviewing, billing,
 4 manual adjustments, and other related tasks could result in additional FTEs in the billing
 5 department. While NVE has diligently tried to identify all costs associated with non-standard
 6 billing arrangements, other potential costs – such as additional billing lag that could increase
 7 cash working capital costs – simply cannot be quantified at this time.

8 **Table 3**
 9 **Comparison of Monthly, Quarterly and Semi-Annual Costs (Non-Communicating AMI**
 10 **Meter)**

	Monthly		Quarterly		Semi-Annual	
	North	South	North	South	North	South
Annual Cost	\$620,567	\$760,464	\$639,704	\$784,398	\$658,841	\$808,331

15
 16 In summary, NVE does not anticipate that reducing the frequency of reading non-
 17 standard meters would yield annual cost savings. To the contrary, reducing the frequency of
 18 non-standard meter reading would increase the annual costs of accommodating non-standard
 19 meter installations.³¹

24 ³¹ As noted above, NVE used its best efforts to prepare cost estimates in response to the Notice. However, it
 25 is difficult to prepare complete and accurate cost estimates in three weeks. While these estimates might understate
 26 the costs associated with relying on customers to provide meter readings, NVE believes the estimates provide a
 27 reasonable basis for evaluating alternatives. If the Commission is concerned with on-going costs associated with
 28 manual meter reading, NVE believes that allowing NVE to estimate reads for two months and read a meter every
 three months provides a better approach than relying on customer meter readings.

G. Meter inventory and source of supply.

Table 4 responds to the Commission’s request for an inventory of meters.

Table 4

NV Energy Meter Inventory

December 20, 2011

<u>Meter Type</u>	<u>South</u>	<u>North</u>
Analog meters ³²	61,911	52,649
Digital meters (standard) ³³	2,762	2,348
Smart meters (Sensus)	32,149	11,368
Smart meters (L&G) ³⁴	<u>17,000</u>	<u>53,000</u>
	113,822	119,365
	Total Statewide	233,187

H. Proposed one-time and monthly charges for non-standard metering arrangements.

This Section summarizes the one-time and monthly charges that NVE proposes for each of the four separate non-standard metering arrangements identified in the Notice. Attachment 8 contains a detailed explanation of the methodology that NVE used to develop the proposed charges. The one-time fee is premises specific; in other words, if a customer who has a non-standard metering arrangement moves to another premises within NVE’s service territory, the customer would be assessed another non-standard metering fee if the customer wanted a non-standard metering arrangement at the new premises. Because the charges are associated with a

³² NVE’s existing inventory would be the source of any analog meter necessary to provide a non-standard metering installation. All analog meters would need to be tested and, when necessary, recalibrated to ensure accuracy.

³³ Estimated figures due to functionality for various solid state meter types within the Form 2S, Class 200 meter population.

³⁴ Meters are ordered and scheduled for arrival in February 2012.

1 non-standard metering arrangement, the charge should reflect the full marginal cost associated
 2 with the option. This protects customers who do not demand a non-standard metering
 3 arrangement from any additional or incremental costs associated with the non-standard
 4 alternative. Table 5 summarizes the recurring and non-recurring charges proposed by NVE for
 5 each non-standard metering alternative. NVE’s tariffs should be modified to reflect these
 6 charges.

Table 5
Proposed One-Time and Recurring Charges

	Alternative A	Alternative B	Alternative C	Alternative D
	Analog	Digital Meter, No Interval Data	Non- Communicating AMI Meter	AMI Meter with Limited Radio Transmissions
North				
Proposed Upfront Charge	\$210.00	\$210.00	\$130.00	\$130.00
Recurring Charges Marginal Cost	\$13.27	\$13.40	\$13.02	\$0.15
Reconciled Cost	\$7.69	\$7.77	\$7.54	\$0.09
South				
Proposed Upfront Charge	\$180.00	\$180.00	\$110.00	\$110.00
Recurring Charges Marginal Cost	\$15.18	\$15.39	\$14.86	\$0.19
Reconciled Cost	\$14.24	\$14.43	\$13.93	\$0.18

1 **I. Evaluation of orders in other jurisdictions.**

2 While regulators across the country have been addressing smart meter programs,³⁵ only
3 three utility regulatory commissions have issued orders requiring utilities to provide alternative
4 metering arrangements as part of a smart meter program. Those orders were issued by
5 commissions in California, Maine, and Oregon.

6 In March, 2011, California Public Utilities Commission (“CPUC”) Commissioner
7 Michael Peevey instructed Pacific Gas & Electric Company (“PG&E”) to file a proposal for
8 “some form of opt-out for PG&E customers who did not wish to have a SmartMeter with radio
9 frequency (RF) transmission.” PG&E filed an application in response to the order on March 24,
10 2011. On October 12, 2011, an administrative law judge directed PG&E to file additional
11 information related to the costs and feasibility of various smart meter opt-out alternatives.³⁶ On
12 October 28, 2011, PG&E provided its response to the CPUC ruling.

13 On November 22, 2011 Commissioner Peevey issued a proposed decision. The proposed
14 decision allows a customer to “opt-out” of the PG&E smart meter program for “any reason, or no
15 reason.” The proposed decision does identify an “opt-out” option that is consistent with
16 California’s energy policy, which is a meter capable of recording and storing interval data.
17 Finally, the proposed decision recognizes the principle that customers who select a non-standard
18 metering option should be responsible for at least some of the costs of providing the option. The
19 CPUC is scheduled to deliberate on Commissioner Peevey’s proposed order on January 12,
20 2012.

21
22
23 ³⁵ Regulators have encountered smart meter opt-out concerns in Arizona, California, the District of Columbia,
24 Florida, Georgia, Illinois, Maine, Maryland, Michigan, New Mexico, Ohio, Oregon, Texas, and Vermont. In some
25 where jurisdictions utilities have established smart meter installation opt-out policies, their commissions have either
not expressed a point of view on the issue, or have expressed a point of view but have not issued a formal order
(e.g., the Oklahoma Commission’s website flatly rejects smart meter opt-out).

26 ³⁶ The order directed PG&E to provide cost estimates for three alternatives: (1) an analog meter, (2) a digital
27 meter without a radio, and (3) a telephone-line wired smart meter. PG&E also provided cost estimates for its
preferred alternative: a smart meter with its radio turned off.

1 On January 4, 2011, the Maine Public Utilities Commission (“MPUC”) began
2 investigating a smart meter opt-out alternatives related to the Central Maine Power (“CMP”)
3 smart meter rollout. The investigation combined proceedings regarding issues of customer
4 choice, homeowner rights, public health risk, and smart meter deployment. Part I of the resulting
5 MPUC Order was issued May 19, 2011, describing the MPUC’s decision. Part II of the resulting
6 MPUC order was issued June 22, 2011, describing the background, analyses, and reasoning
7 underlying the MPUC’s decision.

8 CMP was ordered to offer its residential and small business customers three options: (1) a
9 smart meter (at no additional cost), or (2) a radio-off smart meter (with an initial charge of
10 \$20.00 and an ongoing monthly charge of \$10.50), or (3) retaining their analog meter (with an
11 initial charge of \$40.00 and an ongoing monthly charge of \$12.00). Customers eligible for the
12 Low-Income Heating Assistance Program (“LIHEAP”) will be charged only 50% of their
13 selected opt-out option if their income is below Federal Poverty Guidelines, and 75% of their
14 selected opt-out option if their income is above Federal Poverty Guidelines. Customers may also
15 have their smart meter moved elsewhere on their property, at their own expense.

16 As in California, the regulators in Maine narrowly defined their mission in the order,
17 noting that “the Commission specifically stated that it is making no determination on the merits
18 of health, safety, privacy, or security concerns with respect to wireless smart meters.” The
19 MPUC reiterated its support for CMP’s smart grid initiatives, including its smart meter rollout,
20 but did find that “CMP’s AMI initiative, without an opt-out alternative, is an unreasonable utility
21 act and practice, and we direct CMP to provide customers with opt-out alternatives as specified
22 in this Order.”

23 On June 30, 2011 Portland General Electric (“PGE”) submitted Advice Letter 11-15 to
24 the Oregon Public Utilities Commission (“OPUC”), requesting permission to implement a smart
25 meter opt-out program beginning in August 10, 2011. The opt-out program includes two
26 alternatives: (1) relocation of the smart meter on premises at the customer’s expense, or (2)
27
28

1 replacement of the smart meter by a non-communicating meter to be read on-site through a
2 probe. PGE estimated one-time installation costs for the non-network meter to be \$254.40, and
3 the ongoing monthly costs to be \$51.29. Similar to PG&E, the PGE program is a “no questions
4 asked” option. On July 26, 2011 OPUC considered PGE’s opt-out proposal during a public
5 meeting, as a Regular Agenda item. PGE representatives explained their opt-out criteria, costs,
6 and proposed tariff adjustments. The Oregon Staff supported the PGE proposal. The OPUC
7 approved the proposal during the meeting. The related tariff went into effect August 10, 2011,
8 and only two people have requested service under the tariff.

9 **IV. Conclusion**

10 Smart electricity meters are a key enabling technology for a “smart grid” that is expected
11 to become increasingly clean, efficient, reliable, and safe at a potentially lower cost to the
12 consumer. In 2010, the Commission authorized NVE to visit every premise in its service
13 territory and replace every existing meter with a communicating AMI meter. The
14 communicating AMI meter, therefore, is NVE’s standard metering arrangement. This program,
15 known as NVEnergize, has the potential to transform NVE’s relationship with its customers,
16 provide NVE critical information needed to operate its generation, transmission and distribution
17 facilities in a more reliable and cost effective manner, and give customers the information
18 necessary to make more informed decisions about energy usage. In short, NVEnergize, has the
19 potential to benefit Nevadans and advances the State’s energy policy.

20 Notwithstanding the fact that a communicating AMI meter is NVE’s standard metering
21 arrangement, NV Energy should provide a non-standard metering arrangement to any customer
22 who, for any reason, refuses to honor NVE’s rights under Rule 16. Any customer served through
23 a non-standard metering arrangement should be responsible for the cost of the arrangement.
24 NVE proposes the following initial and recurring charges for Alternative C, a non-
25 communicating AMI meter that records interval data, which is the option that is most consistent
26
27
28

1 with NVE’s obligations under its DOE assistance agreement, advances Nevada’s energy policy,
2 and has the lowest initial charge.

3

	NVE South	NVE North
4 Initial Charge	\$110.00	\$130.00
5 Monthly Charge	\$14.86	\$13.02

6

7 Dated and respectfully submitted this 28th day of December 2011.

8 Nevada Power Company d/b/a NV Energy
9 Sierra Pacific Power Company d/b/a NV Energy

10 /s/ Shawn M. Elicegui
11 Shawn M. Elicegui
12 Associate General Counsel
13 Nevada Bar No. 5939
14 6100 Neil Road
15 Reno, Nevada 89511

**Attachment 1 – Example of Revisions to Rule 16
Necessary to Implement a Non-Standard Metering Arrangement**

[Section]. Non-Standard Metering Arrangement

A non-standard metering arrangement is available to any Customer with 120/240 single phase service who does not desire to comply with Section D, Right of Access, to permit the Utility to install a communicating AMI meter on the Customer's Premises, except as noted below. After the Utility receives written notice from the Customer that the Customer does not intend to honor Utility's Right of Access for the purpose of installing a communicating AMI meter, Utility shall provide the Customer 30-day's written notice of Utility's intention to install a non-standard metering arrangement. The Utility shall assess a premises-specific One-Time Non-Standard Metering Charge (set forth in Schedule MC) for the installation and removal of the non-standard meter. The charge shall be included on the Customer's first bill following the installation of the non-standard metering arrangement. In addition, the Utility shall include the Recurring Non-Standard Metering Charge on the Customer's monthly bill (as specified in the Non-Standard Meter Rider) for the period during which the non-standard metering arrangement remains in place.

The non-standard metering arrangement consists of the installation of a non-communicating AMI meter selected by the Utility. As of December 2011, the Utility maintains a single, non-communicating AMI meter – the Landis+Gyr meter with the communications module removed from the meter.

[Section].1. Failure to Make Timely Payment

Any Customer who fails to make Timely Payment of the Customer's bill in accordance with the provisions of Rule 5(B) twice in any 12-month period shall not be eligible for a non-standard metering arrangement.

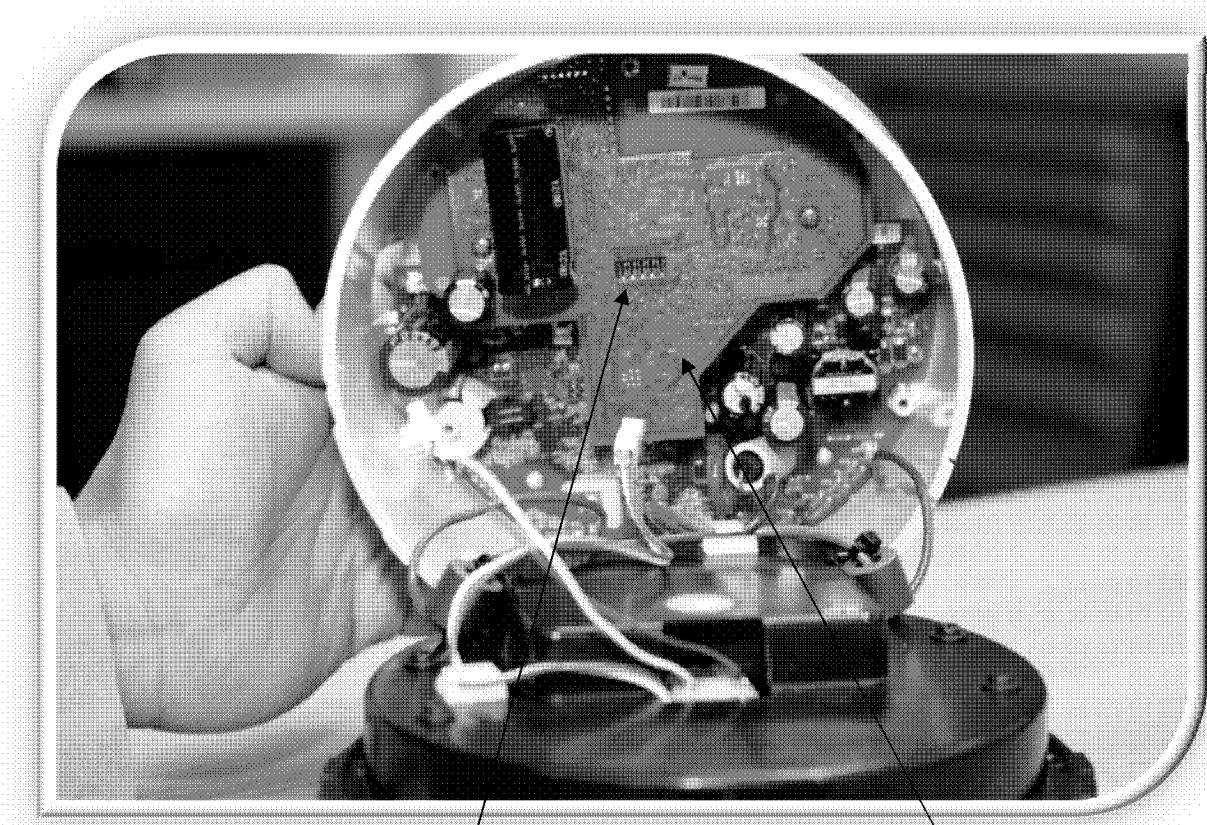
[Section].2. Evidence of Tamper

Where the acts of the Customer or the conditions on the Customer's Premises provide the Utility a reasonable belief that the Customer intends to defraud the Utility or the Customer tampers or interferes with the operation of the Utility's Meter, the Customer shall not be eligible for a non-standard metering arrangement.

**Attachment 2 – Landis+Gyr Meter with Communications
Disabled**

Picture 1 below shows a Landis+Gyr meter, the communications module inside the meter, with the 10-pin connectors connected.

Picture 1



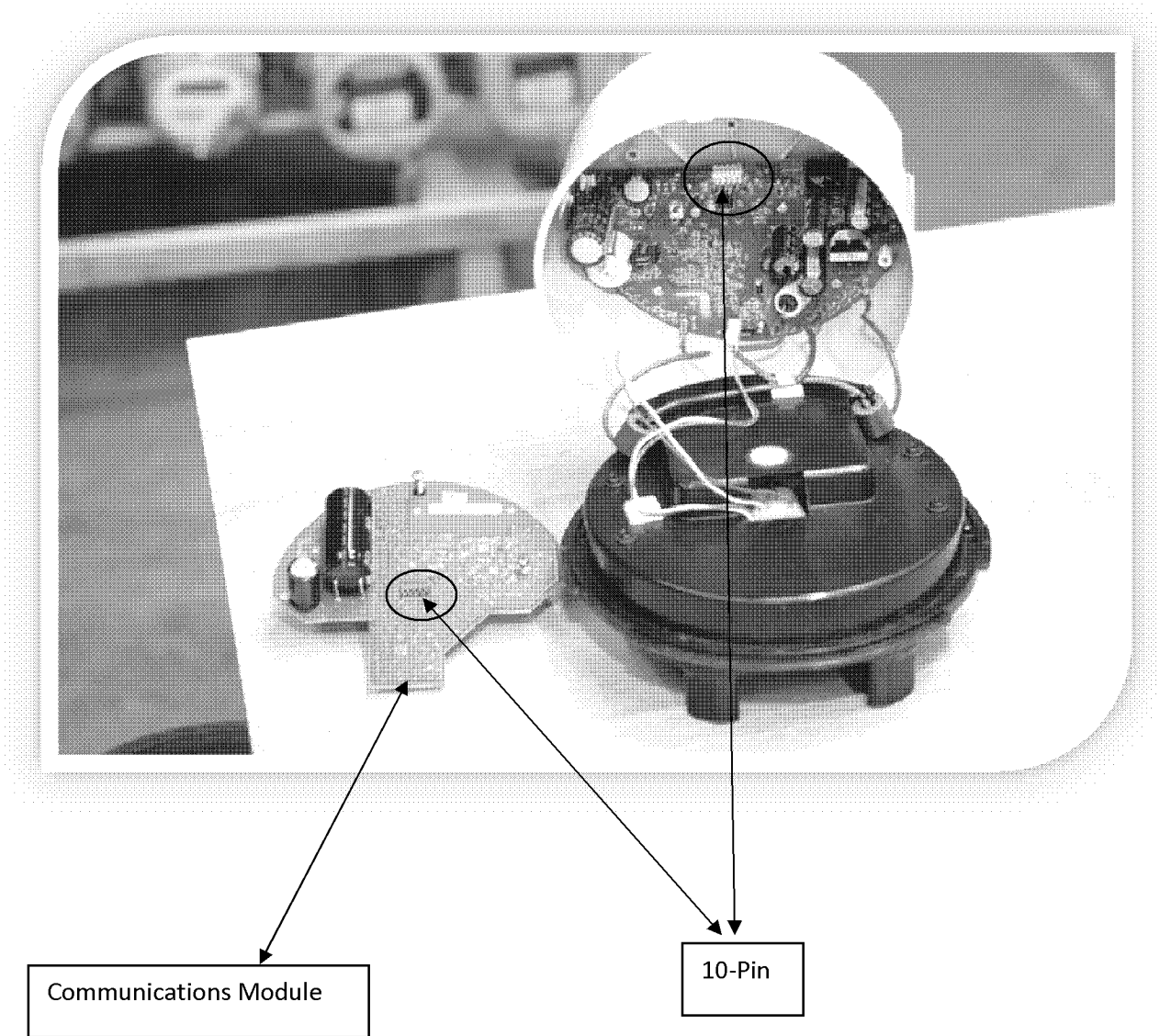
10-Pin

Communications Module

Picture 2 shows the L&G meter with the communications module removed from the meter. Because the way the communication module connects to the L+G meter, it can be removed from the meter. The 10-pin connector can be seen with the meter intact so that the Commission and others can verify that the communications module has been removed from the meter. The L&G meter will continue to record usage information accurately, perform disconnection operations, display the register read, and store interval data which can be when a meter reader probes the meter. The meter, in other words, will continue to function (but not communicate) when the communications module is removed.

The Communications module contains both the FlexNet and the ZigBee transmitters. NV Energy can store the communications modules and install the module in the L&G meter if necessary.

Picture 2



Attachment 3 – Correspondence from Itron



December 15, 2008

End of New Sales Announcement for Premierplus4 and G5 handhelds

Dear Premierplus4 Customer,

For over seven years Premierplus4 and G5 handheld computers have been the meter data collection solution of choice for many Utilities. As is true with all technology-based systems, new technological advances, parts scarcity and the introduction of next generation systems eventually leads to the end of product life cycles. That is currently the case with Premierplus4 and G5 handhelds. Parts availability for the G5 will become an issue by the end of 2009, and because Premierplus4 requires the G5, Itron will discontinue selling both of these products.

Itron has established December 31, 2009 as the End Of New Sales (EONS) date for both Premierplus4 and G5 handhelds. Itron is committed to our Premierplus4 and G5 handheld customers and will continue to provide contract maintenance support for these products for an additional three (3) years after the EONS. The End of Support (EOS) date for Premierplus4 and G5 handhelds will be December 31, 2012.

The Itron Field Collection System (FCS) and the Field Collector 200 (FC200) handheld computer is the next generation meter data collection solution from Itron. This solution is available now and has been developed with our Premierplus4 customers in mind. This Automated Meter Reading (AMR) system combines 30 years of Itron meter reading system expertise and extensive customer input to offer the business efficiencies and system reliability you have come to depend on from Itron. FCS is the premier, client server, meter data collection solution in the market today. It was designed to ensure an efficient and timely upgrade for our Premierplus4 customers by providing compatibility with your current meters, endpoints and mobile collection systems. FCS also eliminates the requirement of programming new file interfaces with the ability to import and export Premierplus4 MRI and MRE files. The FC200 handheld is ergonomically designed and runs on the Windows® CE .NET platform for ease of use in the field.

FCS with FC200 and Itron's Mobile Collection systems is the best of breed meter data collection solution available today. Its advanced features enable you to meet your meter data collection needs now and well into the future.

If you have any questions or if there is anything else we can do for you, please contact your Itron representative or call me at (509) 891-3236.

Sincerely,

Rich Layton
Product Manager
Itron, Inc.

Note: the information contained in this document is considered confidential to Itron and its customers. It is not intended for distribution beyond your company or organization.

Attachment 4

Estimated Implementation Costs – Non-Standard Metering Alternative A

Analog Meter

NVEnergize Non-Standard Metering Alternative A – Estimated Implementation Costs

Non-Standard Metering Alternative A involves the installation of an analog meter. Alternative A results in the replacement of a customer's existing meter with a tested and, when necessary, refurbished analog meter. In addition, Alternative A entails a premises visit to assess the condition of customer-owned facilities and the installation of new meter locking rings and seals.

NV Energy anticipates that both up-front and on-going operating costs will be incurred to facilitate Alternative A.

Up-front costs include:

- Installation labor
- Meter testing labor
- Customer support and application processing labor
- Ancillary meter supplies
- Customer communications materials
- Reinstallation of a standard smart meter at the time a customer served by a non-standard metering arrangement discontinues service

On-going operating costs include:

- Systems modifications
- Handheld purchases
- Meter reading costs
- Route analyst costs
- Billing CSR costs
- Materials costs
- Annual hardware maintenance costs
- Annual software maintenance costs

This document explains and justifies NV Energy's estimates of these costs.

Up-front Costs

Up-front costs include installation labor, meter testing labor, customer support and application processing labor, ancillary meter supplies, customer communications materials, and reinstallation of the standard smart meter.

Installation Labor

Since the installation of a non-standard metering arrangement falls outside of the established AMI meter deployment process, NV Energy will utilize NV Energy personnel rather than its contracted endpoint installer, Scope Services, to complete the non-standard metering arrangement. Moreover,

NVEnergize Non-Standard Metering Alternative A – Estimated Implementation Costs

because the non-standard metering arrangement likely will be available to new customers after NVE completes NVEnergize, estimated costs are based on the use of NVE personnel.

To install a tested and, when necessary, refurbished analog meter, a single NV Energy Service Technician will travel to each premise, complete the installation, and return to an NV Energy facility. While on site, the installer will inspect the premise for any signs of tampering or any unsafe conditions. Travel to a premise, completion of the installation, site inspection, and return to an NV Energy facility are expected to take 30 minutes each for a total time of 1.5 hours.

A Service Technician's hourly rate in the Nevada Power Company ("NPC") service territory is \$26.03 and in the Sierra Pacific Power Company ("SPPC") service territory is \$25.66. These rates are established by the respective collective bargaining unit agreements.

Labor loadings for each service territory vary for NPC and SPPC. These cost estimates used the average values for 2011 through October.

The labor loaded hourly rate is obtained by adding the labor loading to the hourly rate. For NPC, 79.2% of the hourly rate (\$26.03) is \$20.62. Therefore, the labor loaded hourly rate is \$46.65 (\$26.03 + \$20.62). Similarly for SPPC, 98.8% of the hourly rate (\$25.66) is \$25.36. Therefore, the labor loaded hourly rate is \$51.02 (\$25.66 + \$25.36).

Transportation costs associated with the travel time to and from the premise are accounted for via a transportation allocation. The average transportation allocation for the NPC is \$4.94 per hour and for the SPPC is \$8.89 per hour.

Similarly, supervision costs, the allocation of the cost of managing personnel, are accounted for via a supervision allocation. The average supervision allocation for NPC is 31.18% of labor and for SPPC is 45.39%. The SPPC allocation is a weighted average of the separate supervision allocations for gas and electric labor based on the percentage of electric meters and gas meters. The SPPC electric allocation is 53.18% while the gas allocation is 27.27%. SPPC has 363,100 electric meters and 156,000 gas meters. Supervision costs are a percentage of the hourly rate.

While NV Energy was awarded a Smart Grid Investment Grant ("SGIG") in the amount of \$139 million, installation costs associated with this non-standard metering arrangement alternative are not reimbursable via the SGIG.

The total installation cost for this alternative is the sum of the labor-loaded, hourly rate, the hourly transportation cost, and the hourly supervision cost multiplied by the number of hours to complete the installation. This is articulated as follows:

$$\text{SUM (labor-loaded hourly rate + hourly transportation cost + hourly supervision cost) x number of hours}$$

The following table lists the specific costs for each of NPC and SPPC.

NVEnergize Non-Standard Metering Alternative A – Estimated Implementation Costs

Cost Item	NPC	SPPC
Hourly rate	\$26.03	\$25.66
Labor loading	79.2%	98.8%
Labor-loaded hourly rate	\$46.65	\$51.02
Hourly transportation cost	\$4.94	\$8.89
Hourly supervision cost	\$8.12	\$11.65
Number of hours to complete installation	1.5	1.5
Total Installation Cost	\$89.56	\$107.33

Meter Testing Labor

Before installing an analog meter, NV Energy will test the meter in its shop testing facilities to ensure accuracy of measurement. This effort is expected to take 15 minutes per meter.

A Meter Tester’s hourly rate in both the NPC service territory and in the SPPC service territory is \$25.26. These rates are established by respective collective bargaining unit agreements.

Labor loadings for each service territory vary for NPC and SPPC. As noted above, the cost estimate uses the average values for 2011 through October.

The labor loaded hourly rate is obtained by adding the labor loading to the hourly rate. For NPC, 79.2% of the hourly rate (\$25.26) is \$20.01. Therefore, the labor loaded hourly rate is \$45.27(\$25.27 + \$20.01). Similarly for SPPC, 98.8% of the hourly rate (\$25.26) is \$24.96. Therefore, the labor loaded hourly rate is \$50.22 (\$25.26 + \$24.96).

Supervision costs, the allocation of the cost of managing personnel, are accounted for via a supervision allocation. The average supervision allocation for NPC is 31.18% of labor and for SPPC is 45.39%. The SPPC allocation is a weighted average of the separate supervision allocations for gas and electric labor based on the percentage of electric meters and gas meters. The SPPC electric allocation is 53.18% while the gas allocation is 27.27%. SPPC has 363,100 electric meters and 156,000 gas meters. Supervision costs are a percentage of the hourly rate.

While NV Energy was awarded a SGIG in the amount of \$139 million, meter testing costs associated with this non-standard metering arrangement are not reimbursable via the SGIG.

The total meter testing labor cost for this alternative is the sum of the labor-loaded, hourly rate and the hourly supervision cost multiplied by the number of hours to complete the installation. This is articulated as follows:

$$\text{SUM (labor-loaded hourly rate + hourly supervision cost) x number of hours}$$

The following table lists the specific costs for each of NPC and SPPC.

Cost Item	NPC	SPPC
Hourly rate	\$25.26	\$25.26
Labor loading	79.2%	98.8%

NVEnergize Non-Standard Metering Alternative A – Estimated Implementation Costs

Labor-loaded hourly rate	\$45.27	\$50.22
Hourly supervision cost	\$7.88	\$11.47
Number of hours to complete installation	0.25	0.25
Total Installation Cost	\$13.29	\$15.42

Customer Support and Application Processing

NV Energy’s call center will be responsible for communicating with customers about non-standard metering arrangement alternatives, establishing the billing for the one-time non-standard metering arrangement alternative cost, establishing the billing for the monthly ongoing cost of operations, and initiating a service request to install the non-standard metering arrangement.

NV Energy’s average cost per call center call through September 30, 2011 in NPC is \$4.41 and in SPPC is \$5.11. NV Energy believes that a call to discuss non-standard metering arrangement alternatives will be more complex than a typical call. In addition, the call center representative will be required to execute three different transactions (one-time billing, monthly billing, service request initiation). Given this, NV Energy estimates that the duration of a call to address alternative A will be four times the duration of the average call center call. Therefore, the cost to address a non-standard metering arrangement call will be four times the cost to address an average call or \$17.64 in NPC and \$20.44 in SPPC.

Ancillary Meter Supplies

During the installation of the analog meter, NV Energy will secure the meter via locking ring and seal. The locking ring is intended to physically prevent someone from removing the meter from the socket. The seal is another indicator of the meter being removed from the socket.

The unit price of a locking ring is \$9.00 and the unit price of a seal is \$0.17.

Customer Communications and Materials

NVEnergize conducts a customer communications plan with each AMI meter of module installation that includes mailing a letter to a premise within 30 days of anticipated meter or module installation, calling the customer within five days of anticipate installation, and leaving a door hanger after a successful installation or an installation attempt. NV Energy believes that such communications is critical to ensuring that customers are aware of and prepared for installation activities.

Under Rule 16, NVE provides any customer served through a non-standard metering arrangement a written notice 30 days before NVE installs the non-standard metering arrangement. NV Energy will conduct a similar communications effort with customers who demand a non-standard metering arrangement. NV Energy will mail customers information about the non-standard metering exchange within 30 days of exchange, will call customers within five days of the non-standard metering exchange as a reminder, and will leave a door-hanger to notify customers that the non-standard metering exchange has been completed.

NVEnergize Non-Standard Metering Alternative A – Estimated Implementation Costs

NV Energy incurs a cost of \$1.09 per mailing, \$0.10 per phone call, and \$0.06 per door hanger. Mailing costs include printing, postage, and envelope. Calls are executed via automated calling, also referred to as robo-call, and the cost is a contractual volume based amount. Door hanger costs include printing.

Reinstallation of a Standard Smart Meter

Because a communicating AMI meter is NVE’s standard metering arrangement, a customer who selects a non-standard metering arrangement should be responsible for the cost of returning NVE’s system to the standard configuration. Thus, NV Energy expects that an AMI enabled meter will eventually be deployed at each premise. NV Energy labor will be utilized to accomplish this task.

Using the same methodology and justification from the Installation Labor section of this document, the cost to reinstall a standard AMI enabled smart meter at a premise in the NPC service territory is \$89.56 and in SPPC service territory is \$107.33.

Total Up-front Costs

The total up-front costs are reflected on a cost per customer basis and are the sum of installation labor, meter testing labor, customer support and application processing labor, customer communications materials, and installation of standard smart meter.

The following table summarizes the up-front costs for each service territory:

Cost Item	NPC	SPPC
Installation labor	\$89.56	\$107.33
Meter testing labor	\$13.29	\$15.42
Customer support and application processing labor	\$17.64	\$20.44
Ancillary meter supplies	\$9.17	\$9.17
Customer communications materials	\$1.25	\$1.25
Reinstallation of standard smart meter	\$89.56	\$107.33
Total up-front costs	\$220.48	\$260.94

Ongoing Cost of Operations

NV Energy will incur monthly costs to enable non-standard metering alternative A. Monthly costs include systems modifications, handheld purchases, labor to manually read meters, costs to support meter reading, and the ongoing handheld and software maintenance fees.

- Systems Modifications
- Handheld Purchases
- Meter reading costs
- Route analyst and Meter Data Specialist costs
- Billing CSR costs
- Materials costs

NVEnergize Non-Standard Metering Alternative A – Estimated Implementation Costs

- Annual hardware maintenance costs
- Annual software maintenance costs

Systems Modifications

To enable non-standard metering arrangement alternative A, NV Energy will modify its Banner customer information and billing system, its MyAccount customer portal, and its manual meter reading system.

Modifications to Banner will address both the NPC and SPPC instances of this system and will enable the sign up of customers to a non-standard metering arrangement alternative and the billing of the non-standard metering arrangement alternative. Enabling sign up and billing are each expected to cost \$48,000 for a total cost of \$96,000.

The MyAccount portal will be modified by creating a form that allows customers to initiate a non-standard metering arrangement on-line. The cost to create this form is \$1,000.

NV Energy's current manual meter reading system is non-supported after December 31, 2012. With the implementation of AMI, NV Energy had planned to eliminate its manual meter reading system. To facilitate non-standard metering arrangement, manual meter reading capabilities remain necessary and the existing meter reading system must be replaced prior to December 31, 2012. Manual meter reading costs include software licensing costs of \$21,000, hardware (servers) costs of \$75,000, integrations costs of \$100,000, and vendor costs to implement the manual meter reading system of \$150,000.

The costs from each of these three system modifications total \$443,000 ($\$96,000 + \$1,000 + \$21,000 + \$75,000 + \$100,000 + \$150,000$) and are to be allocated proportionally based on the percent of expected non-standard metering arrangement customers to the NPC and SPPC service territories. The cost allocated to the NPC service territory is \$265,800 ($\$443,000 \times 4,500 / (4,500 + 3,000)$) and to the SPPC service territory is \$177,200 ($\$443,000 \times 3,000 / (4,500 + 3,000)$).

Handheld Purchases

To enable manual meter reading of the non-standard metering arrangements, NV Energy will purchase 20 handheld meter reading devices.

Four of the 20 handhelds will be located in NPC's Beltway facility where non-standard metering arrangement reading can be centrally located for the NPC service territory. The remaining 16 handhelds will be distributed across SPPC's dispersed district offices. Unit costs for handhelds are \$3,350.

Handheld customers for each service territory will be allocated to the expected non-standard metering arrangement customers in each territory. NPC handheld costs are \$13,400 (4 handhelds x \$3,350).

SPPC handheld costs are \$53,600 (16 handhelds x \$3,350).

Meter Reading Costs

To read the non-standard metering arrangement each month, a single NV Energy Service Technician will travel to the premise and record the register read into the handheld. NV Energy expects that five incremental Service Technicians will be required full-time to reach each of the 7,500 non-standard

NVEnergize Non-Standard Metering Alternative A – Estimated Implementation Costs

metering arrangements each month. Three of the Service Technicians will be required for the NPC service territory and two for the SPPC service territory.

A Service Technician’s hourly rate in the Nevada Power Corporation (NPC) service territory is \$26.03 and in the Sierra Pacific Power Corporation (SPPC) service territory is \$25.66. These rates are established by respective collective bargaining unit agreements.

Labor loadings for each service territory vary – 79.2% for the NPC and 98.8% for the SPPC. These rates are average values for 2011 through October.

The labor loaded hourly rate is obtained by adding the labor loading to the hourly rate. For NPC, 79.2% of the hourly rate (\$26.03) is \$20.62. Therefore, the labor loaded hourly rate is \$46.65 (\$26.03 + \$20.62). Similarly for SPPC, 98.8% of the hourly rate (\$25.66) is \$25.36. Therefore, the labor loaded hourly rate is \$51.02 (\$25.66 + \$25.36).

Transportation costs associated with the travel time to and from the premise are accounted for via a transportation allocation. The average transportation allocation for the NPC is \$4.94 per hour and for the SPPC is \$8.89 per hour.

The annual costs associated with each Service Technician are the sum of the labor-loaded, hourly rate and the hourly transportation cost multiplied by the number of hours each year (2,080) to read meters. This is articulated as follows:

$$\text{SUM (labor-loaded hourly rate + hourly transportation cost) x 2,080}$$

The following table lists the specific costs for each of NPC and SPPC.

Cost Item	NPC	SPPC
Hourly rate	\$26.03	\$25.66
Labor loading	79.2%	98.8%
Labor-loaded hourly rate	\$46.65	\$51.02
Hourly transportation cost	\$4.94	\$8.89
Number of hours each year	2,080	2,080
Total Annual Meter Reading Costs	\$321,943.87	\$249,214.00

Route Analyst and Meter Data Specialist Costs

A Route Analyst (NPC) and a Meter Data Specialist (SPPC) will be required to plan the daily work of the Service Technicians.

A Route Analyst’s hourly rate in the NPC service territory is \$27.88 and a Meter Data Specialist in the SPPC service territory is \$20.67. The NPC rate is based on a management position salary. The SPPC rate is established by collective bargaining unit agreement.

Labor loadings for each service territory vary – 79.2% for the NPC and 98.8% for the SPPC. These rates are average values for 2011 through October.

NVEnergize Non-Standard Metering Alternative A – Estimated Implementation Costs

The labor loaded hourly rate is obtained by adding the labor loading to the hourly rate. For NPC, 79.2% of the hourly rate (\$26.03) is \$20.62. Therefore, the labor loaded hourly rate is \$46.65 (\$26.03 + \$20.62). Similarly for SPPC, 98.8% of the hourly rate (\$20.67) is \$20.43. Therefore, the labor loaded hourly rate is \$41.10 (\$20.67 + \$20.43).

The annual costs associated with the Route Analyst and the Meter Data Specialist are the labor-loaded, hourly rate multiplied by the number of hours each year (2,080). This is articulated as follows:

$$\text{labor-loaded hourly rate} \times 2,080$$

The following table lists the specific costs for each of NPC and SPPC.

Cost Item	NPC	SPPC
Hourly rate	\$27.88	\$20.67
Labor loading	79.2%	98.8%
Labor-loaded hourly rate	\$49.98	\$41.10
Number of hours each year	2,080	2,080
Total Annual Route Analyst/Meter Data Specialist Costs	\$109,453.40	\$85,479.88

Billing CSR Costs

A Billing CSR (Senior classification) will be required to address and resolve exceptions that occur during the billing process for non-standard metering arrangement customers.

A Senior Billing CSR’s hourly rate in the NPC service territory is \$25.68 and is \$18.51 in the SPPC service territory. These rates are established by respective collective bargaining unit agreements.

Labor loadings for each service territory vary – 79.2% for the NPC and 98.8% for the SPPC. These rates are average values for 2011 through October.

The labor loaded hourly rate is obtained by adding the labor loading to the hourly rate. For NPC, 79.2% of the hourly rate (\$25.68) is \$20.35. Therefore, the labor loaded hourly rate is \$46.03 (\$25.68 + \$20.35). Similarly for SPPC, 98.8% of the hourly rate (\$18.51) is \$18.29. Therefore, the labor loaded hourly rate is \$36.80 (\$18.51 + \$18.29).

The annual costs associated with the Senior Billing CSR is the labor-loaded, hourly rate multiplied by the number of hours each year (2,080). This is articulated as follows:

$$\text{labor-loaded hourly rate} \times 2,080$$

The following table lists the specific costs for each of NPC and SPPC.

Cost Item	NPC	SPPC
Hourly rate	\$25.68	\$18.51
Labor loading	79.2%	98.8%

NVEnergize Non-Standard Metering Alternative A – Estimated Implementation Costs

Labor-loaded hourly rate	\$46.03	\$36.80
Number of hours each year	2,080	2,080
Total Annual Route Analyst/Meter Data Specialist Costs	\$47,867.31	\$38,273.65

Materials Costs

Annual materials costs to support monthly meter reading include uniforms, camelbacks (hydration), umbrellas and protective devices. The total cost of such materials is \$2,400 allocated by number of FTEs to NPC (3/5) and SPPC (2/5).

Annual Hardware Maintenance Costs

Annual maintenance costs associated with handhelds is contracted at 10% of the handheld costs in each service territory. Annual maintenance costs in NPC are \$1,340 (10% of \$13,400) and in SPPC are \$5,360 (10% of \$53,600).

Annual Software Maintenance Costs

Annual maintenance costs associated with the manual meter reading system software is contracted at 20% of the software license cost. License costs for each service territory are allocated based on percentage of non-standard metering arrangements in each service territory. Annual software maintenance costs in NPC are \$2,520 $((4,500 / (3,000 + 4,500)) \times .20 \times \$21,000)$ and in SPPC are \$1,680 $((3,000 / (3,000 + 4,500)) \times .20 \times \$21,000)$.

Total On-going Cost of Operations

The total on-going cost of operations is the sum of systems modifications, handheld purchases, manual meter reading costs, the route analyst costs, the meter reading materials, the annual handheld maintenance costs and the annual software maintenance costs divided by the number of customers served through a non-standard metering arrangements divided by 12.

This is articulated as follows:

$$\frac{\text{SUM (systems modifications + handheld purchases + annual manual meter reading costs + annual route analyst costs + support costs + annual maintenance costs)}}{(\text{Number of Non-Standard Metering Arrangements} \times 12)}$$

The following table summarizes the monthly costs for each service territory:

Cost Item	NPC	SPPC
Systems modifications	\$265,800	\$177,200
Handheld purchases	\$13,400	\$53,600
Annual Meter Reading Costs	\$321,943.87	\$249,214.00
Annual Route Analyst/Meter Data Specialist Costs	\$103,953.40	\$85,479.88
Billing CSR Costs	\$47,867.31	\$38,273.65
Annual Materials	\$1,440.00	\$960.00

NVEnergize Non-Standard Metering Alternative A – Estimated Implementation Costs

Annual Handheld Maintenance	\$1,340.00	\$6,160.00
Annual Software Maintenance	\$2,520.00	\$1,680.00
Number of non-standard metering arrangement customers	4,500	3,000
Number of months per year	12	12
Monthly On-going Cost of Operations	\$14.04	\$16.99

Attachment 5

Estimated Implementation Costs – Non-Standard Metering Alternative B

Digital Meter (No Interval Data)

Non-Standard Metering Alternative B – Estimated Implementation Costs

Non-Standard Metering Alternative B involves the installation of a digital meter with no interval data measurement capability. Alternative B results in the replacement of a customer's existing meter with a new, tested digital meter. In addition, Alternative B entails a premises visit to assess the condition of customer-owned facilities for safety and tamper purposes, and the installation of new meter locking rings and seals.

NV Energy anticipates that both up-front and on-going operating costs will be incurred to facilitate Alternative B.

Up-front costs include:

- Installation labor
- Customer support and application processing labor
- Meter and ancillary meter supplies
- Customer communications materials
- Reinstallation of a standard smart meter at the time a customer served by a non-standard metering arrangement discontinues service

On-going operating costs include:

- Systems modifications
- Handheld purchases
- Meter reading costs
- Route analyst costs
- Billing CSR costs
- Materials costs
- Annual hardware maintenance costs
- Annual software maintenance costs

This document explains and justifies NV Energy's estimates of these costs.

Up-front Costs

Up-front costs include installation labor, customer support and application processing labor, meter and ancillary meter supplies, customer communications materials, and reinstallation of standard smart meter.

Installation Labor

Since the installation of a non-standard metering arrangement falls outside of the established AMI meter deployment process, NV Energy will utilize NV Energy employees rather than its contracted endpoint installer, Scope Services, to complete the non-standard metering arrangement. Moreover,

Non-Standard Metering Alternative B – Estimated Implementation Costs

because the non-standard metering arrangement likely will be available to new customers after NVE completes NVEnergy, estimated costs are based on the use of NVE personnel.

To install the tested digital meter, a single NV Energy Service Technician will travel to each premise, complete the installation, and return to an NV Energy facility. While on site, the installer will inspect the premise for any signs of tampering or any unsafe conditions. Travel to a premise, completion of the installation, site inspection, and return to an NV Energy facility are expected to take 30 minutes each for a total time of 1.5 hours.

A Service Technician’s hourly rate in the Nevada Power Company (“NPC”) service territory is \$26.03 and in the Sierra Pacific Power Company (“SPPC”) service territory is \$25.66. These rates are established by respective collective bargaining unit agreements.

Labor loadings for each service territory vary – 79.2% for the NPC and 98.8% for the SPPC. These rates are average values for 2011 through October.

The labor loaded hourly rate is obtained by adding the labor loading to the hourly rate. For NPC, 79.2% of the hourly rate (\$26.03) is \$20.62. Therefore, the labor loaded hourly rate is \$46.65 (\$26.03 + \$20.62). Similarly for SPPC, 98.8% of the hourly rate (\$25.66) is \$25.36. Therefore, the labor loaded hourly rate is \$51.02 (\$25.66 + \$25.36).

Transportation costs associated with the travel time to and from the premise are accounted for via a transportation allocation. The average transportation allocation for the NPC is \$4.94 per hour and for the SPPC is \$8.89 per hour.

Similarly, supervision costs, the allocation of the cost of managing personnel, are accounted for via a supervision allocation. The average supervision allocation for NPC is 31.18% of labor and for SPPC is 45.39%. The SPPC allocation is a weighted average of the separate supervision allocations for gas and electric labor based on the percentage of electric meters and gas meters. The SPPC electric allocation is 53.18% while the gas allocation is 27.27%. SPPC has 363,100 electric meters and 156,000 gas meters. Supervision costs are a percentage of the hourly rate.

While NV Energy was awarded a Smart Grid Investment Grant (“SGIG”) in the amount of \$139 million, installation costs associated with this non-standard metering arrangement are not reimbursable via the SGIG.

The total installation cost for this alternative is the sum of the labor-loaded, hourly rate, the hourly transportation cost, and the hourly supervision cost multiplied by the number of hours to complete the installation. This is articulated as follows:

$$\text{SUM (labor-loaded hourly rate + hourly transportation cost + hourly supervision cost) x number of hours}$$

The following table lists the specific costs for each of NPC and SPPC.

Cost Item	NPC	SPPC
Hourly rate	\$26.03	\$25.66

Non-Standard Metering Alternative B – Estimated Implementation Costs

Labor loading	79.2%	98.8%
Labor-loaded hourly rate	\$46.65	\$51.02
Hourly transportation cost	\$4.94	\$8.89
Hourly supervision cost	\$8.12	\$11.65
Number of hours to complete installation	1.5	1.5
Total Installation Cost	\$89.56	\$107.33

Customer Support and Application Processing

NV Energy's call center will be responsible for communicating with customers about non-standard metering arrangement alternatives, establishing the billing for the one-time non-standard metering arrangement alternative cost, establishing the billing for the monthly ongoing cost of operations, and initiating a service request to install the non-standard metering arrangement.

NV Energy's average cost per call center call through September 30, 2011 in NPC is \$4.41 and in SPPC is \$5.11. NV Energy believes that a call to discuss non-standard metering arrangement alternatives will be more complex than a typical call. In addition, the call center representative will be required to execute three different transactions (one-time billing, monthly billing, service request initiation). Given this, NV Energy estimates that the duration of a call to address alternative B will be four times the duration of the average call center call. Therefore, the cost to address a non-standard metering arrangement call will be four times the cost to address an average call or \$17.64 in NPC and \$20.44 in SPPC.

Meter and Ancillary Meter Supplies

NV Energize will utilize a digital meter with no interval data capability. The unit price of this meter is \$24.00 per established meter procurement contracts. Sales tax of 8.1% or \$2.69 is applied for the NPC service territory and 7.725% or \$2.59 is applied to the SPPC service territory.

During the installation of the digital meter, NV Energy will secure the meter via locking ring and seal. The locking ring is intended to physically prevent someone from removing the meter from the socket. The seal is another indicator of the meter being removed from the socket. The unit price of a locking ring is \$9.00 and the unit price of a seal is \$0.17.

The following table lists the specific costs for each of NPC and SPPC.

Cost Item	NPC	SPPC
Meter	\$24.00	\$24.00
Sales Tax	\$2.69	\$2.59
Locking Ring	\$9.00	\$9.00
Seal	\$0.17	\$0.17
Total Meter and Ancillary Supplies Cost	\$35.86	\$35.73

Customer Communications and Materials

NVEnergize conducts a customer communications plan with each AMI meter of module installation that includes mailing a letter to a premise within 30 days of anticipated meter or module installation, calling the customer within five days of anticipate installation, and leaving a door hanger after a successful

Non-Standard Metering Alternative B – Estimated Implementation Costs

installation or an installation attempt. NV Energy believes that such communications is critical to ensuring that customers are aware of and prepared for installation activities.

Under Rule 16, NVE provides any customer served through a non-standard metering arrangement a written notice 30 days before NVE installs the non-standard metering arrangement. NV Energy will conduct a similar communications effort with customers who demand a non-standard metering arrangement. NV Energy will mail customers information about the non-standard metering exchange within 30 days of exchange, will call customers within five days of the non-standard metering exchange as a reminder, and will leave a door-hanger to notify customers that the non-standard metering exchange has been completed.

NV Energy incurs a cost of \$1.09 per mailing, \$0.10 per phone call, and \$0.06 per door hanger. Mailing costs include printing, postage, and envelope. Calls are executed via automated calling, also referred to as robo-call, and the cost is a contractual volume based amount. Door hanger costs include printing.

Reinstallation of a Standard Smart Meter

Because a communicating AMI meter is NVE’s standard metering arrangement, a customer who selects a non-standard metering arrangement should be responsible for the cost of returning NVE’s system to the standard configuration. Thus, NV Energy expects that an AMI enabled meter will eventually be deployed at each premise. NV Energy labor will be utilized to accomplish this task.

Using the same methodology and justification from the Installation Labor section of this document, the cost to reinstall a standard AMI enabled smart meter at a premise in the NPC service territory is \$89.56 and in SPPC service territory is \$107.33.

Total Up-front Costs

The total up-front costs are reflected on a cost per customer basis and are the sum of installation labor, meter testing labor, customer support and application processing labor, customer communications materials, and installation of standard smart meter.

The following table summarizes the up-front costs for each service territory:

Cost Item	NPC	SPPC
Installation labor	\$89.56	\$107.33
Customer support and application processing labor	\$17.64	\$20.44
Meter and ancillary meter supplies	\$35.86	\$35.73
Customer communications materials	\$1.25	\$1.25
Reinstallation of standard smart meter	\$89.56	\$107.33
Total up-front costs	\$233.88	\$272.09

Ongoing Cost of Operations

NV Energy will incur monthly costs to enable non-standard metering alternative B. Monthly costs include systems modifications, handheld purchases, labor to manually read meters, costs to support meter reading, and the ongoing handheld and software maintenance fees.

- Systems Modifications
- Handheld Purchases
- Meter reading costs
- Route analyst and Meter Data Specialist costs
- Billing CSR costs
- Materials costs
- Annual hardware maintenance costs
- Annual software maintenance costs

Systems Modifications

To enable non-standard metering arrangement alternative B, NV Energy will modify its Banner customer information and billing system, its MyAccount customer portal, and its manual meter reading system.

Modifications to Banner will address both the NPC and SPPC instances of this system and will enable the sign up of customers to a non-standard metering arrangement alternative and the billing of the non-standard metering arrangement alternative. Enabling sign up and billing are each expected to cost \$48,000 for a total cost of \$96,000.

The MyAccount portal will be modified by creating a form that allows customers to initiate a non-standard metering arrangement on-line. The cost to create this form is \$1,000.

NV Energy's current manual meter reading system is non-supported after December 31, 2012. With the implementation of AMI, NV Energy had planned to eliminate its manual meter reading system. To facilitate non-standard metering arrangement, manual meter reading capabilities remain necessary and the existing meter reading system must be replaced prior to December 31, 2012. Manual meter reading costs include software licensing costs of \$21,000, hardware (servers) costs of \$75,000, integrations costs of \$100,000, and vendor costs to implement the manual meter reading system of \$150,000.

The costs from each of these three system modifications total \$443,000 ($\$96,000 + \$1,000 + \$21,000 + \$75,000 + \$100,000 + \$150,000$) and are to be allocated proportionally based on the percent of expected non-standard metering arrangement customers to the NPC and SPPC service territories. The cost allocated to the NPC service territory is \$265,800 ($\$443,000 \times 4,500 / (4,500 + 3,000)$) and to the SPPC service territory is \$177,200 ($\$443,000 \times 3,000 / (4,500 + 3,000)$).

Handheld Purchases

To enable manual meter reading of the non-standard metering arrangements, NV Energy will purchase 20 handheld meter reading devices.

Non-Standard Metering Alternative B – Estimated Implementation Costs

Four of the 20 handhelds will be located in NPC’s Beltway facility where non-standard metering arrangement reading can be centrally located for the NPC service territory. The remaining 16 handhelds will be distributed across SPPC’s dispersed district offices. Unit costs for handhelds are \$3,350. Handheld customers for each service territory will be allocated to the expected non-standard metering arrangement customers in each territory. NPC handheld costs are \$13,400 (4 handhelds x \$3,350). SPPC handheld costs are \$53,600(16 handhelds x \$3,350).

Meter Reading Costs

To read the non-standard metering arrangement meter each month, a single NV Energy Service Technician will travel to the premise and record the register read into the handheld. NV Energy expects that five incremental Service Technicians will be required full-time to reach each of the 7,500 non-standard metering arrangement meters each month. Three of the Service Technicians will be required for the NPC service territory and two for the SPPC service territory.

A Service Technician’s hourly rate in the Nevada Power Corporation (NPC) service territory is \$26.03 and in the Sierra Pacific Power Corporation (SPPC) service territory is \$25.66. These rates are established by respective collective bargaining unit agreements.

Labor loadings for each service territory vary – 79.2% for the NPC and 98.8% for the SPPC. These rates are average values for 2011 through October.

The labor loaded hourly rate is obtained by adding the labor loading to the hourly rate. For NPC, 79.2% of the hourly rate (\$26.03) is \$20.62. Therefore, the labor loaded hourly rate is \$46.65 (\$26.03 + \$20.62). Similarly for SPPC, 98.8% of the hourly rate (\$25.66) is \$25.36. Therefore, the labor loaded hourly rate is \$51.02 (\$25.66 + \$25.36).

Transportation costs associated with the travel time to and from the premise are accounted for via a transportation allocation. The average transportation allocation for the NPC is \$4.94 per hour and for the SPPC is \$8.89 per hour.

The annual costs associated with each Service Technician are the sum of the labor-loaded, hourly rate and the hourly transportation cost multiplied by the number of hours each year (2,080) to read meters divided by the number of customers served through a non-standard metering arrangement divided by 12. This is articulated as follows:

$$\text{SUM (labor-loaded hourly rate + hourly transportation cost) x 2,080}$$

The following table lists the specific costs for each of NPC and SPPC.

Cost Item	NPC	SPPC
Hourly rate	\$26.03	\$25.66
Labor loading	79.2%	98.8%
Labor-loaded hourly rate	\$46.65	\$51.02

Non-Standard Metering Alternative B – Estimated Implementation Costs

Hourly transportation cost	\$4.94	\$8.89
Number of hours each year	2,080	2,080
Total Annual Meter Reading Costs	\$321,943.87	\$249,214.00

Route Analyst and Meter Data Specialist Costs

A Route Analyst (NPC) and a Meter Data Specialist (SPPC) will be required to plan the daily work of the Service Technicians.

A Route Analyst’s hourly rate in the NPC service territory is \$27.88 and a Meter Data Specialist in the SPPC service territory is \$20.67. The NPC rate is based on a management position salary. The SPPC rate is established by collective bargaining unit agreement.

Labor loadings for each service territory vary – 79.2% for the NPC and 98.8% for the SPPC. These rates are average values for 2011 through October.

The labor loaded hourly rate is obtained by adding the labor loading to the hourly rate. For NPC, 79.2% of the hourly rate (\$26.03) is \$20.62. Therefore, the labor loaded hourly rate is \$46.65 (\$26.03 + \$20.62). Similarly for SPPC, 98.8% of the hourly rate (\$20.67) is \$20.43. Therefore, the labor loaded hourly rate is \$41.10 (\$20.67 + \$20.43).

The annual costs associated with the Route Analyst and the Meter Data Specialist are the labor-loaded, hourly rate multiplied by the number of hours each year (2,080). This is articulated as follows:

$$\text{labor-loaded hourly rate} \times 2,080$$

The following table lists the specific costs for each of NPC and SPPC.

Cost Item	NPC	SPPC
Hourly rate	\$27.88	\$20.67
Labor loading	79.2%	98.8%
Labor-loaded hourly rate	\$49.98	\$41.10
Number of hours each year	2,080	2,080
Total Annual Route Analyst/Meter Data Specialist Costs	\$109,453.40	\$85,479.88

Billing CSR Costs

A Billing CSR (Senior classification) will be required to address and resolve exceptions that occur during the billing process for non-standard metering arrangement customers.

A Senior Billing CSR’s hourly rate in the NPC service territory is \$25.68 and is \$18.51 in the SPPC service territory. These rates are established by respective collective bargaining unit agreements.

Labor loadings for each service territory vary – 79.2% for the NPC and 98.8% for the SPPC. These rates are average values for 2011 through October.

Non-Standard Metering Alternative B – Estimated Implementation Costs

The labor loaded hourly rate is obtained by adding the labor loading to the hourly rate. For NPC, 79.2% of the hourly rate (\$25.68) is \$20.35. Therefore, the labor loaded hourly rate is \$46.03 (\$25.68 + \$20.35). Similarly for SPPC, 98.8% of the hourly rate (\$18.51) is \$18.29. Therefore, the labor loaded hourly rate is \$36.80 (\$18.51 + \$18.29).

The annual costs associated with the Senior Billing CSR is the labor-loaded, hourly rate multiplied by the number of hours each year (2,080). This is articulated as follows:

$$\text{labor-loaded hourly rate} \times 2,080$$

The following table lists the specific costs for each of NPC and SPPC.

Cost Item	NPC	SPPC
Hourly rate	\$25.68	\$18.51
Labor loading	79.2%	98.8%
Labor-loaded hourly rate	\$46.03	\$36.80
Number of hours each year	2,080	2,080
Total Annual Route Analyst/Meter Data Specialist Costs	\$47,867.31	\$38,273.65

Materials Costs

Annual materials costs to support monthly meter reading include uniforms, camelbacks (hydration), umbrellas and protective devices. The total cost of such materials is \$2,400 allocated by number of FTEs to NPC (3/5) and SPPC (2/5).

Annual Hardware Maintenance Costs

Annual maintenance costs associated with handhelds is contracted at 10% of the handheld costs in each service territory. Annual maintenance costs in NPC are \$1,340 (10% of \$13,400) and in SPPC are \$5,360 (10% of \$53,600).

Annual Software Maintenance Costs

Annual maintenance costs associated with the manual meter reading system software is contracted at 20% of the software license cost. License costs for each service territory are allocated based on percentage of non-standard metering arrangements in each service territory. Annual software maintenance costs in NPC are \$2,520 $(4,500 / (3,000 + 4,500) \times .20 \times \$21,000)$ and in SPPC are \$1,680 $((3,000 / (3,000 + 4,500)) \times .20 \times \$21,000)$.

Total On-going Cost of Operations

The total on-going cost of operations is the sum of systems modifications, handheld purchases, manual meter reading costs, the route analyst costs, the meter reading materials, the annual handheld maintenance costs and the annual software maintenance costs divided by the number of customers served through a non-standard metering arrangements divided by 12.

Non-Standard Metering Alternative B – Estimated Implementation Costs

This is articulated as follows:

$$\frac{\text{SUM (systems modifications + handheld purchases + annual manual meter reading costs + annual route analyst costs + support costs + annual maintenance costs)}}{(\text{Number of Non-Standard Metering Arrangements} \times 12)}$$

The following table summarizes the monthly costs for each service territory:

Cost Item	NPC	SPPC
Systems modifications	\$265,800	\$177,200
Handheld purchases	\$13,400	\$53,600
Annual Meter Reading Costs	\$321,943.87	\$249,214.00
Annual Route Analyst/Meter Data Specialist Costs	\$103,953.40	\$85,479.88
Billing CSR Costs	\$47,867.31	\$38,273.65
Annual Materials	\$1,440.00	\$960.00
Annual Handheld Maintenance	\$1,340.00	\$6,160.00
Annual Software Maintenance	\$2,520.00	\$1,680.00
Number of non-standard metering arrangement customers	4,500	3,000
Number of months per year	12	12
Monthly On-going Cost of Operations	\$14.04	\$16.99

Attachment 6

Estimated Implementation Costs – Non-Standard Metering Alternative C

Non-Communicating AMI Meter

Non-Standard Metering Alternative C involves the installation of a non-communicating AMI Meter. Alternative C results in the replacement of a customer's existing meter with a tested AMI meter in which NVE has removed the communications module. In addition, Alternative C entails a premises visit to assess the condition of customer-owned facilities and the installation of new meter locking rings and seals.

NV Energy anticipates that both up-front and on-going operating costs will be incurred to facilitate Alternative C.

Up-front costs include:

- Installation labor
- Meter modification labor
- Customer support and application processing labor
- Customer communications materials
- Reinstallation of a standard smart meter at the time a customer served by a non-standard metering arrangement discontinues service

On-going operating costs include:

- Systems modifications
- Handheld purchases
- Meter reading costs
- Route analyst costs
- Billing CSR costs
- Materials costs
- Annual hardware maintenance costs
- Annual software maintenance costs

This document explains and justifies NV Energy's estimates of these costs.

Up-front Costs

Up-front costs include installation labor, meter modification labor, customer support and application processing labor, customer communications materials, and reinstallation of standard smart meter.

Installation Labor

Since the installation of a non-standard metering arrangement falls outside of the established AMI meter deployment process, NV Energy will utilize NV Energy employees rather than its contracted endpoint installer, Scope Services, to complete the non-standard metering arrangement. Moreover, because the non-standard metering arrangement likely will be available to new customers after NVE completes NVEnergize, estimated costs are based on the use of NVE personnel.

To install a tested, non-communicating AMI meter, a single NV Energy Service Technician will travel to each premise, complete the installation, and return to an NV Energy facility. While on site, the installer will inspect the premise for any signs of tampering or any unsafe conditions. Travel to a premise, completion of the installation, site inspection and return to an NV Energy facility are expected to take 30 minutes each for a total time of 1.5 hours.

A Service Technician’s hourly rate in the Nevada Power Company (“NPC”) service territory is \$26.03 and in the Sierra Pacific Power Company (“SPPC”) service territory is \$25.66. These rates are established by respective collective bargaining unit agreements.

Labor loadings for each service territory vary – 79.2% for the NPC and 98.8% for the SPPC. These rates are average values for 2011 through October.

The labor loaded hourly rate is obtained by adding the labor loading to the hourly rate. For NPC, 79.2% of the hourly rate (\$26.03) is \$20.62. Therefore, the labor loaded hourly rate is \$46.65 (\$26.03 + \$20.62). Similarly for SPPC, 98.8% of the hourly rate (\$25.66) is \$25.36. Therefore, the labor loaded hourly rate is \$51.02 (\$25.66 + \$25.36).

Transportation costs associated with the travel time to and from the premise are accounted for via a transportation allocation. The average transportation allocation for the NPC is \$4.94 per hour and for the SPPC is \$8.89 per hour.

Similarly, supervision costs, the allocation of the cost of managing personnel, are accounted for via a supervision allocation. The average supervision allocation for NPC is 31.18% of labor and for SPPC is 45.39%. The SPPC allocation is a weighted average of the separate supervision allocations for gas and electric labor based on the percentage of electric meters and gas meters. The SPPC electric allocation is 53.18% while the gas allocation is 27.27%. SPPC has 363,100 electric meters and 156,000 gas meters. Supervision costs are a percentage of the hourly rate.

NV Energy was awarded a Smart Grid Investment Grant (“SGIG”) in the amount of \$139 million. This grant provides for a reimbursement of 50% of the electric meter costs associated with the NV Energy AMI system deployment. NV Energy has reviewed non-standard metering arrangement C with the Department of Energy, the administrator of the SGIG, and secured approval for 50% reimbursement of installation costs associated with this alternative.

The total installation cost for this alternative is the sum of the labor-loaded, hourly rate, the hourly transportation cost, and the hourly supervision cost multiplied by the number of hours to complete the installation multiplied by 50%. This is articulated as follows:

$$\text{SUM (labor-loaded hourly rate + hourly transportation cost + hourly supervision cost) x number of hours x 50\%}$$

The following table lists the specific costs for each of NPC and SPPC.

Cost Item	NPC	SPPC
Hourly rate	\$26.03	\$25.66

Labor loading	79.2%	98.8%
Labor-loaded hourly rate	\$46.65	\$51.02
Hourly transportation cost	\$4.94	\$8.89
Hourly supervision cost	\$8.12	\$11.65
Number of hours to complete installation	1.5	1.5
SGIG adjustment	50%	50%
Total Installation Cost	\$44.78	\$53.67

Meter Modification Labor

To disable the communications of an AMI meters, a single NV Energy Meter Electrician (NPC) or Meter Technician (SPPC) must disconnect the AMI module from its power source. Disconnecting the power source requires the removal of the meter cover in the NV Energy meter shop and the physical separation or unplugging of the AMI module. This effort is expected to take 30 minutes per meter.

A Meter Electrician's hourly rate in the Nevada Power Corporation (NPC) service territory is \$40.81 and a Meter Technician's hourly rate in the Sierra Pacific Power Corporation (SPPC) service territory is \$39.81. These rates are established by respective collective bargaining unit agreements.

Labor loadings for each service territory vary – 79.2% for the NPC and 98.8% for the SPPC. These rates are average values for 2011 through October.

The labor loaded hourly rate is obtained by adding the labor loading to the hourly rate. For NPC, 79.2% of the hourly rate (\$40.81) is \$32.33. Therefore, the labor loaded hourly rate is \$73.14 (\$40.81 + \$32.33). Similarly for SPPC, 98.8% of the hourly rate (\$39.81) is \$39.34. Therefore, the labor loaded hourly rate is \$79.15 (\$39.81 + \$39.34).

Supervision costs, the allocation of the cost of managing personnel, are accounted for via a supervision allocation. The average supervision allocation for NPC is 31.18% of labor and for SPPC is 45.39%. The SPPC allocation is a weighted average of the separate supervision allocations for gas and electric labor based on the percentage of electric meters and gas meters. The SPPC electric allocation is 53.18% while the gas allocation is 27.27%. SPPC has 363,100 electric meters and 156,000 gas meters. Supervision costs are a percentage of the hourly rate.

NV Energy was awarded a Smart Grid Investment Grant (SGIG) in the amount of \$139 million. This grant provides for a reimbursement of 50% of the electric meter costs associated with the NV Energy AMI system deployment. NV Energy has reviewed non-standard metering arrangement C with the Department of Energy, the administrator of the SGIG, and secured approval for 50% reimbursement of installation costs associated with this non-standard metering arrangement.

The total meter modification labor cost for this alternative is the sum of the labor-loaded, hourly rate and the hourly supervision cost multiplied by the number of hours to complete the installation multiplied by 50%. This is articulated as follows:

$$\text{SUM (labor-loaded hourly rate + hourly supervision cost) x number of hours x 50\%}$$

The following table lists the specific costs for each of NPC and SPPC.

Cost Item	NPC	SPPC
Hourly rate	\$40.81	\$39.81
Labor loading	79.2%	98.8%
Labor-loaded hourly rate	\$73.14	\$79.15
Hourly supervision cost	31.18% of \$40.81 = \$12.72	45.39% of \$39.81 = \$18.07
Number of hours to complete installation	0.5	0.5
SGIG adjustment	50%	50%
Total Installation Cost	\$21.47	\$24.31

Customer Support and Application Processing

NV Energy’s call center will be responsible for communicating with customers about non-standard metering arrangement alternatives, establishing the billing for the one-time non-standard metering arrangement alternative cost, establishing the billing for the monthly ongoing cost of operations, and initiating a service request to install the non-standard metering arrangement.

NV Energy’s average cost per call center call through September 30, 2011 in NPC is \$4.41 and in SPPC is \$5.11. NV Energy believes that a call to discuss non-standard metering arrangements will be more complex than a typical call. In addition, the call center representative will be required to execute three different transactions (one-time billing, monthly billing, service request initiation). Given this, NV Energy estimates that the duration of a call to address alternative C will be four times the duration of the average call center call. Therefore, the cost to address a non-standard metering arrangement call will be four times the cost to address an average call or \$17.64 in NPC and \$20.44 in SPPC.

Customer Communications and Materials

NVEnergize conducts a customer communications plan with each AMI meter of module installation that includes mailing a letter to a premise within 30 days of anticipated meter or module installation, calling the customer within five days of anticipate installation, and leaving a door hanger after a successful installation or an installation attempt. NV Energy believes that such communications is critical to ensuring that customers are aware of and prepared for installation activities.

Under Rule 16, NVE provides any customer served through a non-standard metering arrangement a written notice 30 days before NVE installs the non-standard metering arrangement. NV Energy will conduct a similar communications effort with customers who demand a non-standard metering arrangement. NV Energy will mail customers information about the non-standard metering exchange within 30 days of exchange, will call customers within five days of the non-standard metering exchange as a reminder, and will leave a door-hanger to notify customers that the non-standard metering exchange has been completed.

NV Energy incurs a cost of \$1.09 per mailing, \$0.10 per phone call, and \$0.06 per door hanger. Mailing costs include printing, postage, and envelope. Calls are executed via automated calling, also referred to as robo-call, and the cost is a contractual volume based amount. Door hanger costs include printing.

Reinstallation of a Standard Smart Meter

Because a communicating AMI meter is NVE’s standard metering arrangement, a customer who selects a non-standard metering arrangement should be responsible for the cost of returning NVE’s system to the standard configuration. Thus, NV Energy expects that an AMI enabled meter will eventually be deployed at each premise. NV Energy labor will be utilized to accomplish this task.

Using the same methodology and justification from the Installation Labor section of this document, the cost to reinstall a standard AMI enabled smart meter at a premise in the NPC service territory is \$44.78 and in SPPC service territory is \$53.67.

Total Up-front Costs

The total up-front costs are reflected on a cost per customer basis and are the sum of installation labor, meter modification labor, customer support and application processing labor, customer communications materials, and installation of standard smart meter.

The following table summarizes the up-front costs for each service territory:

Cost Item	NPC	SPPC
Installation labor	\$44.78	\$53.67
Meter modification labor	\$21.47	\$24.31
Customer support and application processing labor	\$17.64	\$20.44
Customer communications materials	\$1.25	\$1.25
Reinstallation of standard smart meter	\$44.78	\$53.67
Total up-front costs	\$129.92	\$153.33

Ongoing Cost of Operations

NV Energy will incur monthly costs to enable non-standard metering alternative C. Monthly costs include systems modifications, handheld purchases, labor to manually read meters, costs to support meter reading, and the ongoing handheld and software maintenance fees.

- Systems Modifications
- Handheld Purchases
- Meter reading costs
- Route analyst and Meter Data Specialist costs
- Billing CSR costs
- Materials costs
- Annual hardware maintenance costs

- Annual software maintenance costs

Systems Modifications

To enable non-standard metering arrangement alternative C, NV Energy will modify its Banner customer information and billing system, its MyAccount customer portal, and its manual meter reading system.

Modifications to Banner will address both the NPC and SPPC instances of this system and will enable the sign up of customers to a non-standard metering arrangement alternative and the billing of the non-standard metering arrangement alternative. Enabling sign up and billing are each expected to cost \$48,000 for a total cost of \$96,000.

The MyAccount portal will be modified by creating a form that allows customers to initiate a non-standard metering arrangement on-line. The cost to create this form is \$1,000.

NV Energy's current manual meter reading system is non-supported after December 31, 2012. With the implementation of AMI, NV Energy had planned to eliminate its manual meter reading system. To facilitate non-standard metering arrangement, manual meter reading capabilities remain necessary and the existing meter reading system must be replaced prior to December 31, 2012. Manual meter reading costs include software licensing costs of \$21,000, hardware (servers) costs of \$75,000, integrations costs of \$100,000, and vendor costs to implement the manual meter reading system of \$150,000.

The costs from each of these three system modifications total \$443,000 ($\$96,000 + \$1,000 + \$21,000 + \$75,000 + \$100,000 + \$150,000$) and are to be allocated proportionally based on the percent of expected non-standard metering arrangement customers to the NPC and SPPC service territories. The cost allocated to the NPC service territory is \$265,800 ($\$443,000 \times 4,500 / (4,500 + 3,000)$) and to the SPPC service territory is \$177,200 ($\$443,000 \times 3,000 / (4,500 + 3,000)$).

Handheld Purchases

To enable manual meter reading of the non-standard metering arrangements, NV Energy will purchase 20 handheld meter reading devices.

Four of the 20 handhelds will be located in NPC's Beltway facility where non-standard metering arrangement reading can be centrally located for the NPC service territory. The remaining 16 handhelds will be distributed across SPPC's dispersed district offices. Unit costs for handhelds are \$3,350 plus an additional \$500 per handheld for the probe device that will be used to download interval data from each meter. Handheld customers for each service territory will be allocated to the expected non-standard metering arrangement customers in each territory. NPC handheld costs are \$15,400 (4 handhelds x \$3,350 + 4 handhelds x \$500). SPPC handheld costs are \$61,600 (16 handhelds x \$3,350 + 16 handhelds x \$500).

Meter Reading Costs

To read the non-standard metering arrangement each month, a single NV Energy Service Technician will travel to the premise and download interval data from each meter via a probe into the handheld. NV Energy expects that five incremental Service Technicians will be required full-time to reach each of the

7,500 non-standard metering arrangements each month. Three of the Service Technicians will be required for the NPC service territory and two for the SPPC service territory.

A Service Technician’s hourly rate in the Nevada Power Corporation (NPC) service territory is \$26.03 and in the Sierra Pacific Power Corporation (SPPC) service territory is \$25.66. These rates are established by respective collective bargaining unit agreements.

Labor loadings for each service territory vary – 79.2% for the NPC and 98.8% for the SPPC. These rates are average values for 2011 through October.

The labor loaded hourly rate is obtained by adding the labor loading to the hourly rate. For NPC, 79.2% of the hourly rate (\$26.03) is \$20.62. Therefore, the labor loaded hourly rate is \$46.65 (\$26.03 + \$20.62). Similarly for SPPC, 98.8% of the hourly rate (\$25.66) is \$25.36. Therefore, the labor loaded hourly rate is \$51.02 (\$25.66 + \$25.36).

Transportation costs associated with the travel time to and from the premise are accounted for via a transportation allocation. The average transportation allocation for the NPC is \$4.94 per hour and for the SPPC is \$8.89 per hour.

The annual costs associated with each Service Technician are the sum of the labor-loaded, hourly rate and the hourly transportation cost multiplied by the number of hours each year (2,080) to read meters. This is articulated as follows:

$$\text{SUM (labor-loaded hourly rate + hourly transportation cost) x 2,080}$$

The following table lists the specific costs for each of NPC and SPPC.

Cost Item	NPC	SPPC
Hourly rate	\$26.03	\$25.66
Labor loading	79.2%	98.8%
Labor-loaded hourly rate	\$46.65	\$51.02
Hourly transportation cost	\$4.94	\$8.89
Number of hours each year	2,080	2,080
Total Annual Meter Reading Costs	\$321,943.87	\$249,214.00

Route Analyst and Meter Data Specialist Costs

A Route Analyst (NPC) and a Meter Data Specialist (SPPC) will be required to plan the daily work of the Service Technicians.

A Route Analyst’s hourly rate in the NPC service territory is \$27.88 and a Meter Data Specialist in the SPPC service territory is \$20.67. The NPC rate is based on a management position salary. The SPPC rate is established by collective bargaining unit agreement.

Labor loadings for each service territory vary – 79.2% for the NPC and 98.8% for the SPPC. These rates are average values for 2011 through October.

The labor loaded hourly rate is obtained by adding the labor loading to the hourly rate. For NPC, 79.2% of the hourly rate (\$26.03) is \$20.62. Therefore, the labor loaded hourly rate is \$46.65 (\$26.03 + \$20.62). Similarly for SPPC, 98.8% of the hourly rate (\$20.67) is \$20.43. Therefore, the labor loaded hourly rate is \$41.10 (\$20.67 + \$20.43).

The annual costs associated with the Route Analyst and the Meter Data Specialist are the labor-loaded, hourly rate multiplied by the number of hours each year (2,080). This is articulated as follows:

$$\text{labor-loaded hourly rate} \times 2,080$$

The following table lists the specific costs for each of NPC and SPPC.

Cost Item	NPC	SPPC
Hourly rate	\$27.88	\$20.67
Labor loading	79.2%	98.8%
Labor-loaded hourly rate	\$49.98	\$41.10
Number of hours each year	2,080	2,080
Total Annual Route Analyst/Meter Data Specialist Costs	\$109,453.40	\$85,479.88

Billing CSR Costs

A Billing CSR (Senior classification) will be required to address and resolve exceptions that occur during the billing process for non-standard metering arrangement customers.

A Senior Billing CSR’s hourly rate in the NPC service territory is \$25.68 and is \$18.51 in the SPPC service territory. These rates are established by respective collective bargaining unit agreements.

Labor loadings for each service territory vary – 79.2% for the NPC and 98.8% for the SPPC. These rates are average values for 2011 through October.

The labor loaded hourly rate is obtained by adding the labor loading to the hourly rate. For NPC, 79.2% of the hourly rate (\$25.68) is \$20.35. Therefore, the labor loaded hourly rate is \$46.03 (\$25.68 + \$20.35). Similarly for SPPC, 98.8% of the hourly rate (\$18.51) is \$18.29. Therefore, the labor loaded hourly rate is \$36.80 (\$18.51 + \$18.29).

The annual costs associated with the Senior Billing CSR is the labor-loaded, hourly rate multiplied by the number of hours each year (1,040 because each company will require 0.5 FTE). This is articulated as follows:

$$\text{labor-loaded hourly rate} \times 2,080$$

The following table lists the specific costs for each of NPC and SPPC.

Cost Item	NPC	SPPC
Hourly rate	\$25.68	\$18.51
Labor loading	79.2%	98.8%

Labor-loaded hourly rate	\$46.03	\$36.80
Number of hours each year	1,040	1,040
Total Annual Route Analyst/Meter Data Specialist Costs	\$47,867.31	\$38,273.65

Materials Costs

Annual materials costs to support monthly meter reading include uniforms, camelbacks (hydration), umbrellas and protective devices. The total cost of such materials is \$2,400 allocated by number of FTEs to NPC (3/5) and SPPC (2/5).

Annual Hardware Maintenance Costs

Annual maintenance costs associated with handhelds is contracted at 10% of the handheld costs in each service territory. Annual maintenance costs in NPC are \$1,540 (10% of \$15,400) and in SPPC are \$6,160 (10% of \$61,600).

Annual Software Maintenance Costs

Annual maintenance costs associated with the manual meter reading system software is contracted at 20% of the software license cost. License costs for each service territory are allocated based on percentage of non-standard metering arrangements in each service territory. Annual software maintenance costs in NPC are \$2,520 $((4,500/(3,000 + 4,500)) \times .20 \times \$21,000)$ and in SPPC are \$1,680 $((3,000/(3,000 + 4,500)) \times .20 \times \$21,000)$.

Total On-going Cost of Operations

The total on-going cost of operations is the sum of systems modifications, handheld purchases, manual meter reading costs, the route analyst costs, the meter reading materials, the annual handheld maintenance costs and the annual software maintenance costs divided by the number of customers served through a non-standard metering arrangements divided by 12.

This is articulated as follows:

$$\frac{\text{SUM (systems modifications + handheld purchases + annual manual meter reading costs + annual route analyst costs + support costs + annual maintenance costs)}}{(\text{Number of Non-Standard Metering Arrangements} \times 12)}$$

The following table summarizes the monthly costs for each service territory:

Cost Item	NPC	SPPC
Systems modifications	\$265,800	\$177,200
Handheld purchases	\$15,400	\$61,600
Annual Meter Reading Costs	\$321,943.87	\$249,214.00
Annual Route Analyst/Meter Data Specialist Costs	\$103,953.40	\$85,479.88
Billing CSR Costs	\$47,867.31	\$38,273.65
Annual Materials	\$1,440.00	\$960.00

Annual Handheld Maintenance	\$1,540.00	\$6,160.00
Annual Software Maintenance	\$2,520.00	\$1,680.00
Number of non-standard metering arrangement customers	4,500	3,000
Number of months per year	12	12
Monthly On-going Cost of Operations	\$14.08	\$17.24

Attachment 7

**Estimated Implementation Costs – Non-Standard Metering Alternative
Communicating AMI Meter with Limited Radio Transmissions**

NVEnergize Non-Standard Metering Alternative D – Estimated Implementation Costs

Non-Standard Metering Alternative D involves the installation of a communicating AMI Meter with limited radio transmissions. Alternative D results in the replacement of a customer's existing meter with a tested AMI meter that has limited radio transmissions. In addition, Alternative D entails a premises visit to assess the condition of customer-owned facilities and the installation of new meter locking rings and seals.

To ensure the continued health of the AMI meter, a transmission must occur at least once every 84 hours. This transmission provides a register reading via radio frequency (RF) transmission. Therefore, non-standard metering arrangement D merely limits RF transmissions. Alternative D does not eliminate RF transmissions.

NV Energy anticipates that both up-front and on-going operating costs will be incurred to facilitate Alternative D.

Up-front costs include:

- Installation labor
- Meter modification labor
- Customer support and application processing labor
- Customer communications materials
- Reinstallation of a standard smart meter at the time a customer served by a non-standard metering arrangement discontinues service

On-going operating costs include:

- Systems modifications

This document explains and justifies NV Energy's estimates of these costs.

Up-front Costs

Up-front costs include installation labor, meter modification labor, customer support and application processing labor, customer communications materials, and reinstallation of a standard smart meter.

Installation Labor

Since the installation of a non-standard metering arrangement falls outside of the established AMI meter deployment process, NV Energy will utilize NV Energy employees rather than its contracted endpoint installer, Scope Services, to complete the non-standard metering arrangement. Moreover, because the non-standard metering arrangement likely will be available to new customers after NVE completes NVEnergize, estimated costs are based on the use of NVE personnel.

To install a tested AMI meter with limited radio transmissions, a single NV Energy Service Technician will travel to each premise, complete the installation, and return to an NV Energy facility. While on site, the

NVEnergize Non-Standard Metering Alternative D – Estimated Implementation Costs

installer will inspect the premise for any signs of tampering or any unsafe conditions. Travel to a premise, completion of the installation, site inspection and return to an NV Energy facility are expected to take 30 minutes each for a total time of 1.5 hours.

A Service Technician’s hourly rate in the Nevada Power Company (“NPC”) service territory is \$26.03 and in the Sierra Pacific Power Company (“SPPC”) service territory is \$25.66. These rates are established by respective collective bargaining unit agreements.

Labor loadings for each service territory vary – 79.2% for the NPC and 98.8% for the SPPC. These rates are average values for 2011 through October.

The labor loaded hourly rate is obtained by adding the labor loading to the hourly rate. For NPC, 79.2% of the hourly rate (\$26.03) is \$20.62. Therefore, the labor loaded hourly rate is \$46.65 (\$26.03 + \$20.62). Similarly for SPPC, 98.8% of the hourly rate (\$25.66) is \$25.36. Therefore, the labor loaded hourly rate is \$51.02 (\$25.66 + \$25.36).

Transportation costs associated with the travel time to and from the premise are accounted for via a transportation allocation. The average transportation allocation for the NPC is \$4.94 per hour and for the SPPC is \$8.89 per hour.

Similarly, supervision costs, the allocation of the cost of managing personnel, are accounted for via a supervision allocation. The average supervision allocation for NPC is 31.18% of labor and for SPPC is 45.39%. The SPPC allocation is a weighted average of the separate supervision allocations for gas and electric labor based on the percentage of electric meters and gas meters. The SPPC electric allocation is 53.18% while the gas allocation is 27.27%. SPPC has 363,100 electric meters and 156,000 gas meters. Supervision costs are a percentage of the hourly rate.

NV Energy was awarded a Smart Grid Investment Grant (“SGIG”) in the amount of \$139 million. This grant provides for a reimbursement of 50% of the electric meter costs associated with the NV Energy AMI system deployment. NV Energy has reviewed non-standard metering arrangement D with the Department of Energy, the administrator of the SGIG, and secured approval for 50% reimbursement of installation costs associated with this non-standard metering arrangement.

The total installation cost for this alternative is the sum of the labor-loaded, hourly rate, the hourly transportation cost, and the hourly supervision cost multiplied by the number of hours to complete the installation multiplied by 50%. This is articulated as follows:

$$\text{SUM (labor-loaded hourly rate + hourly transportation cost + hourly supervision cost) x number of hours x 50\%}$$

The following table lists the specific costs for each of NPC and SPPC.

Cost Item	NPC	SPPC
Hourly rate	\$26.03	\$25.66
Labor loading	79.2%	98.8%
Labor-loaded hourly rate	\$46.65	\$51.02

NVEnergize Non-Standard Metering Alternative D – Estimated Implementation Costs

Hourly transportation cost	\$4.94	\$8.89
Hourly supervision cost	\$8.12	\$11.65
Number of hours to complete installation	1.5	1.5
SGIG adjustment	50%	50%
Total Installation Cost	\$44.78	\$53.67

Meter Modification Labor

To reduce radio transmissions, NVE will incur labor costs to disable ZigBee communications. This effort is expected to take 30 minutes per meter.

A Meter Electrician’s hourly rate in the Nevada Power Company (“NPC”) service territory is \$40.81 and a Meter Technician’s hourly rate in the Sierra Pacific Power Company (“SPPC”) service territory is \$39.81. These rates are established by respective collective bargaining unit agreements.

Labor loadings for each service territory vary – 79.2% for the NPC and 98.8% for the SPPC. These rates are average values for 2011 through October.

The labor loaded hourly rate is obtained by adding the labor loading to the hourly rate. For NPC, 79.2% of the hourly rate (\$40.81) is \$32.33. Therefore, the labor loaded hourly rate is \$73.14 (\$40.81 + \$32.33). Similarly for SPPC, 98.8% of the hourly rate (\$39.81) is \$39.34. Therefore, the labor loaded hourly rate is \$79.15 (\$39.81 + \$39.34).

Supervision costs, the allocation of the cost of managing personnel, are accounted for via a supervision allocation. The average supervision allocation for NPC is 31.18% of labor and for SPPC is 45.39%. The SPPC allocation is a weighted average of the separate supervision allocations for gas and electric labor based on the percentage of electric meters and gas meters. The SPPC electric allocation is 53.18% while the gas allocation is 27.27%. SPPC has 363,100 electric meters and 156,000 gas meters. Supervision costs are a percentage of the hourly rate.

NV Energy was awarded a Smart Grid Investment Grant (“SGIG”) in the amount of \$139 million. This grant provides for a reimbursement of 50% of the electric meter costs associated with the NV Energy AMI system deployment. NV Energy has reviewed non-standard metering arrangement D with the Department of Energy, the administrator of the SGIG, and secured approval for 50% reimbursement of installation costs associated with this non-standard metering arrangement.

The total meter modification labor cost for this alternative is the sum of the labor-loaded, hourly rate and the hourly supervision cost multiplied by the number of hours to complete the installation multiplied by 50%. This is articulated as follows:

$$\text{SUM (labor-loaded hourly rate + hourly supervision cost) x number of hours x 50\%}$$

The following table lists the specific costs for each of NPC and SPPC.

NVEnergize Non-Standard Metering Alternative D – Estimated Implementation Costs

Cost Item	NPC	SPPC
Hourly rate	\$40.81	\$39.81
Labor loading	79.2%	98.8%
Labor-loaded hourly rate	\$73.14	\$79.15
Hourly supervision cost	\$12.72	\$18.07
Number of hours to complete installation	0.5	0.5
SGIG adjustment	50%	50%
Total Installation Cost	\$21.47	\$24.31

Customer Support and Application Processing

NV Energy’s call center will be responsible for communicating with customers about non-standard metering arrangement alternatives, establishing the billing for the one-time non-standard metering arrangement alternative cost, establishing the billing for the monthly ongoing cost of operations, and initiating a service request to install the non-standard metering arrangement.

NV Energy’s average cost per call center call through September 30, 2011 in NPC is \$4.41 and in SPPC is \$5.11. NV Energy believes that a call to discuss non-standard metering arrangement alternatives will be more complex than a typical call. In addition, the call center representative will be required to execute three different transactions (one-time billing, monthly billing, service request initiation). Given this, NV Energy estimates that the duration of a call to address alternative D will be four times the duration of the average call center call. Therefore, the cost to address a non-standard metering arrangement call will be four times the cost to address an average call or \$17.64 in NPC and \$20.44 in SPPC.

Customer Communications and Materials

NVEnergize conducts a customer communications plan with each AMI meter of module installation that includes mailing a letter to a premise within 30 days of anticipated meter or module installation, calling the customer within five days of anticipate installation, and leaving a door hanger after a successful installation or an installation attempt. NV Energy believes that such communications is critical to ensuring that customers are aware of and prepared for installation activities.

Under Rule 16, NVE provides any customer served through a non-standard metering arrangement a written notice 30 days before NVE installs the non-standard metering arrangement. NV Energy will conduct a similar communications effort with customers who demand a non-standard metering arrangement. NV Energy will mail customers information about the non-standard metering exchange within 30 days of exchange, will call customers within five days of the non-standard metering exchange as a reminder, and will leave a door-hanger to notify customers that the non-standard metering exchange has been completed.

NV Energy incurs a cost of \$1.09 per mailing, \$0.10 per phone call, and \$0.06 per door hanger. Mailing costs include printing, postage, and envelope. Calls are executed via automated calling, also referred to as robo-call, and the cost is a contractual volume based amount. Door hanger costs include printing.

NVEnergize Non-Standard Metering Alternative D – Estimated Implementation Costs

Reinstallation of a Standard Smart Meter

Because a communicating AMI meter is NVE’s standard metering arrangement, a customer who selects a non-standard metering arrangement should be responsible for the cost of returning NVE’s system to the standard configuration. Thus, NV Energy expects that an AMI enabled meter will eventually be deployed at each premise. NV Energy labor will be utilized to accomplish this task.

Using the same methodology and justification from the Installation Labor section of this document, the cost to reinstall a standard AMI enabled smart meter at a premise in the NPC service territory is \$44.78 and in SPPC service territory is \$53.67.

Total Up-front Costs

The total up-front costs are reflected on a cost per customer basis and are the sum of installation labor, meter modification labor, customer support and application processing labor, customer communications materials, and systems modifications.

The following table summarizes the up-front costs for each service territory:

Cost Item	NPC	SPPC
Installation labor	\$44.78	\$53.67
Meter modification labor	\$21.47	\$24.31
Customer support and application processing labor	\$17.64	\$20.44
Customer communications materials	\$1.25	\$1.25
Reinstallation of a standard smart meter	\$44.78	\$53.67
Total up-front costs	\$129.92	\$153.33

Ongoing Cost of Operations

NV Energy will incur monthly costs to enable non-standard metering alternative D. Monthly costs are limited to systems modifications.

Systems Modifications

To enable non-standard metering arrangement D, NV Energy will modify its Banner customer information and billing system and its MyAccount customer portal.

Modifications to Banner will address both the NPC and SPPC instances of this system and will enable the sign up of customers to a non-standard metering arrangement alternative and the billing of the non-standard metering arrangement alternative. Enabling sign up and billing are each expected to cost \$48,000 for a total cost of \$96,000.

The MyAccount portal will be modified by creating a form that allows customers to initiate a non-standard metering arrangement on-line. The cost to create this form is \$1,000.

NVEnergize Non-Standard Metering Alternative D – Estimated Implementation Costs

The costs from each of these three system modifications total \$97,000 (\$96,000 + \$1,000) and are to be allocated proportionally based on the percent of expected non-standard metering arrangement customers to the NPC and SPPC service territories. The cost allocated to the NPC service territory is \$58,200 ($\$97,000 \times 4,500 / (4,500 + 3,000)$) and to the SPPC service territory is \$38,800 ($\$97,000 \times 3,000 / (4,500 + 3,000)$).

Total On-going Cost of Operations

The total on-going cost of operations is the systems modifications costs divided by the number of customers served through a non-standard metering arrangement divided by 12.

This is articulated as follows:

$$\frac{\text{systems modifications costs}}{(\text{Number of Non-Standard Metering Arrangements} \times 12)}$$

The following table summarizes the monthly costs for each service territory:

Cost Item	NPC	SPPC
Systems modifications	\$58,200	\$38,800
Number of Non-Standard Metering Arrangement customers	4,500	3,000
Number of months per year	12	12
Monthly On-going Cost of Operations	\$1.08	\$1.08

Attachment 8
Proposed Charges for Non-Standard Metering Arrangements and
Marginal Cost Rationale

Development of Alternative Non-Standard Metering Arrangement Marginal Cost Estimates and Rates

Overview

In response to Question 9 in the Second Request for Comments (Docket No. 11-10007), requesting “The proposed upfront and monthly fees/rates to be paid by ratepayers under each of the scenarios”, a preliminary cost study was performed. The charges developed for this response are designed to collect the full cost of the non-standard metering alternatives defined to date to protect customers with standard meter installations from subsidizing those who demand a non-standard metering arrangement.

The four Non-Standard Metering Arrangements discussed in the procedural order in this case were analyzed; Alternative A (Analog Meter), Alternative B (Digital Meter, No Interval Data), Alternative C (Non-Communicating AMI Meter), and Alternative D (Communicating AMI Meter with Limited Radio Transmissions). NVE had less than three weeks to develop cost estimates, and despite best efforts to identify all the costs associated with each non-standard metering arrangement, there are costs that could not be completely defined and others that have not yet been identified. The detailed cost estimates that have been developed in this preliminary cost analysis were utilized to develop both an up-front charge and the basis for an on-going charge. These charges are conservative in the sense that other costs yet to be identified would likely increase the charges offered in this filing. The viability and detailed costs of each of the non-standard metering arrangements is discussed elsewhere.

To develop the on-going charge, the detailed costs were input into marginal cost templates modeled from the portion of the last approved Marginal Cost of Service studies for each utility that develop marginal customer cost. The compliance marginal costs studies (NPC Docket No. 11-06006; SPC Docket No. 10-06001) were used.

The detailed cost estimates were grouped into two categories to develop the two charges. These are Up-front Costs and Ongoing (Incremental Recurring) Costs. If the Commission approves a non-standard metering arrangement, the Company proposes that a premises-specific One-Time Non-Standard Charge be added to Schedule MC (Miscellaneous Charges) with a reference to Rule 16, similar to a Remote Meter Charge. The revenue from this charge would be accounted as Other Revenue similar to the other charges contained in Schedule MC. The Company proposes that the Incremental Recurring Costs be stated as a monthly ongoing charge in a new non-standard metering arrangement rider. These monthly charges would be in addition to a customer’s Basic Service Charge. The Company would propose that the Up-front Costs and Monthly Costs be updated in GRC filings if the costs materially change.

Upfront Costs

The up-front costs are the identifiable one-time costs and include the Non-Standard Meter Installation Costs, Meter Testing and Processing, and Customer Communications. The costs also include the cost of returning NVE’s network to the standard condition, which means the installation of a standard communicating AMI meter. This is necessary so that when a customer who has a non-standard metering arrangement exits the premises and NV Energy reinstalls the standard meter, the new customer or all customers will not be held responsible for these costs. In developing the charge, the costs were reduced to reflect a credit for the standard planned (en-route) installation of the communicating AMI meter that would apply to all customers.

The total estimated up-front charge for each alternative is on the following pages of this attachment. The up-front charge for the AMI meter non-standard metering arrangements are approximately 60% of the cost for the analog or digital alternatives since the standard meter, which is reimbursed by the Department of Energy, is used with a non-standard installation.

Incremental Recurring Costs

The identifiable ongoing cost estimates were input into the Compliance marginal cost templates for NV Energy North and South. These costs include the incremental cost of the meter. The Analog alternative assumes that the total cost of the meter is the refurbishment and testing of the meter and the AMI alternatives do not include an incremental meter cost since they use a modified version of the Standard meter. These costs also include the incremental System Costs that have been defined as detailed in the Opt-Out Cost Study. An economic carrying charge (plus General Plant and Administrative and General (A&G) Loadings) is applied to these costs consistent with the methodology approved for developing marginal customer costs for each utility.

Incremental Recurring Costs also include the incremental increase in ongoing Customer Accounts and Services costs (such as manual meter reading) detailed in the Study. These costs are stated on a per customer basis assuming an estimated number of opt-out customers. The applicable A&G loadings and working capital loadings are applied, consistent with the approved marginal cost studies. Certain loading factors that are not applicable (such as Meter Related Expense and Uncollectible Expense in the South MCS) are set at zero.

The estimated total annual ongoing cost per customer is shown for on the following pages. These total costs are divided by 12 to calculate the estimated monthly marginal cost and charge. A distribution reconciliation factor from the most recent Compliance Statement O is applied to this monthly cost to show, for comparison purposes, the reconciled monthly cost. However, since the distribution reconciliation factor is driven by total distribution marginal costs and the historical revenue requirement for the total distribution system at each utility and the fact that this charge is only related to the non-standard installation of the meter, the Company proposes that the full marginal cost be used to determine the monthly charge. We also note that for NPC the two values are similar.

The results show that monthly costs are fairly uniform for the Alternatives A, B and C. However, monthly costs of option Alternative D are very small since this meter would transmit usage information every 84 hours, and manual meter reading and other associated costs are not applicable.

Summary of Preliminary Non-Standard Metering Arrangement Charge Analysis

	Alternative A	Alternative B	Alternative C	Alternative D
	Analog	Digital Meter, No Interval Data	Non- Communicating AMI Meter	Communicating AMI Meter with Limited Radio Transmissions
North				
Upfront Charges				
Cost per NSMA Customer	\$ 212.95	\$ 212.95	\$ 129.93	\$ 129.93
Proposed Upfront Charge	\$ 210.00	\$ 210.00	\$ 130.00	\$ 130.00
Recurring Charges				
Marginal Cost	\$ 13.27	\$ 13.40	\$ 13.02	\$ 0.15
Reconciled Cost	\$ 7.69	\$ 7.77	\$ 7.54	\$ 0.09
South				
Upfront Charge				
Cost per NSMA Customer	\$ 178.03	\$ 178.03	\$ 109.93	\$ 109.93
Proposed Upfront Charge	\$ 180.00	\$ 180.00	\$ 110.00	\$ 110.00
Recurring Charges				
Marginal Cost	\$ 15.18	\$ 15.39	\$ 14.86	\$ 0.19
Reconciled Cost	\$ 13.12	\$ 13.30	\$ 12.84	\$ 0.17

Preliminary Calculation of Potential NSMA Charges (South)							
Line No.	Category	Factor Docket No. 10-06001	Alternative A Analog	Alternative A Digital Meter, No Interval Data	Alternative C Non- Communicating AMI Meter	Alternative D Communicating AMI Meter with Limited Radio Transmissions	Line No.
5							5
6	Number of NSMA Customers		4,500	4,500	4,500	4,500	6
7	Percent of Total NSMA Customers	4,500 / 7,500	60.0%	60.0%	60.0%	60.0%	7
8							8
9	Upfront Costs per NSMA Customer						9
10	Non-Standard Meter Installation Costs		\$ 89.56	\$ 89.56	\$ 44.78	\$ 44.78	10
11	Meter testing & processing		\$ 17.64	\$ 17.64	\$ 39.11	\$ 39.11	11
12	Customer Communications		\$ 1.25	\$ 1.25	\$ 1.25	\$ 1.25	12
13	Reinstallation of Standard Smart Meter		\$ 89.56	\$ 89.56	\$ 44.78	\$ 44.78	13
14	Credit for standard planned enroute installation		\$ (19.99)	\$ (19.99)	\$ (19.99)	\$ (19.99)	14
15	Total Upfront Costs per NSMA Customer		\$ 178.03	\$ 178.03	\$ 109.93	\$ 109.93	15
16							16
17	Incremental Recurring Costs						17
18	Incremental Meter Cost		\$22.46	\$35.86	\$0.00	\$0.00	18
19							19
20	System Costs (per NSMA customer)						20
21	Banner upgrade		\$12.80	\$12.80	\$12.80	\$12.80	21
22	Portal		\$0.13	\$0.13	\$0.13	\$0.13	22
23	Manual meter reading system		\$46.13	\$46.13	\$46.13	\$0.00	23
24	Handhelds (16 North and 4 South handhelds)		\$2.98	\$2.98	\$3.42	\$0.00	24
25	Annual incremental materials		\$0.32	\$0.32	\$0.32	\$0.00	25
26	Annual Licensing requirements		\$0.86	\$0.86	\$0.90	\$0.00	26
27	Total System Costs per NSMA Customer		\$63.22	\$63.22	\$63.71	\$12.93	27
28							28
29	Total Investment per NSMA Customer		\$85.68	\$99.08	\$63.71	\$12.93	29
30							30
31	With General Plant Loading	1.0450	\$89.54	\$103.54	\$66.58	\$13.52	31
32							32
33	Annual Economic Charge Related to Capital Investment	16.53%					33
34	A&G Loading	0.56%					34
35	Total:	17.09%					35
36	Annualized Costs		\$15.30	\$17.69	\$11.38	\$2.31	36
37							37
38	Customer Accounts and Services Expenses		\$105.28	\$105.28	\$105.28	\$0.00	38
39	Meter-Related O&M Expense		\$0.00	\$0.00	\$0.00	\$0.00	39
40	Total		\$105.28	\$105.28	\$105.28	\$0.00	40
41	With A&G Loading	1.5827	\$166.63	\$166.63	\$166.63	\$0.00	41
42							42
43	Uncollectible Accounts Expense		\$0.00	\$0.00	\$0.00	\$0.00	43
44	Total Customer-Related Cost		\$181.93	\$184.32	\$178.01	\$2.31	44
45							45
46	Materials and Supplies	0.76%	\$0.68	\$0.79	\$0.51	\$0.10	46
47	Prepayments	0.69%	\$0.62	\$0.71	\$0.46	\$0.09	47
48	Customer-Related Cash Working Capital	0.86%	\$1.44	\$1.44	\$1.44	\$0.00	48
49	Total Working Capital		\$2.74	\$2.94	\$2.41	\$0.19	49
50							50
51	Revenue Requirement for Working Capital	10.48%	\$0.29	\$0.31	\$0.25	\$0.02	51
52							52
53	Total Customer-Related Marginal Cost		\$182.22	\$184.63	\$178.26	\$2.33	53
54							54
55	Marginal Monthly Cost per NSMA Customer		\$15.18	\$15.39	\$14.86	\$0.19	55

Preliminary Calculation of Potential NSMA Charges (North)

Line No.	Category	Factor Docket No. 10-06001	Alternative A Analog	Alternative A Digital Meter, No Interval Data	Alternative C Non- Communicating AMI Meter	Alternative D Communicating AMI Meter with Limited Radio Transmissions	Line No.
5							5
6	Number of NSMA Customers		3,000	3,000	3,000	3,000	6
7	Percent of Total NSMA Customers	3,000 / 7,500	40.0%	40.0%	40.0%	40.0%	7
8							8
9	Upfront Costs per NSMA Customer						9
10	Non-Standard Meter Installation Costs		\$ 107.33	\$ 107.33	\$ 53.67	\$ 53.67	10
11	Meter testing & processing		\$ 20.44	\$ 20.44	\$ 44.75	\$ 44.75	11
12	Customer Communications		\$ 1.25	\$ 1.25	\$ 1.25	\$ 1.25	12
13	Reinstallation of Standard Smart Meter		\$ 107.33	\$ 107.33	\$ 53.67	\$ 53.67	13
14	Credit for standard planned enroute installation		\$ (23.40)	\$ (23.40)	\$ (23.40)	\$ (23.40)	14
15	Total Upfront Costs per NSMA Customer		\$ 212.95	\$ 212.95	\$ 129.93	\$ 129.93	15
16							16
17	Incremental Recurring Costs						17
18	Incremental Meter Cost		\$24.59	\$35.73	\$0.00	\$0.00	18
19							19
20	System Costs (per NSMA customer)						20
21	Banner upgrade		\$12.80	\$12.80	\$12.80	\$12.80	21
22	Portal		\$0.13	\$0.13	\$0.13	\$0.13	22
23	Manual meter reading system		\$46.13	\$46.13	\$46.13	\$0.00	23
24	Handhelds (16 North and 4 South handhelds)		\$17.87	\$17.87	\$20.53	\$0.00	24
25	Annual incremental materials		\$0.32	\$0.32	\$0.32	\$0.00	25
26	Annual Licensing requirements		\$2.35	\$2.35	\$2.61	\$0.00	26
27	Total System Costs per NSMA Customer		\$79.60	\$79.60	\$82.53	\$12.93	27
28							28
29	Total Investment per NSMA Customer		\$104.19	\$115.33	\$82.53	\$12.93	29
30							30
31	With General Plant Loading	5.85%	\$110.28	\$122.08	\$87.36	\$13.69	31
32	Econ Carrying Charge	12.54%	12.54%	12.54%	12.54%	12.54%	32
33	With A&G Loading	0.8613%	13.40%	13.40%	13.40%	13.40%	33
34							34
35	Annualized Cost		\$14.78	\$16.36	\$11.71	\$1.84	35
36							36
37	<u>Customer Accounts and Service</u>						37
38	Customer Accounts and Services		\$124.32	\$124.32	\$124.32	\$0.00	38
39	With A&G Loading	15.39%	\$143.45	\$143.45	\$143.45	\$0.00	39
40							40
41	Customer-related Costs Exc. Working Capital		\$158.23	\$159.81	\$155.16	\$1.84	41
42							42
43	<u>Working Capital</u>						43
44	Materials & Supplies	0.88%	\$0.97	\$1.07	\$0.77	\$0.12	44
45	Cash Working Capital Plant-related	-0.26%	(\$0.29)	(\$0.32)	(\$0.23)	(\$0.04)	45
46	O&M-related	5.99%	\$8.60	\$8.60	\$8.60	\$0.00	46
47	Total		\$9.28	\$9.35	\$9.14	\$0.08	47
48							48
49	Revenue Requirement	11.19%	\$1.04	\$1.05	\$1.02	\$0.01	49
50							50
51							51
52							52
53	Total Customer-Related Marginal Cost		\$159.27	\$160.86	\$156.18	\$1.84	53
54							54
55	Marginal Monthly Cost per NSMA Customer		\$13.27	\$13.40	\$13.02	\$0.15	55

1 **CERTIFICATE OF SERVICE**

2
3 I hereby certify that I have served the foregoing **NEVADA POWER COMPANY**
4 **D/B/A NV ENERGY AND SIERRA PACIFIC POWER COMPANY D/B/A NV**
5 **ENERGY'S COMMENTS** in Docket No. 11-10007 upon all parties of record in this
6 proceeding by electronic service to the following:

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23 DATED this 28th day of December, 2011.

24 /s/ Connie Silveira
25 Connie Silveira
26 Sierra Pacific Power Company
27 Nevada Power Company
28