

Special Agenda 04-12; Item No. 2A; Draft Order for discussion at agenda

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**THIS ORDER IS NOT A FINAL ORDER AND MAY BE SUBSTANTIALLY REVISED
PRIOR TO ENTRY OF A FINAL ORDER BY THE PUBLIC UTILITIES COMMISSION
OF NEVADA**

BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA

Investigation regarding NV Energy's Advanced Service)
Delivery Meter Program a/k/a Smart Meter and its)
implementation.)
_____)

Docket No. 11-10007

At a special session of the Public Utilities
Commission of Nevada, held at its offices
on February 29, 2012.

PRESENT: Chairman Alaina Burtenshaw
Commissioner Rebecca D. Wagner
Commissioner David Noble
Assistant Commission Secretary Breanne Potter

ORDER

The Public Utilities Commission of Nevada ("Commission") makes the following
findings and conclusions:

I. INTRODUCTION

The Commission opened an investigation regarding Nevada Power Company's d/b/a NV
Energy and Sierra Pacific Power Company's d/b/a NV Energy (collectively, "NV Energy")
Advanced Service Delivery Meter Program a/k/a Smart Meter ("smart meter") and its
implementation.

II. SUMMARY

The Commission approves the Report on NV Energy's Advanced Service Delivery Meter
Program in Attachment 1 as outlined in this Order.

III. PROCEDURAL HISTORY

- On October 25, 2011, the Commission opened an investigation regarding NV Energy's smart meter program and its implementation. This matter has been designated as Docket No. 11-10007.

DOCUMENT REVIEW AND APPROVAL ROUTING

DRAFTED BY: Nancy Wenzel

FINAL DRAFT ON 2, 22, 12 AT 12:00 P.M.

REVIEWED & APPROVED BY: _____ DATE _____

ADMIN / ASST. (_____) _____ / _____

COMM / COUNSEL AP for JP _____ 2, 22, 12

SECRETARY / ASST. SEC. _____ / _____

OTHER (_____) _____ / _____

- The investigation is conducted by the Commission pursuant to the Nevada Revised Statutes (“NRS”) and the Nevada Administrative Code (“NAC”) Chapters 233B, 703, and 704, including but not limited to, NRS 704.120.
- On November 2, 2011, the Commission issued a Notice of Investigation Regarding NV Energy’s Advanced Service Delivery Program a/k/a Smart Meter and Its Implementation, Notice of Request for Comments, and Notice of Workshop (“Notice”).
- On or before November 18, 2011, the Commission received written comments from interested persons regarding smart meter concerns in the following areas: health and safety; privacy and security; accuracy and reliability; and customer service as it specifically relates to notification, installation, and NV Energy call backs regarding smart meters.
- On December 2, 2011, NV Energy filed reply comments responding to the issues raised in initial comments and addressing specific questions in the notice.
- On December 6, 2011, the Commission conducted a workshop to discuss written comments and reply comments filed with the Commission in order to identify the issues and concerns related to smart meter implementation.
- On December 12, 2011, the Commission issued a Notice of Second Request for Comments and Notice of Workshop.
- On December 28, 2011, NV Energy filed comments regarding proposals for ratepayers to opt-out of installation of a smart meter and addressing specific questions in the notice.
- On January 12, 2012, the Commission issued an Interim Order on customer service issues related to smart meter implementation.
- On or before January 13, 2012, the Commission received written reply comments from interested persons regarding the opt-out proposals provided by NV Energy.
- On January 17, 2012, the Commission received the Response of NV Energy pursuant to the direction provided by the Hearing Officer at the December 6, 2011 workshop.
- On January 18, 2012, the Commission conducted a workshop to discuss written comments and reply comments filed with the Commission regarding NV Energy’s opt-out proposals.
- On January 23, 2012, NV Energy made a Compliance Filing with the Commission pursuant to the Interim Order.
- On February 14, 2012, the Regulatory Operations Staff (“Staff”) of the Commission filed a memorandum regarding NV Energy’s Compliance Filing.

IV. COMMISSION DISCUSSION AND FINDINGS

1. The Hearing Officer issued a Report on NV Energy’s Advanced Service Delivery Meter Program (“Report”), attached hereto and incorporated herein as Attachment 1. The Report provides an overview of the Commission’s approval of NV Energy’s smart meter program; smart meter concerns in the areas of health and safety, privacy and security, accuracy and reliability and customer service; and proposals for ratepayers to opt-out of installation of a smart meter.

2. The Commission agrees with the findings and conclusions of the Report and finds that it is in the public interest to approve the Report.

THEREFORE, it is ORDERED that:

1. The Report on NV Energy’s Advanced Service Delivery Meter Program in Attachment 1 is APPROVED.

Directives:

3. Within sixty days of the issuance of this Order, NV Energy shall file a Trial Opt-out Tariff with the Commission consistent with the recommendations in the Report.

4. Failure to conform to the directives in this Order may subject NV Energy to administrative fines pursuant to NRS 703.380.

5. The Commission may correct errors that may have occurred in the drafting or issuance of this Order.

By the Commission,

ALAINA BURTENSHAW, Chairman

REBECCA D. WAGNER, Commissioner

DAVID NOBLE, Commissioner

Attest: _____
BREANNE POTTER,
Assistant Commission Secretary

Dated: Carson City, Nevada

(SEAL)

DRAFT

ATTACHMENT 1

BEFORE THE PUBLIC UTILITIES COMMISSION OF NEVADA

Investigation regarding NV Energy’s Advance Service)
Delivery Meter Program a/k/a Smart Meter and its) Docket No. 11-10007
implementation)
_____)

**REPORT ON NV ENERGY’S
ADVANCE SERVICE DELIVERY METER PROGRAM**

I. INTRODUCTION

The Public Utilities Commission of Nevada (“Commission”) opened an investigation regarding Nevada Power Company’s d/b/a NV Energy and Sierra Pacific Power Company’s d/b/a NV Energy (collectively “NV Energy”) Advanced Service Delivery (“ASD”) Meter Program a/k/a Smart Meters and its implementation.

In the first Request for Comments, the Commission asked for comments from interested persons and reply comments from NV Energy regarding smart meter concerns in the following areas: (1) Health and Safety; (2) Privacy and Security; (3) Accuracy and Reliability; and (4) Customer Service.¹ In the second Request for Comments, the Commission asked NV Energy to provide a proposal for ratepayers to opt-out of installation of a smart meter and reply comments from interested persons.

II. SUMMARY

NV Energy should offer to customers who demand a non-standard meter a digital meter capable of drive-by reading.

III. BACKGROUND

The Commission authorized NV Energy to proceed with its ASD program after a thorough and complete investigation of the program. In February 2010, Nevada Power Company filed its 2010-2029 Triennial Integrated Resource Plan (“IRP”) in Docket No. 10-02009. In March 2010, Sierra Pacific Power Company filed an Amendment to its 2008-2027 IRP in Docket No. 10-03023. These dockets were consolidated with Docket No. 10-03022. The filings requested approval of NV Energy’s ASD program pursuant to Nevada Revised Statutes (“NRS”) 704.741 and Nevada Administrative Code (“NAC”) 704.925. The Regulatory Operations Staff (“Staff”) of the Commission, the Attorney General’s Bureau of Consumer Protection (“BCP”) and several other parties completed a thorough and complete review of NV Energy’s ASD program and the Commission held a full evidentiary hearing regarding the program.² The Commission also held two consumer sessions on May 10, 2010, in order to receive public comments.

¹On January 12, 2012, the Commission issued an Interim Order addressing customer service issues related to smart meter implementation (“Interim Order”).

² December 2, 2011, Comments of NV Energy at 6.

DOCUMENT REVIEW AND APPROVAL ROUTING

DRAFTED BY: Nancy Wenzel

FINAL DRAFT ON 2/22/11 AT 12:00 P.M.

REVIEWED & APPROVED BY:	DATE
<input type="checkbox"/> ADMIN / ASST. (_____) _____	_____
<input checked="" type="checkbox"/> COMCH / COUNSEL <u>AP for JP</u>	<u>2/22/12</u>
<input type="checkbox"/> SECRETARY / ASST. SEC. _____	_____
<input type="checkbox"/> OTHER (_____) _____	_____

As stated in the Commission's Order dated July 30, 2010, in Docket Nos. 10-02009, 10-03022, and 10-03023 ("Docket No. 10-02009 Order"), NV Energy's ASD program involved the development of a fully-integrated advanced metering infrastructure ("AMI"), a meter data management system ("MDMS"), and a demand response management system. NV Energy estimated that the total project costs will be \$301 million. Of the total costs, \$138 million of matching funds will be provided by the U.S. Department of Energy ("DOE") through its Smart Grid Investment Grant Program ("SGIG").³ This funding was part of the American Reinvestment and Recovery Act ("ARRA").⁴

The AMI portion of the program will involve the replacement of almost all of NV Energy's 1.35 million electric meters with new, solid-state electric meters. The new meters feature integrated AMI communications, integrated remote disconnect/reconnect, and integrated Zigbee communications. Additionally, NV Energy proposed to add communications modules to approximately 156,000 gas meters.⁵

ASD will allow automated meter reading and remote electric service activation and electric service termination. The meters will communicate through wireless communications on Federal Communication Commission ("FCC") frequency with the 144 towers that will be constructed inside substations. At the substation the information will enter NV Energy's fiber-optic facilities.⁶

The MDMS will interact with the AMI and other existing meter reading applications to convert the data into information, and then deliver the information to the proper NV Energy information system. The MDMS will deliver the billing determinants to the Banner CIS system. The MDMS will ultimately become the system of record for base metering data.⁷

The AMI and MDMS will permit meter reads at 15 minute intervals. Additionally, NV Energy will have the capability to communicate with the meters which will allow meter readings on demand and allow NV Energy to initiate and terminate service remotely.⁸

The ASD program will include a demand response ("DR") component. NPC currently operates the 120 MW Cool Share DR program controlling the air conditioning load of approximately 45,000 customers through the use of both direct load control switches and two-way Programmable Control Thermostats. ASD will enable the Cool Share program to scale up to 177 MW under current plans, measure and verify individual load reductions, and implement dynamic pricing programs.⁹

The record in Docket No. 10-02009 et al. identified and examined eight major risks involving NV Energy's ASD program:

³ Neither NV Energy's grant, nor its ASD program, is part of a military research project. (See Response of NV Energy filed on January 17, 2012.)

⁴ Docket No. 10-02009 Order ¶ 176.

⁵ Docket No. 10-02009 Order ¶ 177.

⁶ Docket No. 10-02009 Order ¶ 178.

⁷ Docket No. 10-02009 Order ¶ 179.

⁸ Docket No. 10-02009 Order ¶ 180.

⁹ Docket No. 10-02009 Order ¶ 181.

1. Technological Risks: Are the technologies reliable and mature enough to provide the service required?
2. Deployment and Customer Acceptance Risks: Are the risks associated with the accelerated deployment of 1.4 million meters over three years acceptable and will customers accept these meters are reliable and accurate?
3. Consumer Behavior Study Risks: Are the terms and conditions of the Consumer Behavior Study reasonable and is the study justified?
4. Customer Privacy: have the potential impacts of the proposed technology on customer privacy been identified and are the proper controls in place?
5. Cyber Security: Have cyber security issues been addressed by NV Energy?
6. Consumer Protection: Are there adequate safeguards in place to ensure that the new system does not result in a degradation of consumer protections?
7. Cost and Budget Risks: What are the cost risks associated with this proposal and how will they be distributed?
8. Benefit Risks: What are the benefits associated with this proposal and how will these benefits be accounted for?¹⁰

Based on the record developed in Docket No. 10-02009 et al., the Commission accepted NV Energy's ASD program, subject to the limitations set forth in the order. The Commission reminded NV Energy that it is responsible for executing the project in a reasonable manner so that "benefits flow to the Companies' customers in a manner that is equitable and commensurate with the risks involved in this endeavor. Failure to demonstrate that the benefits of this program are reasonably realized could result in a rate base adjustment and/or expense adjustment in future general rate cases."¹¹

The Commission ordered NV Energy to provide a semi-annual report regarding the progress of the ASD program ("ASD Semi-Annual Status Report"), including "[t]he plans, results and evaluations of all tests conducted (during the reporting period) on accuracy, reliability and security of ASD physical and software components and as a system." NV Energy filed ASD Semi-Annual Status Reports on February 11, 2011, August 3, 2011, and February 7, 2012.¹²

The Commission also directed NV Energy to systematically review their existing customer privacy policies. The review was required to describe how NV Energy addresses customer privacy organizationally, the current privacy policies, and the adequacy of these policies in light of ASD. NV Energy was ordered to file a report addressing the extent to which NV Energy's privacy policies comport with the high-level principles proposed by the National Institute of Standards and Technology ("NIST") privacy subgroup and the Electronic Privacy Information Center ("EPIC"), applicable federal statutes, the NRS, and the NAC within 120 days.¹³ NV Energy filed an ASD Privacy Protection Report on November 24, 2010.

¹⁰ Docket No. 10-02009 Order ¶ 183.

¹¹ Docket No. 10-02009 Order ¶ 305.

¹² Docket No. 10-02009 Order ¶ 227.

¹³ Docket No. 10-02009 Order ¶ 250.

The Commission approved the “concept” of a dynamic pricing trial but did not, however, approve the specific details in Docket No. 10-02009 et al.¹⁴ Instead, the Commission conducted a separate proceeding in Docket Nos. 10-08014 and 10-08015 to implement the Nevada Dynamic Pricing Trial. The Commission held two consumer sessions on December 14 and 16, 2010, in order to receive public comments. Again, the Commission held a full evidentiary hearing and issued an Order on March 14, 2011, approving the terms and conditions of a dynamic pricing trial. The record of the hearing demonstrates that NV Energy’s dynamic pricing trial is completely voluntary; no customer will have to participate in the trial and no customer will be required to move to time-of-use or critical peak pricing rates.¹⁵

The Commission also conducted a separate investigation regarding the use of remote disconnections and reconnections that will be enabled by ASD. At the conclusion of the investigation in Docket No. 10-07024, the Commission adopted regulations enhancing the Consumer Bill of Rights.¹⁶ The regulations protect customers’ rights, define the terms and conditions under which NV Energy may remotely terminate service, and require NV Energy to reconnect service within strict parameters.¹⁷

In accordance with Section 1252 of the 2005 Energy Policy Act and the 2007 Energy Independence and Security Act¹⁸, NV Energy was required to offer and the Commission was required to consider whether or not it is appropriate for NV Energy to provide and install time-based meters and communication devices for each of their customers which enable customers to participate in time-based pricing rate schedules and other demand response programs. Pursuant to NRS 704.751, the Commission exercised its authority over NV Energy’s ASD program as part of NV Energy’s IRP filing to increase its supply of electricity or decrease the demands made on its system by its customers. The Commission conducted three separate proceedings to review different elements of the program, conducted several consumer sessions and workshops to receive public input, and previously determined that the program was in the public interest.

Based on comments received by the Commission regarding NV Energy’s implementation of the ASD program, the Commission opened the instant investigation pursuant to NRS 704.120.

IV. HEALTH AND SAFETY

Comments from the General Public

The comments request that the Commission address the potential health risks of smart meters. The majority of the health concerns expressed were about adding another layer of radio frequencies (“RF”) to homes that will emit RF signals throughout the day and night. There are no FCC safety standards for long-term exposure to RF and, therefore, the Commission should

¹⁴ Docket No. 10-02009 Order ¶ 239.

¹⁵ December 2, 2011, Comments of NV Energy at 19.

¹⁶ NAC 704.302 to 704.390.

¹⁷ December 2, 2011, Comments of NV Energy at 20.

¹⁸ 16 U.S.C. § 2621(d) (2012.)

impose a moratorium on the installation of smart meters to allow for a thorough scientific review.

Specific health concerns that were raised include the following:

1. The World Health Organization (“WHO”) classification of RF as a Class 2B carcinogen. These comments allege that smart meters can cause the following health issues: heart arrhythmia, fertility problems, DNA damage, decreased melatonin, changes in the blood, and brain wave alteration.
2. Health-related complaints received in Arizona and California about: nausea and flu-like symptoms, insomnia, ringing in the ears, migraines, anxiety, depression, hair loss, accelerated aging of the skin, uncontrollable sweating, heart palpitations, mental confusion, and potentially fatal health risks for the elderly, children, and pets.
3. Specific health symptoms experienced after the installation of smart meters on their property or their neighbor’s property including frequent low-level headaches, insomnia, and ringing in the ears.
4. Interference with medical devices and resulting health risks.
5. Installations of smart meters in multifamily residential units, apartment complexes, and condominium developments violate FCC standards.
6. Violation of the Americans with Disabilities Act (“ADA”) and the Fair Housing Act.

Some individuals commented about safety concerns because smart meters are not Underwriters Laboratories Inc. (“UL”) approved, not installed by licensed electricians, and are a fire danger.

AARP Comments

AARP expressed concern that older adults are particularly susceptible to the impacts of unsafe temperatures. Therefore, it is crucial that consumers have access to affordable home energy without mandates to follow rate structures which would incent vulnerable customers to unsafely reduce their energy usage when they need it most.¹⁹

Demand Response and Smart Grid Coalition (“DRSG”) Comments

DRSG’s cites a January 2011 study from the California Council on Science and Technology that smart meters emit less RF than many existing common household electronic devices, particularly cell phones and microwave ovens.²⁰ DRSG also cites a December 2010 decision from the California Public Utilities Commission (“CPUC”) that the level of “RF emissions produced by Smart Meters is extremely small in comparison to the RF emissions from many other commonly used devices and far below emission standards set by the FCC, which licenses or certifies the smart meters.”²¹ DRSG further cites a study from the Maine Center for

¹⁹ November 18, 2011, Comments of AARP at 2.

²⁰ November 18, 2011, Comments of DRSG at 3.

²¹ November 18, 2011, Comments of DRSG at 4.

Disease Control & Prevention that concludes that “well controlled and conducted double blind studies have shown that electromagnetic hypersensitivity symptoms [EHS] were not correlated with electromagnetic fields [EMF] exposure.”²²

Staff Comments

Staff provided a compendium of research related to health and safety of smart meters, but made no value judgment on the information provided.²³ The information provided by Staff included the following: (1) Federal Energy Regulatory Commission (“FERC”) staff report *Assessment of Demand Response and Advanced Metering*, dated November 2011; (2) FCC Office of Engineering and Technology Bulletin 56, dated August 1999; (3) Motion in CPUC Docket No. A11-07-020, dated August 2011; (4) California Council on Science and Technology final report *Health Impacts of Radio Frequency Exposure from Smart Meters*, dated April 2011; (5) International Agency for Research on Cancer (“IARC”) press release, *IARC Classifies Radiofrequency Electromagnetic Fields as Possibly Carcinogenic to Humans*, dated May 2011; (6) Sage Associates report *Assessment of Radiofrequency Microwave Radiation Emissions from Smart Meters*, dated January 2011; (7) Electric Power Research Institute (“EPRI”) final report *An Investigation of Radiofrequency Fields Associated with the Iron Smart Meter*, dated December 2010.

NVE Reply Comments

NV Energy states that the smart meters deployed by NV Energy meet applicable health and safety standards. With respect to safety, smart meters comply with the same standards as analog meters; the American National Standards Institute (“ANSI”) standards for accuracy and design. Moreover, each element of the NV Energy AMI Network must also comply with the exposure limitations established by the FCC. The FCC has taken a “very conservative approach to RF exposure compliance for low power network devices such as Wi-Fi base stations and Smart Meter transceivers.” Not only do NV Energy’s smart meters meet applicable design and safety codes, each element of the NV Energy AMI Network also complies with the conservative exposure limits adopted by the FCC.²⁴

Contrary to the assertions of several people who filed comments, NV Energy states that there has been considerable and varied scientific evidence regarding the effects of long-term, low-level exposure to RF signals. It has not been established that cancer or other health effects result from long-term, low-level exposure to RF signals.²⁵

With regard to symptoms and nervous system responses, anecdotal reports of isolated complaints and symptoms are notoriously unreliable for establishing cause-and-effect relationships. Studies of anecdotal reports are the least probative evidence in the field of human epidemiologic research. In contrast, randomized clinical trials and cohort and case control studies provide evidence with the most weight. In these studies, panels of scientists assembled

²² November 18, 2011, Comments of DSRG at 7.

²³ November 18, 2011, Comments of Staff at 1.

²⁴ December 2, 2011, Comments of NV Energy at 1-2, Attachment 1.

²⁵ December 2, 2011, Comments of NV Energy Attachment 10 at 2.

by international health agencies do not report that RF exposure at levels associated with smart meters causes adverse effects on the nervous system of healthy persons or animals.²⁶

With regard to EHS, the conclusions of several international agencies do not support the idea that RF fields created by a network such as the NV Energy AMI network are the cause of health complaints or symptoms. However, these studies do suggest that some persons anticipating exposure to RF fields or other electromagnetic field sources can experience symptoms that are not triggered by actual exposure to the fields.²⁷

With respect to the comments that refer to the WHO/IARC press release that classified radiofrequency electromagnetic fields as being possibly carcinogenic to humans, the WHO subsequently published Fact Sheet No. 193, entitled *Electromagnetic Fields and Public Health: Mobile Phones*. The fact sheet states that a large number of studies have been performed over the last two decades regarding any health risk associated with mobile phones and to date no adverse health effects have been established.²⁸ The degree to which exposures from mobile phones can be extrapolated to the much lower exposures from the NV Energy AMI Network is unknown. However, if a risk for mobile phones was ever to be confirmed, the risk for exposures at much lower intensities such as the NV Energy AMI Network would be expected to be lower as well.²⁹

NV Energy offers DR programs and time-of-use rates that give customers an opportunity to reduce their electricity bills. Each of these programs is completely voluntary. While the deployment of smart meters will allow NV Energy to improve the DR programs and time-of-use rates that it offers customers, the ASD program will not change the optional nature of these programs.³⁰

The installation of smart meters in multifamily residential units, apartment complexes, and condominium developments does not violate FCC standards. In an August 6, 2010, letter to Cindy Sage, Julius P. Knapp, Chief, FCC Office of Engineering and Technology, specifically addressed the "collocation" of smart meters stating that "even multiple 'banks' of meters in the same location will be compliant with the public exposure limits."³¹ The FCC has expressly stated that smart meters installed in multifamily residential units, apartment complexes and condominium developments are not impermissibly collocated in violation of FCC rules.³²

Smart meters do not pose an undue risk of interference with medical devices. Mr. Knapp's letter also stated "Smart Meters typically operate under Part 15 of the FCC Rules. Those rules specify power limitations to avoid interference. The Smart Meter wireless technologies used today are not significantly different from Wi-Fi devices, cell phones and other typical consumer products."³³ Individuals with a medical device should follow their doctor's

²⁶ Id.

²⁷ December 2, 2011, Comments of NV Energy Attachment 10 at 2-3.

²⁸ December 2, 2011, Comments of NV Energy at 33.

²⁹ December 2, 2011, Comments of NV Energy Attachment 10 at 22.

³⁰ December 2, 2011, Comments of NV Energy at 29.

³¹ December 2, 2011, Comments of NV Energy Attachment 1.

³² December 2, 2011, Comments of NV Energy at 35-36.

³³ December 2, 2011, Comments of NV Energy Attachment 1.

advice and observe the same precautions with respect to a smart meter that they would take with respect to many other common RF emitting devices such as cell phones and other typical consumer products.³⁴

Smart meters do not violate the ADA or the Fair Housing Act. Both the ADA and the Fair Housing Act require reasonable accommodations for disabled individuals under certain circumstances. A disability is one that substantially limits one or more of the individual's major life functions.³⁵ EHS is not a medical diagnosis, nor is it clear that the symptoms represent a single medical problem. Moreover, in 2005, the WHO indicated that "no scientific basis currently exists for a connection between" EHS symptoms and exposure to EMF.³⁶ The accommodations suggested by several individuals including a moratorium on the installation of smart meters, a rule proscribing the installations of smart meters in public facilities, and an opt-out provision, are not reasonable accommodations.³⁷

In reply to comments that the smart meters are not being safely installed, the fact is that the individuals who install the smart meters are required to have the same training and possess the same qualifications as individuals who install analog meters. NV Energy's installation contractor, Scope Services, employs two categories of personnel to install smart meters. The first category, Installer/Class 1, does not require the personnel to possess Journeyman Electrician certification. The second category, Senior Installer/Class 2, is required to possess a Journeyman Electrician, Inside Wireman, or Lineman certificate. Personnel employed by Scope Services are referrals from the International Brotherhood of Electrical Workers ("IBEW") Local 396.³⁸ Additionally, the installers' technical skills, safety, and qualification requirements are extensive.³⁹

NV Energy states that UL has developed safety standards and testing procedures for certain products, materials, components, assemblies, tools and equipment. UL has not developed standards for electrical meters.⁴⁰

Commission Analysis of Health and Safety Issues

A number of individuals raised various health concern issues related to RF exposure from smart meters. These health concern issues are beyond the regulatory authority of this Commission. The FCC, not this Commission, establishes standards for the exposure of humans to RF fields.⁴¹ Smart meters meet the FCC emission standards and the RF emissions from smart meters are far lower than the FCC guidelines. Each element of the NV Energy AMI Network must comply with the exposure limitations established by the FCC. The FCC has taken a very conservative approach to RF exposure compliance for low-power network devices such as smart meters. The FCC "is continually monitoring the issue of RF exposure and related health and

³⁴ December 2, 2011, Comments of NV Energy at 36-37.

³⁵ December 2, 2011, Comments of NV Energy at 37-38.

³⁶ December 2, 2011, Comments of NV Energy Attachment 2.

³⁷ December 2, 2011, Comments of NV Energy at 39.

³⁸ December 2, 2011, Comments of NV Energy at 40-41.

³⁹ December 2, 2011, Comments of NV Energy Attachment 11.

⁴⁰ December 2, 2011, Comments of NV Energy at 13 n.42.

⁴¹ Tr. at 61-62.

safety concerns, both in general terms of the continuing propriety of its regulations, and in individual cases where substantive concerns are raised.”⁴² While this Commission will ensure that NV Energy’s smart meters are compliant with FCC standards, any individual substantive health concerns regarding NV Energy’s smart meters should be addressed to the FCC.

There were concerns about the impact of higher temperatures on older adults and whether these customers have access to affordable home energy without mandates to follow rate structures. It is important emphasize again that NV Energy’s DR programs and time-of use rates are completely voluntary.⁴³ Additionally, NRS 704.1835 requires the following of the Commission:

For the purposes of protecting the health of residential customers who receive gas, water or electricity from public utilities, the Commission shall adopt or amend regulations that:

(a) Establish the criteria that will be used to determine when a public utility is required to postpone its termination of utility service to the residence of a residential customer who has failed to pay for such service. Such criteria may be based in part upon the residential customer’s ability to pay.

(b) Require a public utility to postpone its termination of utility service to the residence of a residential customer who has failed to pay for such service if the residential customer satisfies the criteria established by the Commission and termination of the utility service is reasonably likely to threaten the health of an occupant of the residence of the residential customer.

In Docket No. 10-07024, the Commission amended its Consumer Bill of Rights to provide additional protections to vulnerable populations from remote disconnection of electric service. First, the Commission codified lower temperature thresholds for disconnecting vulnerable customers for non-payment. Second, the Commission required that vulnerable customers who have identified themselves as vulnerable would receive an “in person” notification before service was disconnected.⁴⁴

The concern that smart meters were not being safely installed because the installers are not licensed electricians is not supported. NV Energy provided a document outlining the extensive skill sets and qualifications required to be possessed by an installer and the safety requirements they must follow. Furthermore, personnel installing smart meters are required to have the same training and possess the same qualifications as individuals who install analog meters. Based on the supporting documentation provided by NV Energy, the Commission has no basis to find that smart meters are not being safely installed.

The concern that smart meters pose a fire and electrical safety risk because they are not UL approved is also not supported because smart meters meet all applicable safety standards. If a customer has older electronic equipment in the home, when the power is disengaged and

⁴² December 2, 2011, Comments of NV Energy at Attachment 1.

⁴³ Tr. at 84.

⁴⁴ October 12, 2011, Order in Docket No. 10-07024.

brought back up, some of that older equipment can fail. This is related to the power down and power up of the house, not the smart meter itself.⁴⁵

V. PRIVACY AND SECURITY

Comments from the General Public

Privacy concerns centered on who has access to the data from the meters, and how this information obtained will be used. Specifically, many individuals maintain that smart meters violate their right to privacy and against unreasonable searches. These individuals felt that their privacy was being violated because the data from the meters could be used to:

1. Monitor and determine the individual's behaviors and activities;
2. Identify electrical devices used inside the home;
3. Determine the individual's medical conditions; and
4. Determine the individual's physical location inside the home and whether the home is vacant or not.

To address these privacy concerns, individuals requested that NV Energy address the following questions:

1. Will NV Energy employees handling the data keep it confidential?
2. What assurances can NV Energy give to the public that this data will not be distributed to a third party?

The security concerns dealt with the probability of unscrupulous individuals obtaining the smart meter data and using it for criminal activities or to do harm to a customer. The information could be obtained through either sophisticated hacking techniques or from third parties obtaining the data from NV Energy or from individuals having access to the data. The smart meter data could be used to determine when the home was occupied, the individual daily habits in the household, and where the individual was located in the household. These unscrupulous individuals could use this data to burglarize a customer's home, to physically harm a customer, or affect the electrical reliability of the premises.

An additional security concern was the possibility of terrorist activities shutting off smart meters in large areas or regions, which could be achieved by hacking into the meters or by the use of a device such as an EMF bomb.

AARP Comments

AARP recommends the Commission should adopt strong privacy protection requirements for smart meters and the smart grid.⁴⁶ Such regulations should be based on the following:

1. Privacy is the default for smart grid systems;

⁴⁵ Tr. at 189-90.

⁴⁶ November 18, 2011, Comments of AARP at 2.

2. Smart grid data collection should be limited to only that necessary for operations;
3. Smart grid data collected that reveals personal information should only be retained for as long as necessary;
4. Smart grid privacy protections exist throughout the entire life cycle of any personal information collected; and
5. Utilities must obtain consent from customers before disclosing their personally identifiable data to affiliates or third parties for purposes other than account management and billing.⁴⁷

NV Energy should also be required to develop and submit a cyber security plan for Commission approval.⁴⁸

BCP Comments

BCP notes that the National Association of State Utility Consumer Advocates adopted a comprehensive Resolution of Smart Grid Privacy Principles and the National Association of Regulatory Utilities Commissioners (“NARUC”) adopted a Smart Grid Resolution addressing privacy.⁴⁹ BCP agrees with NARUC’s admonition that “[c]onsumer privacy is essential and should be protected.”⁵⁰

The NARUC resolution cites to the NIST guidelines that have been designed by the Energy Independence and Security Act of 2007, EISA Title XIII, Section 1305, to lead a public/private collaborative effort on smart grid interoperability, and to develop recommended cyber-security standards for the smart grid. One of the Ten Privacy Principles developed by NIST, deals with the dissemination of information to third parties. These principles call for placing tight limits on the usage of the data, and adherence to NIST guidelines is essential to protecting sensitive data.⁵¹

At the heart of the NIST recommendation is the Privacy Impact Assessment (“PIA”) and that every utility conduct a PIA before deploying the smart grid. The BCP believes the PIA is a central aspect to the questions surrounding the storage and handling of customer data.⁵²

DSRG Comments

DSRG maintains that care must be taken in any smart metering program to ensure that not only are customers’ privacy and security respected, but also their right and ability to access their personal usage information. DSRG states that the Commission should establish rules that enable NV Energy’s customers to access their data. Such rules should also enable customers to

⁴⁷ November 18, 2011, Comments of AARP at 2-3.
⁴⁸ November 18, 2011, Comments of AARP at 3.
⁴⁹ January 13, 2012, Comments of BCP at 1.
⁵⁰ January 13, 2012, Comments of BCP at 1-2.
⁵¹ January 13, 2012, Comments of BCP at 2-3.
⁵² January 13, 2012, Comments of BCP at 4.

share their data with authorized third parties that would provide them with energy management or other service offerings.⁵³

Staff Comments

Staff states that the issue of privacy and security was already covered by the Commission in Docket No. 10-02009 et al.⁵⁴ NV Energy stated that its privacy policies prohibit releasing customer information to any party without customer consent or subpoena. The Commission directed NV Energy to systematically review their existing customer privacy policies and file a privacy report addressing how NV Energy's privacy policies comport with various privacy principles.⁵⁵

Cyber Security was also addressed at the hearing in Docket No. 10-02009 et al. and NV Energy submitted its Cyber Security Plan that was approved by DOE. The Commission acknowledged receipt of this plan, but stated such receipt shall not be construed as Commission approval of this plan.⁵⁶

NV Energy Reply Comments

NV Energy states they have addressed the privacy concerns through software system design, training, and strict policies. NV Energy cited the following software security design features:

1. Meter data transferred over the AMI Network does not contain any personally identifiable information such as names and addresses, or usage information that cannot be obtained from the front of the meter.⁵⁷
2. Only composite data on whole-house electrical consumption is transmitted. NV Energy's smart meters cannot detect consumption of individual devices within the home.⁵⁸
3. NV Energy already has security processes in place that automatically extend to its ASD program: Authentication & Authorization; Antivirus; System Hardening; Patch Management; and Vulnerability Management.⁵⁹
4. NV Energy is one of the few utilities nationwide that uses true end-to-end encryption from the back office "head end" system that controls the AMI Network out to the meters in the field, including the radio transmission between the meter and the relay.⁶⁰

⁵³ November 18, 2011, Comments of DSRG at 8-9.

⁵⁴ November 18, 2011, Comments of Staff at 8.

⁵⁵ November 18, 2011, Comments of Staff at 10.

⁵⁶ Id.

⁵⁷ December 2, 2011, Comments of NV Energy at 26.

⁵⁸ Id.

⁵⁹ December 2, 2011, Comments of NV Energy at 26-27.

⁶⁰ December 2, 2011, Comments of NV Energy at 27.

5. NV Energy uses a secured network, not the Internet, to transfer the smart meter data to its back office software systems. Data backhaul is over secure network links.⁶¹
6. NV Energy has firewalls and Virtual Private Networks (“VPNs”) that segregate the AMI Network from any other network. NV Energy has a Security Operations Center dedicated to the monitoring of these firewalls and VPNs for malicious or anomalous traffic.⁶²
7. Meter data is transferred from the AMI Network to a secure file-share through a firewall that has additional intrusion detection and prevention capabilities. Once on that file-share, the data is distributed to the systems that need it.⁶³
8. Access to the datacenter is restricted to authorized personnel, and datacenter access is logged and monitored.⁶⁴
9. There are additional security measures in place before AMI related data is made available to customers in NV Energy’s web portal (My Account).⁶⁵

With respect to privacy considerations, NV Energy:

1. Filed an ASD Privacy Protection Report with the Commission;⁶⁶
2. Established a Customer Information Privacy Oversight Committee Charter;⁶⁷
3. Requires all employees to receive training and annually certify that they have reviewed NV Energy’s Privacy Policy and failure to adhere to these policies subjects the employee to discipline, including termination.⁶⁸

Concerning NV Energy’s usage and storage of customer consumption data, NV Energy has a strict policy prohibiting the transfer of data to third parties for commercial purposes. Data is retained at NV Energy’s secure datacenter in its AMI head end operating system for 60 days and in its meter data management system for three years.⁶⁹

Further, NV Energy observed the Consumer Bill of Rights prevents NV Energy from providing “any list of the names, addresses, or telephone numbers of its customers, or any related information about its customers, to any other person for commercial purposes.”⁷⁰ Violations of this regulation could subject NV Energy to administrative sanctions and fines by the Commission.⁷¹

⁶¹ Id.

⁶² Id.

⁶³ December 2, 2011, Comments of NV Energy at 27-28.

⁶⁴ December 2, 2011, Comments of NV Energy at 27.

⁶⁵ December 2, 2011, Comments of NV Energy at 28.

⁶⁶ December 2, 2011, Comments of NV Energy at Attachment 8.

⁶⁷ December 2, 2011, Comments of NV Energy at 29.

⁶⁸ Id.

⁶⁹ December 2, 2011, Comments of NV Energy at 28.

⁷⁰ NAC 704.320(3).

⁷¹ December 2, 2011, Comments of NV Energy at 39.

Commission Analysis of Privacy and Security Issues

In Docket No. 10-02009 et al., the Commission recognized the privacy and security risk involved with NV Energy's ASD program and that NV Energy should take all necessary measures to ensure that its ASD software and hardware systems are safe and secure. Consequently, the Commission required NV Energy to prepare a report addressing the privacy policies and protections relating to its ASD program and semi-annual reports regarding accuracy, reliability, and security of the program. Additionally, NV Energy submitted its Cyber Security Plan to the Commission which was approved by the DOE on February 1, 2010.⁷²

NV Energy conducted an internal review of all of the policies and procedures that are implicated by existing privacy requirements. The process involved in-depth discussions among numerous stakeholders within NV Energy to review the entire landscape of controls and policies in place. Based on the review, NV Energy maintains that existing corporate policies are sufficient for legal compliance and generally comport with the principles espoused by NIST and EPIC. Because these principles are developing concurrent with ASD technology, NV Energy needs to monitor evolving standards to ensure that it remains compliant and provides adequate protection of customer information. Therefore, NV Energy plans to periodically review corporate policies in light of the ASD program and to create a single corporate policy focused on customer information.⁷³

NV Energy contracted with a third party security assessment firm (Wurldtech Labs of Vancouver BC, Canada) familiar with smart grid and utility control system components to perform security testing of NV Energy's AMI Network. The purpose of the assessment was to determine the ability of the AMI devices to maintain operational integrity and functional performance under real-world network conditions, such as abnormal traffic variations and simulated malicious attack scenarios. A final report was presented to NV Energy on July 25, 2011. NV Energy and its smart meter manufacturer worked jointly on a remediation plan for any vulnerability discovered.⁷⁴ The Commission realizes no corporate or government system is totally secure and required NV Energy to continue to address these concerns in its ASD Semi-Annual Reports.

NV Energy has taken all reasonable measures to ensure customer privacy and security, but no system is totally safe. As evident from public disclosures in the news media from large banks and government systems being hacked, the system software will be subject to challenges and will have to be continually upgraded to prevent outside perpetrators from installing viruses or obtaining personal data through hacking techniques. NV Energy has addressed these concerns through AMI Network security measures, corporate privacy policies, and employee training. NV Energy is required to comply with NAC 704.320 regarding nondisclosure of customer personal

⁷² December 2, 2011, Comments of NV Energy at 10-12; February 7, 2012, NV Energy ASD Semi-Annual Status Report at 11.

⁷³ December 2, 2011, Comments of NV Energy at Attachment 8.

⁷⁴ February 7, 2012, NV Energy ASD Semi-Annual Status Report at 50-51.

information to third parties. NV Energy has hired an outside third party auditor to address many of the security concerns that were raised in this proceeding.

Some of the comments suggest that the Commission adopt additional privacy and security rules. In Docket No. 10-02009 et al., the Commission specifically considered whether any regulatory changes were necessary with respect to the ASD program.⁷⁵ The Commission adopted regulations in Docket No. 10-07024 to address revisions to the Consumer Bill of Rights regulations as impacted by aspects of ASD. Because many privacy principles including NARUC's Smart Grid Best Practices Guide are still developing, the Commission will continue to monitor this activity and determine whether to open a rulemaking in the future.

VI. ACCURACY AND RELIABILITY

Comments from the General Public

The accuracy and reliability concerns center on the following areas:

1. High bills after smart meter installations;
2. NV Energy's failure to provide a report regarding accuracy tests on the smart meters⁷⁶; and
3. Smart meters may not be as accurate as the analog meters.

A few individuals included in their comments specific complaints about high bills after their smart meter was installed. These complaints relate to smart meter accuracy and NV Energy billing practices.⁷⁷

AARP Comments

AARP states that customers expect that their usage data will be accurately measured and they will be properly billed. With any technology there are numerous points in the installation, activation, and use of smart meters where systems may fail. AARP recommends the Commission develop performance metrics and reporting requirements that will enable the Commission to identify and address any problem or trend related to accuracy and reliability.⁷⁸

⁷⁵Docket No. 10-02009 Order Regarding Petitions for Leave to Intervene and Procedural Order at ¶ 30.

⁷⁶ NV Energy provided a copy of the manufacturer's accuracy report in its December 2, 2011 Comments at Attachment 7.

⁷⁷ NV Energy researched each of the complaints and, pursuant to NAC 703.5274, filed confidential memorandums with the Commission on December 2, 2011 and January 11, 2012, responding to the complaints.

⁷⁸ November 18, 2011, Comments of AARP at 4.

DSRG Comments

For years, DSRG has been tracking smart meter deployments throughout the country and around the world. Its conclusion based on the evidence is that smart meters are more accurate and more reliable than the electromagnetic meters they replace.⁷⁹

DSRG points out that the performance of smart meters and customers' perception of such performance can be two different things. Even when smart meters are functioning properly, some customers may erroneously blame them for increased or erratic bills. There are many reasons for this including: Billing periods may change; connectivity and estimation; early-life failures; extraordinary weather; growing consumption; new rate structures; replacing defective meters; rising electricity costs; use of embedded software; and voltage transient susceptibility.⁸⁰

Staff Comments

Staff states that the issue of accuracy and reliability was already covered by the Commission in Docket No. 10-02009 et al.⁸¹ The Commission found that with regards to the individual systems involved in the ASD program, many of the technological risks have been identified and to an extent mitigated through contractual agreements and warranties with vendors. The Commission had concerns on how well the individual components will be merged into a single system and was aware that problems in this area could result in either cost increases for new systems or costly upgrades to existing information systems. The Commission found the technology associated with the ASD program is reliable and accurate.⁸²

The Commission stated that it is NV Energy's responsibility to ensure that customers accept the meters as reliable and accurate and the Commission has the right to come back and look at this for prudence in executing the plan. The Commission found that the costs associated with the ASD program will be reviewed for prudence at the time NV Energy seeks recovery of the costs.⁸³

In addition, NV Energy was required to file evaluation reports regarding the accuracy of smart meters. These reports generally find that the meters are within ANSI standards for accuracy.⁸⁴

NV Energy Reply Comments

NV Energy requires that all meters meet or exceed the ANSI electric meter accuracy and design standards. NV Energy complies with ANSI standards and ensures that these mandated

⁷⁹ November 18, 2011, Comments of DSRG at 10-16 (citing the findings of reports on smart metering accuracy by the CPUC and the Public Utility Commission of Texas, and testimony on smart metering performance given by PG&E before the California Senate).

⁸⁰ November 18, 2011, Comments of DSRG at 16-23 (citing a May 2010 EPRI report "Accuracy of Digital Electricity Meters").

⁸¹ November 18, 2011, Comments of Staff at 8.

⁸² November 18, 2011, Comments of Staff at 8-9.

⁸³ November 18, 2011, Comments of Staff at 9.

⁸⁴ Id.

accuracy standards are achieved. Meters are certified for ANSI compliance during manufacturing, upon receipt of meters, and periodically during the lifetime of the installed meter.⁸⁵

To ensure these meters meet ANSI standards NV Energy:

1. Receives test results of every meter purchased for the ASD program. Test results are loaded into NV Energy's meter tracking system that flags meters that test outside of accuracy standards and these meters are returned to the manufacturer;⁸⁶
2. Conducts separate tests that consist of first article testing, sample testing of meter shipments, and periodic sample testing of installed meters. Any meter that fails first article testing or sample testing is returned to the manufacturer. This is the same process that NV Energy previously used to assess analog and digital meters;⁸⁷
3. Tests the sample for correct operation of the communications equipment.⁸⁸
4. Conducts periodic ANSI standard accuracy testing on a sampling of installed meters;⁸⁹ and
5. Contracted with the University of Nevada Reno School of Engineering to conduct independent accuracy testing of first article meters. The independent test results confirm that NV Energy's smart meters satisfy applicable accuracy standards.⁹⁰

As of November 1, 2011, NV Energy had installed 580,784 meters in Southern Nevada and 1,356, or 0.23%, have failed. The total number of meter failures captures meters that were identified during NV Energy's testing process, as well as failures identified shortly after being accepted into NV Energy's inventory. A very small percentage of meters are found to be defective during installation or when the meter experiences an in-service failure while on a customer premise.⁹¹

NV Energy states that the accuracy of smart meters is no different than digital meters without the communication capability. NV Energy has installed and used digital meters for a number of years. Digital meters, including smart meters, are designed to adhere to the same set of ANSI accuracy standards as analog meters. Digital meters, however, are typically capable of holding tighter tolerances over the load range than analog meters and, therefore, are available at better accuracy class ratings. For the ASD program, NV Energy specified the meters to be 100% factory tested at +/- 0.5% accuracy. The meters are well within the Tariff Rule No. 17 accuracy requirements of +/- 2.0%, and are expected to maintain this accuracy over their service life.⁹²

⁸⁵ December 2, 2011, Comments of NV Energy at 13.

⁸⁶ December 2, 2011, Comments of NV Energy at 13.

⁸⁷ December 2, 2011, Comments of NV Energy at 14.

⁸⁸ December 2, 2011, Comments of NV Energy at 14-15.

⁸⁹ December 2, 2011, Comments of NV Energy at 15.

⁹⁰ December 2, 2011, Comments of NV Energy at 15-16.

⁹¹ December 2, 2011, Comments of NV Energy at 21.

⁹² December 2, 2011, Comments of NV Energy at 22-23.

NV Energy has received a total of 60 high bill complaints that required accuracy testing. NV Energy has performed 60 meter tests at the request of customers since beginning the ASD program. All 60 meters that were meter shop tested passed the test, and were providing accurate usage information.⁹³

Commission Analysis of Accuracy and Reliability Issues

In Docket No. 10-02009 et al., the Commission found that the technology associated the ASD program was reliable and accurate, and the information provided in this proceeding supports that conclusion.

Manufacturers' meters that are used by NV Energy meet ANSI accuracy standards of +/- 0.5% for both analog and digital meters, including smart meters. ANSI requires manufacturers to perform several tests on these meters to ensure accuracy and reliability. The ANSI standards for meter accuracy and reliability are essentially the same for the analog meters as the digital meters. Consequently, smart meters are at least as accurate as existing meters.

NV Energy has taken additional steps to ensure that meters received from suppliers meet ANSI accuracy standards. These include testing for ANSI compliance during manufacturing, upon receipt of the meters, and periodically during the lifetime of the installed meter. NV Energy uses independent auditors to ensure ANSI compliance of the meter. NV Energy conducts periodic meter shop tests on a sample of the meters to ensure that they meet ANSI standard accuracy requirements.

To date, there have been only 60 high bill complaints of the almost 600,000 smart meters that have been installed. This represents only 0.001% of the meters that have been installed which is a low percentage, considering that new meters are subject to infant mortality failures in the first few months of installation (failure of new devices because of manufacturer defects or component failures). In all cases, the meters were shop tested and proven to be accurate.

The Commission has received some comments about "newly high reads" after meters are changed out, and can point to several possible failure modes that would explain higher reads (and bills) beyond the typical reasons of rate increases and weather conditions. Some examples of smart meter issues that can cause high bills are:

1. Incorrect meter constant multipliers. Meter constant multipliers that are inputted wrong accounted for 26 of the failures on NV Energy's system. The purpose of these multipliers is to account for different winding ratios for potential and current transformers in industrial and commercial application. Component inputs for residential meters are input by either factory or field technicians for items such as billing cycles and read cycle times. If the data is inputted wrong, it could result in faulty readings.⁹⁴

⁹³ December 2, 2011, Comments of NV Energy at 23.

⁹⁴ February 7, 2012, NV Energy ASD Semi-Annual Status Report at 37.

2. Aging mechanical meters. As mechanical meters age, the mechanisms wear and introduce drag on the register, gradually making them run slower. Newer solid state meters do not have this problem. When a mechanical meter is under-registering and replaced, the new more accurate digital meter will read somewhat higher under this condition;⁹⁵
3. Component defects. Smart meters are electronic devices comprised of many components. All meters whether analog or digital will eventually fail because of component failure. Therefore, a component defect in a digital meter that adversely impacts an individual meter's accuracy is possible. This type of product failure usually occurs during the very early (NV Energy has experienced about 1058 of these failures) or very late stages of the meter's service life. These types of failures will cause abnormal readings that may be flagged by NV Energy's back office software for possible maintenance or meter defects;⁹⁶
4. Meter panel repairs. Meter panel repairs can cause higher or lower than normal readings. NV Energy has recorded 261 panel repairs to date due to panel damage or identification of an unsafe panel condition during meter installation;⁹⁷
5. Incorrect meter reads upon removal. Meter reading data from the removed meter was entered incorrectly into NV Energy's system resulting in a billing complaint.⁹⁸

NV Energy is aware of these issues and all customers can request for their meters to be shop tested for accuracy if there is a concern.⁹⁹ Each year, NV Energy will pay for the first shop test, and any subsequent shop tests are at the customers' expense.¹⁰⁰

The smart meters to date have proven to be accurate. There have been only 60 high bill complaints and in all cases the meter in question was shop tested and proven to meet ANSI accuracy standards. Customers should be aware that NV Energy experiences a small number of meter failures a year that could result in a high bill. This was true for analog as well as digital meters. NV Energy should continue to use the same measures it currently uses to ensure meter accuracy and any billing complaint should be promptly investigated and resolved.

NV Energy's data demonstrates that smart meters have been as reliable as analog meters. The main cause of failure has been due to infant mortality which is expected on any new equipment installed by a utility. As of December of 2011, there have been 1,356 failures (about 0.2%) of the total installed meters. The majority of these failures are component failures as a result of infant mortality (about 70% of the failures), and the rest are a result of electrical faults, weather, vandalism and other reasons.¹⁰¹

⁹⁵ December 28, 2011, Comments of NV Energy at 11.

⁹⁶ December 2, 2011, Comments of NV Energy at 22.

⁹⁷ December 2, 2011, Comments of NV Energy at 25.

⁹⁸ The Commission also found that NV Energy employees did not follow the appropriate meter exchange procedures which contributed to the billing error. Interim Order ¶ 15.

⁹⁹ December 28, 2011, Comments of NV Energy at 23.

¹⁰⁰ Tariff Rule No. 17.

¹⁰¹ December 2, 2011, Comments of NV Energy at 22.

NV Energy will continue to provide updates to the Commission on smart meter accuracy and reliability issues in its ASD Semi-Annual Reports.

VII. CUSTOMER SERVICE

In the Commission's Interim Order it addressed customer service issues related to smart meter implementation. The Commission approved the recommendations outlined in paragraphs 12-16 of the Interim Order and ordered NV Energy to implement those recommendations. As a compliance, NV Energy was ordered to file a media plan, outreach event schedule, smart meter deployment schedule to the extent currently available, Scope Services' training report addressing customer communications, NV Energy field employee training report addressing meter exchange procedures, NV Energy customer service representative training report addressing the postponement list, and telephone numbers for the Resolution Centers in Northern and Southern Nevada within 10 days of the issuance of the Interim Order.¹⁰²

NV Energy filed a Compliance Filing that contained materials responsive to the Commission's request.¹⁰³ Staff filed a Memorandum stating that the compliances were technically met. However, if the Commission wants more detailed information and a more well formed plan, such items can be compliances in the final Report and Order in this docket.¹⁰⁴

The Commission finds that NV Energy has complied with the Interim Order addressing customer service issues by filing the required documents. With that said, NVE should be aware of its ongoing responsibility to ensure public acceptance of its ASD program.¹⁰⁵ In fulfilling this obligation, NV Energy should continue to monitor deployment and customer acceptance of smart meters and adjust its efforts accordingly.

VIII. OPT-OUT PROPOSAL

NV Energy Comments

The Commission approved NV Energy's ASD program in July 2010, and authorized replacement of all existing analog and digital meters with an advanced meter capable of two-way communications and interval readings. Accordingly, NV Energy states the standard metering arrangement offered to residential and commercial customers is a communicating smart meter. A small group of customers, less than 0.50%, have objected to NV Energy's standard metering arrangement.¹⁰⁶

Historically, when a customer refused to honor NV Energy's rights under Tariff Rule No. 16 (Service Connections, Meters and Customer Facilities), NV Energy provided the customer written notice of its intent to install a specific non-standard metering arrangement. Because a non-standard metering arrangement generally has costs that exceed the cost of the standard

¹⁰² Docket No. 11-10007 Interim Order Compliances ¶ 2.

¹⁰³ NV Energy Compliance Filing filed on January 23, 2012,

¹⁰⁴ Staff Memorandum filed on February 14 2012.

¹⁰⁵ Docket No. 10-02009 Order ¶ 226.

¹⁰⁶ December 28, 2011, Comments of NV Energy at 2, 9.

metering arrangement, NV Energy's rules impose on customers who demand a non-standard metering arrangement charges designed to recover the incremental costs associated with the arrangement. Similar to the present situation, any customer demanding a non-standard metering arrangement should be responsible for the attendant incremental costs, which should be recovered through a premises-specific one-time fee and a recurring monthly charge. In addition, any customer served through a non-standard metering arrangement should remain responsible for the incremental costs of restoring NV Energy's system to the standard configuration.¹⁰⁷

NV Energy attempted to estimate the costs associated with implementing four non-standard metering arrangements alternatives. The four non-standard metering alternatives are: (1) Analog Meter; (2) Digital Meter; (3) Non-Communicating AMI Meter; and (4) Communicating AMI Meter with Limited Radio Transmissions. NV Energy used its best efforts to estimate and identify all costs associated with non-standard metering options; however, it is difficult to conduct a complete and accurate cost study in less than three weeks. Notwithstanding these potential shortcomings, NV Energy believes that its cost estimates provide a reasonable basis for assessing the costs and developing the rates for non-standard metering arrangements.¹⁰⁸

The estimated costs for each of the four alternative non-standard metering arrangements are divided into two categories. First, up-front or nonrecurring costs include installation labor, meter testing labor, customer support and application processing labor, ancillary meter supplies, customer communications materials, and the estimated cost of returning NV Energy's system to its standard configuration. Second, on-going or recurring costs include system modification expenditures, handheld purchasing costs, meter reading costs, back-office labor costs, materials costs, and annual hardware and software maintenance costs.¹⁰⁹

Table 1 provides NV Energy's estimate of the four alternative non-standard metering arrangements for Nevada Power Company and Table 2 provides the same estimate for Sierra Pacific Power Company. The per customer costs shown in Tables 1 and 2 assumes 4,500 of Nevada Power's residential customers and 3,000 of Sierra Pacific Power's residential customers would choose the non-standard metering arrangement.¹¹⁰

¹⁰⁷ December 28, 2011, Comments of NV Energy at 2, 5.

¹⁰⁸ December 28, 2011, Comments of NV Energy at 13-14.

¹⁰⁹ Id.

¹¹⁰ December 28, 2011, Comments of NV Energy at 14-15.

**Table 1
Nevada Power Company**

Cost Description	Alternative A Analog Meter	Alternative B Digital Meter	Alternative C Non-Communicating AMI Meter	Alternative D Communicating AMI Meter with Limited Transmissions
Total Up-front without Credits	\$220.48	\$233.88	\$129.92	\$129.92
Standard Installation Credit	(19.99)	(19.99)	(19.99)	(19.99)
Less Incremental Meter Costs	<u>(22.46)</u>	<u>(35.86)</u>	<u>N/A</u>	<u>N/A</u>
Total Up-front Cost with Credits	\$178.03	\$178.03	\$109.93	\$109.93
Monthly On-going Costs	\$14.04	\$14.04	\$14.08	\$1.08

**Table 2
Sierra Pacific Power Company**

Cost Description	Alternative A Analog Meter	Alternative B Digital Meter	Alternative C Non-Communicating AMI Meter	Alternative D Communicating AMI Meter with Limited Transmissions
Total Up-front without Credits	\$260.94	\$272.09	\$153.33	\$153.33
Standard Installation Credit	(23.40)	(23.40)	(23.40)	(23.40)
Less Incremental Meter Costs	<u>(24.59)</u>	<u>(35.73)</u>	<u>N/A</u>	<u>N/A</u>
Total Up-front Cost with Credits	\$212.95	\$212.95	\$129.93	\$129.93
Monthly On-going Costs	\$16.99	\$16.99	\$17.24	\$1.08

NV Energy proposes that Alternative C be offered to customers demanding a non-standard metering arrangement for four reasons. First, a non-communicating AMI meter can still store and furnish interval data when probed by a meter reader. Second, this alternative provides a non-standard metering arrangement that is most consistent with NV Energy's obligations under the SGIG. The DOE has indicated that it will reimburse NV Energy for 50% of the cost of purchasing Landis+Cyr ("L&G") meters, removing the communications module, and installing a L&G meter that does not contain a communications module. This reduces the cost of the alternative and minimizes the likelihood that a non-standard metering arrangement will jeopardize DOE funding. Third, Alternative C advances Nevada's energy policy outlined in NRS 701.010 by providing customers with interval usage information, which is necessary to facilitate more informed decision making. Fourth, Alternative C is more consistent with the approach taken by other utility regulatory commissions.¹¹¹

¹¹¹ December 28, 2011, Comments of NV Energy at 10.

NV Energy opposes Alternative A, the analog meter, for three reasons. First, analog meters do not store interval data and, therefore, do not advance Nevada's energy policy. Second, analog meters will become increasingly more difficult to obtain and more expensive to maintain. Analog meters are no longer produced by any domestic supplier of meters. Third, using analog meters as the non-standard metering arrangement has the potential to shift costs to customers with modern more accurate meters, because analog meters can produce a revenue shortfall due to their tendency to run slower over time, failure to register consumption at very low loads, and susceptibility to tampering and theft.¹¹²

DRSG Reply Comments

DRSG supports NV Energy's smart meter opt-out proposal, the non-communicating AMI meter capable of storing and furnishing interval data when probed by a meter reader, for four reasons. First, customers should not be allowed to opt-out from NV Energy's smart meters in a way that undermines the program, because the Commission approved NV Energy's smart meters as the standard metering arrangement. Second, NV Energy's smart meter opt-out proposal advances Nevada's energy policy because it ensures that customers receive interval usage information, which is necessary to facilitate more informed decision making. Third, analog meters are insufficient as they do not provide interval data. Fourth, NV Energy's proposal is in concert with the terms of the DOE SGIG.¹¹³

DRSG recommends that the costs of opting-out of smart metering be borne exclusively by customers electing to opt-out. It does not make sense for all ratepayers to subsidize one segment of customers who demand and receive a more expensive level of service. Such a scenario would be unfair and would contradict basic principles of cost causation. Furthermore, distributing the costs of opting-out to the entire customer base generally reduces the net benefits of a smart meter program.¹¹⁴

Staff Reply Comments

Staff notes that the Order in Docket No. 10-02009 et al. accepted the smart meter program based on NV Energy's assertion that the program would be cost effective through the use of federal grant monies and operational savings to offset the costs of the program. If allowing an opt-out process either causes those operational savings not to materialize, or imperils the availability of grant monies, Staff believes that those choosing to opt-out of the program (the cost causers) should pay whatever amount is necessary to make the other ratepayers whole. A new subsidy should not result from any opt-out provision. However, if a customer chooses to pay the full costs of a smart meter opt-out, then Staff fully supports that customer's right to do so.¹¹⁵

Staff believes that NV Energy's preliminary cost estimates could be significantly different than the final cost. NV Energy's preliminary cost estimates are based on 4,500 non-

¹¹² December 28, 2011, Comments of NV Energy at 11.

¹¹³ January 13, 2012, Comments of DSRG at 2-3.

¹¹⁴ January 13, 2012, Comments of DSRG at 7.

¹¹⁵ January 13, 2012, Comments of Staff at 1.

standard metering arrangements in Southern Nevada and 3,000 in Northern Nevada. These numbers are not supported by actual data of what the eventual number of opt-out customers will be.¹¹⁶

Staff also has concerns regarding the following: (1) whether the opt-out option is indefinite, or will be offered for a specified length of time; (2) whether the option to opt-out will be available to all customers or only those on the postponement list; and (3) whether the option will be advertised to customers. Staff recommends that the Commission gather additional information in these areas prior to adopting a final opt-out procedure.¹¹⁷

AARP Reply Comments

AARP recommends that a residential customer be allowed to retain their current analog meter or accept a non-communicating digital meter in lieu of an already installed smart meter. AARP states it is appropriate to charge customers who opt-out of smart meters the just and reasonable costs of a one-time fee if a field visit is required and a monthly meter reading fee. AARP agrees with NV Energy's proposal that the opt-out fee should incorporate the so called "exit fee" that would cover the costs of installing a smart meter at a location when an opt-out customer is terminating service. Similar to California and Maine, a lower cost opt-out option should be available for low income customers. The approved opt-out program should be conspicuously disclosed to all customers prior to installation of a smart meter and through additional educational materials to those customers whose meter has already been installed.¹¹⁸

BCP Reply Comments

BCP recommends that customers be allowed to opt-out of smart meters at no charge until the Commission addresses smart meter investments, costs, and cost savings in a general rate case. BCP refers to the rebuttal testimony of Bruce Bullock, Vice President for Customer Relationship at NV Energy, attached to which is an article indicating that the positions of 95 local meter reading and field support employees will be eliminated between October 24, 2011 and May 1, 2012. This reduction in work force will result in cost reductions to NV Energy that are not reflected in the rate case test year or certification period. Accordingly, all of the savings attributable to the discontinuation of meter reading will inure to the benefit of NV Energy's shareholders until the next general rate case is filed in 2014. These cost savings would more than fully offset any costs incurred by NV Energy to service the limited number of customers who, for whatever reason, do not want a smart meter installed on their premises.¹¹⁹

At the December 6, 2011 workshop, NV Energy explained that Nevada Power Company has already installed 450,000 smart meters and is already remotely reading 450,000 smart meters with no manual meter reading. The disparity between cost recovery and the significantly lower level of costs being achieved with smart meters will likely not be resolved until the next general rate case. During the interim, NV Energy will receive compensation for the cost of reading the

¹¹⁶ January 13, 2012 Comments of Staff at 2.

¹¹⁷ Id.

¹¹⁸ January 13, 2012, Comments of AARP at 1-2.

¹¹⁹ January 13, 2012, Comments of BCP at 3, Attachment 3.

old meters even though meter reading costs are being reduced and eventually may be eliminated. Elimination of 100 meter readers will allow NV Energy to avoid \$7 million in annual expense. By contrast, the proposed opt-out fees would generate new revenue of approximately \$1.3 million for Nevada Power Company and \$900,000 for Sierra Pacific Power Company. The actual savings are much larger than the proposed revenues.¹²⁰

Reply Comments from the General Public

Many of the comments from the general public stated the following:

1. The Commission should issue a moratorium on the installation of additional smart meters;
2. Smart meters should be an opt-in, not opt-out; and
3. If the choice is an opt-out tariff, then this choice should be affordable.

A few of the written comments received directly addressed NV Energy's proposals. In particular, the comments questioned why the retention of an analog meter would result in an expensive initial fee when the cost of doing nothing at all should be zero. At the January 18, 2012 workshop, several of the individuals commenting agreed with BCP that there should be no charge for opting-out because the cost of reading meters is embedded in rates.¹²¹ Other individuals questioned why it was necessary to replace an analog meter with a refurbished analog meter for homes that are only a few years old.¹²² Lastly, it was recommended that the Commission adopt "Alternative E" where the meter could be read from the street as the meter reader drives by. This should reduce the number of meter readers and the water and gas utility already read meters in this manner.¹²³

Commission Analysis of Opt-out Proposals

The Commission is charged with the duty of regulating public utilities to the extent provided for in statute. In its regulation of public utilities, the Commission must be fair and impartial and must provide for safe, economic, efficient, prudent and reliable operation and service. The Commission must balance the interests of customers and shareholders of public utilities by providing the public utilities an opportunity to earn a fair return on their investments while providing customers with just and reasonable rates.¹²⁴ Additionally, all rates, practices, and services cannot be unjust, unreasonable, unjustly discriminatory or preferential.¹²⁵

In Docket No. 10-02009 et al, the Commission's approval of the installation of 1.35 million smart meters was highly dependent upon the DOE contribution of \$138 million.¹²⁶ As stated in the Commission's order, the ratepayer's interest was not in the ASD technology, but the

¹²⁰ January 13, 2012, Comments of BCP at 4, Attachment 4.

¹²¹ Tr. at 300 – 01.

¹²² Tr. at 304 – 05.

¹²³ Tr. at 345 – 46.

¹²⁴ NRS 704.001.

¹²⁵ NRS 704.120.

¹²⁶ Docket No. 10-02009 ¶ 283.

benefits of operational savings which flow from that technology.¹²⁷ The information gathered in this proceeding supports that smart meters are safe, secure, accurate, and reliable. The Commission finds no basis to reconsider its approval of NV Energy's ASD program. However, the information does indicate that there are a very small percentage of NV Energy's customers who, for whatever reasons, would choose non-standard meter service. As with any utility service, the price for this non-standard meter service should be cost based and not contrary to the public interest.

Therefore, the Commission considered the four alternatives for non-standard meter service included in NV Energy's comments as well as other alternatives raised in the reply comments. The Commission's recommended alternative for a non-standard meter is a digital meter capable of drive-by meter reading.

A. Analog Meter – Upfront and Monthly Costs

NV Energy states that analog meters are no longer produced by a domestic supplier of meters and, therefore, these types of meters will be increasingly more difficult to obtain and more expensive to maintain.¹²⁸ While the Commission is considering having NV Energy offer non-standard metering service as a result of information gathered in this proceeding, this non-standard service must be based on full incremental costs and economical for those who choose this service. If a permanent opt-out tariff is eventually adopted by this Commission, the reliance on analog meters that are no longer manufactured by a domestic supplier and which will be more expensive to maintain over time will not provide economical or reliable service to the customers who choose service pursuant to an opt-out tariff.

B. Digital Meter – Upfront and Monthly Costs

There are several advantages to a digital meter as compared to an analog meter. First, NV Energy is able to obtain these meters at a relatively low cost of \$24.00 per established meter procurement contracts.¹²⁹ Second, these meters address many of the concerns expressed by individuals in either written comments or during the workshop that they want a non-communicating, non-interval meter. Third, if a periodic self-read option is made available to save on monthly meter reading costs, then this type of meter will be much less likely to have meter reading errors when compared with an analog meter. Such errors would increase the costs of providing non-standard meter service.

C. Non-communicating Smart Meter – Upfront and Monthly Costs

There are upfront cost advantages to a non-communicating smart meter and disadvantages of customer acceptance. The lower upfront costs for the non-communicating smart meter result from the fact the DOE would provide a 50% reimbursement for the installation costs.¹³⁰ However, during the workshop it was evident that this alternative would

¹²⁷ Docket No. 10-02009 ¶ 298.

¹²⁸ December 28, 2011, Comments of NV Energy at 11.

¹²⁹ December 28, 2011, Comments of NV Energy, Attachment 5 at 4.

¹³⁰ December 28, 2011, Comments of NV Energy, Attachment 6 at 4.

have limited customer acceptance from the individuals demanding a non-standard metering arrangement even though the upfront costs would be lower. These individuals did not trust NV Energy to turn the communication ability off, and did not want a meter that stored interval data.

D. Smart Meter with Limited Radio Transmissions – Upfront and Monthly Costs

NV Energy stated that the longest allowable time between transmissions from a FlexNet enabled meter is once every 84 hours. As such, the FlexNet radio cannot be configured to transmit only once a month.¹³¹ Additionally, the smart meter would still record usage data in 15 minute intervals. If the software was reprogrammed to allow for a cumulative read once a month, NV Energy did not believe it could get reimbursement from DOE for that meter.¹³² This alternative bears the same disadvantages in terms of customer acceptance as Alternative C.

E. Digital Meter – Drive-by Reading

Some individuals supported this alternative because this type of meter reading technology is used by both the gas and water utilities. There are several advantages to this proposal. First, it addresses the concern that a meter be made available in an opt-out tariff that does not communicate or store data. Second, it addresses the concern that the costs be economical by reducing the number of meter readers necessary to read the meters. While the upfront costs with this option may be higher than that estimated by NV Energy, the monthly or ongoing costs will be lower, thereby lowering the long-run costs for the customer choosing this opt-out option.

NV Energy estimates that it will require three meter readers in Southern Nevada and two meter readers in Northern Nevada to manually read the meters of the estimated 4,500 customers in the south and 3,000 customers in the north who opt-out. The math for this estimate would require the meter reader to manually read a meter every seven minutes.¹³³ Depending on the geographic dispersion of those customers who choose to opt-out, this estimate may be unrealistic. However, by allowing for drive-by meter reading it would increase the likelihood that a meter could be read every seven minutes.

F. Retain Analog Meters – No Charge Until Next General Rate Case

Many individuals who commented at the workshop supported BCP's proposal to retain their analog meter at no charge until the next general rate case. However, there are a number of shortcomings in this alternative. First, pursuant to ratemaking theory, general rates are designed to recover a level of costs or revenue requirement, not specific costs incurred for the provision of service. Second, BCP's calculations of savings do not properly offset the "savings" with the "costs" incurred after the general rate case. Any comparison should have compared the savings associated with meter readings against the costs, both capital and expense, of the smart meters

¹³¹ December 28, 2011, Comments of NV Energy at 13.

¹³² Tr. at 235-36.

¹³³ $7,500 \text{ manual meter reads} \div 5 \text{ meter readers} = 1,500 \text{ meters per reader}$
 $1,500 \text{ meter reads} \div 22 \text{ days in the monthly billing cycle} = 68.18 \text{ meters to read in a day}$
 $68.18 \text{ meters} \div 8 \text{ hours} = 8.5 \text{ meters per hour}$
 $60 \text{ minutes} \div 8.5 \text{ meters} = 1 \text{ meter to read every 7 minutes}$

placed into service prior to May 1, 2012. Third, BCP's annual revenue calculation assumes that the up-front fee would be paid annually when it is a one-time charge. Fourth, BCP's meter reading expense savings ignores any tax effects. Fifth, and most important, if NV Energy had to file an out-of-cycle general rate case because it was over-earning, then the benefit of lower rates should be for all customers, not just those who elect to opt-out.

G. Retain Analog Meters – No Charge

Most of the comments from the general public supported an alternative to retain their analog meter at no charge. In addition to the shortcomings in Alternative B above, there would be costs associated with this alternative. First, the alternative to opt-out must not be discriminatory between those who currently have analog meters and those who have smart meters but want an analog meter. Any costs of reinstalling analog meters on these homes must be shared by all customers who choose the opt-out tariff. Second, there are upfront costs associated with this alternative including ancillary meter supplies and reinstallation of a standard smart meter when the customer discontinues service. Third, analog meters will eventually need to be replaced with a type of meter that will be available from a domestic supplier. Fourth, the monthly costs of this alternative are unavoidable, such as meter reading, annual hardware and software maintenance. Fifth, the only way this alternative could be provided at no charge would be if other customers subsidized the incremental costs of providing non-standard meter service.

Recommended Alternative – Digital Meter Capable of Drive-by Reading

The combination of a digital meter that is capable of drive-by reading is the alternative that NV Energy should offer to customers who demand a non-standard meter. NV Energy currently utilizes this type of meter when there are access issues with an analog meter. As stated above, the digital meters are relatively low cost, do not communicate or store interval data, and can be periodically read by the customer with less frequency of costly meter reading errors when compared to analog meters. While the upfront costs of a digital meter could increase by adding a drive-by meter reading function, the monthly meter reading costs will be reduced because it will be possible to read more meters in one day. Therefore, the total costs to the customer selecting the opt-out tariff will be reduced.

Opt-out Tariff Issues

There are a number of issues that must be addressed regarding an opt-out tariff. First, should the Commission direct NV Energy to offer an out-out tariff? Second, if an opt-out tariff is accepted, who should be eligible for that tariff? Third, who should bear the incremental cost associated with an opt-out tariff? Fourth, how long should an opt-out tariff be available?

1. Should the Commission Direct NV Energy to Offer an Opt-out Tariff?

None of the parties in the investigation opposed an opt-out tariff for customers who demand, for whatever reasons, a non-standard metering arrangement. However, without knowledge of how many customers may elect to opt-out of a smart meter, the Commission cannot approve a permanent opt-out tariff at this time. First, the number of customers who elect

to opt-out cannot exceed the level at which DOE funding would be jeopardized. Second, the number of customers who elect to opt-out cannot be below a level that it is not economical for the customer to pay the incremental charges directly associated with the additional costs of offering the non-standard metering arrangement. Therefore, in order to obtain information on how many customers will elect an opt-out tariff, NV Energy should file an application for a trial opt-out tariff in both its Southern and Northern Nevada service territories. The trial opt-out tariff must establish a cap that would not jeopardize DOE funding. In order to determine the cap, NV Energy should consult with DOE prior to submitting its application to determine the precise number of the cap using the recommended alternative.

2. Who Should be Eligible for a Trial Opt-out Tariff?

For purposes of the trial opt-out tariff, the option should only be available for residential customers. This limitation is consistent with opt-out tariffs adopted in Maine and Oregon. Also, the complaints about smart meters were only received from residential customers. If a permanent opt-out tariff is adopted in the future, the opt-out option for additional classes of customers can be addressed at that time.

With regard to premise ownership, there is an issue of whether customers who do not own their premises should be allowed to opt-out of a non-standard metering arrangement without the owner's consent. NV Energy should include in its application for a trial opt-out tariff a proposal to address this issue.

3. Who Should Bear the Incremental Cost Associated with a Trial Opt-out Tariff?

Like every other jurisdiction that has faced this issue, the cost of the trial opt-out tariff must be borne by the customers who demand, for whatever reason, the tariff that results in incremental costs to NV Energy. This position of cost causer pays was supported by Staff and DRSG. Even AARP agrees that it is appropriate to charge customers who opt-out of smart meters the just and reasonable costs. Therefore, NV Energy should include in its application the full incremental costs associated with the trial opt-out tariff. However, NV Energy still has the burden to demonstrate that any costs are just and reasonable.

Unfortunately, NV Energy will not know full incremental costs associated with the trial opt-out tariff because the exact number of customers who will elect this option is not known at this time. Therefore, in order to calculate the full incremental costs, NV Energy should use the 4,500 customers in Southern Nevada and 3,000 customers in Northern Nevada that was used to calculate its preliminary estimates.

With regard to the issue raised by AARP that low-income customers should receive a discounted opt-out tariff, the Commission does not agree because the current tariffs do not provide for a low income rate. Further, most of the individuals who addressed this issue at the second workshop did not support a low-income opt-out subsidy. No costs for opting-out, including a low-income subsidy, should be borne by the general body of customers who do not elect to opt-out.

4. How Long Should the Trial Opt-Out Tariff be Available?

Like any trial tariff, the trial opt-out tariff should either be discontinued for a lack of interest at some point in the future or made permanent. At the first general rate case that occurs after the trial opt-out tariff has been in effect for all 12 months of the test year, NV Energy should file to discontinue the trial if there are insufficient customers to economically support the tariff. If there are sufficient customers to economically support the tariff, NV Energy should file to make the tariff permanent and calculate the actual monthly costs to serve the actual number of opt-out customers who were provided service pursuant to the trial opt-out tariff during the test year.

5. How to Transition from the Postponement List to the Trial Opt-out Tariff or Smart Meter Installation?

NV Energy shall include in its application for a trial opt-out tariff a plan for transitioning customers from the postponement list to either the trial opt-out tariff or to the installation of a smart meter. The transition period included in NV Energy's application should be no more than 90 days.

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