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Analysis: New direction necessary for Nevada's energy needs *Four-pronged approach: new transmission, efficiency, renewables, natural gas*

LAS VEGAS – Facing uncertainty in meeting future demand for electricity, Nevada should concentrate on building a “flexible infrastructure” that leverages a mixture of resources and avoids risks associated with large-scale centralized generation, according to an analysis commissioned by the Energy Foundation and led by the state’s former energy advisor.

Report author Dr. Carl Linvill said in the study that due to uncertainties surrounding the cost and completion of the Ely Energy Center, “delaying the deployment of the flexible infrastructure needed to access diverse resources would be a serious mistake.” Linvill served as Gov. Kenny Guinn’s energy advisor from 2001-03 and also as a commissioner on the Nevada Public Utilities Commission from 2003-06.

In late November, Nevada Power Co. announced that it was delaying construction of the first of two planned 750-megawatt units at the Ely Energy Center due to uncertainties in the federal permitting process. The utility proposed the coal units to meet rising demand beginning in 2011. According to the research by Linvill and his colleagues at Aspen Environmental Group, however, Nevada can both meet its near-term needs and create a more stable infrastructure to provide for growth beyond 2013 by investing in a diversity of resources:

- **Building a north-south transmission intertie regardless of whether a new coal-fired power plant is constructed in White Pine County.** Connecting Nevada’s two largest utilities, Sierra Pacific Power in the north and Nevada Power in the south, has four main benefits: 1) improving reliability of the electricity grid; 2) allowing the utilities to share electricity resources to meet baseload demand, particularly in the summer when less intense temperatures and lower demand in the north mean electricity is available to share with southern Nevada; 3) improving access to renewable energy sources and expediting their development; 4) giving Nevada Power access to electricity reserves from other regions serving the Western electricity grid.
- **Promoting and investing in cost-effective energy efficiency, demand response and distributed generation resources.** Additionally, a more accurate accounting of efficiency measures and their gains also can help meet the need created by the absence of the first Ely unit.
- **Aggressively pursuing renewable energy projects along with expedited permitting and construction of transmission collector systems to serve those projects.** Most of the potential cited in the report has been identified by Nevada Power and Sierra Pacific Power or other sources. When viewed in this light, the report’s estimates of high probability, near-term potential are very

conservative. They include: 300-500 megawatts of geothermal capacity, 400 megawatts of wind, and 60-120 megawatts of concentrating solar power, all of which could be accessed by 2013.

- **Building flexible gas generation and storage capacity that complements the first three cornerstones of this strategy.** Any new gas generation should consider the relative efficiency of combined-heat-and-power additions, as well as the capability of enhancing access to renewable and distributed energy resources.

“We considered projects that appear to be highly probable,” said Linvill, who wrote the state’s first Comprehensive Energy Plan under Gov. Guinn. “We focused on resources that the utilities themselves already have identified in their resource plans or that the state’s renewable energy transmission task force has referenced. From those, we compiled a menu of highly probable options that offer decision-makers a number of combinations to meet Nevada’s energy needs and to give its residents and businesses energy security for 2011 and beyond.”

Even a conservative reading of those energy options yields a number of resource combinations that are more than sufficient to compensate for the 1,500 megawatts that was in Nevada Power’s plan for the Ely Energy Center. (See chart below). Building the infrastructure to access these options also helps the utilities comply with the state’s renewable portfolio standard requirements.

According to utility estimates, Nevada’s demand for baseload electricity is expected to grow by more than 3,400 megawatts over the next 20 years, an average annual load growth of 2.2 percent. Utility forecasters also predict that summer peak electricity demand in Nevada will increase by 1,400 megawatts between now and 2014, a jump of more than 16 percent. Nevada Power decided that building the Ely Energy Center was the best way to meet the majority of that demand.

But Linvill and his colleagues said in the report that “focusing on any one resource given the significant uncertainties that impinge upon the timing, performance and cost of a wide range of resource alternatives would expose Nevadans to unacceptable risk.” Those uncertainties include soaring construction costs, as well as questions about the potentially significant costs of impending federal legislation on global warming emissions.

Last week, three of Wall Street’s biggest investment banks – Citigroup, J.P. Morgan Chase & Co. and Morgan Stanley – announced that they were introducing standards that will make it harder for utilities to secure financing for coal-fired power plants. According to the Wall Street Journal, the banks “don’t want to be involved with debt that goes bad as a result of government emissions caps that require the power plants they finance to buy large numbers of extra pollution allowances.”

Instead, the banks said they will encourage utilities to pursue energy-efficiency and renewable energy as part of their portfolios before backing projects such as coal-fired power plants that emit large amounts of global warming pollution.

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A copy of the full report, “Laying a Foundation for Nevada’s Electricity Future: Generation Facility Uncertainties and the Need for a Flexible Infrastructure,” will be available online, once the embargo has lifted, at <http://www.ef.org>



Resources available for responding to Nevada electricity needs as a result of delays in the construction of the Ely Energy Center *

Infrastructure	Total Potential Capacity	High Probability by 2013	Contribution to peak demand by 2013
North-South Intertie			
NPC/SPPC reserve sharing	1850 MW	200-300 MW	200-300 MW
Access to reserves in other regions		200-300 MW	200-300 MW
Subtotal			400-600 MW
Renewables			
Geothermal	1200 MW	300-500 MW	210-350 MW
Wind	1900 MW	200-600 MW	20-60 MW
Concentrating solar	Multiple 1000s MW	60-120 MW	30-60 MW
Subtotal			260-470 MW
Efficiency, Demand & Distributed Generation Measures			
Gaming industry CHP	387 MW	60-120 MW	40-80 MW
Photovoltaic deployment	Multiple 1000s MW	30-60 MW	15-30 MW
Subtotal			55-110 MW
Air conditioning load management	231 MW	80-120 MW	80-120 MW
Pricing mechanisms	216 MW	40-80 MW	65-130 MW
Subtotal			145-250 MW
Commercial building code upgrades	319 MW	207 MW	125-175 MW
Residential building code upgrades	309 MW	25 MW	10-25 MW
New lamp standards	631 MW	186 MW	100-150 MW
New appliance standards	7 MW/yr		20-30 MW
More accurate efficiency accounting	27 MW		27 MW
Subtotal			282-407 MW
Natural Gas Generation	300-500 MW		300-500 MW
TOTAL			1442-2337 MW

* A more detailed version of this chart, along with explanations of the infrastructure needs and the sources for their capacity determinations, is available on pages 19-21 of the full report.