# MINUTES OF THE
# SENATE COMMITTEE ON ENERGY, INFRASTRUCTURE AND TRANSPORTATION

## Seventy-fifth Session
## April 1, 2009

The Senate Committee on Energy, Infrastructure and Transportation was called to order by Chair Michael A. Schneider at 8:13 a.m. on Wednesday, April 1, 2009, in Room 2135 of the Legislative Building, Carson City, Nevada. The meeting was videoconferenced to the Grant Sawyer State Office Building, Room 4412E, 555 East Washington Avenue, Las Vegas, Nevada. Exhibit A is the Agenda. Exhibit B is the Attendance Roster. All exhibits are available and on file in the Research Library of the Legislative Counsel Bureau.

**COMMITTEE MEMBERS PRESENT:**

Senator Michael A. Schneider, Chair
Senator Maggie Carlton, Vice Chair
Senator John J. Lee
Senator Shirley A. Breeden
Senator Randolph Townsend
Senator Barbara K. Cegavske
Senator Dennis Nolan

**STAFF MEMBERS PRESENT:**

Matt Nichols, Committee Counsel
Scott Young, Committee Policy Analyst
Lynn Hendricks, Committee Secretary

**OTHERS PRESENT:**

Cindy Edwards, Administrator, Buildings and Grounds Division, Department of Administration
Hatice Gecol, Ph.D., Director, Office of Energy, Office of the Governor
Lisa Corrado, Redevelopment Project Manager, City of Henderson
Rose McKinney-James, Solar Alliance
Julia Curtis, Sharp Solar Energy Solutions Group
Debra Gallo, Southwest Gas Corporation
Judy Stokey, NV Energy

Gregory A. Kern, PE/CEM, Director, Customer Renewable Generation and Energy Efficiency, NV Energy
Jo Ann P. Kelly, Chairman, Public Utilities Commission of Nevada
Kirby Lampley, Director of Regulatory Operations, Public Utilities Commission of Nevada
Joe Johnson, Sierra Club, Toiyabe Chapter; Sustainable Resources
Chad Dickason, Soleon Energy, LLC
Romaine Gilliland, Administrator, Division of Welfare and Supportive Services, Department of Health and Human Services
Kyle Davis, Nevada Conservation League
Dylan T. Shaver, International Brotherhood of Electrical Workers Local 357; National Electrical Contractors Association, Las Vegas Chapter; City of Henderson
Paul Freeman, Intern to Senator Michael Schneider
George Caan, Executive Director, Colorado River Commission of Nevada
Nick Vander Poel, Deputy Director, Office of Energy, Office of the Governor

CHAIR SCHNEIDER:
I will open the hearing on Senate Bill (S.B.) 358.

**SENATE BILL 358**: Revises provisions related to energy. (BDR 58-1146)

I have an opening statement I will read into the record regarding the history and reasoning behind S.B. 358 (Exhibit C). The chart referred to on page 3 of Exhibit C is also provided (Exhibit D).

CINDY EDWARDS (Administrator, Buildings and Grounds Division, Department of Administration):
I have provided an amendment for section 19 of S.B. 358 that includes a revised fiscal note pertaining to leased facilities (Exhibit E).

Collecting energy-consumption data, identifying areas of potential energy savings and recommending retrofit projects in state-owned buildings is achievable provided we have proper resources. However, in regard to leased buildings, we wish to clarify that approximately 178, or 78 percent of our 229 leased properties, are in multi-tenant buildings that contain both State agencies and private-sector businesses with full-service leases including payment of all utilities. We assume these multi-tenant buildings are to be treated as we treat buildings wholly owned by the State. It may be possible to collect

energy-consumption data from building owners, but it will be problematic to require building owners to incur the cost of identifying areas of potential energy savings and to identify and complete retrofit projects. It is our belief most building owners will be resentful of the State dictating how they are to run their buildings and spend their money. If the State leases a 50,000-square-foot space from a building owner, this might be negotiated; if the State leases only 1,200 square feet in a 50,000-square-foot building, it will not. The majority of our leases are less than 10,000 square feet.

We have had difficulty establishing an accurate fiscal note due to the myriad of variables in section 19, subsection 6, paragraph (b) of S.B. 358. This section states if the building owner does not comply with the program, the agency shall not enter into another contract for occupancy of a building owned by that owner. As worded, this requirement is problematic and potentially has substantial fiscal impact for the agencies. For example, the owner may have another building in the area that does comply with the program, but the current language of S.B. 358 prohibits us from occupying any of his buildings if he does not meet compliance. It is possible there may be no other space available in the area, or that a particular agency must be located in a certain neighborhood due to the requirements of their program or be colocated with another agency due to an interlocal agreement. Also, available space that complies with the program might be more expensive, new owners might not comply with the program or owners might pass on the cost of compliance to the agencies via rent increases. We must also consider the cost of moving the agency, including data, telephones and improvements, which could be prohibitive. We therefore request the language requiring an agency to relocate be deleted or amended to allow the chief to have flexibility, perhaps providing exemptions when in the best interests of the State.

We also request language pertaining to lease space be deleted in section 19, subsection 1, or reinstate the original language, which stated, "The Chief may establish a program ... " rather than " ... shall establish ... ". This allows us some flexibility in implementing this program while still being fiscally responsible with the State's funds. We would also request language be added to allow the chief to fulfill the requirements of this section by contracting with one or more qualified vendors.

This leads me to a point I would like to address from previous testimony we provided the Committee on February 6, 2009. If you recall, Patrick M. McInnis,

our Chief Engineer, and I provided an overview of our status regarding the requirements of existing statute. Currently, the Buildings and Grounds Division has control of, and is only able to monitor, 10 percent of State-owned facilities. The difficulty of complying with existing statute to monitor energy consumption for the other 90 percent of State-owned buildings coupled with leased facilities is a major concern for us, given our lack of resources.

Subsequent to that testimony, we have been working with the Office of the State Treasurer and the Purchasing Division, Department of Administration, in regard to the state contract with LPB Energy Management, a national energy-consulting firm. LPB Energy can provide all the needed services required by statute except for the leased multi-tenant buildings previously mentioned. We have had preliminary discussions with LPB, and it appears they can provide an interface between the utility companies and the agencies to provide a one-stop service for energy data collection and processing of bills. This service would include a two- to four-year historical audit of all utility bills paid by the State prior to commencement of their contract. The cost for this service is approximately $6 a bill, but that would be reduced to approximately $4 a bill if all State agencies were included in this service. This cost would be passed on to the individual agencies. The effectiveness of auditing, processing, reporting, payment and collection of statewide energy-consumption data in one process could prove to be quite efficient and accurate. We would like to pursue further discussions with LPB and possibly enter into a contract with them, using my agency and perhaps some others as a test case for this effort.

CHAIR SCHNEIDER:
Have you spoken with Dr. Hatice Gecol about funds from the American Recovery and Reinvestment Act of 2009 (ARRA)?

MS. EDWARDS:
I have not.

CHAIR SCHNEIDER:
The funds are starting to appear, and probably the Buildings and Grounds Division could get some of that money. You may want to meet with Dr. Gecol to get more information on that.

SENATOR TOWNSEND:
Can you tell us what the State's total energy load is, apart from the leased buildings?

MS. EDWARDS:
We have not been tracking the data. I have information for the buildings under our control, which is about 10 percent of all State-owned buildings.

SENATOR TOWNSEND:
Who would have the best information on that?

MS. EDWARDS:
We would have to extract that information from the power companies for all the different agencies. That is why I was proposing we contract with LPB to facilitate that and centralize the data.

SENATOR TOWNSEND:
Are we relying on the power company to tell us how much power we are using?

MS. EDWARDS:
I do not currently have the data to assess that. I could have my engineer go through the billings and report back to you in two weeks when he returns from medical leave.

SENATOR TOWNSEND:
How much space does the State currently lease?

MS. EDWARDS:
That is currently about 1.5 million square feet.

SENATOR TOWNSEND:
It would be helpful for the Committee to have the information about the State's total load. That would exclude leased properties where the lease includes utilities.

MS. EDWARDS:
I will have my engineer prepare that information.

SENATOR TOWNSEND:
Are you able to gather that information for all State properties, not just the ones the Buildings and Grounds Division controls?

MS. EDWARDS:
I am not certain. I will research that.

SENATOR TOWNSEND:
Perhaps the Office of Energy can help you. I have been asking for this information for ten years, and I find it remarkable that we have no idea what the State's load is. The energy does not come free. Perhaps the Budget Division would know.

MS. EDWARDS:
The energy tracking program we were supposed to fully implement would tally that information, but we have not been able to implement it. That is where all of that data would come from.

SENATOR TOWNSEND:
How long would that take? Perhaps it is reported to the Public Utilities Commission of Nevada (PUCN) or the Interim Finance Committee (IFC). I am more concerned about the load than the price. My second question is on the leased space. Do you control the leased space?

MS. EDWARDS:
We control the majority of the leased space. All of those contracts come through our office. The Department of Public Safety, the Department of Motor Vehicles, the universities of Nevada, the Department of Transportation and the prisons have statutory authority to enter into leases on their own behalf.

SENATOR TOWNSEND:
We have spent a lot of time on this same situation with the vehicles used by the State. We are working with the public to encourage them to conserve energy and be smarter about their energy usage. To do that, we need to behave that way as well. To get a better handle on that, it is important to look at the leases you sign. Even if the owner pays utilities, that may be built into your rent factor; if the building is wasteful, we pay for that too. I do not think we are looking for an assessment of every building we happen to be in, but more about the space we occupy. Is the space energy efficient? If it is not, what are the options to

make it energy efficient? If we have a long-term contract, what are the options for retrofitting lights, air conditioning, windows and other factors? Is it worth it to terminate the contract and move to a more efficient space? If the State decides this is a top priority, the market will respond.

I have never been in a Legislative Session in which costs were not an issue, which makes it all the more remarkable that we do not know our total energy load. That makes it very tough for us to come up with a solid energy policy that could be helpful. We are not picking on the Buildings and Grounds Division; we are just trying to get our arms around the issues before we leave, if that is possible.

MS. EDWARDS:
I understand your concern. We too would like to get our arms around the State facilities; that is our first goal. We are aware we need to collect the data, and we are trying to implement a program. That requires us to actually gather consumption, even for the leased buildings if you want us to look at those, which requires us to finish implementing the program so we have a database that collects all of this information.

SENATOR TOWNSEND:
How long will that take?

MS. EDWARDS:
If we are allowed to contract with LPB and have all State agencies involved, they could put the program together and collect the data within six to eight months.

CHAIR SCHNEIDER:
Dr. Gecol, would the money you have coming in from the ARRA help the Buildings and Grounds Division with the task in front of them?

HATICE GECOL, PH.D. (Director, Office of Energy, Office of the Governor):
We have had an initial conversation with the Buildings and Grounds Division on this and will continue the conversation. I have our preliminary list of Nevada's planned project activities that will be conducted using State Energy Program grants. This initial application went to the federal Department of Energy (DOE) for guidance. The money is divided into six areas. After subtracting 5 percent for third-party verification, which is required by the DOE, and our administrative

costs, the number-one area is retrofitting selected State buildings with certain technologies. This is a condition of the DOE that will achieve annual energy savings of at least 10 million source British thermal units (BTUs) for each $1,000 of total investment. For the entire $34.7 million, no matter where we spend it, at the end we have to prove that we will meet that standard. When we are doing lighting, we achieve this. When we add solar panels, we are way below that threshold.

We will continue to work with the Buildings and Grounds Division to see what we are going to do. This is our number one priority. The money allocated to retrofitting State buildings is $6.5 million.

As an example, our prison system is taking advantage of the energy-saving performance contracting. In December, their project was approved by the State Board of Examiners. They will borrow $14 million to retrofit their buildings, which comprise 5 percent of the State's buildings. We are required to reduce our grid-based electricity by 20 percent by 2015, and the money will not be enough to achieve that. There are other programs we have to include, such as adopting the code and training local governments.

CHAIR SCHNEIDER:
Do you have some money that could help the Buildings and Grounds Division?

DR. GECOL:
I hope so. We need to see how it will tie in to the guidance conditions.

CHAIR SCHNEIDER:
It is my intent to meet with Senator Horsford on this matter. I also intend for this Committee to continue to meet during the interim, so we will have an ongoing energy committee that can follow all this and give them help during the interim.

LISA CORRADO (Redevelopment Project Manager, City of Henderson):
We support S.B. 358. We are particularly interested in sections 14 through 18, which amend provisions related to local improvement districts to allow renewable-energy projects to be included in the list of projects for which local governments may levy an assessment. The City of Henderson is interested in pursuing this opportunity, and we have researched the City of Berkeley, California, program extensively over the last year. That is a solar financing

program allowing homeowners to voluntarily participate in a special improvement district to finance solar panels on their houses. There is strong interest among Henderson residents in green building, renewable energy and sustainable living, and the city would like to pursue a similar program to make renewable-energy technologies more accessible to residents.

CHAIR SCHNEIDER:
Sections 14, 15 and 16 of the bill describe renewable-energy projects. This is something we hope will mirror what Berkeley has done.

SENATOR TOWNSEND:
Section 16 of the bill states:

> "Renewable energy project" means real property, facilities and equipment used to generate electricity from renewable energy and all appurtenances and incidentals necessary, useful or desirable for any such real property, facilities and equipment.

Why is the term "desirable" included?

MATT NICHOLS (Committee Counsel):
"I think that this definition came from an existing section. I just need to—if you can give me a couple minutes, I can get back to you on that."

SENATOR TOWNSEND:
I am not sure that term is helpful. Everybody desires things. We do not want the communities interested in doing this put in a position where people can demand funding for huge projects because they desire them.

MR. NICHOLS:
"Well, we're back to Berkeley again. The definition came from the California statutes that the Berkeley program is established under. We can certainly take a look at the language and clean it up, if you'd like."

SENATOR TOWNSEND:
Perhaps we could call the people in Berkeley and find out why they have it there. There may be a reason I do not know.

CHAIR SCHNEIDER:
We will do that. Ms. Corrado, would this also apply to people with homeowners' associations (HOAs)?

MS. CORRADO:
If homeowners with HOAs wanted to participate, they would probably have to go through whatever process design reviews were required by their HOAs. We would do an extensive stakeholder and outreach process to answer questions and get the HOAs onboard, so they would feel comfortable with this.

CHAIR SCHNEIDER:
> Our Berkeley graduate here would greatly appreciate that it's on the record that HOAs would need to allow these, even though we passed—what was the number of that bill? [S.B.] 114. So the HOAs will be able to do this, any homeowner, and, you know, they just can't say no anymore.

**SENATE BILL 114:** Makes various changes relating to systems for obtaining and using solar energy and other renewable energy resources. (BDR 58-380)

MS. CORRADO:
It would be a big part of our public outreach process to include them and build that support.

ROSE MCKINNEY-JAMES (Solar Alliance):
We support S.B. 358. There are a number of sections of the bill we would like to highlight. We made an extensive presentation a few weeks ago establishing our priorities, and I will offer my comments in the context of those priorities. I would be happy to make myself available to outline these suggestions more specifically.

As it relates to the allocation of the ARRA funding in section 1, we support this provision. We would like the Committee to consider the possibility of expanding this to include the installation of renewable-energy-generating projects as well.

As it relates to the solar generation program, we support the rollover authority from year to year. We have observed over the period the program has been in place that there are a number of inefficiencies we would like to see improved. To the extent there is an opportunity to also revisit the capacity levels of the

program, we would like for the Committee to consider that. Our recommendation would be that the maximum capacity for the solar incentives program would not be greater than 10 percent of the utility provider's total maximum peak demand.

Section 13 relates to net-metering. We strongly support raising the current net-metering cap. This is a discussion that has been undertaken over time. We believe the overall enrollment of the net-metered systems within each utility's territory should not be capped. We are advocating for an amendment to *Nevada Revised Statute* (NRS) 704.771 to raise the per-system cap to "generating capacity of not more than 125 percent of the customer's load."

We support the provisions of section 18. Regarding the tracking system for State-owned buildings, as you work through the challenges outlined in previous testimony, we would like to enter our support for this provision.

CHAIR SCHNEIDER:
Under what we will call the Berkeley plan, all the cities and counties in Nevada can offer this program and incentivize renewable-energy projects on houses. This is different from S.B. 395, which only gives that ability to Henderson.

**SENATE BILL 395:** Makes various changes regarding renewable energy and energy efficiency and alters the composition of the Commission on Economic Development. (BDR 58-1219)

MS. MCKINNEY-JAMES:
This is an opportunity for us to expand our support for distributed generation. The Solar Alliance is comprised of a number of large solar developers who are focused on the distributed aspects of solar energy. This bill is important to us in terms of our opportunity to grow.

CHAIR SCHNEIDER:
Would you see the cities as making this available also for new construction and not just for existing homes?

MS. MCKINNEY-JAMES:
Yes, I would think so. Our experience has shown us that there are fewer challenges with new construction in terms of meeting requirements. Retrofits are more expensive and create more challenges.

CHAIR SCHNEIDER:
Could a developer come in with a warehouse, a subdivision or an apartment building and qualify for this?

MS. MCKINNEY-JAMES:
Yes.

CHAIR SCHNEIDER:
Excellent. When builders are all onboard and coming in to do this, it changes the momentum of green energy going forward.

JULIA CURTIS (Sharp Solar Energy Solutions Group):
A number of cities throughout the nation are looking at the Berkeley model for financing. This is something we would definitely support.

DEBRA GALLO (Southwest Gas Corporation):
We support S.B. 358. We support the efficient use of energy and look forward to being part of the solution going forward for this State.

We have a concern regarding section 12, subsection 12, of the bill. Currently, when a public utility files an application to make a change in a schedule or rate, the PUCN is required to issue an order within 210 days. It is our understanding that the language in subsection 12 is intended to provide the PUCN with the authority to grant a request from an applicant to delay implementation of such a charge. This happens from time to time, and they feel they do not currently have the authority to do this. We support this change. Our concern is the effect the language proposed in this section might have on the view of the 210-day processing time. The processing period, known sometimes as a "time clock," is one of the factors credit-rating agencies look at when analyzing a utility's credit rating. The 210-day or 7-month limit is definitely a positive factor in Nevada. We would like to suggest language that would give the PUCN the authority to grant the utility's request and still make sure the 210-day time clock is intact (Exhibit F).

SENATOR TOWNSEND:
Does the PUCN not have this authority at this time?

SCOTT YOUNG (Committee Policy Analyst):
About the time the Legislative Session began, we were tracking some articles dealing with the PUCN's current rate case. There was discussion of this very situation. Someone raised the question in the PUCN proceeding as to whether the implementation date of the new rate could be delayed because they did not want it to coincide with the heavy air-conditioning load period in Las Vegas. I believe the presiding officer of the docket indicated he wished the parties to brief the issue, but he also expressed a desire that perhaps the Legislature could clarify whether indeed the PUCN did have that authority. That is the purpose behind that provision.

JUDY STOKEY (NV Energy):
We support most of S.B. 358. We do have some concerns, and we have a proposed amendment (Exhibit G). We agree we could make some changes to the solar generation program and get more participation. We also agree this is an economic and environmental decision for our customers when they decide to put a solar panel or some other renewable generation at their homes. We do not agree with increasing the net-metering cap from 1 percent to 2 percent, nor with the reallocation of some of the portfolio energy credits.

GREGORY A. KERN, PE/CEM (Director, Customer Renewable Generation and Energy Efficiency, NV Energy):
I have a few suggestions that will help S.B. 358 accomplish its mission of furthering renewable-energy projects in Nevada. One of the questions that has been discussed is why we only accomplished the installation of 2 megawatts (MW), when the total capacity available over the last 5 years has been closer to 35 MW. It took a while for this program to get going. We had to create an industry that did not exist in Nevada before this. If you picked up the phone book five years ago in Las Vegas, you would have found two companies that could help you install solar panels on your home, and both of them were out of business. You also had covenants, conditions and restrictions (CC&Rs) that prohibited you from putting solar or wind or anything else on your home. You also had inspection agencies in Las Vegas, Reno, Washoe and Clark Counties and elsewhere that simply did not know how to inspect these facilities, so it took a long time to get approval.

Once things started, we realized there were problems, and we have fixed those as we went along. The main problem with the program right now is that a participant can hold on to a spot in the program for a year, then give it up when

there is no more time to reallocate. That is the main thing we need to fix. The group that picks the participants should also be able to set milestones for continued participation, so that participants can be removed from the list and the spot given to someone else.

We have a concern about the allocation of portfolio energy credits (PECs) in S.B. 358. The 400 participants in this program are largely supported by the rest of our 1.2 million customers. In addition to paying for the rebates, nonparticipants also pay for a good portion of the standby fees. That is, when the sun is not shining or the wind is not blowing, the solar plant and the wind turbines still need to be connected to the power plant. If we want to make the program a better deal for participants, the way to drive this is to increase or decrease the rebate rather than changing the allocation of PECs.

If you do decide to allocate the PECs, there are two things you will want to do. This bill would be in conflict with the net-metering statutes, so you will want to change them also. Also, this bill suggests you look at the amount of money the utility has recovered and when that has happened. It also talks about the actual cost of the facility. Some people install their own and do their own labor.

We do not think it is necessary or desirable to remove or raise the net-metering cap. The cap is there for the protection of the network. We do not know how these intermittent resources react; we do not know how the network will react to them. The 1-percent cap is there to project the network from a reliability point of view. Our peak load statewide is about 7,600 MW, about 6,000 MW in the south and 1,600 MW in the north. That means 1 percent of that is 76 MW. Currently, net-metering is under 4 MW. We have at least another two years before we would have to raise that net-metering cap.

CHAIR SCHNEIDER:
If you install solar photovoltaic units yourself, do you qualify for the rebate? Do you have to use a licensed contractor to get the rebate?

MR. KERN:
There have been several licensed people who have installed them on their own homes.

CHAIR SCHNEIDER:
That is a small amount. When NV Energy keeps the PECs, that is a rebate also. It can be looked at as a rebate to the customer too. Is that right? That is a lot of money.

MR. KERN:
I do not understand the question, sir.

CHAIR SCHNEIDER:
We are trying to get more money back to the customer to encourage them to put solar panels on their homes. It seems like NV Energy wants to keep everything and give back just a little bit. We have to front-end load this and make that incentive really big for the homeowner. That is what we are trying to achieve here, and that is part of what sections 15 and 16 of S.B. 358 are trying to get at. We are trying to get the company to participate more and give more rebates, to be more fluid with the money.

MS. STOKEY:
I understand what you are saying. We have had this discussion, and our issue is those rebates and all the other costs associated with this program are paid for by other customers who may not be able to afford to put a solar panel on their home. We do support the cities and local governments with bonding to help residents get these panels on their homes; that is another great incentive to help homeowners.

SENATOR CARLTON:
What are the current rebates?

MR. KERN:
For schools and public buildings, it is $4.60 a watt; in July it goes down to $4.20 a watt. For residential, it is $2.30 a watt now, and in July it goes down to $2.10 a watt.

SENATOR CARLTON:
It used to be the problem with solar was that it was expensive and limited in availability. Now that it is becoming more popular, we are driving the price down, which lowers the rebate to the people installing it. It is one of those strange twists. With more competition, the price gets driven down, so the rebates actually become less. Is that right?

MR. KERN:
We have five years of data on installations, and the price is not coming down. It is flat at $9 per distributed solar in Nevada. A 1-kilowatt (kW) system may cost you $9,000. The federal government will give you approximately $3,000, the ratepayers will give you approximately $2,300 and you would pay the balance.

SENATOR CARLTON:
Are those rebates in effect now for installing solar panels on residential homes?

MR. KERN:
Yes.

SENATOR CARLTON:
You mentioned the possibility of increasing the rebate. How much do we want to increase it?

MR. KERN:
It depends on how much you want the nonparticipants to pay to the participants and what value you get from it. One thing this program has done is create a viable industry in Nevada. Now, CC&Rs cannot preclude people from installing distributed generation. We have helped train all the different bodies that inspect buildings. It comes down to how much you want to incentivize. With the federal government now wanting to pay 30 percent of these installations, we are waiting to see how that affects things. It had an odd effect in the last quarter of 2008, in that no one built anything because they were waiting till January 2009 so they could apply for the federal funds. In January, we had the best month we have had in five years. There are so many balls in the air at the moment. Even if the federal government will pay 30 percent of the cost, people do not have the $30,000 they used to have to pay for installation. My point was that if we wanted to give participants more incentive, the place to do it would be in the rebate. That would be easier than dividing up PECs.

SENATOR CARLTON:
One thing I need to remember is when we first started this discussion, we were facing rolling blackouts and brownouts. There was not enough energy for southern Nevada. We were at the mercy of buying it on the spot market. The origin of the rebate program was the more people we get off the grid, the more power there is for the people still on the grid. Also, in the long term, it lowers

the energy consumption of that residence for every person who owns it in the future. We need to remember that.

I am still concerned about rebates and need to investigate them more.

SENATOR TOWNSEND:
I understand you to say there may not be as many people who can get this, but you are going to give more to the people who do qualify in order to incentivize them to do this regardless of the PECs. The PECs do have value, but they are a commodity. The problem with giving them to the consumer is that the consumer is not the one who can drive the market. Only a large holder, the institutional investors, will drive the market. The individual cannot take PECs to the store and turn them in for groceries. That is part of the problem.

Some numbers have been used that we need to revisit. What does a solar component cost? This is not something many of us know about. For an average 1,700-square-foot home, what would the cost be? How many kilowatts would that be?

My second question is about your statement that the federal government would pay 30 percent of the cost of installation. Is that a federal tax credit? If not, how do people access that money?

Finally, could you help me understand the financial mechanics of this for the average person who is interested in doing this? There seems to be some lack of clarity on exactly what the dollars are, so maybe you can help us. You went from $9,000 to $30,000, and you lost me.

MR. KERN:
I often use as an example a theoretical 1-kW system, which would cost $9,000.

SENATOR TOWNSEND:
One kilowatt means nothing to the average person. How much electricity does the average homeowner in southern Nevada who is a customer of NV Energy use?

MR. KERN:
The average home in Las Vegas uses 15,000 kilowatt hours (kWh) a year. A 1-kW system produces 2,000 kWh a year. If I wanted to build a system large

enough to offset the entire load of that average home in Las Vegas, it would need to be 7.5 kW. If the price of installation was $10,000 for each kW, that would mean the installation would cost $75,000. If you built a system that big, you would probably pay $9,000 a kW, which would make it $67,500. The average solar installation is 3.7 kW, about half that size. The reason you do not normally want to build an oversized system is that you want to offset the majority of your load but not more than your load because of the net-metering laws.

SENATOR TOWNSEND:
This is particularly true in the summer, when you are trying to shave your peak and help yourself a little. What is the total cost of installation of a 3.5-kW solar system without rebates?

MR. KERN:
Approximately $30,000.

SENATOR TOWNSEND:
Of that $30,000, how much does the rebate program provide?

MR. KERN:
It would be approximately $7,500.

SENATOR TOWNSEND:
Is that a check you write directly to the customer?

MR. KERN:
Yes, or to whomever else they designate. Sometimes they designate the manufacturer or the installer.

SENATOR TOWNSEND:
Now we are down to $22,500. Where does the $3,000 from the federal government come in?

MR. KERN:
It is not $3,000; it is a third of the total cost.

SENATOR TOWNSEND:
Is it a third of the $30,000 or a third of the $22,500?

MR. KERN:
We do not yet know.

SENATOR TOWNSEND:
Will it be a tax credit or a check?

MR. KERN:
I believe it is an investment tax credit.

SENATOR TOWNSEND:
So when the homeowner writes a check for the installation, it will be for $30,000 minus the rebate, independent of the investment tax credit. Is that right?

MR. KERN:
Yes.

SENATOR TOWNSEND:
Now we have a price point problem, and it is significant. There are two ways to encourage people to do this: we can do some sort of specialized financing, or we can increase the amount of rebate we provide. Let us assume for the sake of this discussion that it is revenue neutral, so it costs no more than we are already paying. How much do you think that rebate needs to be to encourage people to come up with the rest of the cost of installation?

MR. KERN:
I do not know.

SENATOR TOWNSEND:
It is a nascent industry; we have not quite figured that out yet. Consumers would install these systems if they were free, but they are not doing so now at the level we would like because the costs are substantial. If you apply for one of these, does someone come out and do a cost analysis to say how long it will take to get your investment back?

MR. KERN:
We help them with a cost analysis. There are also many calculators on the Internet that can do this as well.

SENATOR TOWNSEND:
There are a lot of things on the Internet, and not all of them are accurate. It is better to have someone we can depend on. When a person applies for this program, is there someone in your office who can answer questions?

MR. KERN:
We have several people who talk to applicants. When they become participants, they are in constant communication with us and with the contractor. We will give any information we can. Often, it comes down to their own cost of money. We know the cost of electricity, how much electricity the modules will make and how much the rebates are. The last thing is the actual cost of money to the consumer.

SENATOR TOWNSEND:
Do you have a sense of how many individuals are out there who are qualified to do these installations?

MR. KERN:
There are dozens of people and companies who are qualified and able to do this work. It is a competitive market.

SENATOR TOWNSEND:
With regard to PECs, what is the actual value of them to the customer? NV Energy can put them into a collaborative effort with others to get a value. What would the customer do with PECs? Could they sell them back to you?

MR. KERN:
That would be one option. We have made two offerings to purchase PECs from small customers over the years. We currently get them from all solar generations customers as part of the agreement. There are several net-metering customers who built their systems outside of the solar generation, so they own their PECs.

SENATOR TOWNSEND:
If you use net-metering and you are outside the program, you keep your PECs. Is that correct?

MR. KERN:
Yes.

SENATOR TOWNSEND:
Have you had success buying them back?

MR. KERN:
Two years ago, we offered about 7 cents. We made this offer to about 70 individuals, and about 30 of them accepted the offer. We just offered again, and we do not yet know how many will accept our offer this time.

SENATOR TOWNSEND:
How many people are signed up for net-metering under a cap of 1 percent?

MR. KERN:
Right now, net-metered customers in Nevada produce about 3 to 4 MW.

SENATOR TOWNSEND:
What is your total base load against which this percentage is measured?

MR. KERN:
It is about 7,600 MW.

CHAIR SCHNEIDER:
Let me see if I understand. If I put a 3.5-kW unit on my house, it will cost me $30,000. I have to have the money up front because the rebate comes after the installation is complete. The rebate will be approximately $7,500. But depending on the angle of the sun and the unit, that rebate will be reduced because the unit will not really produce 3.5 kW; it will be more like 2.7 kW or 2.8 kW. That reduces the rebate to around $5,800. Is that correct?

MR. KERN:
No. There is a nameplate on the device, usually shown in direct current. The inverter takes away some of that to switch it to alternating current so it can be used in the house. We base the rebate on the resulting current, as long as there is no shading.

CHAIR SCHNEIDER:
So you do deduct some if the unit is shaded. Do you deduct for the angle also?

MR. KERN:
I do not believe so, no.

JO ANN P. KELLY (Chairman, Public Utilities Commission of Nevada):
The PUCN has no position on S.B. 358, but we support net-metered systems as a resource. I plan to speak on section 13, which amends NRS 704.773.

If it is the decision of the Committee to increase the capacity of customer-generated net-metered systems to 2 percent of the utility's peak capacity as a way to increase participation in this sector, I have a personal recommendation as we increase the use and the number of participants in this program. Also, there is a hole in the statute with respect to consumer protection and an ability to increase system reliability. This is not questioning the reliability of the equipment put on homes, because in our net-metering statute we have some standards. But if the company and our load forecasts are going to rely on a certain amount, it will be important for us to know those systems are still there and still operable.

Allowing for PUCN rules in the net-metering statute, and specifically section 1 of NRS 704.774, would be important. One rule would be the monitoring and the maintenance and then the verification of the equipment. As we go to smaller installations rather than large solar projects, maintenance of those facilities or equipment on rooftops is important. We need to know they are still working so the system can count on them. This can be done by adding one line to NRS 704.774 subsection 1, paragraph (d): "Any consumer protection, safety or reliability standards set by the PUCN." If we proceed to increase participation, it is important for consumer protection that we close this hole.

Section 12 of S.B. 358 deals with the low-income rate. The statute, NRS 702.260, was established to mitigate the impact of the western energy crisis. It was a gubernatorial committee that made this recommendation to the Governor, who then came to the Legislature to establish the universal energy charge (UEC) to mitigate the rate impact at that time. The Legislature did not establish a special low-income rate, which would be an expansion of what we call special-class rates that are subsidized by the other ratepayers. It is a complication to rate-making principles. I know you are discussing ways to make the UEC more efficient, but I wanted to offer the idea that rather than establishing or authorizing that rate, you have the option to increase the UEC as you do the mill assessment, where you set a floor and a ceiling that can be raised or lowered depending on economic conditions. That could be done in a general rate proceeding, or in conjunction with the IFC. But that is an alternative to creating a special subsidized rate.

KIRBY LAMPLEY (Director of Regulatory Operations, Public Utilities Commission of Nevada):
I wish to address section 4 of S.B. 358 with regard to the solar program, section 7 with regard to wind, and section 10 with regard to water. Section 4, subsection 3, paragraph (a), states the PECs must be divided between the participant and the company. This will create a slight administrative issue for us. In addition to inspecting each facility to verify what the rating is and that it is properly installed, as we do now, this will require us to collect documentation on the cost to the participant so we can verify the proper allocation. This is paralleled in the wind and water sections. It is not an insurmountable hurdle, but it will require some additional manpower.

CHAIR SCHNEIDER:
How much additional manpower do you anticipate you would need to cover this?

MR. LAMPLEY:
We are requesting one additional position for a resource planning engineer. As the solar, wind and water systems increase over time, it will become a manpower-intensive thing because we send someone out to physically inspect these systems to verify the nameplate so we give them the right rebate. We will also have to collect documentation so we allocate properly between the participant and the utility company. In my experience as an auditor, I found you do not always get the documentation in one visit. I think this will be a significant manpower issue for us.

JOE JOHNSON (Sierra Club, Toiyabe Chapter; Sustainable Resources):
I would like to thank the Chair for section 11 of S.B. 358. I have been a participating member of an advisory committee that has oversight in recommendation to policy on the UEC program, and this issue of the surplus funds that have been generated in the Division of Welfare and Supportive Services has been a concern since the inception of the program. The inclusion in this bill and the proposed amendment with oversight is an appropriate mechanism to bring that into play.

I would also like to comment on the proposal from the PUCN, the consideration of a possible mill rate increase. As an observer in what has been happening in Welfare in the last few months, I would say for the first time I have confidence of actually getting those funds out. They are projecting that in the second year

of the biennium, they will reach a crossover and there will not be sufficient funds. We are presently only assisting about 20 percent of the eligible households in this program. When people are being laid off and have diminishing incomes due to working fewer hours, the whole rationale has changed; it is a different paradigm than a year or two years ago.

> I would like to also put on record in support of the Solar Alliance proposals for the most part of these ... . There are some issues about particularly wind. We implemented increase in net-metering in the confidence that we have in its ability to perform in a stable system. But all in all, I'd like to go on record as supporting this bill. We'd like to work on some of the proposals that have been presented to you today.

SENATOR TOWNSEND:
Does section 11 of the bill state that if an individual qualifies to receive weatherization from the Housing Division, they also qualify to receive payments from the Welfare Division?

MR. JOHNSON:
Yes, if they still meet the income qualifications. They are separate programs administered by separate agencies. There is documentation of the reduced-energy usage, so it would affect their allocation of subsidy for the following year. Most of the weatherization has been prioritized to seniors, homeowners, people with handicaps and applicants who have a child under age six. With the additional federal programs, we anticipate the number of eligible people will significantly increase, perhaps by a factor of two or more. It has been calculated that about 150,000 units qualify at 150 percent of the poverty level. Under the existing program, it was around 1,200. There is a significant shortfall in meeting the need, and we should be addressing that with all haste.

SENATOR TOWNSEND:
Could you find out for us the number of people who have received weatherization who also continue to receive UEC funds?

MR. JOHNSON:
I will. I know they circulate numbers on the number of households that receive weatherization and are presently receiving UEC funds, and it is a fairly significant number. Part of that is the reluctance of the targeted group of seniors who see the weatherization program as welfare and do not apply. But

there is a significant portion of people who receive weatherization benefits who were not receiving the program for energy assistance. I will check and get back to you.

CHAD DICKASON (Soleon Energy, LLC):
I have been working in the solar industry for the last four years, mostly in California, and recently moved back to Nevada to start my own company here. I am well versed in the finances of the industry and how to build a successful company. I would like to see some changes made to NRS 701B to enable Nevada to establish a competitive and cost-effective industry for both consumers and installers. I have a written statement detailing amendments to S.B. 358 that will accomplish this end (Exhibit H).

In order to have a healthy industry from a residential and small commercial standpoint, the installer base needs to have the caps removed or significantly increased so we can buy our materials at a cheaper level, so we can get our process in place to offer the customers a cost-effective system, one that can give the customers a potential of receiving roughly a 10- to 12-year return on their investment. There was discussion earlier about the current return on investment in the 15- to 20-year time frame. If we have the caps removed, we can, through encouraging more competition and more systems being installed, drive that down significantly.

My second suggestion is to increase the size of the project. One mechanism to enable schools and businesses to finance their projects is through a power-purchase agreement, which is very common in other parts of the country. In order for financiers to want to participate in a project, it must be of sufficient size to make sense for them. For schools today, based on the financial conditions over the last 12 months or so, the effective floor of the size of the project needs to be at least 200 to 250 kW to get financing companies engaged. By using a third-party financing company, schools and public buildings are able to take advantage of the reduced costs through the tax incentives that are available.

My third suggestion is a technical matter. It would alter the availability of rebates from just small businesses to all businesses. If we open up the cap structure, it would be taking advantage of companies like Wal-Mart, Best Buy and the big box stores. That can help drive the development of the industry and allow it to lower costs for all Nevadans.

Finally, I recommend changing the application period from an annual basis to a monthly or quarterly basis. From a business planning standpoint, this gives installers a lot more ability to manage their business from a long-term standpoint.

If we do remove the caps, one thing that would be really important for the industry is for S.B. 358 to set some sort of goal, whether it is 50 MW by 2013, 100 MW by 2015 or 325 MW by 2017. Setting some sort of goal and then providing the PUCN and the Task Force for Renewable Energy and Energy Conservation with the ability to meet that goal through rebates or other incentive programs would be very beneficial.

CHAIR SCHNEIDER:
We would like to hear from the representative from the Welfare Division.

ROMAINE GILLILAND (Administrator, Division of Welfare and Supportive Services, Department of Health and Human Services):
When I last testified, I indicated we were taking corrective actions in the energy-assistance program to significantly reduce the wait time for applications and increase the amount of benefits being put out on the street, and that we had received the necessary help from the IFC to accomplish our objectives. Today, I would like to give you a brief update about how we are progressing on that path. As an example, in the month of February 2009, we issued an average weekly benefit of $280,000 to 593 applicants. In March 2009, we issued an average weekly benefit of $443,000 to 1,182 applicants. In the week ending March 28, we gave $618,000 to 1,655 applicants. We expect to sustain a weekly disbursal of $600,000 from this point forward. We are on target to reach our objective of reducing the wait time for applications to three to four weeks and to fully expend the reserve.

CHAIR SCHNEIDER:
Thank you for the effort. It sounds like you are on track. We expect a large amendment to come in on this bill, and we will be going to work session.

KYLE DAVIS (Policy Director, Nevada Conservation League):
We are in support of S.B. 358. I wanted to put on record—if we take a look at the section dealing with municipal financing—is something the committee might want consider in light of Senator Horsford's Green Jobs bill [S.B. 152]—is maybe we can

set up a mechanism where not only can you finance renewable-energy improvements, but possibly efficiency improvements as well. That would be something that could provide for a lot of jobs and would also take care of the low-hanging fruit before you go put a oversight system on your home.

**SENATE BILL 152:** Enacts the Green Jobs Initiative. (BDR 58-172)

DYLAN T. SHAVER (International Brotherhood of Electrical Workers Local 357; National Electrical Contractors Association, Las Vegas Chapter):
We are in support of this bill, not from a policy standpoint but from a standpoint of economic development. We appreciate your efforts in this area.

CHAIR SCHNEIDER:
We will close the hearing on S.B. 358 and open the hearing on S.B. 339.

**SENATE BILL 339**: Requires the Colorado River Commission of Nevada to conduct a study of the feasibility of the generation of electricity from hydrokinetic electric power below Hoover Dam. (BDR 58-1150)

PAUL FREEMAN (Intern to Senator Michael Schneider):
I have written testimony explaining the rationale behind this bill and the benefits of exploring the use of hydrokinetic electric power generation at Hoover Dam (Exhibit I). I also have a graphic handout showing such a system in place (Exhibit J).

SENATOR CEGAVSKE:
Page 2 of Exhibit J shows underwater turbines, and I was impressed by that. Do you know if there are any of these in place in California at this time?

MR. FREEMAN:
There was a project planned in California, but they did not get approval from the local jurisdiction. I do not know of any projects that have been implemented in California.

SENATOR CEGAVSKE:
Is the technology there?

MR. FREEMAN:
The Website of the U.S. Department of Energy has an extensive database of companies and technologies in this area. It can be found at <http://www1.eere.energy.gov/windandhydro/hydrokinetic/default.aspx>.

SENATOR CEGAVSKE:
You mentioned that such a system is in place on the Mississippi River. Where is that on the river?

MR. FREEMAN:
Hastings Dam.

GEORGE CAAN (Executive Director, Colorado River Commission of Nevada):
I have talked to Mr. Freeman about this subject, and I want to commend the Committee for looking at this technology. I am pleased that we are looking at clean, renewable energy that can be provided by flowing water.

I have a PowerPoint presentation that I will use to give a quick overview of the federal hydropower system currently in place at the Hoover Dam (Exhibit K). I will then make some comments on this bill. There is a mechanism that will get us the information we need to assess the feasibility of this project, and I will discuss that at the end of my presentation.

Hydropower is a clean, renewable resource. It provides 7 to 10 percent of the energy in the United States. It is one of the best, most reliable resources we have, and we benefit from it in Nevada. The Colorado River Commission of Nevada (CRC) is a State agency, and our job is to protect the water and hydropower provided to Nevada from the federal government on the Colorado River system. We have a large responsibility in a wide range of areas, but today I will concentrate on our federal hydropower responsibilities. We have a seven-member board, four appointed by the Governor (including the chair) and three appointed from the Board of Directors of the Southern Nevada Water Authority.

Page 2 of Exhibit K includes a map of the Colorado River system, from the upper basin of the four states (Utah, Wyoming, Colorado and New Mexico) to the lower basin, which touches California, Arizona and Nevada. Four projects provide the majority of the federal hydropower we get: Hoover Dam; Glen Canyon Dam on the border of Utah and Arizona; Parker Dam in

Lake Havasu, Arizona; and Davis Dam in Laughlin, Nevada. Hydropower is created when still water is dropped and turned from potential energy into kinetic energy. Moving water is run through turbines, which generate electricity. Page 4 of Exhibit K includes a simple schematic showing how a typical hydroelectric dam works. This is hydrokinetic energy: it takes water with potential energy, runs it through a penstock to drive a turbine that runs a generator to produce electricity, and then releases the water into the outflow of the river. As the process moves forward, the transfer of potential energy to kinetic energy loses water pressure and much of the velocity of the river flow.

The four dams in the lower basin were built primarily for flood control, irrigation and municipal and industrial water delivery. Power supply is merely the mechanism by which we pay for these projects. We get a low-cost power supply, but the revenues received go to pay for the normal operation, maintenance and upkeep of the dams. Hoover Dam has been around since 1935. Over that time, there have been many repairs, upgrades and modernizations, and that is where our revenues go.

Hydropower systems can produce peak production, meaning you have water flowing, and that water can be used to manage load following. It is the least expensive way of doing that because once you have that water flowing, when you need to follow loads you can always ramp up your generators or ramp down. You do not have to go from black start; you have that operation continuing and being supported. It is the most cost-effective resource for load-following. Energy is produced when there are downstream water demands.

Many people do not know that Hoover Dam only produces power 30 percent of the time. During the energy crisis, many people wondered why we did not run Hoover Dam all the time. If we did that, Lake Mead would be drained. The only time Hoover Dam is run is when there are downstream orders for water by California and/or Arizona. When those downstream orders are made, those releases can be timed. NV Energy, which has the largest allocation of Nevada's Hoover Dam power, during the hottest day in July when water needs to be delivered to California and Arizona, can order that water to be delivered between 3 and 5 p.m. when the peak loads are in place. Thus they can manage their peak production with a low-cost resource.

Page 5 of Exhibit K includes a table showing the power Nevada receives from the federal hydropower system. We get about 20 percent of Hoover's power

output, 22 to 23 percent of Parker and Davis, and 2 percent of Glen Canyon and the integrated projects in the upper basin. The customers of the CRC are set by statute and are listed on page 5 of Exhibit K. We can serve no more than those companies currently identified in statute. Two of our customers are retail customers, meaning we provide them with their load at their facilities at the Basic Management Industrial (BMI) Complex in Henderson and the Southern Nevada Water Authority. We provide their full loads; if their loads cannot be met with hydropower, we go on the market and buy supplemental power for their purposes. The remainder of our customers are utilities, and they have their own resource portfolios. The CRC's federal hydropower is only one component of their resources. For some customers, like the Lincoln County Power District, hydropower makes up 80 to 90 percent of their load. For NV Energy, which receives the largest share of power from Hoover, because of their large load base, that only makes up 2 to 3 percent of their total load.

There are some issues of jurisdiction related to S.B. 339. The projects on the Colorado River are owned by the U.S. Bureau of Reclamation and operated by the U.S. Department of the Interior. The power generated is marketed by the Western Area Power Administration, another federal agency. We at the CRC, as well as the other states and agencies that receive that power, are members of operational committees dealing with operations and maintenance. We meet multiple times each year to go over the cost of operating these facilities, deciding what needs to be done and how much we want to spend. Each year, there is a rate process for each facility.

What we do in these committees is look at improvements in the technology that could be cost-effective. For instance, one of the projects we looked at for Hoover Dam was to put in some low-head turbine runners. This means that at low lake levels, we were able to improve the efficiency of the unit by installing a more advanced machine that runs the turbine. To do this, the customers agree we want to fund this, and then the Bureau of Reclamation implements it and puts it in our rate. It is almost always the result of discussion and agreement between the customers of the federal projects and the federal agencies that operate them.

CHAIR SCHNEIDER:
Water comes out of Hoover Dam all the time. I assumed that meant the generators were always turning.

MR. CAAN:
The generators only run 30 percent of the time. There is a continual flow of water because of the demands for water downstream. Whether or not the turbines actually operate as a result of the flowing water depends on the need for producing electric power at the time of day. There is always a current there, but it is greatly reduced. There will always be flow down the river, but primarily it is because there are yearly demands, but a large part of the demand comes during the summer months when the water is delivered to those contractors, and that is the point where those turbines can be run. There are many times during the fall when those turbines are not running and are taken out of operation so they can be maintained and repaired. There is always flow. The question is whether there is enough to operate any type of device.

CHAIR SCHNEIDER:
The underwater turbines described by Mr. Freeman might be able to take advantage of that constant flow, perhaps with turbines on barges lined up in front of the dam.

MR. CAAN:
That is correct.

CHAIR SCHNEIDER:
Did you want to comment on the bill?

MR. CAAN:
Yes. Given that the river is owned and operated by the federal government and that we have a group that all would be interested if there is potential of energy generated, it would be my suggestion that I take what you have asked for and vet it out. Typically, when we get a request from someone to take a look at a particular technology or a way to make the river more efficient or generate more energy, we look at it to see if it is feasible, then bring it to the committee that meets quarterly. The committee then vets it. The question is whether there is enough flow or pressure in the river system to make a project like this feasible. As a result of this bill, we have already discussed the concept with the Bureau of Reclamation and the Department of the Interior to see what information they have, if any, on the potential for this type of operation. The need for a bill to actually direct us to do that is unnecessary, because we would do that as a normal course of what the CRC is charged to do under statute. This bill has already made that request very clear.

CHAIR SCHNEIDER:
Would you go back to your customers and talk to them?

MR. CAAN:
The first thing, which I am doing right now, is collecting information from the Bureau of Reclamation on the potential for hydrokinetic underwater turbines in the Colorado River system. The flow in the system is not great, because we have taken a lot of the flow out. They may have decided the flow is so minimal that there is not any potential. Thus, the first step would be to find out what they have done. If they have done something, what does that mean? If there is potential or they have not looked at it, we would take that to our group of California, Arizona and Nevada contractors and ask if they were interested in the project. If that requires additional resources, we would get the other states to agree and the Bureau would put it in their budget, if it was feasible. The CRC would not do it on its own; we would work with our partners. At the end of the day, if there is any energy available in the river, the federal government will own that energy. We need to cooperate with our states to make a claim on any energy that might be available.

CHAIR SCHNEIDER:
How much does the energy cost?

MR. CAAN:
The cost is different for each project because they have their own rates and processes. For Hoover Dam, it is 2 to 3 cents per kWh; for Parker-Davis, which is an integrated project, it is 2 to 3 cents per kWh; for Glen Canyon Dam, it is 3 to 4 cents per kWh. That is cheap, but remember, Hoover only operates 30 percent of the time, and we also pay in long-term contracts. When there's a lot of water in the system, we get the benefit of that. When we have low water levels as we do today, we pay the same amount to cover the operation of the system, but we get less energy generated from the system. But it is a great resource.

CHAIR SCHNEIDER:
Our rates in Nevada are something like 10 cents per kWh.

MR. CAAN:
Our rates are typically 50 to 60 percent lower than you could get in the market. These are not market-based rates. They are based on the cost to operate and maintain the system and how much energy we expect to get through the river.

CHAIR SCHNEIDER:
Does the BMI complex in Henderson get 30 percent of its electricity from Hoover?

MR. CAAN:
It depends on which company. About half of those companies are grandfathered from World War II, when they received their original allocation. It depends on their operation. For some of the companies, 100 percent of their loads are met by hydropower. For others, 100 percent is met by supplemental power. It depends on how they operate.

CHAIR SCHNEIDER:
The water level is dropping in all the lakes you mentioned. With the current drought we are in, when does Hoover Dam not produce any electricity? Are we approaching that point?

MR. CAAN:
Currently, Hoover Dam has a total nameplate capacity of 2,080 MW. Today, it is at 1,707 MW, which is about 16 or 17 percent reduced. As the lake level lowers, the efficiency of the units drop and you get less electricity per unit of water. The design of Hoover Dam says they are going to start reducing or eliminating power when the surface of Lake Mead drops to 1,080 feet above sea level; we are at 1,110 feet now. That is a design criteria; we do not believe 1,080 feet is actually the level. Somewhere between 1,080 feet and 1,050 feet, Hoover Dam will start to lose its ability to produce power. The way they will know that is something called cavitation. When they start to hear the pumps making a lot of noise, they will have to shut it down. It depends on the hydrology of the river system. Southern Nevada Water Authority did a presentation that showed at 69 percent average hydrology, which is the average of the last 8 years, Hoover Dam could get down to a level of not generating in 3 to 4 years. Our current 24-month projection indicates that will not happen. We monitor that on a 24-month basis, so we know when we are going to get to that level. Hoover Dam is what is known as a run of the river system. That means whatever Hoover produces, we get. For any power not

available from Hoover, we will have to go buy from the market or our customers will replace it on their own. What that will mean for them is, depending on their percentage of how much their portfolio has in Hoover, their prices will go up.

The bottom line is they do not really know when it is going to end. When the cavitation starts, they will have to shut those turbines off.

CHAIR SCHNEIDER:
I have heard that the level for the river was set in 1920, when they averaged the flow of the river to determine the standard flow. Now they are saying that may have been abnormally high flow and we are now down to what could be normal flow, but it looks like we are in a drought. Is that true?

MR. CAAN:
Yes and no. We are certainly in a drought. In the 1920s, when they negotiated the compact, they believed the average river flow was about 16.5 million acre-feet. They divided the river into two portions of 7.5 million acre-feet and 1.5 million acre-feet for Mexico. Current science tells us the average flow is probably between 13.5 million and 14.5 million acre-feet. With respect to power, the deliveries of water from Glen Canyon Dam, from Lake Powell to Lake Mead, drive the elevation of the lake. As I said earlier, the driver of the lake level is not power production but water delivery. We can expect the average flow to be less, and we are doing the best we can to prepare for that, including recording decisions, surplus criteria, shortage criteria, augmentation projects and additional reservoirs to store water. We are taking every advantage we and the other states and the federal government can to maximize our ability to utilize that water in face of both a drought on hydrology and an over-allocation of the river system that was not well understood at the time.

CHAIR SCHNEIDER:
I have heard that Glen Canyon Dam was built in sandstone and the water is eating away at the sides, which will cause the dam to fail some day. Is that true?

MR. CAAN:
I have been involved with the Glen Canyon Dam since I started at the CRC 13 years ago, and I have never heard anyone make a comment with respect to the way the dam is constructed. I have never heard that rumor. I do know that

during the flooding in the early 1980s, there was significant cavitation in the overflow tunnels at Glen Canyon Dam. It was expected because of the tremendous amount of water. Some of you may remember when the water came over the top of Hoover Dam. They have since fixed that. There are concerns about the amount of sediment buildup on the dam over the next 500 years. But I have never heard a statement with respect to the dam failing as a result of what you said. We expect that dam to continue long into the future to provide water storage for lower basin states and power production.

CHAIR SCHNEIDER:
We will close the hearing on S.B. 339 and open the hearing on S.B. 73.

**SENATE BILL 73**: Revises provisions governing energy conservation and efficiency standards. (BDR 58-438)

NICK VANDER POEL (Deputy Director, Office of Energy, Office of the Governor):
We appreciate the Committee allowing us to bring this bill back. Last week, we had a successful working session with the stakeholders. We have an amendment to section 2 of the bill (Exhibit L).

> Basically this was a—this was addressed by one of the properties down in Clark County, and basically what it did was—we want to make sure that—and we want to make sure this is on the record—that through this amendment and what it changes here, this is not mandating or forcing after this passes that they have to go in and retrofit and start putting a whole new source of energy to heat their facility. That is not the intent of this. This is just to clean up and from here forward if there's are any retrofits that we encourage another source besides electrical resistance, which is why we, as well, added and included the definition of electrical resistance.

DYLAN T. SHAVER (City of Henderson):
I have a proposed amendment to section 1, subsection 4, paragraph (b) of S.B. 73 (Exhibit M). As it stands now, cities are allowed to adopt standards that differ from the Office of Energy. The ARRA will require us to adopt the same or more stringent standards than those adopted by the Office of Energy. The language in S.B. 73 originally would have required localities to seek approval from the Office of Energy, and we asked for that not to be the case. Right now we have a very long and involved community stakeholder process whereby we

adopt standards more stringent than those currently on the books, and we would like to preserve that process. The amendment in Exhibit M would allow localities to make these changes as long as they are reported to the director of the Office of Energy.

MR. VANDER POEL:
We will be addressing a revolving loan program, which was one of our priorities for receiving the ARRA funds, in the Assembly Committee on Commerce and Labor. We are working on the language at the moment.

SENATOR CEGAVSKE:
I am curious when I consider local governments getting into the power business. There are entities that already do this, but everyone else is regulated through the PUCN and local governments are not. This may not be something connected with this bill.

MR. YOUNG:
I will get that information for you.

CHAIR SCHNEIDER:
On Exhibit M, it mentions builders' associations, but I do not see anyone from those entities here today.

MR. VANDER POEL:
Mr. Shaver and I have both spoken to the representative from the builders' associations. One of the concerns was that accepting the ARRA funds means Nevada must adopt the 2009 International Energy Conservation Code standards. We will be moving onto more stringent codes after the Legislative Session ends.

MR. SHAVER:
We worked with the builder's associations on this amendment. Their concern was that the amendment did not accurately prevent the director from being able to veto the more stringent standards local governments are adopting. We believe it does allow us to adopt our own standards. If the Legal Division does not think this is the case, we are not wedded to this specific language, just the intent.

MS. GALLO:

> I just wanted to get on the record. I appreciate the Energy Office working with us in the interim. We—in clarifying section 2, which talks about electric resistance heat, that's a concern we have had. The statute, we thought, was pretty clear that it's not to be used in new construction and weren't real clear with some of the regulations that were still allowing it to be used. And so we appreciate very much working with them and the other parties and having this clarification that if you're retrofitting and the energy source is electric resistance heat, you still would be allowed to replace with resistance heat, but not for new construction. So you wouldn't be requiring to change the heating source in retrofit.

CHAIR SCHNEIDER:

We will look at all these amendments and take the bill to a work session next week. We will close the hearing on S.B. 73.

SENATOR TOWNSEND:

It could be helpful to us to get all the parties to give us presentations on the current state of affairs in southern Nevada with regard to all the components. Mr. Caan's presentation today on the CRC, for example, has significant repercussions on the cost of water and electricity in southern Nevada. It is important for the public to fully understand how big this issue is and how much goes into, for lack of a better term, their lifestyle. You cannot just isolate one factor; they are all important, whether it is plug-in hybrids, solar panels on a roof, a solar project in Eldorado Valley or the difference between base load and peak load. This has been a 30-year travail, and now it is coming to fruition. All of these components are coming together, but you cannot do just one. You cannot just isolate the problem of water on the river or the cost of electricity. It is all part of the picture. The people in southern Nevada deserve to understand the complexity of the issue. Sometimes we get so focused on the narrow view that it is better to pull back and see the big picture.

CHAIR SCHNEIDER:
That is an excellent idea. We have discussed these issues over the last 15 years, and now they are coming together. It would be helpful for us to take an overall look at what bills we have had so far and what bills are coming, and then the industries can give us an update. There is a huge paradigm swing going on, and we are right in the middle of it.

Is there any further business to come before the Committee this morning? Hearing none, I will adjourn the meeting at 10:57 a.m.

RESPECTFULLY SUBMITTED:

Lynn Hendricks,
Committee Secretary

APPROVED BY:

Senator Michael A. Schneider, Chair

DATE: