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24-12016

Public Utilities Commission of Nevada  
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Filed For: Staff Counsel Division

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**PUBLIC UTILITIES COMMISSION OF NEVADA**  
**Docket No. 24-12016**  
**First Amendment to the Joint Natural Disaster Protection Plan**

**Prepared Direct Testimony of**  
**Gaurav Shil, on behalf of the**  
**Regulatory Operations Staff**

**1. Q. Please state your name, occupation, and business address.**

A. My name is Gaurav Shil. I am a Regulatory Engineer for the Regulatory Operations Staff ("Staff") of the Public Utilities Commission of Nevada ("Commission"). My business address is 9075 West Diablo Drive, Suite 250, Las Vegas, Nevada 89148.

**2. Q. Does Attachment GS-1 summarize your professional background?**

A. Yes, it does.

**3. Q. What is the purpose of your testimony?**

A. The purpose of my testimony is to provide Staff's recommendations regarding the Joint Application of 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") for approval of their First Amendment to the Joint Natural Disaster Protection Plan ("NDPP"). Specifically, I address NV Energy's requests for the Mount Charleston rebuild plan, including the microgrid installation; emerging technologies implementation; and expansion of enhanced fire season protocols.

**4. Q. What are your recommendations to the Commission?**

A. Staff recommends that the Commission:

1. Approve the Mount Charleston Rebuild Plan with the following conditions:

- (a) Order NV Energy to install the 50 percent renewable fraction microgrid and file microgrid design details in the 2025 NDPP progress report but no later than six months from the Commission's approval.
- (b) Approve an additional not-to-exceed budget of \$3,175,000 for the rebuild on top of the already approved amount of \$15,900,000. This

1 total budget of \$19,075,000 should only be authorized to be spent until  
2 the end of 2026.

3 (c) Order NV Energy to only proceed with the microgrid design, permitting,  
4 and critical procurement of long lead equipment until it receives the  
5 Department of Energy (“DOE”) award.

6 (d) Order NV Energy to file the DOE award details in the 2025 NDPP  
7 progress report and submit any applicable true-up costs after the  
8 microgrid implementation in a future filing as needed.

9 2. Approve NV Energy’s request for implementing AiDash and Foundry Pilots  
10 with the following conditions:

11 (a) Order NV Energy to implement the AiDash and Foundry pilots for a  
12 not-to-exceed budget of \$249,700 and \$3,000,000, respectively, and  
13 targeting only NDPP risk tier miles. Any future technology  
14 implementation should be part of future filings.

15 (b) Order NV Energy to allocate the pilot and future technology  
16 implementation costs as 93% and 7% for Sierra and Nevada Power,  
17 respectively.

18 (c) Order NV Energy to review and adjust the cost allocations on an annual  
19 basis to factor in the system hardening measures (e.g., undergrounding,  
20 covered conductors, etc.).

21 3. Take notice of NV Energy’s implementation of the enhanced fire season  
22 protocols in 2024 and indicate that all related future costs can be brought  
23 forward for the Commission’s review in future general rate case proceedings.

24 **I. Recommendation No. 1: Approve the Mount Charleston Rebuild Plan, including the 50**  
25 **percent renewable fraction microgrid installation, with an additional not-to-exceed**  
26 **budget of \$3,175,000.**  
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1 **5. Q. Please summarize NV Energy's Mount Charleston Rebuild Plan.**

2 A. NV Energy's Mount Charleston Rebuild Plan includes a clean energy microgrid and  
3 implementation of Tier 3 construction standards.<sup>1</sup> The microgrid will comprise Phase  
4 1 of the rebuild plan and will be a permanent fire season activated microgrid using a  
5 combination of solar photovoltaic ("PV") generation, battery, and propane generation  
6 resulting in a 50 percent renewable profile. The 50 percent renewable profile for the  
7 microgrid will include a 1 megawatt ("MW") solar PV system, 2 MW battery, and 1  
8 MW propane generator.<sup>2</sup> NV Energy continues to work on the microgrid design that  
9 was not final during the discovery timeframe.<sup>3</sup> The implementation of the Tier 3  
10 construction standards will include reconductoring the Kyle Canyon 1201 circuit with  
11 covered conductor, ductile iron poles, fire mesh wrap technology, and non-expulsion  
12 fuses. Phase 1 of the rebuild plan will also include site maintenance to the Kyle  
13 Canyon substation consisting of enhanced drainage, retaining walls, and other basic  
14 improvements.<sup>4</sup>

15 **6. Q. Please summarize the alternatives that NV Energy evaluated for the Mount**  
16 **Charleston 50 percent renewable fraction microgrid implementation.**

17 A. NV Energy evaluated 11 options for the Mount Charleston rebuild. These options  
18 included, among others, building new distribution lines, undergrounding portions of  
19 existing lines, reconductoring portions of existing lines with covered conductor, and  
20 upgrading the Kyle Canyon substation with or without the microgrid with different  
21 renewable fractions.<sup>5</sup> The 50 percent renewable fraction microgrid is less expensive  
22 than any other rebuild or new distribution line options when combined with system  
23 hardening efforts to reductor Kyle Canyon 1201 circuit.<sup>6</sup>

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26 <sup>1</sup> Refiled Application at 43 of 337.

27 <sup>2</sup> See Attachment GS-2, NV Energy's response to Staff DR 2 Attach 02 (excerpt included).

<sup>3</sup> See Attachment GS-3, NV Energy's response to Staff DR 41.

<sup>4</sup> Prepared Direct Testimony of Ms. Howard at Q&A 41.

28 <sup>5</sup> See Attachment GS-4, NV Energy's response to Staff DR 1 Attach 04.

<sup>6</sup> Id. Attachment GS-4.

1 **7. Q. Please explain whether Staff has any reservations about the Mount Charleston**  
2 **Rebuild Plan.**

3 A. While I support the proposed Mount Charleston rebuild as described above, I also  
4 recommend some guardrails around the cashflow source required for the rebuild  
5 implementation and sharing of the DOE grant award with the microgrid design details.  
6 NV Energy originally requested approximately \$74 million for a comprehensive rebuild  
7 of the Mount Charleston system, and the Commission approved approximately \$15.9  
8 million for the Mount Charleston rebuild for years 2024 to 2026.<sup>7</sup> Based on the  
9 comparative analysis summarized above, NV Energy concluded that the microgrid and  
10 Tier 3 construction standards would reduce the risk of wildfire ignition and lower the  
11 likelihood of a public safety outage management (“PSOM”) at a lower projected cost.<sup>8</sup>

12 In this filing, NV Energy is only requesting approval of an additional  
13 \$3,175,000 above the approved amount to implement Phase 1, for a total of \$19,075,000  
14 through 2026.<sup>9</sup> Any additional budgetary requests will be included in future filings.<sup>10</sup>  
15 NV Energy is currently in negotiations with the DOE for the Grid Resilience Innovation  
16 Partnership (“GRIP”) grant funding to accelerate resilience efforts.<sup>11</sup> NV Energy has  
17 agreed to provide the grant implementation plan in the 2025 NDPP Progress Report that  
18 will be filed on or before September 1, 2025. NV Energy is expecting the DOE GRIP  
19 award by August 1, 2025.<sup>12</sup> With this forecast and existing approval of approximately  
20 \$15.9 million, NV Energy should have adequate funding authorization regardless of the  
21 DOE GRIP award to complete permitting, design, and long lead equipment procurement  
22 for the Mount Charleston rebuild. The conclusion that NV Energy should have adequate  
23 funding regardless of the federal funding is based on the total Option #9 forecast of  
24 approximately \$21.8 million and Phase 1 implementation budget of approximately \$19.1  
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26 <sup>7</sup> Refiled Application at Pages 42 and 43 of 337.

27 <sup>8</sup> Refiled Application at Page 43 of 337.

<sup>9</sup> Refiled Application at Page 44 of 337.

28 <sup>10</sup> *Id.* at 44 of 337.

<sup>11</sup> Refiled Application at 24 of 337.

<sup>12</sup> See Attachment GS-5, NV Energy’s response to Staff DR 35.

1 million. NV Energy also factored in the 90-day delay for the federal administration's  
2 review of the GRIP funding award in their cash flow forecast.<sup>13</sup> Staff is recommending  
3 this approach because of the approximately \$30 million of federal funding that can be  
4 used for the Mount Charleston rebuild and pending detailed design completion,  
5 competitive procurement, and contract(s) execution for the project(s) implementation.<sup>14</sup>  
6 If there is any true up of any spend needed upon the use of all GRIP funding, NV  
7 Energy can submit that request to the Commission in a future filing.

8 **8. Q. What is your recommendation regarding the Mount Charleston Rebuild Plan?**

9 A. Staff recommends that the Commission approve the Mount Charleston Rebuild Plan  
10 with the following conditions:

- 11 (a) Order NV Energy to install the 50 percent renewable fraction microgrid and  
12 file microgrid design details in the 2025 NDPP progress report but no later  
13 than six months from the Commission's approval.
- 14 (b) Approve an additional not-to-exceed budget of \$3,175,000 for the rebuild on  
15 top of the already approved amount of \$15,900,000. This total budget of  
16 \$19,075,000 should only be authorized to be spent until the end of 2026.
- 17 (c) Order NV Energy to only proceed with the microgrid design, permitting, and  
18 critical procurement of long lead equipment until it receives the DOE award.
- 19 (d) Order NV Energy to file the DOE award details in the 2025 NDPP progress  
20 report and submit any applicable true-up costs after the microgrid  
21 implementation in a future filing as needed.

22 **II. Recommendation No. 2: Approve NV Energy's request for Implementing AiDash and**  
23 **Palantir Foundry Pilots with modified cost allocation.**

27 <sup>13</sup> *Id.* Attachment GS-3.

28 <sup>14</sup> *See* Attachment GS-6, NV Energy's response to Staff DR 36 and Attachment GS-7, NV Energy's response to Staff DR 1, with emphasis on part 4.

1 **9. Q. Please summarize the AiDash and Palantir Foundry emerging technologies.**

2 A. AiDash and Foundry are vegetation management and wildfire data management  
3 emerging technologies. AiDash combines satellite imagery and artificial intelligence  
4 (“AI”) to establish an intelligent vegetation management system.<sup>15</sup> AiDash is forecasted  
5 to enhance vegetation management activities with intelligent predictive analysis.<sup>16</sup>  
6 Foundry is forecasted to be an enhanced business intelligence tool that will bring in and  
7 analyze wildfire-related datasets to reduce manual errors and processing delays for an  
8 efficient implementation of natural disaster mitigation operating programs.<sup>17</sup> NV Energy  
9 is forecasting to implement AiDash for use cases as part of the overall evaluation of how  
10 remote sensing and satellite imagery will enhance efficiency and effectiveness of the  
11 vegetation management program over legacy processes used today.<sup>18</sup> NV Energy is  
12 forecasting to implement Foundry for elevated fire risk settings, fire incident tracking  
13 and reporting, PSOM event reporting, and customer notifications.<sup>19</sup>

14 **10. Q. Please elaborate on the AiDash and Palantir Foundry Pilots as proposed in this**  
15 **filing.**

16 A. NV Energy’s AiDash pilot’s scope of work proposes to analyze 500 miles of overhead  
17 transmission lines and 1,250 miles of overhead distribution lines over 12 months to  
18 analyze the vegetation management use cases referenced above. The proposed cost is  
19 \$249,700 and includes all supervision, labor, materials, equipment, and tools to  
20 complete the AiDash pilot project.<sup>20</sup>

21 NV Energy’s Foundry pilot’s scope of work proposes to establish a central  
22 wildfire data management platform (“WDMP”) to integrate and analyze wildfire-related  
23 datasets. This WDMP will perform three primary use cases and potentially several  
24 additional use cases. The three primary use cases include elevated fire risk settings; fire

26 <sup>15</sup> Refiled Application at 41 of 337.

27 <sup>16</sup> See Attachment GS-8, NV Energy’s response to Staff DR 2, with emphasis on part 1.

28 <sup>17</sup> Refiled Application at 42 of 337.

<sup>18</sup> Id. Attachment GS-8.

<sup>19</sup> Refiled Application at 42 of 337.

<sup>20</sup> See Attachment GS-9, NV Energy’s response to Staff DR 22, Supplement 1, Attach 01.

1 incident tracking and reporting; and PSOM event reporting and customer notifications  
2 across targeted circuits with available mapping, asset, meteorology, fire risk, outage,  
3 customer, and other related data. Other use cases proposed in the 18-month Foundry  
4 pilot are inspections and assets data reporting; elevated fire risk outage dashboard,  
5 validation, and customer outreach; PSOM circuit scoping for meteorologists; fire  
6 encroachment alerting, reporting, and customer notifications; and outage  
7 investigations.<sup>21</sup> The proposed cost is \$3,000,000 and includes all supervision, labor,  
8 materials, equipment, and tools to support the NV Energy WDMF execute the above-  
9 mentioned use cases through 2026.<sup>22</sup> NV Energy has not conducted a request for  
10 proposals (“RFP”) to perform a competitive price and technical evaluation but plans to  
11 utilize the pilot results to scope a formal RFP.<sup>23</sup>

12 **11. Q. Based on the summary you provided in Q&As 9 and 10, do you support the AiDash**  
13 **and Foundry Pilots?**

14 A. Staff generally supports the AiDash and Foundry Pilots. There have been technological  
15 advancements since the inaugural NDPP in 2020, and AiDash and Foundry pilots are  
16 technology improvements with the potential provide benefits that include leveraging  
17 future industrywide improvements and providing cost-effective natural disaster risk  
18 mitigation. Both tools upon successful proof of concept implementation might help in  
19 proactive risk mitigation and predictive analytics. PacifiCorp, a Berkshire Hathaway  
20 Energy (“BHE”) utility like NV Energy, has been using Foundry to perform predictive  
21 analysis and for other applications noted in Q&A 10 above.<sup>23</sup> AiDash is not being used  
22 by a BHE utility, but more than 135 utilities are using AiDash’s intelligent vegetation  
23 management system.<sup>24</sup> Given their existing use and potential to improve efficiency for  
24 data collection, recordkeeping, reporting, customer communications, and predictive  
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27 <sup>21</sup> See Attachment GS-10, NV Energy’s response to Staff DR 28 Attach 01 (excerpt included).

<sup>22</sup> Refiled Application at 42 of 337.

<sup>23</sup> *Id.* Attachment GS-8, with emphasis on part 1.

28 <sup>24</sup> AiDash Intelligent Vegetation Management System website, <https://www.aidash.com/vegetation-management-system/> (Accessed on March 17, 2025)

1 decision-making, implementing these two pilots is reasonable. Nevertheless, I  
2 recommend some modifications to NV Energy's proposal in Q&A 12 below.

3 **12. Q. Does Staff have any modifications to NV Energy's proposal for the use of emerging**  
4 **technologies?**

5 A. Yes. NV Energy has not conducted a RFP process to perform a competitive price and  
6 technical evaluation. This means NV Energy has not completed a technical and cost  
7 evaluation as part of a formal RFP for Palantir Foundry and AiDash. Competitive  
8 technical and cost evaluations ensure that utilities select the best value technology that is  
9 going to provide a long-term benefit. Based on this and NV Energy's plan to use the  
10 pilot results to scope a future formal RFP to assess the market,<sup>25</sup> I recommend that the  
11 Commission approve the implementation of AiDash and Foundry pilots for \$249,700  
12 and \$3,000,000, respectively. If the pilots include any non-NDPP risk tier or non-tier  
13 line miles, those costs shall be excluded from the actual costs for recovery. Finally, any  
14 future technology implementation should be part of future filings.

15 Staff asked NV Energy for the basis of allocating approximately 26 percent of  
16 the total emerging technologies and strategies costs to Nevada Power in Table 14 of the  
17 filing. NV Energy responded that it based the 26 percent and 74 percent costs allocation  
18 on each system's total overhead line miles.<sup>26</sup> Staff asked NV Energy to update the Staff  
19 DR 26 Attachment titled "2024 NDPP Asset Inventory" by removing the non-tier miles  
20 because both the technologies, and especially their pilots, will be focused on the Tier 3,  
21 2, 1E, and 1 overhead systems. Staff also confirmed that the transmission and  
22 distribution under-build miles are included in the allocation calculations and NV Energy  
23 will review and adjust the cost allocations on an annual basis to factor the system  
24 hardening measures (e.g., undergrounding, covered conductors, etc.).<sup>27</sup> Based on NV  
25 Energy's responses and using the total tier overhead line miles for each system, I  
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27 <sup>25</sup> *Id.* Attachment GS-8, with emphasis on part 1.

28 <sup>26</sup> *See* Attachment GS-11, NV Energy's response to Staff DR 26.

<sup>27</sup> *See* Attachment GS-12, NV Energy's response to Staff DR 50.

1 recommend that the Commission order NV Energy to allocate the pilot and future  
2 technology implementation costs as 93% and 7% for Sierra and Nevada Power,  
3 respectively.

4 **13. Q. Please summarize your recommendation regarding the emerging technologies**  
5 **pilots.**

6 A. Staff recommends that the Commission:

7 (a) Order NV Energy to implement the AiDash and Foundry pilots for a not-to-  
8 exceed budget of \$249,700 and \$3,000,000, respectively, and targeting only  
9 NDPP risk tier miles. Any future technology implementation should be part of  
10 future filings.

11 (b) Order NV Energy to allocate the pilot and future technology implementation  
12 costs as 93% and 7% for Sierra and Nevada Power, respectively.

13 (c) Order NV Energy to review and adjust the cost allocations on an annual basis to  
14 factor the system hardening measures (e.g., undergrounding, covered  
15 conductors, etc.).

16 **III. Recommendation No. 3: Take notice of NV Energy's implementation of the enhanced**  
17 **fire season protocols in 2024 and indicate that all future costs related to this**  
18 **implementation can be brought forward for the Commission's approval in future general**  
19 **rate case proceedings.**

20 **14. Q. Please summarize NV Energy's enhanced fire season protocols included in this**  
21 **filing.**

22 A. NV Energy included the following enhanced fire season protocols as an informational  
23 update in Docket No. 24-07003<sup>28</sup>:

- 24 • Expansion of PSOM systemwide and not just for Tiers 3, 2, and 1E.

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<sup>28</sup> See Docket No. 24-07003, Fire Season Informational Update, Pages 15 and 16.

- Deployment of fast trip fire mode (“FTFM”) on selected circuits in Tiers 3, 2, and 1E to rapidly and automatically deenergize the overhead power lines during the fire season.
- Adoption of NV Energy’s emergency de-energization wildfire policy when a wildfire gets close to NV Energy’s equipment and based upon the fire risk and sustained wind speed.

As noted in Docket No. 24-07003, NV Energy implemented these three enhanced fire season protocols during the 2024 fire season and is not seeking any increased costs in the instant docket with these protocols. NV Energy further confirmed that these enhanced fire season protocols do not change the approved NDPP budgets, and any related subsequent costs will be sought for recovery through future general rate recovery proceedings.<sup>29</sup>

**15. Q. Please elaborate on any budgetary impacts of implementing these enhanced fire season protocols.**

A. NV Energy confirmed that there is no budgetary impact to the approved NDPP budgets both in the application and in response to Staff DR 3.<sup>30</sup> NV Energy also confirmed that all future implementation costs for the enhanced fire season protocols will be brought forward for the Commission’s review and approval in a future general rate case.<sup>31</sup>

Therefore, all subsequent costs associated with implementing these enhanced fire season protocols are best suited to be brought forward in future general rate case proceedings.

**16. Q. Based on the summary provided in Q&As 15 and 16, should the Commission approve the enhanced fire season protocols implementation at this time?**

A. No. NV Energy implemented all three enhanced fire season protocols during the 2024 fire season.<sup>32</sup> Therefore, I don’t believe that the Commission needs to retroactively

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<sup>29</sup> See Attachment GS-13, NV Energy’s response to Staff DR 3.

<sup>30</sup> Refiled Application at 32 of 337.

<sup>31</sup> *Id.* Attachment GS-13.

<sup>32</sup> *Id.* at 32 of 337.

1 approve these protocols at this time. Similar to other electric utilities who implemented  
2 these enhanced fire season protocols,<sup>33</sup> I expect NV Energy to take all time sensitive  
3 natural disaster risk mitigation steps but not ask for similar retroactive approvals in the  
4 future.

5 **17. Q. Please summarize your recommendation regarding the enhanced fire season**  
6 **protocols.**

7 A. Staff recommends that the Commission take note of NV Energy's implementation  
8 of the enhanced fire season protocols in 2024 and indicate that all future costs  
9 related to this implementation should be brought forward for the Commission's  
10 review and potential approval in the appropriate future general rate case  
11 proceedings.

12 **18. Q. Please summarize your recommendations.**

13 A. I recommend that the Commission:

14 1. Approve the Mount Charleston Rebuild Plan with the following conditions:

15 (a) Order NV Energy to install the 50 percent renewable fraction microgrid  
16 and file microgrid design details in the 2025 NDPP progress report but  
17 no later than six months from the Commission's approval.

18 (b) Approve an additional not-to-exceed budget of \$3,175,000 for the  
19 rebuild on top of the already approved amount of \$15,900,000. This  
20 total budget of \$19,075,000 should only be authorized to be spent until  
21 the end of 2026.

22 (c) Order NV Energy to only proceed with the microgrid design, permitting,  
23 and critical procurement of long lead equipment until it receives the  
24 DOE award.

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28 <sup>33</sup> See Attachment GS-14, NV Energy's response to Staff DR 4, Benchmarking Table for NV Energy PSOM  
Expansion.

1 (d) Order NV Energy to file the DOE award details in the 2025 NDPP  
2 progress report and submit any applicable true-up costs after the  
3 microgrid implementation in a future filing as needed.

4 2. Approve NV Energy's request for implementing AiDash and Foundry Pilots  
5 with the following conditions:

6 (a) Order NV Energy to implement the AiDash and Foundry pilots for a  
7 not-to-exceed budget of \$249,700 and \$3,000,000, respectively, and  
8 targeting only NDPP risk tier miles. Any future technology  
9 implementation should be part of future filings.

10 (b) Order NV Energy to allocate the pilot and future technology  
11 implementation costs as 93% and 7% for Sierra and Nevada Power,  
12 respectively.

13 (c) Order NV Energy to review and adjust the cost allocations on an annual  
14 basis to factor in the system hardening measures (e.g., undergrounding,  
15 covered conductors, etc.).

16 3. Take notice of NV Energy's implementation of the enhanced fire season  
17 protocols in 2024 and indicate that all future costs related to this  
18 implementation can be brought forward for the Commission's review in future  
19 general rate case proceedings.

20 19. Q. Does this conclude your testimony?

21 A. Yes. It does.  
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## Work History

05/24 – Present Public Utilities Commission of Nevada

### **Regulatory Engineer**

Provide engineering analysis and testimony for the Public Utilities Commission of Nevada involving resource planning for Nevada Power Company and Sierra Pacific Power Company.

01/09 – 01/18 and 09/18 – 04/24 NV Energy

### **Several Positions: Director, Renewables & Origination, Risk Management**

### **Director, Senior Project Manager (Generation) and Environmental Engineer**

Worked in Renewables, Electric Delivery, Generation and Environmental departments at NV Energy supporting renewables and energy storage origination, energy procurement, natural disaster protection plan, power plant planning, construction, decommissioning, and environmental permitting and compliance projects.

01/18 – 09/18 Walmart

### **Senior Energy Manager**

Led opportunity identification, bid solicitation, due diligence, contract negotiation, and origination of new renewable energy transactions as required to achieve Walmart and Sams Club's sustainability goals.

01/06 – 12/08 Trinity Consultants

### **Senior Consultant**

Managed several strategic client accounts and performed lead identification, proposal writing and presentation, bid submittals, project management, budget tracking, and accounting tasks for environmental permitting, compliance, and management information system implementation projects for industrial clients.

04/04 – 01/06 Enviroplan Consulting

### **Staff Engineer**

Managed more than 40 air permitting projects for several regulatory agencies (Kentucky, Indiana, and Allegheny County air quality agencies).

06/02 – 04/04 State of Kentucky, Division for Air Quality

### **Environmental Engineer Assistant**

Reviewed plans, specifications, and air quality permit applications for petroleum refinery, inorganic and organic chemical plants and other chemical manufacturing industries.

## Education

August 2000 – July 2002 University of Kentucky

### **Master of Science in Chemical Engineering**

June 2010 – July 2012 Brigham Young University

### **Master of Business Administration**

**DRAFT**  
**Natural Disaster Protection Plan**  
**Mount Charleston Rebuild**

**Key Decision Report**

**Description:** Decision regarding rebuilding the Mount Charleston region in Tier 3 to reduce fire ignition risk and eliminate the need for proactive de-energization events in the area.

**ID:**

**Owners:** Danyale Howard & Dan Zaccagnino

**Date:** 4/5/2024

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**Description of Key Decision:**

In its order for NV Energy's 2023 Triennial Natural Disaster Protection Plan Update ("2023 NDPP"), the Commission noted that the budget in that NDPP for Nevada Power Company undergrounding only included approximately \$1.9 million for Angel Peak, with approximately \$15.9 million for Mount Charleston appearing as a line rebuild budget item. The Commission approved the approximately \$15.9 million dollars for the Mount Charleston line rebuild design and permitting but did not at that time approve any additional spending beyond that amount, nor beyond the 2024-2026 triennium.

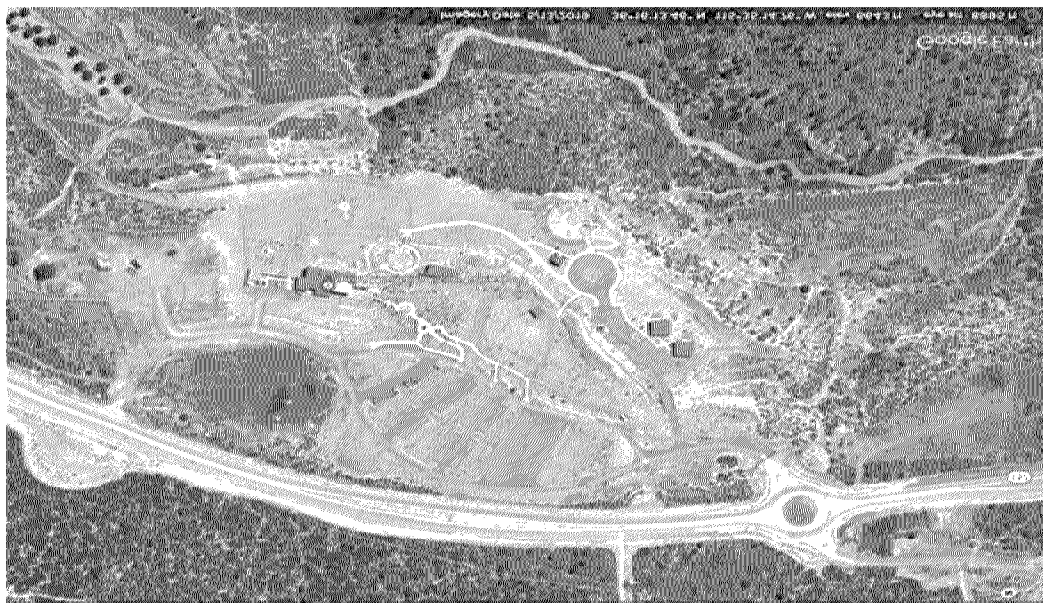
NV Energy's 2023 NDPP identified portions of the Mount Charleston distribution line that have experienced extreme damage, most specifically in the wildfire Tier 3 area. Currently, the short- and medium-term wildfire mitigation preventive actions include initiating Public Safety Outage Management ("PSOM") events.

NV Energy is evaluating long-term wildfire mitigation efforts, such as system hardening options to reduce the risk of a wildfire being caused by utility infrastructure during extreme fire weather, while also minimizing the likelihood of PSOM events in the Mount Charleston area. The system hardening activities under evaluation include undergrounding sections of the circuits, installing ductile iron in place of wood-pole-equivalent structures, and utilizing tree-wire covered conductor or spacer cable technology and changes in engineering and design specifications. NV Energy is also evaluating a permanent microgrid in the Mount Charleston region to minimize and reduce the number of PSOM events for the businesses and residents and to reduce the risk of wildfire ignition.

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**Recommendations:**

This report makes the following recommendation(s):



### System Architectures

Two microgrid system architectures were analyzed to determine the optimal system based upon performance and cost. System 1 was designed to achieve an 80 percent renewable fraction and so would require a larger capacity solar PV system, inverters, and BESS. System 2 was designed to achieve a 50 percent renewable fraction and so would require a smaller capacity solar PV system, inverters, and BESS, but a larger annual fuel consumption by the propane generator to sustain the local load during peak times. Table 1 below summarizes the two system architectures.

**TABLE 1:**  
**MICROGRID SYSTEM ARCHITECTURES SPECIFICATIONS**

Equipment	System 1: 80 Percent Renewable Fraction		System 2: 50 Percent Renewable Fraction	
	Aggregate Capacity	Unit	Aggregate Capacity	Unit
<i>PV Inverter</i>	1,800	kW	1,000	kW
<i>PV Module</i>	2,250.38	kW_DC	1,250	kW_DC
<i>BESS Inverter</i>	3,000	kVA	2,000	kVA
<i>(power capacity)</i>	2,937	kW	1,958	kW
<i>BESS (energy capacity)</i>	11,748	kWh	7,832	kWh
<i>Generator</i>	1,250	kVA	1,250	kVA
	1,000	kW	1,000	kW
<i>Propane Tank</i>	16,000	Gals	16,000	Gals
<i>Renewable Fraction</i>	80	Percent	50%	Percent
<i>Annual Fuel Consumption</i>	32,144	Gals	79,925	Gals

# NV Energy

## RESPONSE TO INFORMATION REQUEST

DOCKET NO:	24-12016	REQUEST DATE:	01-28-2025
REQUEST NO:	Staff 41	KEYWORD:	Mt. Charleston Preliminary Design & Staff 01
REQUESTER:	Shil	RESPONDER:	Zaccagnino, Daniel (NV Energy)

### REQUEST:

Reference: Mt. Charleston Microgrid - Propane Generation and Island Operation

Question:

1. Please share the preliminary design (also including capacities, operating hours, etc.) and ownership or lease structure for the propane tank, generator, and related equipment to support the propane generation portion of the Mt. Charleston microgrid.
2. Staff-1, Attach-02 Key Decision Report specifies April 1-Nov 30 full island operation. Please describe if the Companies evaluated a standby island operation for April 1-Nov 30 that would be converted to a full island operation leading up to an extreme fire weather forecast. If yes, please explain the reasoning to not propose the standby operation as suggested above. If not, please explain.
3. Staff-1's response stated, "NV Energy assumes that the probability of an award nears 100% but the timing remains uncertain." In light of the Office of Management and Budget's (OMB) memorandum (refer to the link below), dated January 27, 2025, please explain if this direction from the OMB will have any impact on the Grid Resilience and Innovation Partnership (GRIP) funding for the Mt. Charleston rebuild. Please update responses to Staff-1, 34, 35, and any other related data request responses as needed.  
<https://www.documentcloud.org/documents/25506191-omb-memo-1-27/>

RESPONSE CONFIDENTIAL (yes or no): No.

TOTAL NUMBER OF ATTACHMENTS: None.

**RESPONSE:**

1. A preliminary design has not yet been performed because a vendor has not been awarded. If the proposed modification to the Mt. Charleston rebuild is approved, the Company will proceed with an RFP and award of contract to work with the selected vendor to complete the design.
2. The Company leases a standby microgrid using diesel generators during fire season located at Kyle Canyon substation. This microgrid manually activates during PSOM events for the Angel Peak proactive de-energization zone (PDZ), if weather criteria in the Kyle Canyon PDZ does not meet the PSOM threshold. If weather criteria in both Angel Peak and Kyle Canyon PDZs meet the PSOM threshold then the microgrid does not activate.
3. The U.S. government rescinded the Office of Management and Budget (OMB) initial memorandum dated January 27, 2025, on January 29, 2025. Therefore, the Company anticipates there will be no impact to the Grid Resilience and Innovation Partnership (GRIP) 2 funding for the Mt. Charleston Microgrid project due to the OMB memorandum. However, the new administration signed the "Unleashing American Energy" Executive Order which says disbursement of funds related to the GRIP grants is on pause for 90 days pending review and determination how programs support the new administrations energy goals. The 90-day delay has been factored into the expected award date for the GRIP 2 grant the Company has been conditionally selected to receive.

## OPTION MATRIX

[illegible]

# NV Energy

## RESPONSE TO INFORMATION REQUEST

DOCKET NO:	24-12016	REQUEST DATE:	01-21-2025
REQUEST NO:	Staff 35	KEYWORD:	Staff 01 Attach 03 & DOE GRIP
REQUESTER:	Shil	RESPONDER:	Zaccagnino, Daniel (NV Energy)

### REQUEST:

Reference: Mt. Charleston Rebuild Cost NVE Share

Question: Please revise the Mt. Charleston Rebuild NVE Share tab of Staff-1 Attach 03 to specify the years and months represented in each of the five periods. Additionally, specify in which year and month NV Energy expects the final award decision for the DOE GRIP grant. If needed, please include a time period buffer for the DOE GRIP grant funding cash flow.

RESPONSE CONFIDENTIAL (yes or no): No

ATTACHMENT CONFIDENTIAL (yes or no): No

TOTAL NUMBER OF ATTACHMENTS: One (Zipped)

### RESPONSE:

24-12016 Staff 35 – Attach 01 is a revised version of Staff – 1 Attach 03 that specifies the years and months for each period. Further, it specifies the year and month NV Energy anticipates final award decision for the DOE GRIP grant, acknowledging negotiations are not finalized. Given the federal administration's review of the DOE's GRIP grants, NV Energy is hopeful that the grant allocation will not be impacted. If the 90 day review is all that is required, negotiations will continue into Q2, with a possible final award for Q3. NV Energy will provide an update in the 2025 Progress Report.

Period dates

- Period 1 (9/1/2025-8/31/2026)

- Period 2 (9/1/2026-8/31/2027)
- Period 3 (9/1/2027-8/31/2028)
- Period 4 (9/1/2028-8/31/2029)
- Period 5 (9/1/2029-8/31/2030)

Expected DOE GRIP 2 Award

- 8/1/2025

# NV Energy

## RESPONSE TO INFORMATION REQUEST

DOCKET NO:	24-12016	REQUEST DATE:	01-21-2025
REQUEST NO:	Staff 36	KEYWORD:	Non Wire Alternatives
REQUESTER:	Shil	RESPONDER:	Howard, Danyale (NV Energy)

### REQUEST:

Reference: Rule 15 Update Impact

Question: Please confirm that the Non Wire Alternatives analysis, Rule 15 review per the revisions planned for 2025, and any other future regulatory compliance related revisions (known at this time) to the proposed Mt. Charleston rebuild, will not result in revision to the cost estimate specified in the Staff-1 Attach 02 Key Decision Report.

RESPONSE CONFIDENTIAL (yes or no): No

TOTAL NUMBER OF ATTACHMENTS: None

### RESPONSE:

The Key Decision Report is the Company's best estimate based on the information available and without engineering or a executed contracts. Costs will be refined through the RFP process and as contract terms and costs are known.

# NV Energy

## RESPONSE TO INFORMATION REQUEST

DOCKET NO:	24-12016	REQUEST DATE:	12-20-2024
REQUEST NO:	Staff 01	KEYWORD:	mt charleston rebuild spend 2022-2024 budget forecast 2025 2026; appendix c exec
REQUESTER:	Shil	RESPONDER:	Howard, Danyale

### REQUEST:

Reference: Mt. Charleston Rebuild

Question: (1) Please provide the actual spend for last three years (2022-2024) and budgetary forecast for 2025 and 2026 in each of the six NDPP program areas only for Mt. Charleston. Please provide data on an annual basis and describe the impact on future spend (even if outside the triennial action plan) in each of the six program areas after commissioning of each of the Mt. Charleston rebuild phases.

(2) Please provide an executable file or document that includes the Mt. Charleston rebuild cost benefit analysis.

(3) (a) Please describe the relationship between the Mt. Charleston microgrid proposal and NV Energy's Distributed Resource Plan/Non-Wires Alternative analyses. (b) Please share the DRP/NWA analyses that was performed to support the Mt. Charleston microgrid. (c) Please describe if the Mt. Charleston microgrid is also required to be included in a future DRP/DRP amendment filing for NAC/NRS compliance and include the supporting basis.

(4) Please split and provide the annual Mt. Charleston rebuild estimate as the preand post- Grid Resilience and Innovation Partnership Funding announcement date. Please specify if partial year estimates are included. Award probability contingency may also be included as needed.

(5) Please describe in detail if behind the meter solutions (e.g., tariff-on-bill concept, as proposed in the 2024 IRP just for Mt. Charleston, including rooftop solar, powerwalls, HVAC improvements, etc.) were evaluated as an option for comparison with the microgrid. If yes, please share the evaluation details. If not, please describe why not.

(6) Please provide an executable version of Appendix C: Mt. Charleston Alternatives Considered.

If requested details for this and any data request in this batch are already included in the amendment filing, please include page and section number references in the response.

Please contact Percy Lucban (plucban@puc.nv.gov) or Gaurav Shil (gshil@puc.nv.gov) if there are any questions related to any data request in this batch.

**RESPONSE CONFIDENTIAL (yes or no):** No

**ATTACHMENT CONFIDENTIAL (yes or no):** No

**TOTAL NUMBER OF ATTACHMENTS:** Four (Zipped)

**RESPONSE:**

1) 24-12016 – Staff 1 - Attach 01 includes spend for the last three years (2022 – 2024) and budgetary forecast for 2025 and 2026 in each of the six NDPP program areas for Mt. Charleston

2.) 24-12016 – Staff 1 - Attach 02 is the draft Key Decision Report prepared to consider costs and options for installing a micro-grid as part of the Mt. Charleston rebuild.

3.a. ) NV Energy noted its potential Mt. Charleston microgrid project as informational in its Distributed Resources Plan (“DRP”) on pages 148-149 and 214 of 304 in Volume 20 of its Integrated Resource Plan (“IRP”) filed in Docket No. 24-05041 because the microgrid project is an alternative to the already approved rebuild within the NDPP plan. NV Energy notes that its proposed Mt. Charleston microgrid project is an example of a non-wires solution to an identified constraint on its electric system, and thus, a connection to its DRP exists given that analysis of the suitability of non-wires alternative (“NWA”) solutions to mitigate identified transmission and distribution system constraints is required within the DRP in accordance with applicable sections of Nevada Administrative Code (“NAC”) and the microgrid solution would include distributed energy resource technologies. The Companies also note that Critical Suitability Criterion B in DRP-Figure 10 in the DRP filed in Docket No. 24-05041 related to NWA analysis suitability and screening includes constraints that could be eliminated or deferred by serving the local load through local generation resources or other distributed energy resources.

3.b.) Beyond the analysis provided in Appendix C of this filing, NV Energy has not performed an NWA analysis for the Mt. Charleston microgrid project in the form typically contained in its DRP filings. Should such an NWA analysis be performed, NV Energy expects that certain alterations to its MS Excel NWA Screening Analysis Tool would be necessary to more accurately model the

unique constraint situation in the Mt. Charleston area, but believes that it is possible to make any necessary alterations.

3.c.) NV Energy does not interpret the sections of Nevada Revised Statutes and NAC applicable to the DRP as requiring that the Mt. Charleston microgrid project be included in a future DRP or DRP amendment for review and approval by the Commission because the solution is primarily driven by NDPP risk mitigation rather than distribution planning needs. However, if NV Energy were to request Commission approval of the Mt. Charleston microgrid project through a DRP application, the Companies would expect that such an application would either be an amendment to its approved DRP or a new DRP (filed as part of an IRP).

4.) Under the Bipartisan Infrastructure Law (BIL) The Grid Resilience and Innovation Partnership (GRIP) funding announcement afforded NV Energy the opportunity to enter into negotiations with the Department of Energy as a subrecipient. The Prime recipient, eSource, has been in discussions with the DOE and gathering required paperwork to enter into a contract for the Increasing Energy Resilience via Technology Investment Acceleration (INERTIA) proposal. As of this date, there are four utilities that are identified to share the \$77,021,741 proposed funding, as subrecipients of the award. No contract has been awarded either to eSource (prime) or NV Energy (subrecipient).

There is no "pre-award" in the DOE contracting process. The DOE's cost share is capped at just over \$31,000,000. Any costs that exceed the approximately \$30,000,000 grant, will be the responsibility of NV Energy.

It was originally estimated that the DOE grant would cover a 60 month period, that would begin in 2024-2025 through 2029-2030, assuming no GRIP program changes from the new administration in Washington, DC. As the current status of the GRIP grant is "unawarded," it is anticipated that partial year estimates will be required, especially for the first and last years. If an award is contracted in the first half of 2025, the project may conclude either in 2029 or 2030. NV Energy assumes that the probability of an award nears 100% but the timing remains uncertain.

NV Energy plans to use the funding to support advanced technologies, that includes the microgrid proposed for Mt. Charleston. Additional requirements to receive the award also include a community benefits plan for the region. 24-12016 – Staff 1 - Attach 03 provides the potential values for the Grid Resilience and Innovation Partnership (GRIP) funding.

5.) The reliability concern in the Mt. Charleston area would not be wholly mitigated (i.e., all customer load served during an unscheduled outage or scheduled PSOM event during fire season) by behind the meter solutions, unless all customers in the affected area implemented such solutions. This risk, and/or additional expense, of BTM solutions did not seem prudent, compared to the proposed microgrid solution, for such a critical community need. However, NV Energy will seek to deploy BTM solutions in conjunction with the microgrid, through either approved customer programs and GRIP grant funding, to broaden experience and knowledge of the combined technologies. Experience in this regard indicates that this would be improbable regardless of the solutions available. While the concern may be reduced if certain customers implemented behind the meter solutions, it would not be eliminated. In this regard, NV Energy believes that while it is possible to consider such behind the meter solutions in conjunction with

front of the meter microgrid technology options, such consideration would need to account for the possibility of cost offsets from the Grid Resilience and Innovation Partnership grant award funding that NV Energy is currently discussing with the Department of Energy and the technologies associated with that funding.

6. 24-12016 Staff 1 – Attach 04 is the executable version of Appendix C: Mt. Charleston Alternatives Considered.

# NV Energy

## RESPONSE TO INFORMATION REQUEST

DOCKET NO:	24-12016	REQUEST DATE:	12-20-2024
REQUEST NO:	Staff 02	KEYWORD:	data driven analytical tools; Palantir Foundry AiDash; budgetary estimates
REQUESTER:	Shil	RESPONDER:	Howard, Danyale

### REQUEST:

Reference: Data Driven Analysis

Question: (1) For data driven analytical tools (e.g., Palantir Foundry, AiDash etc.) that are included for approval in this amendment filing, please describe in detail if NV Energy evaluated whether any module, which includes both purchased and nonpurchased but available, should be utilized as part of the ORACLE business transformation system for the same functionality as the data driven analytical tools in this filing. If yes, please summarize the evaluation and share the results. If not, please describe why not.

(2) Please describe in detail the data driven analytical tools for similar functionalities (e.g., wildfire data management, intelligent vegetation management, etc.) that are used by (1) BHE's asset management team, (2) AltaLink, and (3) PacifiCorp. Please elaborate if NV Energy evaluated the consolidation or utilization of similar tools as the above utilities. If yes, please summarize the evaluation and share the results. If not, please describe why not.

(3) Please describe in detail the technical and cost competitiveness evaluations completed by NV Energy to support selection of Palantir Foundry, AiDash, and other data driven analytical tools along with the basis of budgetary estimates included in this filing. Please provide copies of NV Energy's scopes of work, proposals received from all vendors, authorization for expenditures, and key decision reports that were utilized to support the selection of the specific tools and preparation of budgetary estimates. Please contact Percy Lucban (plucban@puc.nv.gov) or Gaurav Shil (gshil@puc.nv.gov) if there are any questions related to any data request in this batch.

**RESPONSE CONFIDENTIAL (yes or no):** No

**ATTACHMENT CONFIDENTIAL (yes or no):** No

**TOTAL NUMBER OF ATTACHMENTS:** Three (Zipped)

**RESPONSE:**

1. The Companies collaborated with BHE peer utilities PacifiCorp (PAC) and AltaLink to determine existing and best practices. Of the three, AltaLink used a root cause analysis process for fire incident analysis, though it is manual and without intelligence. PAC had a robust application, Palantir Foundry, to capture data across multiple systems, standardize fire incident data for tracking, and provide predictive analysis and an enhanced PSOM customer communication module. The Companies are leveraging AltaLink lead on root cause analysis and PacifiCorp's work with Palantir Foundry to replace the Companies' manual excel tracking of fire incidents. The Companies chose to work with Palantir Foundry, having already been approved through BHE procurement processes, and because it improves consistency among the BHE affiliates.

The Companies also evaluated vegetation management processes. All three companies agreed using satellite remote sensing is an advantageous means to capture and analyze data versus using legacy methods, such as truck rolls, to perform reconnaissance needed to identify and develop scopes of work. AltaLink uses LiDar which does not include the intelligent predictive analysis feature AiDash does. For this reason, the Companies elected to pilot AiDash to evaluate use cases, costs and functionality. Pilot results will be used to scope a formal RFP to further assess the market for remote sensing and satellite imagery to manage vegetation management growth cycles, work schedules and store evidentiary records. Further, the Companies are pursuing the potential for partnership with AiDash or other suppliers for proof of concept as part of the overall evaluation of how remote sensing and satellite imagery will enhance efficiency and effectiveness of the vegetation management program over legacy processes used today.

Business Transformation does not include features offered AiDash or Palantir Foundry. PacifiCorp has already fully deployed Business Transformation, and has separately implemented the use of Palantir Foundry because its functionalities were not available through Business Transformation.

2. In addition to the discussion in response to part (1) above, AltaLink uses LiDar which currently has limited capability when compared to AiDash's intelligent predictive analysis feature. PacifiCorp uses Palantir Foundry for asset management, fire incident analysis, PSOM and other pro-active de-energization features.

3. The Companies selected Palantir Foundry based on the explanation provided previously. 24-12016 – Staff 2 – Attach 01 is the Authorization of Expenditure (AFE) for Palantir Foundry. 24-12016 – Staff 2 – Attach 02 is the Scope of Work (SOW) for Palantir Foundry. 24-12016 – Staff 2

– Attach 03 is the draft KDR initiated to pursue evaluation of remote sensing and satellite imaging through a pilot of AiDash.

## Statement of Work (SOW)

### NV Energy Vegetation Management Pilot Project Regarding Satellite Remote Sensing

#### Background

AiDash, Inc. (Contractor) to participate with NV Energy (NVE) in a pilot project. The pilot will demonstrate how remote sensing and artificial intelligence (AI) can create efficiencies by helping to optimize NVE's existing vegetation management and wildfire mitigation processes.

This pilot project is intended to explore the initiative identified in the Natural Disaster Protection Plan (NDPP) to utilize technology to improve vegetation management operations.

There are five (5) key use-cases NVE will evaluate with this pilot:

1. Can Contractor help NVE be more efficient with inspections? Currently, NVE performs manual inspections and does not have the manpower to look at every area at the frequency it would like. Could NVE reduce bodies in the field by using satellite imagery and AI for inspections and help NVE be more targeted to the most critical areas? The pilot will test whether Contractor is accurately finding and prioritizing the highest risk areas while skipping lower risk areas.
2. Can NVE use Contractor for NERC Patrols on lines that have no vegetation? NVE has many powerlines that run across open desert, and it is not cost efficient to inspect these lines when there is little to no vegetation risk.
3. What level of detail can Contractor provide on ground fuels in high wildfire areas? Can Contractor help NVE identify fuels in the ROW and determine resulting risk?
4. Can Contractor help NVE move to condition-based prioritization and planning? NVE currently plans by a scheduled rotation, meaning that some areas are over- and/or under-trimmed.
5. Can Contractor help NVE automate prioritization and the planning process? NVE currently plans on spreadsheets which creates challenges for a system the size of NVE's, hampering prioritization across the entire system.

#### Objectives

Contractor will utilize their proprietary Intelligent Vegetation Management System (IVMS), powered by satellite analytics and AI. IVMS uses high-resolution multispectral satellite imagery combined with on-ground inspection data to:

1. Effectively plan trim cycles through growth predictions and budget optimization;
2. Identify and manage hazard trees;
3. Detect ground fuels in high wildfire areas;
4. Categorize risk and prioritize mitigation across the entire system, and;
5. Execute other vegetation management activities.

Contractor currently works with 135 utilities in North America and is the only provider that can deliver both vegetation management and wildfire mitigation insights in a seamless platform.

Contractor's IVMS is the world's only satellite-powered vegetation management system deployed at scale for large utilities. It makes vegetation management proactive and predictive. The intent is to enable NVE's Vegetation Management to shift its program from expensive, reactive approaches to a lower-cost preventative maintenance program. Contractor also offers the Climate Risk Intelligence System (CRIS), which is focused on wildfire risk mitigation, preparation, and system hardening. CRIS will remotely scan NVE's highest risk wildfire areas to detect ground fuels, calculate ignition and spread risks, and quantify the consequence of a fire.

### Scope

Contractor proposes the following pilot project scope to analyze:

Overhead line miles (Transmission)	Overhead line miles (Distribution)	Duration (Months)	Cost (US\$)
500	1,250	12	\$249,700.

- Contractor shall provide all supervision, labor, materials, equipment, and tools to complete this pilot project.
- Contractor shall be responsible for performing services in accordance with all laws, rules, and regulations, whether Federal, State, County, or Municipal.
- Contractor will provide all equipment and ground proofing personnel to accomplish the pilot.
- All software will be cloud-hosted and fully administered and maintained by Contractor IT resources.
- NVE will own the results of the pilot, and Contractor will deliver them in whatever format is requested.
- NVE will provide adequate digital maps and shapefiles of our service territory for Contractor use.
- NVE will provide trimming specifications, estimated contractor costs, outage data, and business rules to facilitate contractor accurately creating models of NVE system.
- NVE will work collaboratively with Contractor to configure model and results to NVE specifications.

### Solutions

Contractor will provide two cloud-based software solutions.

#### **Intelligent Vegetation Management System (IVMS)**

1. Execute remote survey of NVE's lines via satellites replacing the need for some manual inspections and focusing NVE resources in the areas of greatest risk.
2. Leverage AI models that will learn the vegetation on NVE's system and will enable it to produce vegetation management plans that prioritize mitigating the greatest wildfire ignition and spread risk in the system.
3. Assess vegetation risk by analyzing the radial clearance of vegetation proximity to lines.
4. Identify trees that pose both a grow-in and fall-in risk to NVE lines.
5. Digitizing and automating the planning and work execution process through a desktop and mobile application.
6. Digitizing the current state of vegetation risk while factoring in budget needed to mitigate the risk, enabling executives and regulators to make data-driven decisions on risk mitigation

#### **Climate Risk Intelligence System (CRIS)**

1. Enable a data-driven approach to wildfire risk mitigation. CRIS is a geospatial software system that identifies, categorizes, and visualizes wildfire risk and facilitates the creation of mitigation

- plans and live wildfire risk management. CRIS combines vegetation, weather, and asset datasets to assess wildfire risk to the grid.
2. Determine whether CRIS provides more value to NVE than our current work with TechnoSylva

#### **Scheduling and Reports**

- The Contractor and NVE will mutually agree upon the optimum start and end dates to encompass the growing season.
- The Contractor will provide a status report on a weekly basis to NVE Manager, Vegetation Management or their delegate.
- The Contractor will deliver all results in IVMS and CRIS platforms as well as other formats specified by NVE.
- The Contract will participate in a field verification of all results at a mutually agreed upon time.
- Contractor will come onsite as needed for training, support, and results delivery.

#### **Invoice Requirement**

It is required of the Contractor to adhere to the following data needed to be present on their invoice for review prior to going to Accounts Payable (APay).

**Invoice Minimum Requirements** – each invoice submitted must include the following:

- Contractor Name, logo, mailing address, phone, email, and the word “INVOICE”
- Invoice #
- Purchase Order #
- Terms
- Invoice Date
- Name and mailing address for NV Energy
- ATTN: NV Energy Vegetation Management
- Date Range (Project Start / Project End)
- Description of work performed
- Unit of Measure (lump sum)



## SCOPE OF WORK ACKNOWLEDGEMENT ON WILDFIRE DATA MANAGEMENT PLATFORM

This Scope of Work Acknowledgement ("**SOWA**") is entered into by Nevada Power Company d/b/a NV Energy and Sierra Pacific Power Company d/b/a NV Energy, both Nevada corporations ("**Company**") and Palantir Technologies Inc. ("**Supplier**"). This SOWA is governed by the terms and conditions of the Master Professional Services Contract for Palantir Foundry – Wildfire Data Management Platform, contract BHEPS-2023-11892-BHE-CCA ("**Master Contract**"), dated May 17, 2023, by and between Supplier and Berkshire Hathaway Energy Company, and adopted by Company by the Affiliate Participation Letter dated July 19, 2024. Company is a participating Affiliate and this SOWA establishes a separate agreement by and between Company and Supplier (this SOWA and the Master Contract are, collectively, the "**Contract**"). In the event of a conflict between this SOWA and the Master Contract, this SOWA shall take precedence.

Supplier and Company desire to identify certain work ("**Work**") to be performed by Supplier and to reach certain other understandings with respect to the Work. Capitalized terms used but not defined in this SOWA shall have the meanings set out in the Master Contract.

It is therefore agreed as follows:

1. **Scope of Work.** Supplier shall perform the Work and provide Customer Software access as specified in Attachment 1.
2. **Pricing.** As consideration for the satisfactory performance of Supplier's obligations under this SOWA, Company shall pay Supplier as specified in the complete details, attached hereto as Attachment 2.
3. **Period of Performance of Work.** The period of performance begins upon the execution of this SOWA, and shall remain in effect until May 31, 2026, unless earlier terminated in accordance with the Master Contract. Notwithstanding the foregoing, Supplier is obligated to complete the Work by the Final Completion Date set forth in Attachment 1.

IN WITNESS WHEREOF, the parties hereto have executed this SOWA as of the date set forth below ("**Effective Date**").

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

By (Signature)  
Doug Cannon  
President and Chief Executive Officer

December 23, 2024

Date

Attachment 1 – Scope of Work and Specifications  
Attachment 2 – Pricing

Palantir Technologies Inc.

"Supplier"

By (Signature)  
Ryan Taylor  
Chief Revenue Officer and  
Chief Legal Officer

12/10/2024

Date

- Customer data
- Grid events timeseries data
- Ignition data

**c) Use Case 3: Fire Incident Tracking and Reporting**

**Summary**

Company and Supplier propose to configure a Fire Incident Tracking and Reporting tool on Foundry and make that data accessible in the platform for investigation, reporting, and notifications. Currently, Company may not know about fires that have not been reported by local authorities. This poses a risk to Company's assets and infrastructure. In order to have better visibility of potential and current fire risks, Supplier will configure a Fire Investigation Tracking and Reporting tool to collect and centralize all data around fire investigations. The tool will include an executive dashboard to display and summarize all fire incidents, including information on any associated outages.

**Pre-Conditions**

- Below listed Input data available
- Supplier employee or process to input all fire investigations and provide links to outage data
- Supplier SME to advise on dashboard and analysis

**Input Data**

- Fire incidents
- Outage data

**Flow & Features**

The FITR tool will both provide an input for all fire incident investigations and collect all data into an easily-navigable dashboard for executive reporting.

- Fire Incidents Investigation
  - i. Provide input tool to allow Company users to manually enter fire incidents from reports, OR provide automated input from external system if available
  - ii. Link Fire Incidents to Outage and other data to automatically provide much of the required information for investigation
  - iii. Track the status of investigations and flag when investigations require follow-up
- Fire Incidents Reporting
  - i. Dashboard to track investigations over time and geographical area
  - ii. Allow for drill-down into specific fire incident characteristics

**d) Additional Use Cases**

Configuration of Use Cases 1 – 3 is expected to last approximately three months. Once they are configured, the Parties through the joint governance process will mutually determine additional use cases to configure during the remainder of the Order Term, from the list of possible use cases below:

- **PSOM**
  - PSOM Executive Reporting
  - PSOM Circuit Scoping for Meteorologists
  - PSOM Local Government Liaison Communications
  - PSOM Post-Event Reporting
- **EFR**
  - EFR Outage Watchtower
  - EFR Device Validation
  - Customer Outreach Application
- **QDR**
  - QDR Filing for Inspections
  - QDR Filing for Assets
- **Fire Encroachment**
  - Fire Encroachment Alerting
  - Fire Encroachment Reporting
  - Fire Encroachment Customer Notifications
- **Outage Investigations**
  - Outage Investigations
  - Suggested Outage Investigation Rules
  - Corrective Actions Tracker
  - Outage Categorization

## 2. Palantir Professional Services Team

The Supplier's Professional Services team will be tailored to target Company's specific needs and will be comprised of Supplier's team members across different roles. Examples of such roles include:

- Project Lead
  - Primary point of contact
  - Ensures team is aligned against key outcomes
  - Communicates goals, needs, and wins to Executive Sponsor and other internal Customer stakeholders
  - Weekly Reporting including Risk and Issues
- Forward Deployed Engineer(s)
  - Integrates data into environment
  - Implements and deploys workflows
  - Configures the software
- Deployment Strategist(s)
  - Works with users to appropriately model data
  - Configures workflows and run analysis
  - Works with subject matter experts to identify value in data sets
- Data Scientist / Enterprise Architect / Product Development / Specialized Teams
  - Surges on specific requirements as discovered and mutually discussed with Customer

The team will include necessary qualified Supplier personnel to provide the agreed services. Precise roles will be mutually agreed upon by the Parties. Supplier reserves the right to commit additional resources as necessary at no additional charge. Some services, such as user training, may be provided by centralized Supplier resources.

### 3. Company Dependencies

Company shall provide the following to Supplier for the provision of Supplier's Professional Services.

- **Data Access**
  - Access to or provisioning of relevant data
  - Access to or provisioning of necessary network components for the purposes of data ingestion and integration
- **User Access**
  - Access to Company end users and subject matter experts for implementation and configuration support
  - Assistance from Customer's technical experts, and data owners to ensure proper operation of the Cloud Solution with Customer data and technology systems and infrastructure

Supplier shall communicate deficiencies in necessary Company Dependencies in a timely manner so that Company can find and assign appropriate resources and resolve blocking problems.

### 4. Project Management/Governance

Supplier shall deliver the strongest possible results through their proximity to and frequent feedback from Company stakeholders, including executive sponsors, IT, and users according to the "operating periods" in section A.4 below.

#### A.4 **Schedule**

1. Schedule. Supplier shall achieve Final Completion by the Final Completion Date. Company is not obligated to accept or pay for any Work furnished by Supplier prior to the Performance Start Date. Before Supplier is allowed on Site, it must be in conformance with all requisite certificates of insurance and payment and performance bonds, if required.

##### **Work Schedule**

<b>Performance Start Date:</b>	December 3, 2024
<b>Final Completion Date:</b>	May 31, 2026

#### A.5 **Period Reports and Meetings**

- **Daily or Every-Other-Day Check-Ins**

Check-ins are focused on reporting progress and issues, which can be broken down per workstream. Proposed workstreams roughly align with different project phases after the start of the engagement:

- Data identification and connection
- Data integration and pipelining
- Workflow configuration and user experience
- Data quality validation

2024 NDPP Asset Inventory Nevada Power and Sierra Pacific					
	Overhead System	Overhead Bare Primary Line Miles	Overhead Covered Primary Line Miles	Primary Underground Line Miles	% of Total System
Tier 3	NPC Transmission	-	-	-	0.00%
	NPC Distribution	16.00	-	3.00	0.06%
	SPPC Transmission	25.89	-	-	0.08%
	SPPD Distribution	165.04	5.12	105.41	0.89%
	<b>Total</b>	<b>206.93</b>	<b>5.12</b>	<b>108.41</b>	<b>1.04%</b>
Tier 2	NPC Transmission	-	-	-	0.00%
	NPC Distribution	-	-	-	0.00%
	SPPC Transmission	113.34	-	-	0.37%
	SPPD Distribution	317.51	2.08	295.52	1.99%
	<b>Total</b>	<b>430.85</b>	<b>2.08</b>	<b>295.52</b>	<b>2.36%</b>
Tier 1E	NPC Transmission	-	-	-	0.00%
	NPC Distribution	-	-	-	0.00%
	SPPC Transmission	245.06	-	11.14	0.83%
	SPPD Distribution	1,084.17	2.25	338.75	4.62%
	<b>Total</b>	<b>1,329.23</b>	<b>2.25</b>	<b>349.89</b>	<b>5.45%</b>
Tier 1	NPC Transmission	188.00	-	-	0.61%
	NPC Distribution	90.00	-	1,339.00	4.63%
	SPPC Transmission	839.22	-	2.55	2.73%
	SPPD Distribution	1,101.84	0.12	560.38	5.39%
	<b>Total</b>	<b>2,219.06</b>	<b>0.12</b>	<b>1,901.93</b>	<b>13.36%</b>
Non-Tier	NPC Transmission	2,019.69	-	14.66	6.60%
	NPC Distribution	1,619.46	-	11,275.41	41.82%
	SPPC Transmission	3,201.77	-	11.94	10.42%
	SPPD Distribution	3,977.78	-	1,863.29	18.94%
	<b>Total</b>	<b>10,818.70</b>	<b>-</b>	<b>13,165.30</b>	<b>77.78%</b>
System Total	NPC Transmission	2,207.69	-	14.66	7.21%
	NPC Distribution	1,725.46	-	12,617.41	46.51%
	SPPC Transmission	4,425.28	-	25.63	14.43%
	SPPD Distribution	6,646.34	9.57	3,163.35	31.84%
	<b>Total</b>	<b>15,004.77</b>	<b>9.57</b>	<b>15,821.05</b>	<b>100.00%</b>

NPC	3,933.15	26%
<u>SPPC</u>	<u>11,071.62</u>	<u>74%</u>
<b>Total</b>	<b>15,004.77</b>	<b>100%</b>

# NV Energy

## RESPONSE TO INFORMATION REQUEST

DOCKET NO:	24-12016	REQUEST DATE:	02-13-2025
REQUEST NO:	Staff 50	KEYWORD:	Mileage for Transmission
REQUESTER:	Shil	RESPONDER:	Hoon, Alexander (NV Energy)

### REQUEST:

Reference: Emerging Technologies Cost Allocation

Question: In response to Staff-26, NV Energy stated that "the costs...were split by the percent of line miles for Sierra and Nevada Power."

1. Please revise the Staff-26 Attachment by removing the non-tier line miles from the allocation calculations.
2. Please describe what other methodologies were reviewed for cost allocation.
3. Please confirm if the transmission and distribution underbuild miles are included in the allocation calculations. Further, please explain whether the mileage for transmission with distribution underbuild is overlapped or counted separately for each circuit type.
4. Please describe how NV Energy plans to update the NPC/SPPC allocation upon implementation of system hardening measures (e.g., undergrounding, covered conductors, etc.).

RESPONSE CONFIDENTIAL (yes or no): No

ATTACHMENT CONFIDENTIAL (yes or no): No

TOTAL NUMBER OF ATTACHMENTS: One (Zipped)

**RESPONSE:**

1. The attachment to the Companies' Staff 50 response (24-12016 - Staff 50 - Attach 01.pdf) provides a revised version of the Companies attachment to Staff 26 by removing the non-tier line miles from the allocation calculations.
2. No other methodologies were reviewed by the Companies for the cost allocation calculations for the Emerging Technologies costs.
3. Yes, transmission and distribution under-build miles are included in the allocation calculations. The mileage for transmission and distribution is counted separately for each circuit type.
4. The Companies plan to review the cost allocations on an annual basis and adjust them appropriately.

2024 NDPP Asset Inventory Nevada Power and Sierra Pacific					
	Overhead System	Overhead Bare Primary Line Miles	Overhead Covered Primary Line Miles	Primary Underground Line Miles	% of Total System
Tier 3	NPC Transmission	-	-	-	0.00%
	NPC Distribution	16.00	-	3.00	0.06%
	SPPC Transmission	25.89	-	-	0.08%
	SPPC Distribution	165.04	5.12	105.41	0.89%
	<b>Total</b>	206.93	5.12	108.41	1.04%
Tier 2	NPC Transmission	-	-	-	0.00%
	NPC Distribution	-	-	-	0.00%
	SPPC Transmission	113.34	-	-	0.37%
	SPPC Distribution	317.51	2.08	295.52	1.99%
	<b>Total</b>	430.85	2.08	295.52	2.36%
Tier 1E	NPC Transmission	-	-	-	0.00%
	NPC Distribution	-	-	-	0.00%
	SPPC Transmission	245.06	-	11.14	0.83%
	SPPC Distribution	1,084.17	2.25	338.75	4.62%
	<b>Total</b>	1,329.23	2.25	349.89	5.45%
Tier 1	NPC Transmission	188.00	-	-	0.61%
	NPC Distribution	90.00	-	1,339.00	4.63%
	SPPC Transmission	839.22	-	2.55	2.73%
	SPPC Distribution	1,101.84	0.12	560.38	5.39%
	<b>Total</b>	2,219.06	0.12	1,901.93	13.36%
Non-Tier	NPC Transmission	2,019.69	-	14.66	6.60%
	NPC Distribution	1,619.46	-	11,275.41	41.82%
	SPPC Transmission	3,201.77	-	11.94	10.42%
	SPPC Distribution	3,977.78	-	1,863.29	18.94%
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System Total	NPC Transmission	2,207.69	-	14.66	7.21%
	NPC Distribution	1,725.46	-	12,617.41	46.51%
	SPPC Transmission	4,425.28	-	25.63	14.43%
	SPPC Distribution	6,646.34	9.57	3,163.35	31.84%
	<b>Total</b>	15,004.77	9.57	15,821.05	100.00%
	NPC	294.00	7%		
	SPPC	3892.07	93%		
	<b>Total</b>	4186.07	100%		

# NV Energy

## RESPONSE TO INFORMATION REQUEST

DOCKET NO:	24-12016	REQUEST DATE:	12-20-2024
REQUEST NO:	Staff 03	KEYWORD:	future budget impact enhanced fire protocols; psom inspections patrols correctio
REQUESTER:	Shil	RESPONDER:	Howard, Danyale

### REQUEST:

Reference: Future Budgetary Impact

Question: On page 6 of the filing, NV Energy stated that "...neither the labor resource plan nor the implementation of enhanced fire season protocols require an increase to approved NDPP budgets."

Please confirm that the above statement related to the enhanced fire protocols is true regardless of the forecasted spend reduction in the approved NDPP spend. If not, please share the annual budgetary estimates for enhanced fire season protocols in PSOM, inspections/patrols/corrections, vegetation management and other related NDPP areas as they would be included in the 10-year business plan and reasoning for all future increases.

Please contact Percy Lucban (plucban@puc.nv.gov) or Gaurav Shil (gshil@puc.nv.gov) if there are any questions related to any data request in this batch.

RESPONSE CONFIDENTIAL (yes or no): No

TOTAL NUMBER OF ATTACHMENTS: None

### RESPONSE:

The Companies confirm enhanced fire season protocols referenced in this docket, specifically implementation of capability for the FTFM in Tier 2 and Tier 1-E, expansion of PSOM and implementation of the Emergency De-Energization Wildfire policy do not change the approved

NDPP budgets. Additionally, the Companies have stated that subsequent costs associated to activation of PSOM expansion and emergency de-energization will be sought through general rate recovery. Costs associated with the existing implementation plan that includes or included FTFM for Tier 3, Tier 2 and Tier 1-E, including a targeted acceleration of the expulsion fuse replacement program aimed at TripSavers, will be recovered through general rate recovery proceedings.

**Benchmarking Table for NV Energy PSOM Expansion**

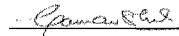
Utility	PSPS Scope
<b>NV Energy (PSOM Expansion)</b>	Proposal to cover the entire service territory, addressing all areas with wildfire risk.
<b>PacifiCorp (BHE)</b>	Covers all wildfire-prone areas within their service territory in six states, including parts of California, Oregon, Washington, Utah, Wyoming, and Idaho.
<b>AltaLink (BHE)</b>	The entire service area is broken into potential PSPS zones, subject to PSPS should the fire weather severity be high enough.
<b>Pacific Gas &amp; Electric (PG&amp;E)</b>	Applies PSPS to all service areas with potential for powerline-ignited wildfires in northern California. This is primarily in established HFTD, but can execute PSPS anywhere that is needed.
<b>Southern California Edison (SCE)</b>	All high-risk circuits in HFTD wildfire-prone areas. PSPS is not considered outside of HFTD areas.
<b>San Diego Gas and Electric (SDG&amp;E)</b>	Targets areas affected by Santa Ana winds and other high-risk zones. Any circuit in their service territory in southern California that has risk can be executed for PSPS.

AFFIRMATION

Pursuant to the requirements of NRS 53.045 and NAC 703.710, Gaurav Shil, states that he is the person identified in the foregoing prepared testimony and/or exhibits; that such testimony and/or exhibits were prepared by or under the direction of said person; that the answers and/or information appearing therein are true to the best of his knowledge and belief; and that if asked the questions appearing therein, his answers thereto would, under oath, be the same.

I declare under penalty of perjury that the foregoing is true and correct.

Date: April 3, 2025

  
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GAURAV SHIL