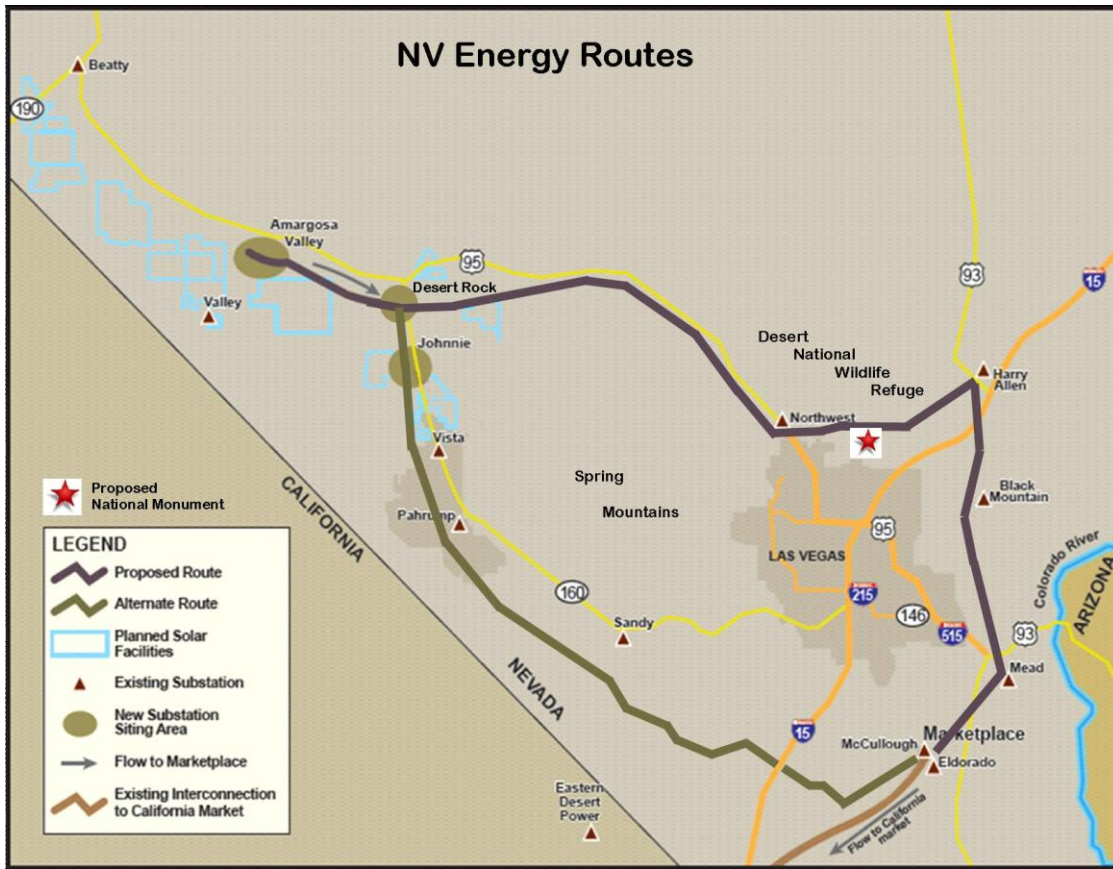




## **ANALYSIS OF NV ENERGY TRANSMISSION CORRIDOR REQUEST**

**T**his report was prepared in response to NV Energy's request to locate a transmission corridor in an area known alternately as Tule Springs and the Upper Las Vegas Wash, in an area proposed to be a national monument managed by the National Park Service.

This report summarizes the viability of transmission options, risks to Nevada ratepayers, and the economics of building a transmission corridor in contrast to building an urban national park unit that fosters tourism and economic development and enhances overall community qualities in Southern Nevada.

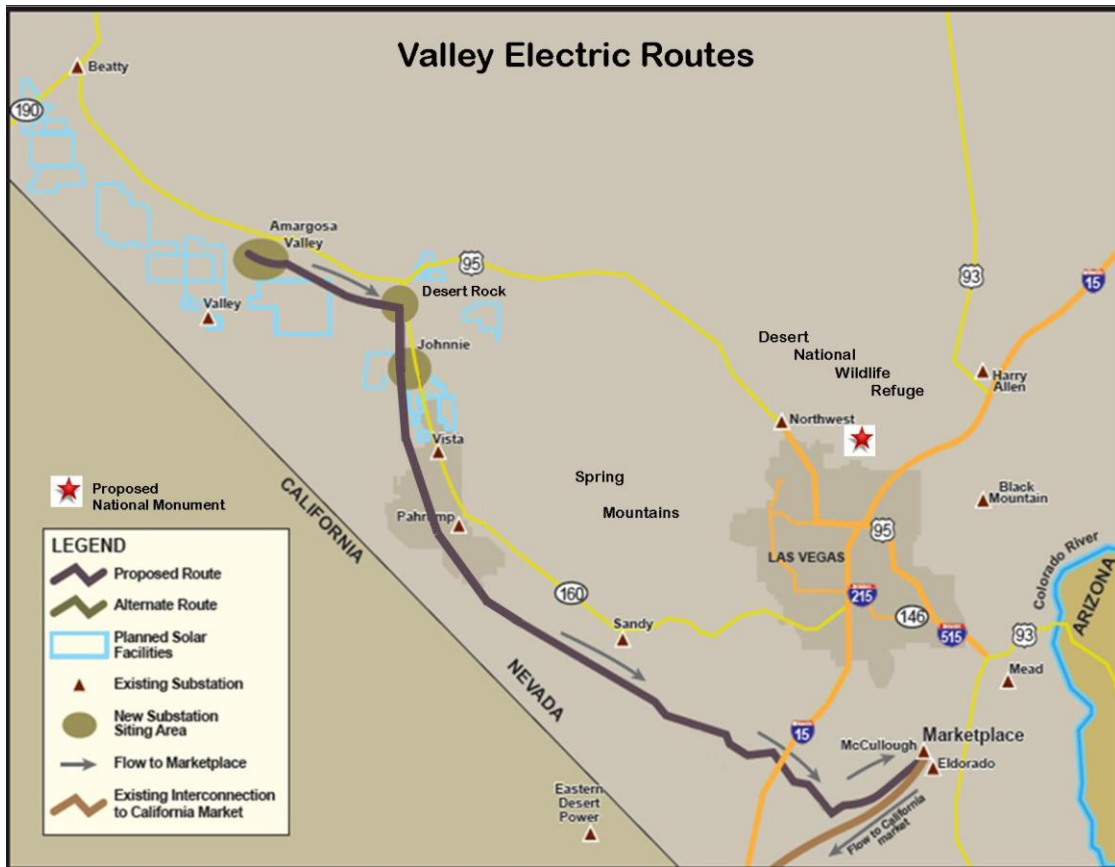


NV Energy, a publicly regulated utility company, has petitioned Nevada’s Congressional delegation to provide a transmission corridor in the northwest part of the Las Vegas Valley, within a fossil-significant area proposed to be a national monument, managed by the National Park Service. NV Energy’s request for transmission corridor for 500 kV and 230 kV power lines:

- Lessens opportunities to fully develop a nationally significant fossil site into a world-class destination;
- Is opposed by the State of Nevada, Clark County, Las Vegas, North Las Vegas, the U.S. Air Force, the Southern Nevada Paiute Tribe, community and conservation groups;
- Impedes a vital military corridor between Nellis and Creech Air Force Bases, a corridor which facilitates U.S. homeland security and is significant to Southern Nevada’s economy;
- Was recently rejected by the Nevada Public Utilities Commission (PUC) and Consumer Advocate and deemed a risk to Nevada ratepayers;
- Is erroneously based on requirements to meet Nevada Renewable Portfolio Standards (RPS) and has not been facilitated by state legislation in Nevada and California;
- Travels a longer distance than alternatives from renewable sources in Amargosa Valley to Eldorado / Marketplace / McCullough making this option more costly and more inefficient than alternatives; and
- Is expected to be stalled in regulatory processes, litigation, and anticipated challenges through NEPA.

**MILES: 110.3 (Amargosa to Harry Allen)**

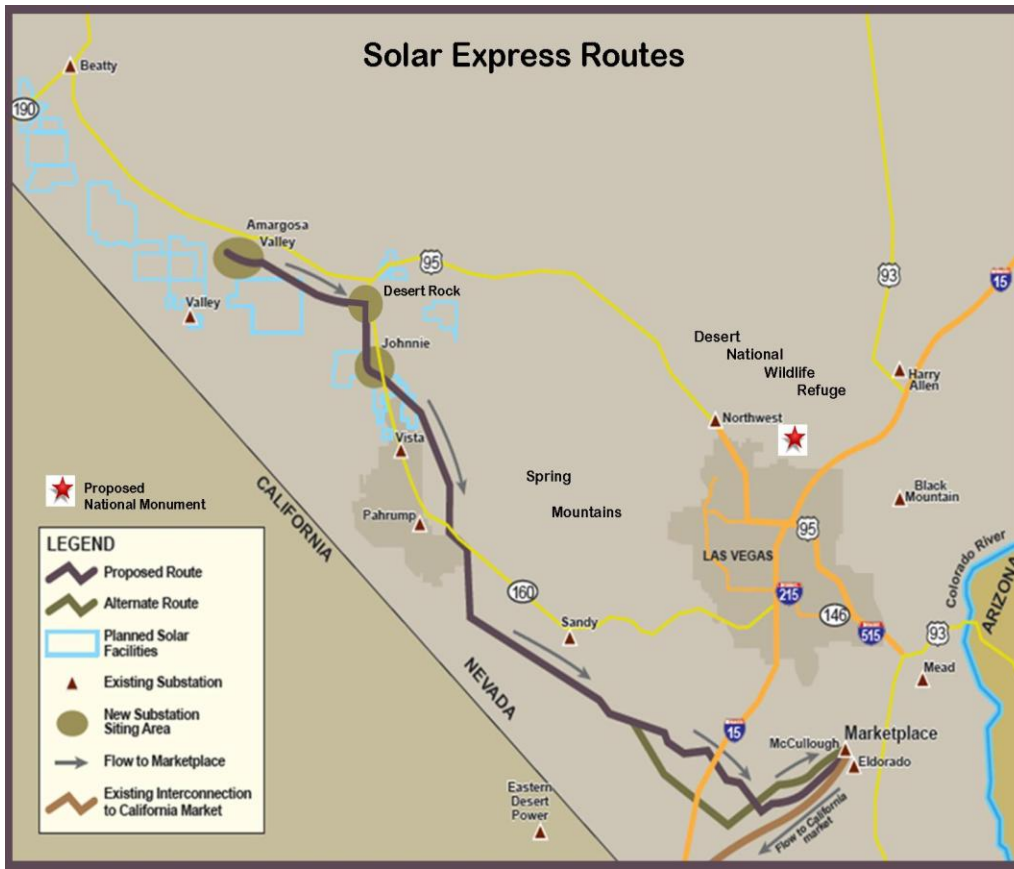
**+ 60 (Harry Allen to Eldorado / Marketplace / McCullough) = 170.3 miles**



Valley Electric Association (VEA) is a rural electric co-op, with offices in Pahrump, Nevada. The utility is part of an aggregate network of cooperative utilities that serves 75 percent of the land mass in the United States and has strong financial backing. VEA is currently working on plans to build a 500 kV transmission line from Amargosa Valley to Eldorado / Marketplace / McCullough, to facilitate renewable development. VEA's proposed transmission route:

- Does not conflict with the creation of a fossil beds national monument;
- Is supported by local governments, stakeholders and community organizations, who advocate for the creation of the national monument, along with Nye County community leaders;
- Does not conflict with vital military air corridors;
- Is not subject to the regulatory processes of the Nevada Public Utilities Commission and, can be built more quickly.
- Will be privately financed, avoiding risk to Nevada ratepayers;
- Travels less distance than NV Energy's proposal across the northwest part of the Las Vegas Valley, is less costly and more efficient; and
- Is expected to parallel a transmission corridor VEA currently owns; expansion of this corridor through a supplemental EIS is not expected to be problematic and has been vetted the Nevada Renewable Energy Transmission Access Advisory Committee (RETAAC) and Western Area Power Administration.

**MILES: 110.3 (Amargosa to Eldorado / Marketplace / McCullough) = 116.5 miles**



Renewable Energy Transmission Company (RetCo) is a privately held company, with expressed similar plans as Valley Electric Association (VEA) to build a 500 kV transmission line from Amargosa Valley to Eldorado / Marketplace / McCullough, to facilitate renewable development. RetCo's proposed transmission route:

- Does not conflict with the creation of a fossil beds national monument;
- Can be assumed to have the support, like VEA's proposed transmission corridor, from local governments, stakeholders and community organizations, who advocate for the creation of the national monument, along with Nye County community leaders;
- Does not conflict with vital military air corridors;
- Is not subject to the regulatory processes of the Nevada Public Utilities Commission and can be built more quickly.
- Will be privately financed, avoiding risk to Nevada ratepayers; and
- Travels less distance than NV Energy's proposal across the northwest part of the Las Vegas Valley, is less costly and more efficient.

MILES: 110.3 (Amargosa to Eldorado / Marketplace / McCullough) = 116.5 miles

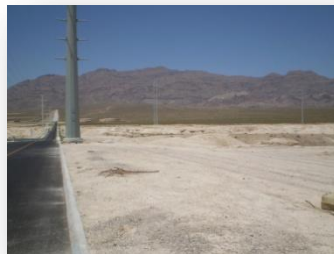
# **Analysis of NV Energy Proposed Transmission Corridor Through Proposed Tule Springs National Monument**

Addressing NV Energy Request to Locate Transmission Corridor

In Northwest Las Vegas Valley through Proposed

Tule Springs Fossil Beds National Monument

Prepared November 2010



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## OVERVIEW



This report was prepared in response to NV Energy's request to locate a transmission corridor in an area known alternately as Tule Springs and the Upper Las Vegas Wash, in an area proposed to be a fossil beds national monument.

On behalf of those who have publicly endorsed and supported the creation of Tule Springs Fossil Beds National Monument - the cities of Las Vegas and North Las Vegas, Clark County, the Nevada Division of State Parks, the United States Air Force, the Southern Nevada Paiute Tribe, the president of UNLV and geosciences department heads, elementary and secondary educators, the area's tourism community and business leaders, local chamber of commerce organizations, conservation organizations and more than 10,000 individuals who signed petitions to protect the Tule Springs area - The National Parks Conservation Association commissioned transmission experts to analyze NV Energy's request. This report has been supplemented with additional information regarding the proposed national monument, significance, community support and economic benefits.

## PROPOSED: TULE SPRINGS FOSSIL BEDS NATIONAL MONUMENT

Scientifically documented, Tule Springs is significant for Ice Age fossils and the vast span of time the fossils represent. Fossils and fossilized pollen in the area span 7,000 to nearly 200,000 years ago, offering important insight into at least two Ice Ages and multiple warming and cooling periods.<sup>1</sup> The national monument is expected to attract scientists from around the world, and will offer travelers and local residents unparalleled access to observe fossil excavations.

Tule Springs also offers glimpses of early native inhabitants, remnants of historic campsites, and a network of paleontological excavations funded by the National Science Foundation and chronicled by National Geographic in the early 1960s. Historically the site is noted for:

- In 1901, findings of vertebrate fossils in the area were first reported by R.B. Rowe of the U.S. Geological Survey;<sup>2</sup>
- In 1933, Dr. Albert Silberling and Fenley Hunter, under the auspices of the American Museum of Natural History, unearthed the bones of two ground sloths, a Camelops (a larger version of today's Bactrian camel), and a partial skeleton of a mammoth;<sup>3</sup>
- In 1954 and 1955, Dr. Willard F. Libby at the Institute of Nuclear Studies, University of Chicago, confirmed the area's significance with one of the first scientific applications of radiocarbon dating;<sup>4</sup>
- In 1955 and 1956, the Southwest Museum undertook survey and mapping work, testing 31 localities over two years to confirm the importance of the site, and recommended interdisciplinary scientific approach to the area's geology, paleontology and archaeology resources;<sup>5</sup>

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<sup>1</sup>) *Tule Springs has been confirmed by scientists to have significant paleontological fossils demonstrative of the Pleistocene Ice Age, and these fossil findings appear to contain the longest continuous section of Pleistocene strata, spanning multiple important global climate cooling and warming episodes in the desert Southwest; "Las Vegas Wash Paleontological Locality Expanded Report," June 2009. Prepared by Ted Fremd, NPS paleontologist, at the request of then-NPS Pacific Regional Director Jon Jarvis*

2) *Pleistocene Studies in Southern Nevada," October 1967. Nevada State Museum Anthropological Papers, Number 13, prepared by Richard Shutler, Jr.*

<sup>3</sup> *"The First 100 People Who Helped Shape Nevada," Fall 1999. Las Vegas Review Journal 3 part series, published in book form by Stephens Press. <http://www.1st100.com/part1/harrington.html>*

<sup>4</sup> *"Implementation of the Archaeological Treatment Plan for Tule Springs National Register Site and the Harry Allen to Northwest Transmission Line, Clark County Nevada," February 2003. Prepared for Nevada Power by HRA, Inc.*

<sup>5</sup> *"Pleistocene Studies in Southern Nevada." (Referenced earlier.)*



- In 1962, the area was considered “The Big Dig.” A four-month intensive study of the area, funded by the National Science Foundation and chronicled by *National Geographic*, surveyed the area using a topographic map of one-foot contours and carved two miles of trenches 12 feet wide and up to 30 feet deep to establish a foundation of scientific research that has been used as an evaluative tool in contemporary research in the area;<sup>6</sup>
- In 1979, at the recommendation of the Nevada State Historic Preservation Office (SHPO), an east-west rectangular shape roughly 1.5 square miles was found to be eligible for the National Register of Historic Places and was listed as the “Tule Springs Archaeological Site;”<sup>7</sup>
- In 2004, during the preparation of Las Vegas Valley Disposal Boundary Final Environmental Impact Statement, sensitive biological, cultural and paleontological resources were identified and defined within a study area called the Conservation Transfer Area, and determined worthy of more evaluation regarding protective status.<sup>8</sup>
- In 2008, geologists and paleontologists began cataloging *tufa* deposits and fluvial channels in and around the area’s “Eglington Preserve;” scientists believe these deposits, characterized by their macro-biological components provide scientific data about Ice Age wetlands, spring deposits which form on emergence from a spring or seep, and atmospheric and telluric resources.<sup>9</sup>
- In 2009, NPS Regional Science Advisor Ted Fremd, after studying the area, strongly advocated for its protection.<sup>10</sup>

The area also sustains four unique and imperiled plants, Joshua trees and several species of cacti, in addition to threatened desert tortoise, burrowing owls, kit foxes, raptors, kestrels, barn owls, great horned owls and sage grouse.

The proposed national monument is located at the base of the Sheep Mountain Range, an imposing and ruggedly carved mountain range that rises steeply from the desert floor. It adjoins the U.S. Fish and Wildlife-managed Desert Wildlife Refuge, the largest wildlife refuge in the lower 48 states, providing options for vital wildlife corridors and habitat protection.

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<sup>6</sup> “Pleistocene Studies in Southern Nevada.” (Referenced earlier.)

<sup>7</sup> National Register of Historic Places, National Park Service Database. Search conducted Spring 2010. <http://nrhp.focus.nps.gov/natregsearchresult.do?fullresult=true&recordid=0>

<sup>8</sup> Draft Supplemental Environmental Impact Statement Upper Las Vegas Wash Conservation Transfer Area, Las Vegas Nevada, 2010 (page 1)

<sup>9</sup> Wikipedia re: Tufa, fluvial channels, spring deposits, carbonate materials citing a review of tufa and travertine deposits of the world. *Earth-Science Reviews*, 1996 - 41, pp. 117-175.

<sup>10</sup> Las Vegas Wash Paleontological Locality Expanded Report, June 2009. Prepared by Ted Fremd, NPS paleontologist, at the request of then-NPS Pacific Regional Director Jon Jarvis

## ESSENTIAL MILITARY AIR SPACE CORRIDOR

In addition to the area's significant on-the-ground resources, the air above Tule Springs is a critical air corridor used by U.S. Air Force for combat and training missions between Nellis Air Force and Creech Air Force Bases. Both bases, linked by the narrow air corridor immediately south and west of the Sheep Mountain Range, have played important roles in Southern Nevada since the early 1940s.

Nellis AFB has a primary mission of training military personnel to fly, fight, and win utilizing the 2.9-million-acre Nevada Test and Training Range. While Nellis has long been the leader in combat aircrew training in the United States Air Force, Creech has become pivotal in the nation's global military operations. From Creech, via satellite links, the Predator and Reaper Uninhabited Aerial Systems have flown over Iraq and Afghanistan. Nellis and Creech are home to the largest civil engineer, communications, logistics readiness, and force support squadrons in Air Combat Command, as well as the largest security forces group in the command.<sup>11</sup>

- In Fiscal Year 2009, Nellis and Creech had combined operations and maintenance outlays of more than \$470 million. There were approximately 9,974 military and 3,423 civilians employed between the two bases with a combined payroll of more than \$975 million. On any given day, about 1,130 temporary-duty personnel conducted business at Nellis or Creech. The estimated number of indirect jobs created in direct support of Nellis and Creech was 5,683 with an estimated annual dollar value of \$220 million.<sup>12</sup>
- At the same time, the Las Vegas metropolitan area counted a total of 27,688 military retirees among its residents. The combined retirement payroll of 13,878 Air Force, 5,297 Army, 6,545 Navy, 1,582 Marines, and 386 Coast Guard retirees amounted to a yearly salary of \$640 million.<sup>13</sup>
- The total economic impact of Nellis' and Creech's operations in Fiscal Year 2009 amounted to more than \$5.1 billion.<sup>14</sup>

The "Tule Springs air corridor" is used for low-level flight arrivals, departures and training routes, and is the primary access route to the U.S. military's western ranges. The corridor, which is precipitously narrow, must be maintained for U.S. homeland security purposes and to sustain the military's significant economic contributions to the Southern Nevada economy.

The U.S. Air Force highly recommends that the air corridor at the base of the Sheep Mountain Range, west from Nellis and to the training range, be maintained. For the past three years, Nellis AFB commanders have been quoted in several media articles, advocating for the corridor protection.<sup>15</sup>

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<sup>11</sup> *Economic Impact Analysis, Nellis Air Force Base, Creech Air Force Base, Nevada Test Range; Fiscal Year 2009;*

<sup>12</sup> *Referenced above.*

<sup>13</sup> *Referenced above.*

<sup>14</sup> *Referenced above.*

<sup>15</sup> *Media articles on file.*

In November 2009, June 2010 and July 2010, Nellis and Air Combat Command petitioned Nevada's Congressional delegation to protect this air corridor and the natural and paleontological resources below saying: :

In addition to impacting the ground resources, transmission lines in this region may also impact aircraft flight operations, Small Arms Range ground operations, and our emergency jettison area for live and heavy ordnance disposal. We understand there are other available corridors for energy transmission, and we look forward to participating in the review process for those alternatives.

(We) reiterate our support for the compatible preservation of the Wash region, express our concerns regarding the proposed utility lines, and for your continued support of the win-win initiative. As a community partner, we are committed to working with government and community leaders in all future planning processes to maximize cooperative land use and foster growth solutions to secure Nevada's future.<sup>16</sup>

Notably, the Nevada Renewable Energy Transmission Access Advisory Committee (RETAAC) cautioned that transmission proposals may conflict with military missions and stated that "airspace training routes would need to be analyzed" and that "airspace training flights (of) 100 ft, 200 ft. and 500 ft levels (provide) constraint."<sup>17</sup>

The RETAAC specifically identified serious issues with a transmission corridor immediately south of the Sheep Mountain Range, saying that the route between Nellis and Creech Air Force bases, in particular, has a 100 ft. ceiling of interference and significant potential for conflict.<sup>18</sup>

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<sup>16</sup> Letters on file with Nevada Congressional delegation.

<sup>17</sup> Governor Jim Gibbons' Nevada Renewable Energy Transmission Access Advisory Committee Phase II, issued July 1, 2009. Page 17.

<sup>18</sup> Referenced above. See pages 17, 18, 28 and 30.

## NOTEWORTHY PUBLIC SUPPORT & ECONOMIC POTENTIAL

Three years ago, an active friends group - the Protectors of Tule Springs - was formed by neighborhood leaders to protect the fossil-rich area in North Las Vegas. The grassroots group launched a public awareness campaign and collected more than 10,000 signatures to protect the area. They have since sustained strong awareness and broad community support.

In June 2009, equipped with the National Park Service analysis of the area's scientific significance and evidence of resource destruction, a campaign was launched to make Tule Springs a unit of the National Park Service and a diverse coalition of supporters was formed.

Coalition participants include representatives from Nellis Air Force Base and the Southern Nevada Paiute Tribe, elementary educators and representatives from area colleges and universities including the University of Nevada Las Vegas Public Lands Institute, conservation organizations and citizen groups, residents of a nearby age-restricted community and retired National Park Service superintendents, Nevada state legislators and state parks representatives, along with business and labor leaders.

Coalition leaders have led dozens of tours of the area, made presentations to numerous civic and community organizations, organized a massive clean-up, and have used petition-signing and letter-writing strategies to advocate for the area's protection.

On top of this, over the past several months, more than 70 volunteers have completed 30 hours of rigorous training to become site stewards of the area, committing to quarterly inspections of the area that involves GPS data recordings.

Organizing efforts might be considered a text-book case on how to build community-wide support for a national park unit, how to engage the participation of elected officials and community leaders, and how to build a strong foundation for public lands protection.

Notably, three local government entities - the Clark County Commission, the Las Vegas Mayor and Council, and the North Las Vegas Mayor and Council - voted on and *unanimously* passed a resolution in November 2009<sup>19</sup> asking Congress to make Tule Springs a part of the National Park System.



Following the unprecedented passage of the resolutions, county and city officials, along with urban planning and community development staff members, worked closely with the coalition of national monument supporters to define boundaries and evaluate acreage. Stakeholders and coalition supporters have had considerable foresight and enthusiasm to map a park management plan that will well serve an urban population.

Working collaboratively, stakeholders and coalition participants defined recommended boundaries and established a national monument of approximately 23,000 acres that wraps around the Sheep

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<sup>19</sup> Record of unanimous passage of resolutions filed by Clark County, Las Vegas and North Las Vegas November 17-18, 2009.

Mountain Range, follows a critical watershed, and extends north and west to a military training range. Both Las Vegas and North Las Vegas dedicated land intended for urban development and both voted on and *unanimously* approved the size and shape of the proposed new monument.<sup>20</sup>

**T**ule Springs will be a unique urban national park unit involving many stakeholders, serving an ethnically and economically diverse population of nearby residents. Boundaries for the national monument adjoin the cities of Las Vegas and North Las Vegas, Clark County, tribal lands owned by the Southern Nevada Paiutes, and park land owned by the State of Nevada. The U.S. Air Force conducts low-flying mission above it.

The national monument also adjoins the Desert Wildlife Complex managed by the U.S. Fish and Wildlife Service and Red Rock National Conservation Area managed by the U.S. Bureau of Land Management. Nearby, to the west, is Spring Mountains National Recreation Area managed by the U.S. Forest Service.

Elected officials and city planners for both Las Vegas and North Las Vegas have already started the process of outlining compatible design standards to integrate the urban national park with nearby neighborhoods and future development. Plans for the area include a new satellite campus for the University of Nevada Las Vegas.

Mayors, council members, county commissioners, city-county planners and economic development directors all recognize quality-of-life benefits in developing neighborhood communities, enhancing educational opportunities and attracting new and diversified businesses - centered around the proposed national monument.



Moreover, in a region that has suffered job losses, record unemployment, as well as steep foreclosure and bankruptcy rates, community leaders look to the economic benefits a unit of the National Park Service offers.

Tule Springs National Monument is expected to have significant impact on the region's employment, wages and salaries.

Construction jobs to build facilities and infrastructure in and around the new park unit could conceivably begin shortly after the site is made a national monument, following the community-wide participatory process of outlining and adopting a park management plan.

Employment within the national monument, employment with businesses that support park "gateway" needs, along with new employment opportunities in related geosciences and technology fields provide long-term employment growth.

Enthusiasm for Tule Springs National Monument is unquestionably inspired by Southern Nevada's tourism-dependent economy. In a competitive world, where gaming has become increasingly popular, community leaders recognize the appeal a national park unit adds to tourism marketing.

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<sup>20</sup> *Unanimous passage of resolutions endorsing proposed national monuments filed by Las Vegas and North Las Vegas, June 2010.*

Currently, nearly two in ten visitors to the Las Vegas area report visiting national landmarks and protected areas such as Hoover Dam (64 percent), Grand Canyon (50 percent), Lake Mead (31 percent), Zion National Park (14 percent), Bryce Canyon National Park (10 percent), Red Rock Conservation Area (8 percent), and Valley of Fire State Park (4 percent).<sup>21</sup>

Recognizing the appeal of a new national park unit particularly with international travelers, Tule Springs is expected to increase tourism by attracting more travelers to Southern Nevada and/or increasing length of stays. Conservative estimates of revenues in the first years add \$25 to \$50 million to the local economy, annually.

This figure is derived from a report commissioned by the National Parks Conservation Association<sup>22</sup> which documents the National Park Service's impact on local private-sector economic activities related to park-related tourism. Economic impact analysis provides an estimate of the level of economic activity in terms of sales, jobs, wages and profits, all of which can be quantified in an impact analysis. The national park system is responsible for \$13.3 billion of local private-sector activity, supporting 267,000 private-sector jobs.

Anticipated jobs to build the national park unit and sustain operations will be dependent on funding. Notably, for every one dollar of tax dollars spent, at least four dollars in local revenue is generated.<sup>23</sup> Expectations for an urban national park, within close proximity to an international airport, are expected to be multiplied.

Local elected officials and community leaders anticipate working with the National Park Service soon to establish entrance points, plan visitor amenities, and establish best-management practices to make Tule Springs Fossil Beds National Monument a world-class destination that adds to Southern Nevada's economy and enhances the area's quality of life.

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<sup>21</sup> *Las Vegas Visitor Profile, Calendar Year 2008, Southern California and International Visitors Version, Prepared for the Las Vegas Convention and Visitors Authority by GLS Research.*

<sup>22</sup> *The U.S. National Park System, An Economic Asset at Risk, May 2006, Prepared for the National Parks Conservation Association by Hardner and Gullison.*

<sup>23</sup> *Referenced above.*

## NV ENERGY'S REQUEST FOR TRANSMISSION CORRIDOR ACROSS NATIONAL MONUMENT

NV Energy has proposed a 260-foot-wide transmission corridor, which would run 110.3 miles in the northwest quadrant of the Las Vegas Valley, to deliver energy from Amargosa Valley to the Harry Allen substation. The corridor - which would be used to construct two transmission lines known as the Northwest to Amargosa 500 kV and 230 kV” and the “Harry Allen to Northwest 500 kV” - has been promoted by NV Energy as “essential for delivering the abundant renewable resources of the Amargosa Valley.”<sup>24</sup>

Notably, the proposed corridor travels south from Amargosa Valley, crosses east through the proposed national monument and then heads north to the Harry Allen substation. From the Harry Allen substation, power then needs to be routed south approximately 60 miles to one of three substations - Eldorado, Marketplace and McCullough - for it to be distributed to Nevada or California energy users. In total, from Amargosa Valley, renewable energy per NV Energy’s request would be routed 170-plus miles.

In 2010, filed as part of its Integrated Resource Plan<sup>25</sup> before the Nevada Public Utilities Commission (PUC), NV Energy requested to study, permit and acquire right-of-way in the Tule Springs area. In brief, NV Energy requested approval to spend ratepayer funds to study, apply for and secure permits, as well as acquire right-of-way for the Amargosa to Northwest and, specifically, the Northwest to Harry Allen proposed transmission corridors in the northwest quadrant of the Las Vegas Valley

NV Energy’s proposed Northwest to Harry Allen transmission corridor would traverse an area dense with Ice Age fossils, and be located on an alluvial fan at the base of the Sheep Mountain Range in a critical watershed. Moreover, it would be located within the proposed boundaries<sup>26</sup> of a national park unit and adjoining the Desert Wildlife Refuge, managed by the U.S. Fish and Wildlife Service.

NV Energy requested the PUC consider the transmission corridors based on 1) lead times necessary to approve and build high-voltage lines, 2) necessary to “accessing solar resources” in Amargosa Valley.<sup>27</sup>

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<sup>24</sup> Correspondence from NV Energy to National Parks Conservation Association, June 2010.

<sup>25</sup> Application of Nevada Power Company d/b/a NV Energy for approval of its 2010-2029 Triennial Integrated Resource Plan. Docket # 10-2009, filed 2/04/2010.

<sup>26</sup> Recommended boundaries for the proposed national monument were voted and unanimously passed by the Mayors and City Council members of Las Vegas and North Las Vegas, June 2010.

<sup>27</sup> Referenced above as Docket # 10-2009.

Notably, in July 2010, the PUC and Nevada Consumer Advocate<sup>28</sup> rejected NV Energy's request and cited failure to provide evidence to support the project, failure to provide analysis of alternate corridors, and failure to demonstrate how this corridor meets state renewable objectives. Moreover, the PUC and Nevada Consumer Advocate pointed out there are alternatives for transmission in the western part of the state, provided by others.

**O**verview: This report analyzes NV Energy's request in relation to renewable development in Nevada, Renewable Portfolio Standards (RPS) as mandated by the State of the Nevada, transmission alternatives from Amargosa Valley to the Nevada and California marketplace, and risk to ratepayers based on several factors including unknown considerations in the California marketplace.

Conclusions of this analysis find:

- ♦ **NV Energy (NVE) does not need the transmission corridor to meet its Renewable Portfolio Standard (RPS).**
- ♦ NVE will have excess Solar Power Credits (PCs) through 2025 and does not need to develop transmission to Amargosa Valley to comply with its RPS requirements.
- ♦ NVE's needs for renewable resources, based on the currently effective RPS, do not justify the development of another major transmission project.
- ♦ **There are several transmission proposals to transport renewable energy development from Amargosa Valley (and renewable development north, in the western part of Nevada) for use within Nevada or for export. The most viable transmission proposals are located in Nye County, west of the Spring Mountain Range.**
- ♦ Viable transmission alternatives are logically located in Nye County where right-of-way (ROW) may be more easily secured due to less urban mass and where existing ROW may be used, incorporated and/or paralleled, offering opportunity to initiate transmission/renewable development more quickly.
- ♦ Viable transmission proposals in Nye County do not require the approval of the Nevada Public Utilities Commission (PUC), offering opportunity to begin initiating transmission/renewable development potential more quickly.

NVE has also recognized the viability of transmission in Nye County, documented in requests and Statements of Interest (SOI) <sup>29</sup>to the Western Area Power Administration (WAPA) through Nye County. The Nevada PUC is unlikely to approve these corridors based on the current regulatory paradigm.

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<sup>28</sup> *Relevant paragraphs regarding NV Energy's request for approval for spend approximately \$12.5 million for studies, apply for and receive permits, and acquire right-of-way for Harry Allen to Northwest transmission corridor start on page 141. PUCN rejection of this request is paragraph 491. The request by Nevada Power for approval to spend \$12.5 million to initiate studies, etc on the Northwest to Amargosa Valley transmission line starts on page 144. Rejection is in paragraph 499.*

<sup>29</sup> *NV Energy's Statement of Interest (SOI) Submitted in Response to Western Area Power Administration's Request for Interest (RFI) Dated March 4, 2009.*



## ANALYSIS

- ♦ **Characterization of NV Energy’s (NVE) Solar Resource Requirements to meet its Renewable Portfolio Standard (RPS).**

**NV Energy will have excess Solar Power Credits (PCs) through 2025 and does not need to develop transmission to Amargosa Valley to comply with its Renewable Portfolio Standard (RPS) requirements.**

NV Energy annually files a “Portfolio Standard Annual Report” with the Public Utilities Commission of Nevada. The annual report filed for 2010, Docket 10-04002, lists NVE’s renewable resource requirements through 2015. Table 18, Page 4 of 4 on page 43 of the Portfolio Standard Annual Report provides a summary of NVE’s solar PC needs through 2015.

Note that NVE will have excess solar power credits (PCs) in 2015 with the resources that have been approved by the Public Utilities Commission to date. In other words, the company does not need additional “new” solar resources, see list in the Annual Report on page 41, Table 18, page 2 of 4, last row under “Solar.” In fact, NVE will have approximately three times the level of solar PCs it needs in 2014 and 2015 without adding any new resources. (See below)

**Excerpts from Table 18 page 2 of 4 and page 4 of 4 of NVE Portfolio Standard Annual Report (2010)**

	<u>2014 (MWhs)</u>	<u>2015 (MWhs)</u>
<b>Total Solar PCs Page 4 of 4</b>	<b>1,515,651</b>	<b>1,781,282</b>
<b>Solar PCs planned but not approved by PUCN *</b>	<b>716,305</b>	<b>716,305</b>
<b>Total Solar PCs without additional approvals by PUCN</b>	<b>799,346</b>	<b>1,064,977</b>
<b>Total Solar PCs required **</b>	<b>268,424</b>	<b>302,681</b>
<b>Excess Solar PCs without new solar resources</b>	<b>530,922</b>	<b>762,296</b>

\* page 2 of 4 last Row “Solar”

\*\* page 4 of 4 “Solar Requirement

AB 387, which was passed by the 2009 Nevada State Legislature, increases the level of solar PCs required from 5 % of total amount of PCs (5% of RPS %) to 6% of the total amount of PCs (6% of RPS %) starting in 2016. This increase is slight and won’t affect NVE’s excess solar PC situation in 2025.

In summary, given resources already approved by the Public Utilities Commission, NVE does not need to access Amargosa Valley to comply with the solar component of its RPS Requirements.

- ♦ **Characterization of NV Energy's (NVE) Transmission Capacity Requirements to Meet Renewable Portfolio Standards (RPS).**

**NV Energy's needs for renewable resources based on the currently effective RPS are relatively small and do not justify the development of another major transmission project.**

Using NVE's base forecast presented in Docket 10-02009 (the power company's latest Integrated Resource Plan), base energy requirements for 2025 have been outlined at 27,196 GWHs. RPS requirements in 2025, assuming 25 % of the company's RPS requirements are met with energy efficiency, is 18.5%. Therefore,  $(27,196 * .185)$  equals 5,031 GWH. Dividing this number by 8760 times the average capacity factor of renewable energy resources equals  $(27,196 * 18.5%) / (8760 * .5) = 1149$  MW of transmission capacity.

It is important to note that NVE has already secured over half of the renewable resources necessary to meet its RPS requirements for 2025. Therefore, the amount of transmission capacity needed to provide the additional resources needed by 2025 is likely less than 600 MW of transmission capacity.

In summary, NVE does need to construct another major transmission project including the Amargosa to Northwest, Northwest to Harry Allen and Harry Allen to El Dorado Valley 500kV project to meet its RPS requirements.

- ♦ **Transmission Alternatives for Accessing the Amargosa Valley**

**Currently, there are several transmission proposals to deliver Amargosa Valley that do not cross the northwest part of the Las Vegas Valley and impede the development of a national park unit. All are routed through Nye County.**

There are currently several transmission projects that have been proposed which will provide renewable energy developers in Amargosa Valley with access to the El Dorado Valley, where energy can be directed to southern Nevada residents or sold to the California market.

These include alternatives proposed by NVE (see Statement of Interest submitted to Western Area Power Administration), transmission plans proposed by Valley Electric and an alternative proposed by Renewable Transmission Development Company (Solar Express Project).

Other projects have also been proposed (Vulcan's 500 kV Project) but have not seen activity for many months and therefore will not be summarized here. (See next page)

## **Overview of NV Energy (NVE) Transmission Delivery Options for Accessing Renewable Resources in the Amargosa Valley:**

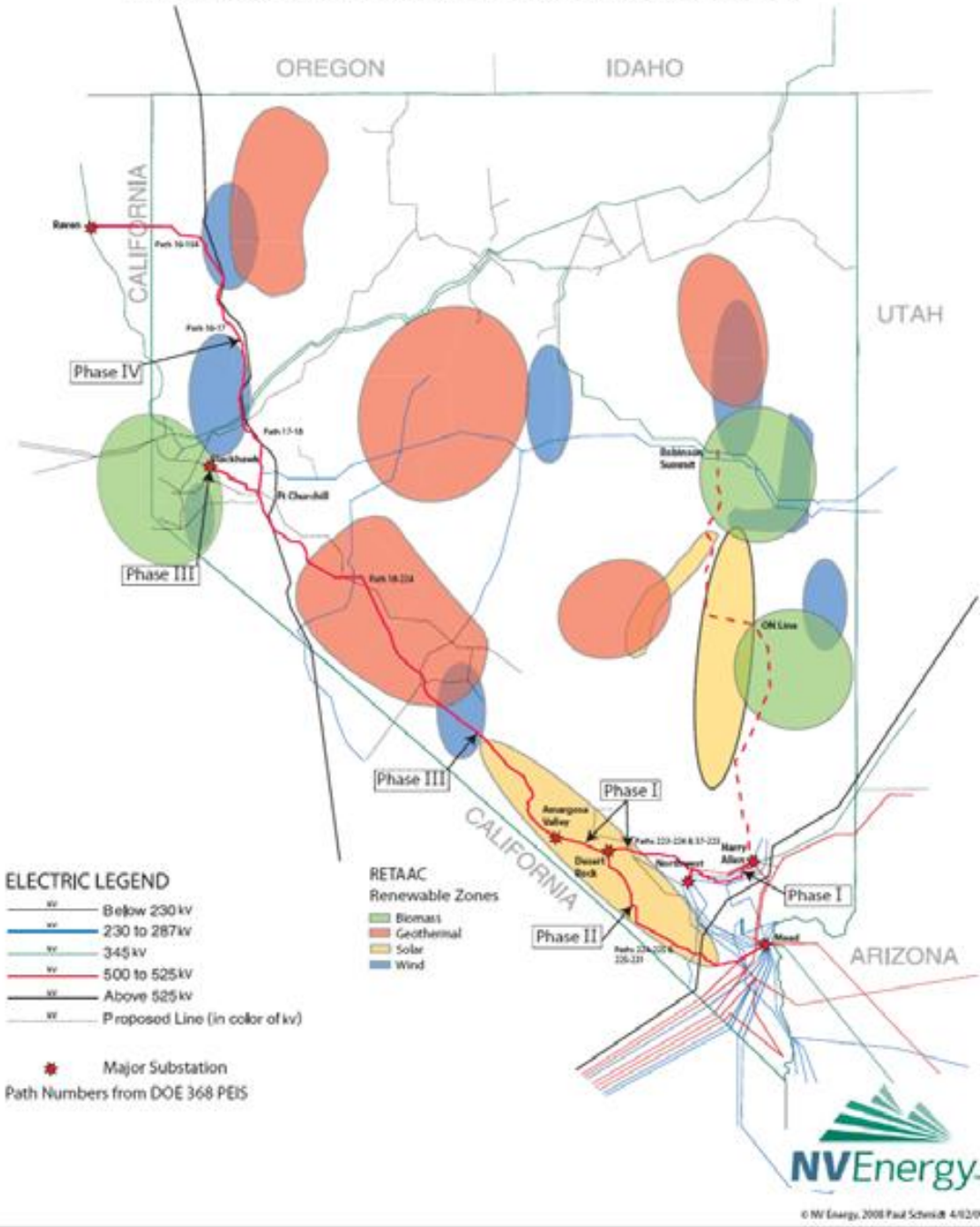
NV Energy proposed two transmission alternatives for delivering renewable resources from the Amargosa Valley as part of “SOI Projects” (Statement of Interest Projects) which the company submitted to the Western Area Power Administration (WAPA) per its “Request For Interest” (RFI) issued under the Transmission infrastructure Program.<sup>30</sup> Both of NVE’s transmission alternatives are intended to deliver renewable resources from Amargosa Valley to NVE’s customers in Southern Nevada and for export to other states.

One of NVE’s transmission proposed alternatives would route a transmission line from the Amargosa Valley to the Northwest Substation, from the Northwest Substation to the Harry Allen Substation, and from the Harry Allen Substation to the substations in El Dorado Valley. This route is shown as Phase I on the map (next page).

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<sup>30</sup> NV Energy Statement of Interest (SOI) submitted in Response to Western Area Power Administration’s Request for Interest (RFI) dated March 4, 2009.

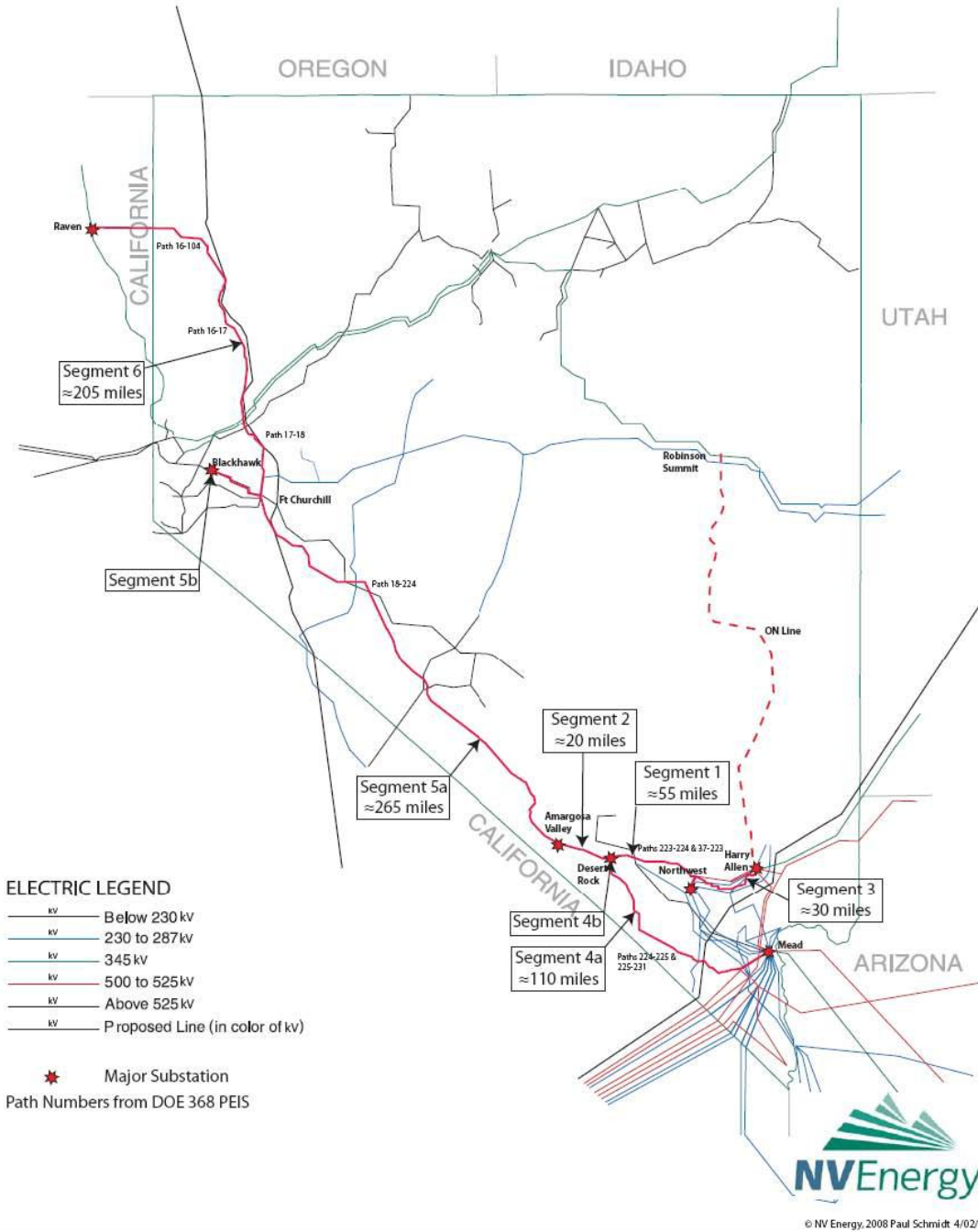
# POTENTIAL PROJECT PHASES and RETAAC RENEWABLE ENERGY ZONES



NVE's second proposed transmission alternative would run south and west of Las Vegas and connect directly to the Mead Substation. This route is shown as Phase II on the map that follows. (See next page)

As can be seen on the diagram, the Phase II route avoids running a transmission line directly through Las Vegas Valley. It also connects renewable resources in Amargosa Valley directly with the El Dorado Valley, potentially offering a direct connection to the California ISO and thus avoiding interconnection with NVE's electric system first, avoiding "rate pan-caking," e.g. paying multiple rates instead of just one.

# STATEMENT OF INTEREST SEGMENT MAP



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**Summary:**

NV Energy recognized the viability of transmission routing through Nye County and petitioned the Western Area Power Administration (WAPA) with stated interest. WAPA and the Nevada Public Utilities Commission (PUC) are unlikely to approve NV Energy's request for routing outside the company's service area.

NV Energy also petitioned the PUC to study and pursue permits and land acquisition in the northwest part of the Las Vegas Valley (in the area proposed to be a national monument). In July 2010, NV Energy was denied this request based on "risk to ratepayers."

NV Energy's request for a transmission corridor in the Tule Springs National Monument area:

- Lessens opportunities to fully develop a nationally significant fossil site into a world-class destination;
- Is opposed by the State of Nevada, Clark County, Las Vegas, North Las Vegas, the U.S. Air Force, the Southern Nevada Paiute Tribe, community and conservation groups;
- Impedes a vital military corridor between Nellis and Creech Air Force Bases, a corridor which facilitates U.S. homeland security and is significant to Southern Nevada's economy;
- Was recently rejected by the Nevada Public Utilities Commission (PUC) and Consumer Advocate and deemed a risk to Nevada ratepayers;
- Is erroneously based on requirements to meet Nevada Renewable Portfolio Standards (RPS) and has not been facilitated by state legislation in Nevada and California;
- Travels a longer distance than alternatives from renewable sources in Amargosa Valley to Eldorado / Marketplace / McCullough making this option more costly and more inefficient than alternatives; and
- Is expected to be stalled in regulatory processes, litigation, and anticipated challenges through NEPA.

**MILES: 110.3 (Amargosa to Harry Allen) PLUS**

**60 miles (Harry Allen to Eldorado / Marketplace / McCullough ) = 170.3 miles**

# VIABLE TRANSMISSION OPTIONS

## Valley Electric Association (VEA) Transmission Delivery Options from Amargosa Valley

Valley Electric Association (VEA) is a rural electric co-op, with offices in Pahrump, Nevada. The utility is part of an aggregate network of cooperative utilities that serves 75 percent of the land mass in the United States and has strong financial backing. VEA is currently working on plans to build a 500 kV transmission line from Amargosa Valley to Eldorado / Marketplace / McCullough, to facilitate renewable development.

VEA will begin construction on the 230 kV Northwest Loop in 2010. This project will provide 400 MW of transmission capacity from VEA service territory to the Northwest Substation in NVE's service territory. The transmission capacity available on this line will provide NVE with a viable means of accessing solar renewable resources at levels easily consistent with meeting the solar requirements of Nevada's Renewable Portfolio Standard (RPS).

VEA's Northwest Loop, necessary to meet FERC (Federal Energy Regulatory Commission) redundancy standards, will have capacity to transport solar energy in the first two fast-tracked renewable energy projects in Amargosa Valley - projects that are anticipated to be started in 2010 through ARA stimulus funding. It will take 12-18 months to build the transmission line, which coincides with the construction of the first two solar projects in the Amargosa Valley.

VEA has proposed another 500 kV project to access El Dorado Valley from Amargosa Valley. VEA is proceeding forward with its plans to develop these transmission lines. It has submitted its applications to the BLM and filed a request with Western Area Power Authority (WAPA) for another interconnection at Mead Substation. (A map of VEA's proposal follows on the next page.)

VEA's proposed transmission route:

- Does not conflict with the creation of a fossil beds national monument;
- Is supported by local governments, stakeholders and community organizations, who advocate for the creation of the national monument, along with Nye County community leaders;
- Does not conflict with vital military air corridors;
- Is not subject to the regulatory processes of the Nevada Public Utilities Commission and, can be built more quickly.
- Will be privately financed, avoiding risk to Nevada ratepayers;
- Travels less distance than NV Energy's proposal across the northwest part of the Las Vegas Valley, is less costly and more efficient; and
- Is expected to parallel a transmission corridor VEA currently owns; expansion of this corridor through a supplemental EIS is not expected to be problematic and has been vetted the Nevada Renewable Energy Transmission Access Advisory Committee (RETAAC) and Western Area Power Administration.



## VIABLE TRANSMISSION OPTIONS (continued)

### Renewable Energy Transmission Company's (RETCO) "Solar Express Project"

**R**enewable Energy Transmission Company (RetCo) is a privately held company, with expressed similar plans as Valley Electric Association (VEA) to build a 500 kV transmission line from Amargosa Valley to Eldorado / Marketplace / McCullough, to facilitate renewable development.

The RETCO Solar Express Project will be routed south and west of Las Vegas and will predominantly be located within a Federal 368<sup>31</sup> corridor. The line is intended to directly connect Nevada renewable resources in the Amargosa Valley to the California ISO thus benefiting renewable energy developers by allowing them to avoid a "pan-caked" rate arrangement for transmission services (e.g., paying NVE transmission rates and CAISO rates instead of just CAISO rates).

The Solar Express Project offers other advantages as well. It will allow for the export of Nevada renewable resources to California without exposing retail electric customers in Nevada to risk of transmission line development. It will not affect retail customer's electric rates. With this option, NVE would not shoulder balancing responsibilities for the resources in Amargosa as these responsibilities will be borne by private interests and California customers.

RETCO project developers aim to provide a complete transmission solution to renewable energy development in the Amargosa Valley including balancing load and therefore are focused on meeting the singular needs of renewable developers in Amargosa Valley.

While the Solar Express Project is not targeted at meeting NVE's renewable energy requirements, RETCO developers have indicated that NVE will have an opportunity to secure transmission capacity on this line which could help meet NVE RPS requirements and help NVE avoid the risky and burdensome development of its own transmission project. RETCO developers of the Solar Express Project are actively pursuing permits for this project and intend to issue an informational document shortly with terms for renewable developers and other potential transmission customers.

RetCo's proposed transmission route:

- Does not conflict with the creation of a fossil beds national monument;
- Can be assumed to have the support, like VEA's proposed transmission corridor, from local governments, stakeholders and community organizations, who advocate for the creation of the national monument, along with Nye County community leaders;

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<sup>31</sup> The United States Department of Energy, the United States Department of the Interior Bureau of Land Management, the United States Department of Agriculture Forest Service, and United States Department of Defense (the Agencies) defined "368 corridors" on federal lands in eleven Western states. Also known as the Westwide Energy Corridor(s), a final Programmatic Environmental Impact Statement (PEIS) has been challenged by conservation groups. Possible litigation has resulted in discussion on settlement on agreed-upon "go" and "no-go" corridors. The Nye County 368 corridor is expected to be a "go" corridor while transmission through the north part of Las Vegas Valley is expected to be identified as a "no-go" under terms of the legal settlement.

- Does not conflict with vital military air corridors;
- Is not subject to the regulatory processes of the Nevada Public Utilities Commission and can be built more quickly.
- Will be privately financed, avoiding risk to Nevada ratepayers; and
- Travels less distance than NV Energy's proposal across the northwest part of the Las Vegas Valley, is less costly and more efficient.

## ANALYSIS OF POSSIBILITY REGARDING NV ENERGY REQUEST

NV Energy submitted to the Nevada Public Utilities Commission<sup>32</sup> in Docket 10-02009 a request for approval to permit expenses to develop the corridors identified as Phase I of the utility's Statement of Interest (SOI). This request was rejected by the Commission for a number of reasons, as noted throughout this report. Based upon comments made by Commissioners in the public meeting where these expenses were rejected, NVE may have an opportunity to submit the same request in future filing.<sup>33</sup>

The ordering paragraphs from the docket should be noted. Also it should be noted that the Staff of the Commission and the BCP (the state consumer advocate) opposed the corridor expenses for the Harry Allen to Eldorado segment of Phase I. NVE will likely not be successful getting this segment permitted under the current regulatory paradigm. The other two corridors, especially the Northwest to Harry Allen corridor, are dependent upon transmission access from Harry Allen to the Eldorado Valley. Therefore, development of each of these corridors under the current regulatory paradigm (resources approved for retail customers only) is unlikely.

It should also be noted that NVE has ownership interests and transmission rights on the major substations located in the Eldorado Valley but has not demonstrated in a Resource Plan filing whether it has the capability to use these rights to deliver renewable resources to its customers in Nevada from renewable resources located in Amargosa Valley. This assumes that a transmission line was developed from the Amargosa Valley to the Eldorado Valley by another developer.

Furthermore, NVE has also not demonstrated in a Resource Plan that it needs a transmission facility from the Northwest Substation to the Harry Allen substation to deliver renewable resources from the Amargosa Valley to its customers in southern Nevada.

Finally, NVE has 500 MW of existing capacity from Harry Allen to Mead, and the Commission has noted in its order that a clear need to build additional transmission capacity from Harry Allen to the Eldorado Valley has not been established by NVE. As noted above, without this additional capacity, construction of transmission facilities from Amargosa Valley to Northwest and from Northwest to Harry Allen cannot be justified.

RETCO and Valley Electric alternatives, because they are not regulated by the Nevada Public Utilities Commission, can be assumed to be developed more quickly depending on renewable development and financing.

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<sup>32</sup> Docket #10-2009, referenced earlier.

<sup>33</sup> Comments at July 2010 PUC Meeting regarding Document #10-2009

## **Risks Associated with Development of Transmission to Access Renewable Resources in the Amargosa Valley; Risks Associated with Uncertainty in California**

California demand for renewable resources is the key motivator for creating transmission developer interest in building projects to deliver renewable energy from Nevada to California. Unfortunately, there is much uncertainty regarding California's ability or desire to approve a 33% RPS or allow a significant level of renewable resources from out of state resources.

Notably, there have been two attempts in California to pass legislation implementing a 33 % RPS. Both attempts have failed. In the first attempt, California legislators submitted legislation (SB 14 and AB 64) to Governor Arnold Schwarzenegger for approval. He vetoed this legislation.

The Governor's decision to veto these bills appears to have been motivated in part by the limitations placed on deliveries of renewable resources from out of state resources. The second legislation, SB 722, again failed to get approval from the legislature and died before it was submitted to the Governor for approval. The 33% RPS mandate in California is currently upheld by the Air Resources Board based upon authority given to it by Executive Order. California's new governor will have the authority to affect previous executive orders. Therefore, there is some uncertainty associated with previous gubernatorial decisions that currently support a 33% RPS.

In addition, the California Public Utilities Commission's issuances in 2010 of its Tradable Renewable Energy Credit <sup>34</sup> (TREC) regulations have caused even more uncertainty for out of state renewable energy developers and transmission developers. These regulations as originally proposed limited the level renewable resources that could be obtained from out of state sources. These regulations were challenged by the California utilities, were modified, and have been reissued on a temporary basis<sup>35</sup>. It should be noted that Legislation (SB 722) addressed the TREC issue but was defeated.

Given the uncertainty in California's demand for renewable resources from out-of-state resources, it makes sense to tie the development of renewable resources in Nevada intended to serve California loads directly with transmission projects and to deliver these resources directly to the California.

Retail customers should not be asked to support transmission development expenses for transmission projects to deliver renewable resources out-of-state until assurances can be provided that Southern Nevada's ratepayers will not bear the risk of this development.

Projects proposed by RETCO and VEA are more suitable for this endeavor and place the risk of transmission line development upon renewable resource and transmission developers - not Nevada's retail customers.

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<sup>34</sup> *Tradable Renewable Energy Credits (1 TREC is equivalent to 1 MWh of renewable energy) allow for purchase of the Renewable Energy Credit without taking delivery of the renewable energy itself.*

<sup>35</sup> *The CPUC's modified proposed decision on TRECs can be found at the following link: <http://docs.cpuc.ca.gov/EFILE/PD/122464.PDF>*

## Commission Position Regarding Retail Customer Risk

A Nevada Public Utilities Commissioner was recently asked if the order in Docket 10-02009, in which it rejected NVE's request for approval of corridor development expenses to allow renewable developers in Amargosa Valley to access the Eldorado Valley through NVE transmission, effectively closed the door on development of this transmission project. The Commissioner responded that the Order did not close the door and that NVE could resubmit its request in a future resource plan or amendment.

It should be made clear that the Commissioner's response does not mean that NVE has a better chance of being approved the next time it makes such a request. First, a single Commissioner does not speak on behalf of the Commission. Approval of expenses that affect Nevada ratepayers requires that the majority of Commissioners vote in favor of the transmission corridors. Second, NVE would still have to make its case that the corridors development is in the best interest of retail customers. This is not a given.

As indicated elsewhere in this document, NVE did not convince the Commission that transmission from Harry Allen to Mead was required or justified.

Also, as indicated in other parts of this document, NVE has not shown it needs the Northwest to Harry Allen line to make deliveries from Amargosa Valley to its system.

Finally, since Order #10-02009 was issued, Valley Electric Association (VEA) began moving forward with its 230 kV Northwest Loop project which may obviate the need for NVE to develop additional transmission to the Amargosa Valley. Instead, NVE would have access to renewables in Amargosa Valley using VEA's transmission project.

Also to get a feel for the Commission's disposition on ratepayer risk associated with development of transmission lines for export, one need look no further than the Commission's proposed regulations in Docket 09-07011. Here, it can be seen that the regulatory language, which is developed in this Docket and is responsive to AB 387, carefully differentiates between transmission development for retail customers and transmission development for export of renewable resources by renewable developers.

Approval of export projects is predicated upon the applicants demonstrating that retail customers will not be harmed by the transmission facilities, that the transmission facilities must facilitate meeting RPS and must demonstrate that the company has taken steps to address renewable developer risk.

The proposed regulations clearly demonstrate that the Commission is still inclined to act under the current regulatory legislatively mandated paradigm - transmission development must benefit retail customers or hold them harmless if it provides them with no benefit.

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