NEVADA LEGISLATURE
JOINT INTERIM STANDING COMMITTEE ON GROWTH AND INFRASTRUCTURE

(Section 6 of Assembly Bill 443, Chapter 392, *Statutes of Nevada 2021,* at page2505)

DRAFT MINUTES

January 12, 2022

The first meeting of the Joint Interim Standing Committee on Growth and Infrastructure for the 2021–2022 Interim was held on Wednesday, January 12, 2022, at 10 a.m. Pursuant to NRS 218A.820, there was no physical location for this meeting.

The agenda, minutes, meeting materials, and audio or video recording of the meeting are available on the Joint Interim Standing Committee's meeting page. The audio or video recording may also be found at https://www.leg.state.nv.us/Video/. Copies of the audio or video record can be obtained through the Publications Office of the Legislative Counsel Bureau (LCB) (publications@lcb.state.nv.us or 775/684-6835).

COMMITTEE MEMBERS PRESENT:

Assemblywoman Daniele Monroe-Moreno, Chair
Senator Dallas Harris, Vice Chair
Senator Chris Brooks
Senator Scott T. Hammond
Assemblyman John C. Ellison
Assemblyman Glen Leavitt
Assemblyman C. H. Miller
Assemblyman Howard Watts III

LEGISLATIVE COUNSEL BUREAU STAFF PRESENT:

Marjorie Paslov Thomas, Senior Principal Policy Analyst, Research Division
Christina Harper, Acting Manager of Research Policy Assistants, Research Division
Jessica Dummer, Principal Deputy Legislative Counsel, Legal Division
Julie Waller, Principal Program Analyst, Fiscal Analysis Division

Items taken out of sequence during the meeting have been placed in agenda order.

AGENDA ITEM I—CALL TO ORDER AND OPENING REMARKS

[Chair Monroe-Moreno called the meeting to order. She welcomed members, presenters, and the public to the first meeting of the Joint Interim Standing Committee on Growth and Infrastructure.]

Chair Monroe-Moreno:

At this time, I would like to take a few minutes to allow the members on this Committee to introduce themselves. If the members would please indicate the district that you represent as well as your goals for the Committee during this 2021–2022 Interim Session. We will begin with our Vice Chair Senator Harris.

Vice Chair Harris:

Thank you so much Madam Chair. I am Senator Dallas Harris, I represent District 11 in the far, far, now southwest part of Clark County, and I am really looking forward to the opportunity to keep Nevada at the forefront of infrastructure and energy issues across the state. We have an opportunity to lead. We have a lot of infrastructure dollars that have just been allocated. I am excited to see what we are going to do to make sure that we lead the nation in dealing with these issues.

Chair Monroe-Moreno:

Thank you so much. Senator Brooks.

Senator Brooks:

Good morning, Chair. Senator Chris Brooks from Senate District 3, right in the center of Las Vegas. I think this is just an incredibly important subject and a very important Committee. I have seen firsthand that good policy from the State of Nevada can lead to economic growth. I think that energy and energy economy are our biggest opportunity for economic growth and diversification in the State of Nevada. I think that the policies coming out of this Committee and the Legislature can really be beneficial to that.

Chair Monroe-Moreno:

Thank you so much and welcome. Senator Hammond.

Senator Hammond:

Good morning, Chair and thank you for the opportunity. I am Senator Hammond. I represent District 18, which is located in the Centennial Hills area, it is north on the 95. I have been involved with this particular Committee for many years. I think that the policy is so vital and incredibly important, especially now that we are talking about the dollars that are flowing into the state, and the potential that we have to make sure those are spent wisely. I am looking forward to having a productive Interim that leads into a really exceptional regular session. Thank you very much.

Chair Monroe-Moreno:

Thank you and welcome. Assemblyman Ellison.

Assemblyman Ellison:

Thank you, and it is good to see you guys again. I represent District 33, which is right now if you look at it with the new district it would be half the state. From the Utah border, Idaho border, up into Humboldt and all the way down, wraps around Clark to the other end of the state, so that is half the state basically. I look forward to this. We are having a lot of problems in rural Nevada right now with infrastructure, mostly communications. That is why I am here today in Carson, because we cannot keep the computers up and running for very long. There are new companies moving in. It is exciting what is going to happen in rural Nevada, and the amount of money it is going to be put out there for some of the infrastructure. Thank you, and I look forward to this.

Chair Monroe-Moreno:

Thank you and welcome. Assemblyman Leavitt.

Assemblyman Leavitt:

Thank you, Madam Chair. Glen Leavitt, Assembly District 23, which is the southern tip of the state. This is my second time serving on the Interim Growth and Infrastructure Committee. I served on the Growth and Infrastructure in both regular Sessions. I really enjoy this Committee, and what we do for infrastructure, which is so important to transportation, energy, and just make sure that we support all of our businesses and that we spend the money that it is given to us wisely. Thank you.

Chair Monroe-Moreno:

Thank you and welcome. Assemblyman Miller.

Assemblyman Miller:

Thank you. I am Assemblyman Cameron C. H. Miller. I represent Assembly District 7, which is in the southern part of the state, right on the cusp of bordering Las Vegas and North Las Vegas - primarily my district is in North Las Vegas; but I do represent some fine folks in the City of Las Vegas. The priorities for me being on this Committee; it is my first time on the Committee, I am a freshman legislator. What is really important to me is when we talk about growth and infrastructure is technology and the intersection with the emphasis that technology has on our energy, transportation, and our businesses, as well as communications; like Assemblyman Ellison mentioned across the state. We need to make sure that our technological infrastructure is up to par to welcome all the new Nevadans that are coming, and further enhance the experience of being a Nevadan for those already here. Thank you.

Chair Monroe-Moreno:

Thank you so much and welcome. And last but not least, Assemblyman Watts.

Assemblyman Watts:

Thank you very much, Madam Chair. Assemblyman Howard Watts, I represent District 15, currently in the central east part of Clark County. I have had the privilege of serving on the Assembly Growth and Infrastructure Committee in both of my terms in the Assembly. Last Session, I also had the honor of being vice chair of the Assembly Committee. I share the enthusiasm of many of my colleagues at the infusion of federal dollars, and the opportunities that has to bring additional infrastructure improvements to our state. I am

particularly interested in making sure that we close some of the disparities that exist in access to that infrastructure, as Assemblyman Ellison mentioned getting broadband out to rural communities and all of our communities; that is something I am very interested in. I am also extremely interested in how we utilize some of these investments to advance us towards our clean energy and climate goals. Thank you.

Chair Monroe-Moreno:

Thank you and welcome.

I am Assemblywoman Danielle Monroe-Moreno. I represent Assembly District 1, which is primarily in the City of North Las Vegas. I am honored to serve once again as the Chair of this Interim Committee. I have also served as the Chair of the Growth and Infrastructure Committee during the Legislative Session. I am looking forward to working with all of the members on this Committee, as well as those that will be joining us virtually. I am looking forward to getting updates about legislation that we have been able to cast and how that is working. Also, the discussions of how we continue moving Nevada forward with other actions as has been talked about, by many of the members as they introduced themselves, in the areas of infrastructure, transportation, and energy.

I thank all those in advance, whether you are a person, a group, or an organization that will come before us to present information. Thank you for joining us over the next few months We have a lot of work to do. As mentioned, there is a lot of money coming into the state, and we want to make sure that we use it wisely and take care of some of those sustainable issues facing our state. For those of you joining us virtually, our meetings will be long, be patient with us, but they will be exciting. We have a lot of work to do.

I would like to introduce our Committee staff, our LCB staff. We have Ms. Marjorie Thomas, who is our committee policy analyst; Ms. Jessie Jessica Dummer who is our legal counsel; Ms. Julie Waller is our fiscal analyst; and Christina Harper is our committee secretary.

[Reviewed virtual meeting and testimony guidelines.]

AGENDA ITEM II—PUBLIC COMMENT

Chair Monroe-Moreno:

We do have a lengthy agenda today, so with that let us get started. We will start with our first item of business and that will be public comment. Broadcast Production Services (BPS), please check to see if we have any callers that would like to submit public comment at this time.

Broadcast and Production Services (BPS):

Thank you, Chair. To participate in public comment please press "raise hand in your Zoom window" or star nine on your phone to take your place in the queue.

Caller with the last three digits of 155, you are unmuted on our end. Please go ahead.

Christy Cabrera, Policy and Advocacy Director, National Conservation League:

Thank you, Madam Chair and members of the Committee. My name is Christy Cabrera, and I am the Advocacy and Policy Director for the Nevada Conservation League. We would like to thank the Legislature for your leadership and commitment to fighting the climate crisis. Climate change is the greatest threat to Nevada's future. It is threatening our water supply,

habitat and landscape, extreme heat and wildfire are harming our health, our workers, and our businesses. To meet the ambitious, but necessary, climate goals of 100 percent clean power and zero greenhouse gas emissions by 2050, that were set by Governor Sisolak and the Legislature, we must move away from all fossil fuels as quickly as possible. In order to do this, Nevada needs an updated state of the art electricity grid and the ability to move clean renewable energy across state lines. Today, you will be hearing presentations about the possibility and benefits of a Western regional energy market to transition to allowing us to utilize more clean energy across the West. Regional markets can also help us keep energy costs low, boost our economy, and provide more reliable energy. Nevada families deserve access to clean energy, clean air, and clean environment. Joining a Western regional electricity market will allow us to sell our excess solar to other states. And it will get us closer to achieving our climate and climate reduction goals, while creating a cleaner, healthier state for all Nevadans. We cannot fight the climate crisis without the Legislature's continued leadership and dedication to Nevada's climate goals. Thank you for your time today.

Chair Monroe-Moreno:

Thank you so much for your comments. Next caller.

BPS:

Caller with the last three digits of 732. Please go ahead. Caller, you are unmuted on our end, please go ahead.

Kyle Davis, InterWest Energy Alliance:

Thank you, Madam Chair, members of the Committee. For the record, my name is Kyle Davis, and I am here today on behalf of the InterWest Energy Alliance. InterWest is the regional trade association focused on promoting market development for large scale renewable energy companies including solar, wind, geothermal, battery storage, transmission developers, and manufacturers. We were excited to support Senate Bill 448 in Nevada during the 2021 Legislative Session, and we are happy to hear these presentations from our colleagues expressing the many benefits of participation in a potential Western market. InterWest believes strongly in the importance of joining an expanded regional wholesale electricity market. Issues of Western states are intertwined, and can be best met through collaboration and dialogue principles that were visioned in the passing of SB 448 and the regional transmission task force. As the West experiences a changing climate and legacy resources become less dependable and more expensive into the future, the ability to share generation of all types with neighboring states to utilize the strongest solar and wind on a daily and seasonal basis to an expanded inter-regional transmission and enhanced market competition will both reduce immediate fuel costs while lowering the overall amount of capacity required to be built across the region. Nevada has shown itself to be a leader among its peers through legislation enacted in the past several sessions ensuring that the state will benefit both economically and environmentally from the expanded trading that will take place when Nevada's utilities join a regional transmission organization. InterWest applauds legislators for the bold action in recent years, but I would also like to thank today's presenters for laying out the path that will enable our members to follow through on the implementation of the important policies passed by this body. Thank you for your time today.

Chair Monroe-Moreno:

Thank you so much for your comments. Next caller.

BPS:

Chair, there are no more participants wishing to speak in public comment at this time.

Chair Monroe-Moreno:

Thank you so much. With that we will close our first order of public comment. There will be another section of public comment at the end of our meeting.

We will move on to our third agenda item, which will be an overview of our Joint Interim Standing Committee rules and regulations. We will have staff join us to provide this overview. Ms. Thomas, if you are there? You can begin.

AGENDA ITEM III—OVERVIEW OF THE JOINT INTERIM STANDING COMMITTEE ON GROWTH AND INFRASTRUCTURE WORK PLAN AND MEETING SCHEDULE

Marjorie Paslov Thomas:

Thank you, Madame Chair. Marji Thomas, for the record, with the Research Division of LCB. Today we have prepared a committee brief, which has been uploaded to the materials page of the website for members to follow along. Assembly Bill 443 of the 2021 Session created the Joint Interim Committee on Growth and Infrastructure. The jurisdiction and membership of the standing Senate and Assembly Committees on Growth and Infrastructure are reflected in the Committee. In addition, the Legislative Committee on Energy, which was the Standing Interim Committee was repealed and the duties and responsibilities to that committee have been transferred to this Joint Interim Standing Committee on Growth and Infrastructure.

Those duties include evaluating, reviewing, and commenting on energies and policies in Nevada. The Legislative Commission approved up to five meetings for the Growth and Infrastructure Committee; on page four of the committee brief are the tentative meeting dates. Additionally, the Committee may request up to ten bill draft requests on issues that address transportation and energy. The Committee must conclude its work by August 31, 2022. This Committee considers topics related to transportation and energy which include highways, roads and bridges, mass transit projects, motor carriers, motor vehicles, traffic safety, a lot of energy policy, public utilities, and renewable energy policy and programs, just to name a few.

I wanted to point out that there are relevant reports that members may want to familiarize themselves with, and these are located on pages two, three, and four of the committee brief, and include reports by the legislative auditor, legislative committees, executive branch agencies, and such. If members are unable to access those reports, please let me know. I would be happy to get them for you.

Finally, there are some priority issues of study this Interim and some of those are based on bills that went through during the Legislative Session. Just briefly, the Senate Committee on Growth and Infrastructure was referred 59 bills total and the Assembly Committee was referred 46. Partially that is jurisdiction within each house, some of the measures may not have gone to both committees and may have been referred to other committees, like the revenue committee or one of the money committees, and other policy committees, to include Government Affairs or Judiciary. But several of those bills this Session, which will be studied once again during this Interim related to the Department of Motor Vehicles (DMV) such as funding and modernization, special license plates, transportation, network

companies, towing, traffic safety, impaired driving, and transportation funding. There were several bills related to energy, some of which you will hear updates today, related to energy infrastructure and renewable energy, energy efficiency, greenhouse gas emission, motor vehicle emissions, and broadband access. Finally on page four of the committee brief, is our contact information for staff. If you have any questions, please feel free to reach out to me, or Jessie, or Julie and we would be happy to help you. That concludes my remarks, and I would be happy to answer any questions.

Chair Monroe-Moreno:

Thank you so much for your comments. Members, does anyone have any questions for Ms. Thomas before we move on?

We will move on to our first presentation for the morning.

AGENDA ITEM IV—OVERVIEW OF THE ROLE AND RESPONSIBILITIES OF THE PUBLIC UTILITIES COMMISSION OF NEVADA CONCERNING UTILITY REGULATION AND "ENERGY 101 CONCEPTS"

Chair Monroe-Moreno:

We will have a presentation with the Public Utilities Commission of Nevada (PUCN). I believe we have joining us, Ms. Stephanie Mullen and Mr. Garrett Weir, so if you two are ready the floor is yours and thank you for joining us on our first meeting.

Stephanie Mullen, Executive Director, PUCN

Good morning, Madam Chair and Vice Chair Harris, members of the Committee. For the record, I am Stephanie Mullen, Executive Director of PUCN, and as you mentioned with me is Mister Garrett Weir, our general counsel. Today, we are going to share an overview of the agency's operations and structure including the types of proceedings and industries the PUCN regulates, as well as provide an update on implementation from legislation during the 2021 Session. (Agenda Item IV).

The PUCN is a regulatory agency that ensures investor-owned utilities comply with laws enacted by the Nevada Legislature. The basic regulatory duties, powers, and scope of work are defined by the Legislature and codified in statute. The PUCN regulates approximately 400 investor-owned utilities engaged in electric, natural gas, telecommunications, water and wastewater services, gas and electric master meter services at mobile home parks, and some propane systems. Promoting and ensuring safe utility operations is a foundational PUCN mandate, this includes monitoring gas pipeline safety including monitoring the design, construction, operation, and maintenance of gas systems and underground excavation. In 2021, the PUCN adopted important regulations requiring an annual leak detection survey of all natural gas pipelines. Nevada is the first in the nation to implement such safety regulations. Additionally, the PUCN's rail safety division monitors four disciplines within the state, they are hazardous materials; operations; motive - power equipment; and tracks the continuous involvement in monitoring and oversight of the safety programs help ensure our safe infrastructure in Nevada.

In response to the unprecedented challenges of the Coronavirus Disease of 2019 (COVID-19) pandemic, in 2021, the PUCN maintained the agency's commitment to providing vital public services and ensuring a viable utility regulatory environment. Measures first implemented in 2020, continued well into 2021, and somewhat into 2022, so far. Adjustments included new work from home schedules and remote working procedures.

The Commission adopted the use of virtual video conferencing and other remote technologies to conduct business including pre-hearing conferences, hearings, workshops, consumer sessions, and open meetings. Notably the PUCN was, to our knowledge, the first state utility agency in the country to adopt a framework for holding virtual hearings in contested cases, which involves substantial witness testimony and cross examination on technical subject matter. In accordance with the governor's emergency directives, public commenting requirements were maintained with the implementation of special telephone lines so the public could call in during commission meetings and consumer sessions. Main PUCN office phone lines also continue to be staffed allowing the public to receive needed information and assistance with services provided by the PUCN's consumer complaint resolution division and business offices. Via its website, the PUCN continued to offer many additional services, including access to filings, online forms, links to video and audio, live streaming of proceedings, the PUCN's electronic filing system for submitting pleadings, and other information related to utility regulation. In early Fall of 2021, the PUCN began transitioning to a partial work from home schedule and the public again was allowed to attend PUNC's proceedings in person. Some of the new initiatives such as virtual video conferencing, remote meeting and hearing tools, and call-in lines for public comment have been maintained due to their enhancement of PUCN and operations through increased efficiencies.

I am going to go ahead and move on to the organizational structure, which plays a very important role in meeting requirements set forth by the agency. The 105 full-time employees are contained in two distinct parts within the agency. They are the commission and the regulatory operations staff. The Commission is a quasi-judicial three-person panel appointed by the governor and staggered four-year terms. Our current commissioners are Chair Hayley Williamson, Commissioner C.J. Manthe, and Commissioner Tammy Cordova. They preside over contested cases and make decisions regarding the operations of public utilities. The regulatory operations staff, often referred to as staff, is an independent division that investigates and audits utility operations, and participates as a party in proceedings before the Commission. Careful attention is given to ensure the independence of staff, and the Commission is prohibited from communicating with staff in any manner that undermines the due process rights of other parties. However, because the Commission staff is housed within the same agency, they share certain administrative support for matters unrelated to respective roles as decision maker and litigants in contested cases.

Finally, I just wanted to make a quick note on funding. It is important to note the PUCN is funded through an annual regulatory assessment or mil assessment and does not compete for general funds or money. The mill assessment is an annual collection that is made based on the revenues for utilities that operate within this state using reported revenues from utilities and PUCN anticipated expenditures. We are able to determine what the mill assessment rate needs to be set at in order to meet the needs of the agency. I will pass it over to Garrett Weir.

Garrett Weir, Commission General Counsel, PUCN:

For the record, I am Garrett Weir, general counsel for PUCN. I am going to walk through the types of proceedings the Commission holds and the various types of services the Commission regulates (Agenda Item IV).

Ms. Mullen mentioned the quasi-judicial nature of PUCN, it is an executive branch agency, but it performs a quasi-judicial function of presiding over contested cases. It also performs quasi-legislative functions and adopting regulations. Most of the contested cases of PUCN are applications submitted by utilities. The most prominent of which are rate cases and requests related to resource planning. Resource planning is a process through which the

Commission determines future needs for utility service and approves a prudent course of action for ensuring that utilities will be prepared to satisfy those needs. In a rate case, the Commission determines the cost of providing safe reliable service to customers and sets appropriate rates for the utility to recover those prudently and reasonably incurred costs. Other types of contested cases are customer complaints and show-cause proceedings in which the Commission considers whether regulated entities should be subject to administrative penalties or other corrective action for misconduct. Rulemakings are where the Commission adopts regulations generally following legislative sessions to implement legislation. The Commission occasionally conducts rulemakings pursuant to its general authority to adopt regulations necessary to carry out its duties. The ability to file a petition with PUCN provides an opportunity for people to request general relief in the form of advisory opinions or declaratory orders regarding matters within the Commission's jurisdiction. Finally, the Commission regularly conducts investigations to examine matters related to utility service. The electric sector that the Commission regulates primarily involves two electric utilities in this state that provide regulated retail service. Those utilities are Nevada Power Company in the south and Sierra Pacific Power Company in the north. They both do business under the name NV Energy. The role that cooperative associations provide electric service within the state, the Commission's regulatory jurisdiction is limited to their service territory boundaries. The policy reason for the Commission not having oversight of the terms and conditions of the co-ops electric service is that the co-op is ultimately accountable to its members. There is a political mechanism through which the leadership of a co-op can be unelected if members are unhappy with management decisions in the resulting service and pricing. The electric sector PUCN regularly presides over cases involving rate making, integrated resource planning, and permitting. As previously mentioned, there are many cases implementing numerous state policies and programs related to things like renewable energy development, energy efficiency, and consumer protection. These cases affect the prices that Nevadans pay for electricity as well as the short- and long-term planning obligations for utilities for certain Nevadans. The rates charged to customers of electric service consist of various components intended to recover particular costs. The largest component appears on your bill as electric consumption includes fuel, and purchased power costs, and all other general cost of operating utility not specifically collected by another rate. Other rate components recover costs associated with legislatively mandated programs related to renewable energy, energy efficiency, natural disaster protection, and low-income assistance. The rate set by PUCN allow for recovery of only prudent and reasonably incurred costs plus revenue sufficient to provide utilities with an opportunity for a reasonable return on capital investments. Notably, PUCN is not allowing the energy to earn a profit on fuel and purchased power costs such as renewable energy, power purchase agreements, or on operations and maintenance expenses such as employees’ salaries.

Finally, it is important for customers and policy makers to recognize the ratemaking issues are generally zero sum in nature. They are rarely win-win outcomes when parties are arguing about who should pay for costs that were incurred by a utility. Allocating fewer costs to one party will result in allocating greater costs to another. Inevitably the losers in the decision making process will be unhappy with the results causing PUCN to regularly draw the ire of nearly every industry and type of utility customer within the state. For parties to believe that a Commission’s decision as inequitable or unlawful there are processes in place to seek an appeal. First at the administrative agency level through reconsideration or rehearing of a matter and then subsequently through judicial review by the state's courts. The PUCN regulates two investor-owned natural gas utilities those are: Southwest Gas Corporation and Sierra Pacific Power Company, which in addition to providing electric service throughout Northern Nevada also offers gas service in the Reno area. For these utilities, PUCN hold proceedings to set rates and to implement legislative

policies such as the promotion of energy conservation and the use of renewable natural gas. The PUCN also licenses as alternative sellers of natural gas to provide service to large industrial and commercial users in the state.

Finally, PUCN oversees gas pipeline safety in partnership with the United States Department of Transportation Pipeline and Hazardous Materials Safety Administration or PHMSA in the Office of Pipeline Safety. As with electric utilities, natural gas utilities recover the cost of purchased fuel, that is the natural gas that they sell to customers on just a dollar for dollar basis. They are not allowed to mark up the cost of natural gas they sell. The return on their investments, are on investments that they have made in the infrastructure necessary to deliver the natural gas.

In the sector of water and wastewater, PUCN's primary regulatory activities include ensuring the delivery of clean, safe, and reliable service to customers at reasonable rates. The PUCN monitors the quality of service, environmental compliance, and financial performance. The Commission fully regulates the rate service quality and service territories of 27 investor-owned water and wastewater utilities in the state serving approximately 23,000 customers. The Commission regulates the service territories, but not the rates or service quality of water and wastewater utilities under the control of certain non-investor owned governing bodies, such as cooperative associations and homeowners' associations.

For rail, as Executive Director Mullen mentioned, the Commission has personnel who regularly perform inspections and have specialized training in the areas of inspection that enforce federal regulations. Those disciplines include operations practice inspection; motive power and equipment, track inspection; and hazardous materials inspection.

Telecommunication is largely a deregulated utility service. The Commission does fully rate regulate certain small-scale providers within the state in rural areas. There are ten of those and the rest of the Commission's 322 telecommunications providers are comprised of incumbent local exchange carriers and competitive suppliers. The Commission does not rate regulate those entities. It regulates programs that some of those entities are able to draw from federally and at the state-level. However, for example, there are 30 eligible telecommunication carriers in the state that are able to access federal lifeline program funding; 26 of those receive federal lifeline support to provide discounted telecommunications services to low-income customers including mobile services and broadband access. We have nine eligible telecommunications carriers receiving high-cost support in this state to subsidize the build out to more rural areas where the cost of providing service is more expensive.

Utility regulation continues to evolve with the development of new technologies, changing customer preferences, and ambitious public policies intended to advance the safety and reliability of service as well as promote conservation, environmental protection, and economic development. As a result, PUCN's duties expand every year and the issues before the Commission continue to grow in complexity. We are constantly addressing exciting, nuanced issues that affect all of Nevada's residents and visitors. It is often difficult for PUCN to arrive at outcomes that please everyone. But the people and processes of the agency are focused on achieving evidence-based decisions that equitably balance the interests of utilities and consumers. The PUCN embraces its changing role, which now includes facilitating innovation where appropriate to advance the public interest. Increasingly, the Commission is faced with unprecedented proposals that require problem solving and thoughtful consideration of costs, benefits, and risks to advance public policy while protecting ratepayers. My portion of the presentation is concluded. I am going to hand it back to Director Mullen who will be providing a brief update regarding the Commission's

implementation of legislation from last Session with the exception of SB 448, which I will address later during agenda item six.

Stephanie Mullen, Executive Director, PUCN

For the record, Stephanie Mullen, Executive Director of PUCN. Thank you, Garrett, and as you mentioned I was going to provide a brief overview of where we are at with the recent legislation passed.

I will go ahead and start with SB 14. This sets into law collaboration among government agencies regarding emergency resource plans. This bill requires that on or before June 30th of each year the Public Utilities Commission, the Division of Environmental Protection of the State Department of Conservation and Natural Resources, and the Governor's Office of Energy coordinate with the Division of Emergency Management to annually compile a list of each utility and provider of new electric resources is required to submit a vulnerability assessment and emergency resource plan.

Senate Bill 18 significantly updates the Commission's maximum administrative fines for violations. The fines increased from a maximum of $1,000 per day to $200,000 per day with a cumulative capital of $2 million for gas storage or transportation violations of a commission regulation. For other violations of rule, regulation order, or providing materially inaccurate or misleading information the daily cap is $100,000 per day and $2 million for a series of violations. If the Commission determines a violation was willful or detrimental to public health or safety, the caps are $200,000 per day and $5 million dollars. To balance out the increase maximum fines, the law requires the Commission to consider certain factors in determining the amount of administrative fines, such as the circumstances of the violation including the impact whether financial or public health and safety; willfulness of violation; the good faith of disclosure of the violation; the good faith to achieve compliance after the violation; the history of the compliance or noncompliance; the economic benefit of the violation or lack thereof to the person charged; the amount of administrative fines assessed previously by the Commission for similar violations; and other factors as necessary to determine the reasonableness of the administrative fine.

Senate Bill 59 clarifies that briefing schedule for petitions for judicial review of decisions by PUCN is limited to an opening brief and responsive brief only, and that no reply brief maybe filed. The clarification is significant because the Commission is exempt from the judicial review process of the Nevada Administrative Procedures Act that permits reply briefs to be filed.

Senate Bill 77 exempts from the requirements of the Open Meeting Law certain meetings conducted by a public body engaged in pre-decisional and deliberative discussions relating to an action under the Federal National Environmental Policy Act of 1969, including without limitation the review and discussion of drafts of environment impact statements describing the environmental effects of proposed actions within the jurisdiction of the public body.

Senate Bill 387 requires the Commission to adopt regulations to establish rate caps and certain limitations on charges for an inmate calling service and to approve a schedule or tariff that exceeds such a rate cap or fails to comply with the limitation prescribed by the Commission. The Commission is also to review the program annually and revise rate caps or limitations if it found necessary to do so. The Commission initiated a rulemaking and Docket Number 21-12013 to implement this bill. The workshop is set for March 17, 2022, at 10 a.m.

Assembly Bill 154 modernizes notification by public utilities to include electronic notices. Assembly Bill 154 further eliminates the requirement of fluorescent bill stuffers for notices and statements, and requires that rate adjustments being clear and bold text regardless of the method of transmission.

Assembly Bill 173 removes the exemption from licensure as a professional engineer for an employee of a public utility company that supplies natural gas and is subject to the jurisdiction of PUCN if the employee is engaged in a type of work for a public utility company that PUCN has determined requires a license. Prior to the passage of AB 173, employees of inter-state or intra-state public utility companies were exempt from licensing requirements while they were engaged in work for those companies. The Commission opened a rulemaking and Docket Number 21-06039 to implement this bill. A proposed regulation is pending and has been submitted to LCB for review. This concludes this portion of our presentation. Mister Weir and I are available should you have any questions.

Chair Monroe-Moreno:

Thank you so much. I know for all of the members of this Committee that have also served during the regular Session on Growth and Infrastructure, but you cannot have enough information, so I appreciate the update and for those watching that may not have known what PUCN does, now you do. Members do you have any questions for the presenters with the information presented? If you would just raise your hand. Assemblyman Watts.

Assemblyman Watts:

Thank you very much Madam Chair, and thank you Miss Mullen and Mister Weir for the presentation. You mentioned during the presentation through these dockets a lot of new emerging issues. You spoke with great detail about the implementation of legislation, are there other emerging issues that are coming up through the Commission and specifically, I know the Commission has started to integrate climate goals into its organizational planning. If you could speak to any emerging issues, and how climate and our state climate goals are starting to be integrated into the considerations of various utility dockets. I think that would be really helpful. Thank you.

Garrett Weir, Commission General Counsel, PUCN:

For the record, this is Garrett Weir. Thank you, Assemblyman Watts. I guess first you hit directly on one of the issues related to climate goals, is the way in which the Commission and utilities need to plan long term to achieve those goals. That is something that is requiring us to look at things differently than we have historically. For utilities to think about carbon emissions and what it will take to allow systems to reduce their reliance on those nonrenewable resources. When that effects more than just the electric sector, the natural gas sector obviously relies on a carbon emitting fuel and the Commission is undertaking an investigation right now that is pending at the Commission, Docket Number 21-0502. We are looking at the long term planning with the questions that arise from climate goals. Then frankly every resource planning proceeding we have for electric utilities is increasingly taking into account those climate related goals. There are new components it seems almost every legislative session that are added to the resource planning process. For the first time we had a comprehensive distributed resource plan that was examined within this last resource plan that was impartially ruled upon. There is a recent transmission component that is largely motivated by the ability to access renewable resources in other markets. Then there is electric vehicle infrastructure planning, another component of the resource plan process that has been incorporated. But from a system operations standpoint, the very fundamental part of regulating utilities that is a major, those are changes that we are

seeing regularly. And somewhat relatedly we see customer preferences changing where certain customers are wanting to receive service that is carbon free, and the resources relied upon. We are also seeing customer preferences or expectations change as to the pricing, the way in which they take their utility service. Those are a few of the changing innovative concepts that are coming before the Commission. I have mentioned a lot of the proposals are unprecedented, not just in Nevada, but anywhere, and we are on the forefront of some really interesting times, and it is exciting for us, but it is challenging for sure.

Assemblyman Watts:

Thank you very much. Thank you for the question, Madam Chair.

Chair Monroe-Moreno:

Thank you. Members any other questions for our presenters before we move on? Senator Brooks.

Senator Brooks:

Thank you, Chair. My question kind of builds upon Assemblyman Watts' question and the added roles and responsibilities the Commission has over the last several years, and I know the agency is funded through the mil rate assessment and not in the general fund. Is the mill rate sufficient to fund the agency based upon the added roles and responsibilities the Legislature and the industry have created for the agency over the last several years?

Stephanie Mullen, Executive Director, PUCN:

Stephanie Mullen for the record. Thank you, Senator Brooks for the question. At this time, I think that our mill is currently at 3.13, is what we set it at last May. Our cap is 3.5, so we are well under our cap at this moment, and all of this is subject to change based on the needs of the agency; bills that are passed, positions that we gain, fluctuating gas prices—with gas prices as high as they have been, we have been able to collect what we need but it is hard to say. I think that is up to the Legislature and the tasks we have moving forward. I do not know. Mister Weir do you have anything to add.

Garrett Weir, Commission General Counsel, PUCN:

We do our best, as Miss Mullen mentioned, to ensure that we can fund the agency. There were some benefits from a cost standpoint given that over the pandemic we certainly had some reductions, I believe in costs. We also saw revenues increase for some utilities because of the price of natural gas increasing, and again that mill assessment is applied to revenues not the net profits of a utility. But certainly, we have been exploring how we can ensure that long term the agency can be adequately funded. There are some statutory restrictions that could in the future jeopardize the agency's ability to be adequately funded if things should change. Right now we are not facing a crisis, we certainly want to avoid a crisis in the future, and so we have been looking at not just possible changes to the way that the mill assessment is designed right now in statute, but even trying to be creative and examining how we might be able to fund the agency more through fees, filing fees, other things that could reflect more, could create more revenue based on the extent to which the agency based, basically on the types of work the Commission is doing. The applicants paying a more proportionate share of the agency's costs as a result. But those are things we are exploring, and I would not be surprised if you see a proposal from us as the Session approaches to look into statutory solutions to ensure that we have the resources necessary in the future to address this growingly complex field.

Senator Brooks:

Thank you, I appreciate that.

Chair Monroe-Moreno:

Any other questions from members. Seeing none, I thank you both for the presentation. I know we will be seeing you a little later in our agenda.

AGENDA ITEM V—UPDATE OF THE IMPLEMENTATION OF THE EXPANDED SOLAR ACCESS ENERGY PROGRAM

We will close the presentation on agenda item four and move on to agenda item five, which will be an update of the implementation of the expanded solar access program, also called the Expanded Solar Access Energy Program (ESAP). As many of you may recall during the 2019 Legislature, we passed AB 465, which required certain electric utilities to offer an expanded solar access program to residential customers and to certain nonresidential customers who consume less than 10,000 kilowatt (KW) hours of electricity per month. The PUCN was required to adopt regulations establishing the standards for the program. First, we will hear from Miss Cynthia Alejandre with NV Energy about the implementing of the program and following her presentation will be Karlene Johnson and Roberta Tapia with the Employment Security Division (ESD) of the Department of Employment, Training and Rehabilitation (DETR) to provide an overview of the workforce development component of the program. Cynthia the floor is yours.

Cynthia Alejandre, Director, Contract Management and Special Programs, NV Energy:

Good morning, Madam Chair, Vice Chair, and members of the Committee. My name is Cynthia Alejandre, and I am the Director of Contract Management and Special Programs here at NV Energy. I am very excited to be here with all of you this morning and provide this update on the expanded solar access program, where we stand on the implementation, and what our next steps are (Agenda Item V A). As Chairwoman Monroe-Moreno mentioned, AB 465 was enacted in 2019 which required NV Energy to offer this program to certain residential and nonresidential customers. That essentially breaks up into three types of categories: (1) low-income customers; (2) disadvantaged businesses or nonprofit organizations; and (3) eligible premise customers as defined by the legislation. NV Energy was at the forefront of supporting this legislation in 2019, as well as the number of stakeholders which include the Organizing Alliance Nevada Conservation League and a few others who participated in the rulemaking for the expanded solar access program or ESAP. The staff intended to offer residential and nonresidential customers the opportunity to have their electric consumption come from the next of utility large scale renewable energy projects as well as these community-based solar resources, which are projects that will be located in certain areas within this state and are no greater than one megawatt (MW) in size. The great part of ESAP is that it allows for these customers to get these type of renewable energy resources into their home without actually requiring that solar panels are installed.

To give a quick procedural overview, on December 1, 2020, NV Energy filed with PUCN, our ESAP application, which outlined the initial step implementation plan for 2021. This is in Docket Number 20-12003. The participating parties in this particular docket were the Bureau of Consumer Protection, our staff that works with PUCN, Sierra Club, MGM Resorts International, and Caesars Enterprise Services, LLC. As you can see here the quick schedule, we had testimony filed in March. Our participating parties also filed their

respective testimony on April 22nd.We filed our rebuttal testimony May 7th, but the hearing was ultimately held on May 22, 2021. We did receive final approval of a plan with certain modifications on June 29, 2021. I also wanted to highlight that at the same time, we were also working and participating in Docket Number 19-06028, which enacted regulations to carry out AB 465. These regulations were finalized as of December 9, 2021. I briefly mentioned earlier, EASP contains three customer categories in which eligible applicants can apply to. We have: (1) a low-income eligible customer category; (2) disadvantaged businesses or nonprofit organizations category; and (3) the eligible premise customer category. As you can see here, there is a particular criterion that needs to be met by the applicants to determine which category they would fall under for ESAP. I also want to note that the low-income eligible customer category is the only category that is guaranteed a lower rate per the legislation. Furthermore, each category has certain capacity amounts allocated as outlined per AB 465. For Nevada Power Company, the total capacity allocation is 240,000 MW hours and for Sierra Pacific Power Company a total capacity allocation is 160,000 MW hours. These capacity amounts are further broken down by each of the three categories that I described earlier, and you can see here on the chart how they are broken out. For example, for Nevada Power Company, a low-income eligible category has 60,000 MW hours allocated to that particular category from the 240,000 MW hours total. We break it up here so that it is easy to see. The other thing that we wanted to make sure was not to exceed the capacity amount that is allocated too so that we do not contradict or go above the limits as allowed by AB 465. We have a 10 percent capacity reserved for each category. That means that although this low-income category under Nevada law is 60,000 MW hours, keep in mind a 10 percent reserve, so the total ends up being closer to 54,000 MW hours. That is just to make sure that customers who are part of this program whose energy needs increase in that particular year, we do not exceed that limit.

Based on the ESAP enrollment timeline we started our community outreach on August 2nd. The application submittal period for customers to enroll in ESAP was between September 1st and October 31st of 2021. We reviewed applications during this period and we had an extra month t to process any applications that were received towards the end of October. The selection process occurred between December 1st and December 10th. Results of these applications, whether they were accepted into ESAP, occurred between December 11th and December 31st, and the program was effective as of January 1st of this year.

We do have a few regulatory requirements which I will get into, but we do have an information report where we will provide this information in further detail that is due March 1st of 2022. As I mentioned, we commenced public outreach after August 2, 2021, with the launch of the website and dedicated flyers with information on how to nominate these community-based solar resources. During the timeframe of ESAP enrollment and nominations we began statewide marketing efforts, which included print, media, radio spots, billboards, bus shelter, social media, and direct email to our customer base, particularly those that may be eligible under these categories. A few examples of our marketing efforts include a copy of our print media. Some of this information was provided in Spanish, which was very helpful. We also used billboards, bus shelters and social media. It was very exciting to drive and see ESAP on the billboards and social media.

Applicants submitted their application and the related documentation for whatever category they were applying for occurred between September 1st and October 31st. Customers could apply by traditional mail, or request an application from NV Energy by telephoning or emailing, or ESAP at nvenergy.com. A person could also apply online by using NV Energy's website, which was utilitized by many applicatns. When applications were received, they were reviewed to determine eligibility requirements, or if there were deficiencies in their applications. Depending on whether a customer was eligible, we would provide them with

either a notice of eligibility or a notice of deficiency. The notice of deficiency focuses on a customer not providing supporting documentation as outlined in the application, or an incorrect application.

Next, there is a table with the final customer enrollment. A low-income eligible customer is where we received the most interest, which is what we expected given that this is category guarantees a lower rate. We did receive a total number of 1,672 applicantions. and 1,175 applicants were deemed eligible. This means that the other customers either did not provide the documentation needed, or they did not meet the eligibility criteria. Out of the total amount that were eligible, a total up to about 16,215 MW hours of consumption for that category. When I mentioned the capacity allocations for each category as outlined by AB 465, that is where the 60,000 MW hour allocation goes to, not including the 10 percent reserve.

In the community-based solar resources, ESAP is a two-pronged plan. Customer enrollment is one part and is focused on getting customers to participate in ESAP, and the second part is the community-based solar resources. This is what actually launched as of August 2, 2021. Per AB 465, we are required to build a minimum of three, but no more than ten community-based solar resources in each service territory. On August 2nd, we launched our first nomination period. We received a total of 13 nominations for southern Nevada and seven nominations for northern Nevada. We were very excited to see the interest in the sites that were nominated, especially given that we had about a month from when the order was finalized to get everything ready and to launch our first part of ESAP. The timeline of the community-based solar resources process is as follows: nomination period ended September 10, 2021; NV Energy conducted a scoring of all the nominated sites by October 25, 2021; the shortlist of the selected sites was published on October 26th; and between October 26th and November 8th the community voted on the selected sites. The community have been engaged as much as possible, and given that it was the first round, we were very excited to see the total number of nominated sites that we received. The voting period for the top sites concluded as of November 15th and those were announced on our website. Between now and Spring of this year we will be finalizing host site negotiations with the two sites that were selected and voted by the community and ultimately filed with the Commission. We have requested to move forward with constructing these Community-Based Solar Resources (CBSR) in northern Nevada and southern Nevada with the goal of having these two sites completed by the first quarter of 2023.

The shortlist of selected sites in southern Nevada included Freedom Park; Lorenzi Park; the Latin Chamber of Commerce; Mountaintop Faith Ministries; NUWU Art Studio; and the Howard Lieburn Senior Center. in northern Nevada, the shortlisted sites are the City of Reno, Moana Center; Swope Middle School; and American Iron Gym and Barbell. As I mentioned, our customers were tasked with voting for these as required, and on November 15th, people ultimately published the two selected sites, which were Freedom Park in southern Nevada and Moana Center in northern Nevada. An existing CBSR in southern Nevada is located on Mojave High School in North Las Vegas. This is the first CBSR that is a part of ESAP, even though it was approved in Docket 20-07023 as a pilot project. The CBSR is a carport. It contains about 1,000 solar panels and it generates at least 773 MW hours per year. We partnered with the Clark County School District to enter into a 25-year lease for this project and it is very important, because this project directly interconnects to our distribution grid and supports customers that were selected to participate in ESAP. Not only that, but this drives the development of more clean energy, as has been mentioned. Our customers are looking more towards environmental benefits, and it also provides economic benefits to Nevada. Bombard Electric was the primary contractor for Mojave Solar, and we had a worksite agreement with the International Brotherhood for

Electric Workers Local 357 and 396 Their construction workers are certified by a DETR program This project has been operational since December 21, 2021. We are very excited about it.

Now our next steps. We are required to submit an information report regarding the ESAP program on March 1st , which must contain information on the total number of customers and how many applications we received. In future timeframes, the report must include the number of customers who voluntarily leave the program because the only way for a customer to leave ESAP is for them to voluntarily request it. That is one thing I would like to mention, any customer who was deemed eligible and is set at ESAP is in the program from January 1st through December 31st, regardless of whether certain circumstances occurred during that year that may no longer make them eligible for the future year. We are actually working on preparing that information now to file on March 1st. We also have a recovery of assets request due March 1, 2022. For approval to recover the incremental spend that went into implementing ESAP, as well as other ESAP items such as the Mojave CBSR information. In the CBSR timeline, we do have an ESAP plan amendment that we expect to file in Spring of 2022 to request approval of the two CBSR sites that were selected by the community, which are Freedom Park and the Moana Center in addition to other items that may improve the implementation of the second round and future rounds of ESAPI look forward to any questions anyone may have.

Chair Monroe-Moreno:

Any questions before we move on to the second part of this presentation.

Assemblyman Watts:

Thank you very much, Madam Chair. Thank you, Ms. Alejandre for the presentation. I appreciate it. I have a couple of questions. First, I would just like to go back to the application figures. It looks like as you said, there was the most interest in the low-income eligible customer category. But in general, it looks like the applications and approvals came in well below the dedicated capacity. I have a few questions about that, you mentioned some of the marketing efforts that were undertaken, and I was wondering if you have a plan to survey some of those who signed up to see what worked and what did not. We could better sense of how the process works to get more people into these different dedicated areas.

Cynthia Alejandre:

I believe we will be having a survey, of some sort, where we ask these particular customers. We are still working on that. We did see most of the spike in applications when we conducted direct email. That is certainly something that we are working on with our corporate communications team, our director, our customer operations team to figure out how to make that a more directed effort, since we did see a lot more interest once we sent that out. We are also working with our external agency to fine tune and determine now that we have seen this first round. What worked? What did not work? How can we make it better? We are in the process of determining how to do that. I think it is important to note that it is the first year of the program and it is meant to grow that capacity and the total capacity for the program. It is not an annual capacity that increases every year by that same amount, so we are very motivated to increase that number, but at the same time I understand that it was the first year of the program. As people start talking about it, sharing with their family, sharing with their friends, I think we will be seeing a spike of interest in these categories.

I also want to highlight that for the disadvantaged businesses and nonprofit organizations, that 10,000 KW cap did limit the number of those type of customers that could qualify for that category, so the applicants that exceeded that 10,000 KW per month consumption ultimately make them ineligible for this program. It is a learning experience, and we are certainly looking at our marketing efforts and how to improve those. We were excited to see a lot of this information in our various local government officials' newsletters. I know that was shared a lot as well. I think at this point it is trying to figure out what worked, what did not work, and how can we improve upon that, understanding that our customers maybe had other things going on during the summer. I only bring this up because I know in northern Nevada there were a lot of other external factors that maybe took more of our customers attention. Maybe they did not see some of the social media or did not pay particular attention to it. We are trying to figure out if we are able to get out in the community in person. There were several events in Northern Nevada we were not able to make due to their being canceled. We are currently working again with our corporate communications team right now to figure out what events are coming or what can we do. Can we be there in person? We did have a lot of virtual events where we presented this information, but we do think that having a more of an in-person connection where we are able to walk a customer through the application and let them know exactly what we are looking for. That is probably the best way to actually get those applications in our hands.

Assemblyman Watts:

Thank you for that additional information. I certainly appreciate that you were getting the program set up and approved, and then had to quickly put the application out there, and definitely appreciate the fact that word-of-mouth will help. With the wildfires and the pandemic, it seems to always put a crimp on our plans for in-person events and certainly have posed their own challenges. I also had to applaud you with a simple process. Both of my parents actually applied for and were approved for ESAP in two different categories.

Cynthia Alejandre:

That makes me happy to hear.

Assemblyman Watts:

I definitely did try and get the word out as well. The other question that I had was around the guaranteed lower rate for the low-income eligible customers. Could you give us a little bit more information on that and how that is determined? Any factors in that and if you have got it, what that lower rate is.

Cynthia Alejandre:

Yes. I want to make sure I do not misspeak, but I know what is essentially called ESAP rider is still with the Commission to get finalized and approved. The way that it works, AB 465 provides for in the regulations, the ESAP rate is a component of our deferred energy adjustment accounting number and our base tariff energy rate. What the ESAP rate will look like is going to be 70 percent of that portion and 30 percent of the utility scale in the CBSR costs, for lack of a better word. Right now, we filed and I will provide the information for Nevada Power; expanded solar energy rider our rate is 0.04717. That would be for the eligible premise category customer. I want to be clear though is that number that I gave you, the 0.04717, is not going to replace the rate. Rather what customers will see on their bill is a credit. For example, if the existing NV Energy rate you are paying is 60 and you are under the ESAP program and it is 0.04717, you will get credit for that difference. Your consumption will be multiplied by that difference, and you will ultimately be provided with

that credit. Right now, what we are seeing is that everyone in ESAP will be receiving a reduction. The only difference is that the low-income discount is guaranteed to be lower even in other categories, or to be more expensive based on, you know quarterly updates or once cost from these CBSRs start to be part of it. I am certainly not the expert or subject matter expert on our rate. I can certainly get with anyone at a later time, if requested and if desired, with our rates team, that can provide you much more of a deeper dive as to how that works.

Assemblyman Watts:

Thank you, I appreciate that, and the big picture is helpful. I am just trying to understand a different factor in terms of the large scale resources through unity based resources. The pool of approved customers may factor in there. That is extremely helpful. Madam Chair, if I may have one more question, thank you. I just wanted to follow up on the community-based sites. In your presentation, I believe you noted that there were at least three and no more than ten potential sites. It seems between Mojave and the other two, that are going through the approval process, that is three, and so I was just wondering if there is anything you can share about the timeline or consideration of eventual additional community-based sites to be considered.

Cynthia Alejandre:

Yes, absolutely. The minimum is three, no more than ten is for each service territory. In southern Nevada, assuming that hosted negotiations are successful with the City of Las Vegas, and we receive an approval to move forward with that CBSR, that will be two in southern Nevada. Moana Center in Reno will be the first one in northern Nevada. Given that this the first time, we wanted to make sure that we understood what the process would look like, what type of nominations it would receive given that we did receive a substantial number of nominations. I was very excited to see that number. We do feel confident that as this program keeps growing, with more information being provided, and a year-round process. As I mentioned, we launched the nomination period on August 2nd, which is the same time that marketing launched because you only had about a month to get everything implemented, or at least ready to get that going as of August 2nd. Now that we have more time to promote it, we do think we will see more of these nominations come in this next round. The dates remain the same. We expect to launch the nomination during the same timeframe as last year, and we are hoping that with marketing earlier we will get more of these nominated sites. The timeline will essentially remain the same. We did move forward just one location in each service territory because we were conscious of the number of applicants we were receiving. These costs ultimately will be recovered. We want to ensure that we are not possibly impacting that rate by adding more CBSRs at once and then possibly spreading them out as customer enrollment increases. Some of the sites that were shortlisted and not voted on have expressed interest in doing it again. I do think that we will be seeing a lot more interest this go around. Based on that, the number that is shortlisted might increase. We will also be in the process of our customer enrollment period to be able to gauge what that looks like and the last thing you want to do is implement five at once. That could ultimately impact the ESAP rate for ESAP customers.

Assemblyman Watts:

Thank you very much, Miss Alejandra for all that additional information. I appreciate it and again completely appreciate the idea that now the program is set up, the marketing is an ongoing process, and it is helpful to understand the base nature of the applications both for customers and for the community-based sites. Thank you, Madam Chair, for the indulgence of all the questions.

Chair Monroe-Moreno:

Thank you. Assemblyman Ellison, did you have a question?

Assemblyman Ellison:

Thank you, Madam Chair. Mr. Watts hit most of that stuff, so I appreciate that now. I will send my questions over on email. Thank you.

Chair Monroe-Moreno:

Thank you. Members, any other questions? We will move on to the second portion. We will have DETR join us to talk about the workforce development component of this program.

Elisa Cafferata, Director, DETR:

I am Elisa Cafferata, Director of DETR. We are very excited to be a part of this project. I am joined this morning by Chris Sewell, who is our Deputy Director and Karlene Johnson, who is our Deputy Administrator on the workforce side. We are the cheering section this morning because we are excited about it. We are here to answer questions if they come up on our involvement. This project is going to be presented by Roberta Tapia, who is the Program Specialist. I will turn it over to her, and we have a presentation that we will share.

Roberta Tapia, Program Specialist III, Workforce Investment Support Services, ESD, DETR:

Good morning, Madam Chair, and Committee members. For the record, I am Roberta Tapia. I am a program specialist at DETR, the division is ESD. I work for the Workforce Investment Support Services Unit. This presentation seeks to provide an overview of DETR's role in the expanded solar access program or ESAP (Agenda Item V B). The ESAP directed DETR to create a workforce development plan to establish the Solar Workforce Innovations and Opportunities Program (SWIO) and you will see the acronym throughout the presentation, but I will try my best to spell it out. It is SWIO in the presentation.

This workforce plan was created in collaboration with representatives from the IBW, the International Brotherhood of Electrical Workers, Locals 357, 396, and 401. The group also included the Electrical Joint Apprenticeship Training Center in Southern Nevada, and in Northern Nevada—the Northern Nevada Electrical Training Center, and representatives of NV Energy as well. Meetings began the first week of September 2020, and resulted in establishing position titles, pay, and minimum qualifications, with variations between the regions. In the South, the job classification would be that of solar panel installer, whereas in the North the construction wireman classification would be used as the entry level pre-apprenticeship position that would provide exposure and experience to program participants.

The application process is detailed in the prospective training center websites and can include applications, transcripts, assessments, and interviews. Major programs and services to assist candidates include job matching, workshops, assessments, and referrals to supportive services, as appropriate. The Career Enhancement Program or CEP provides funding for short-term training and work-related items necessary to begin work. As we met, we also identified possible career paths such as telecommunications, residential, or outside linemen. Throughout the meetings, the Unions also confirmed that participation in this program would provide valuable experience that would be considered when applications were made for apprenticeships. The working relationships have expanded beyond SWIO and have resulted in job orders for positions in Wadsworth, Battle Mountain, and Fish Springs.

A summary of the actual program. It provides for the development of this SWIO, including a workforce plan that lays the groundwork to introduce Nevadans in low-income communities to employment opportunities in solar installation occupations by providing information, training, and job placement. This is accomplished through the use of pre-apprenticeship, entry level positions with a recruitment focus on underserved, underrepresented, and low-income members of the community. Our recruitment was determined through notification of new projects by NV Energy would alert DETR to develop a customized recruitment plan along with the IBW and the Joint Apprenticeship Training Centers. The recruitment program would be tailored to meet the project specific number of candidates needed, and deadlines would consist of utilizing options such as social media, radio, and television; directly communicating with community resources such as Nevada Partners, Hope for Prisoners, veterans' organizations, and faith-based organizations. Referral candidates were made to Nevada JobConnect offices, which are traditionally located in diverse low-income communities. Employment representatives screen, utilizing the skills, knowledge, and abilities provided and identified by the IBW.

How do we review the candidates work history? Resumes and assistance to ensure that the referral was appropriate. During the evaluation, interview staff explain potential apprenticeship opportunities, the minimum qualifications, and review position descriptions to provide a realistic view of what the position involves. One of the requirements for the positions is an OSHA 10-hour certification. This training would be funded through the career enhancement program. As far as the titles, compensation, and benefits that information was provided by the Union in the South, the Local 357 choose to use the solar panel installer position and in the North, Local 401 used the construction wiring position. Benefits include full medical and pension. The plan also provides for reporting of aggregate workforce statistics that is due to NV Energy this month. We did put the planning into action with the first project at Mojave High School. It was approved in December 2020. Request for proposal bids were due March 2021, and its selection was made in April of 2021; NV Energy briefly reported on this. The request for proposal did require the bidder to participate in SWIO by including at least one employee per five and showing that at least 50 percent Nevada residents. This project, as previously explained, called for the installation of solar panels on a newly constructed parking structure with an anticipated need of 15 total solar panel instructors. The contractor selected was Bombard Electric. For communication, DETR collaborated with the IBW local business manager to determine the referral process and minimum qualifications. The Department of Employment, Training and Rehabilitation created a job order with the input provided. The selected candidates in need of the OSHA 10 certification were enrolled in the career enhancement program, scheduled for training, and provided payment to the training provider for the course. With the training complete, the candidates' names, applications, and copies of the OSHA 10 certification were forwarded to the local IBW and names are provided to their dispatcher. The positions that were utilized were 3 based on the need for 15 installers and using the 1 to 5 ratio. Bombard Electric did commit to the three positions. They would have taken a fourth candidate, however, that candidate declined the opportunity prior to beginning the position. The benefits did include paid health insurance and pension. This slide shows the flyer announcing the career opportunity, identified the zip codes considered, and provided instructions on how to apply. It was posted on Facebook and Twitter. It was also distributed to Nevada Partners and Hope for Prisoners. The Department of Employment, Training, and Rehabilitation JobConnect received 13 applications, 6 were qualified on the minimum requirements and resided in the designated zip codes. The seven remaining applicants did not reside in the zip code areas and were contacted by phone and email to determine further interest should a project come to their area. Of the six that met the initial qualifications, two did not respond to follow up inquires. The remaining four candidates met the requirements, including an interest in the apprenticeship program and self-attested to

having good math skills. While this was not a requirement for the entry level apprenticeship solar panel installer position, it would later be a requirement for apprenticeships and would be further assessed at the appropriate time. The Union application was sent to all four applicants; however, one did not start the project. That left three applicants. One of the three applicants already had the OSHA 10 certificate. The other two enrolled in the career enhancement program, scheduled and completed the training on September 4th and 5th. All were high school graduates. Prior positions held were landscaping, handyman, driver, and concrete laborer. All those positions were at lower pay than the solar panel installer. On-boarding began by having the candidates report to the Union to complete personnel forms which included membership in the Union benefit and pension forms. The three participants reported for a one-day safety orientation at Bombard Electric and reported to the job site the next day. We received weekly progress reports from Bombard with attendance records and general project updates. The end of the project happened sooner than anticipated. It was a shorter duration than anticipated based on the draft timeline provided. Originally, it was to be ten weeks for the solar installation to be completed. It was accomplished in five weeks. This part as follow-up; we did reach out to the remaining candidates to try and assess their interests in the partnership. We were only able to contact one of the three, and he is on the books for the projects, but has moved on to other positions in the meantime. This slide shows an item from the governor's newsletter of November 11, 2021. The gentleman in the neon green t-shirt and the one with the neon green vest and a hard hat are two of the three participants. Consideration before the next project include planning for gaps in candidate's participation. There were some gaps during this project as the contractor was waiting for materials. What we can do with those gaps would include having participants return to a JobConnect office to receive additional services which could be the provision of employment services such as conducting assessments before the apprenticeship applications, providing mock interview practices, and assisting with any resumes. We have made contact with the Union representative and once the next request for proposal goes out for the Freedom Park project, we will begin meeting again. This is set for Spring of this year. That concludes my presentation. My contact information is there on the screen if you should have further questions or need information. I am ready to accept questions at this time.

Chair Monroe-Moreno:

Thank you so much for the presentation and the information. It was exciting to watch that first project go up and hear feedback from the students and staff at the high school. Otherwise, I do not think they realized how truly important it was for the surrounding community. Thank you so much for the presentation.

Members, any questions for DETR about the program? I do not see any raised hands, thank you again. We will continue to work and provide even more job opportunities as this program grows throughout the state. Thank you.

We will close agenda item number five, and move on to agenda item number six.

AGENDA ITEM VI—UPDATE OF THE IMPLEMENTATION OF SENATE BILL 448 (2021)

Chair Monroe-Moreno:

As you all know, energy is a hot topic. During the 2021 Legislative Session and will be again in 2023. The bills passed in the Session continued to examine the energy needs of the citizens of Nevada and particularly SB 448, which made various changes to energy regulations, policies, and programs. Some provisions in the bill require PUCN to open a

rulemaking and/or investigatory docket. We will hear the status of those dockets and welcome back.

Garrett Weir, Commission General Counsel, PUCN:

Thank you, Madam Chair, and members of the Committee. I am Garrett Weir, General Counsel for PUCN. I will try to be brief in providing an update of the Commission's implementation of SB 448 from last Session (Agenda Item VI). I am sure you are aware that is the omnibus energy bill sponsored by Senator Brooks that includes various components and provisions in the bill—requirements related to transportation electrification transmission planning. There are some other resource planning provisions that I will address as well, including a reopening of the economic development electric rate rider, also discussion of a process for facilitating the state's entrance into a regional transmission organization. There are a few other miscellaneous clarifications and revisions, as well. Regarding transportation electrification, the bill breaks that policy into two components. You have a requirement for an initial up-front transportation, electrification plan, or a plan to accelerate transportation electrification in Nevada that is Section 49 of the bill. The section required NV Energy to file a plan by September 1, 2021, and that upfront requirement was a fast-tracked process. The Commission was required to review and decide on that plan within 90 days, and it is pretty prescriptive as to what is included in that plan including the types of projects and the dollar amounts it explicitly limits or identifies. The dollar amount is to not exceed $100 million. The types of projects addressed in that plan include an interstate corridor charging program; an urban charging depot program; a public agency electric vehicle charging program; a transit school bus and transportation electrification custom program; and an outdoor recreation and tourism program. On November 30, 2021, the Commission issued an order modifying and accepting NV Energy's proposed plan that contained all of those components. The Commission found that the modified plan checked all the boxes required by the legislation. Yesterday, the Commission at an open meeting did reaffirm its order regarding a couple of requests for reconsideration that had been filed, but as a result we now know what the final order and version of the modified plan is going to look like. That is the upfront component of transportation electrification that is required by SB 448. The other requirement is related to transportation electrification as outlined in Sections 14 and 40 of the bill. The bill requires ongoing incorporation of transportation electrification planning into the triennial integrated resource planning process that the Commission undertakes. The rulemaking that is addressing these requirements to incorporate a transportation electrification plan into the distributed resource planning component of the Integrated Resource Plan (IRP). That rulemaking is PUCN Docket Number 21-06036. The status of that rulemaking is the Commission requested comments and is working on proposed draft language. It received those comments on December 23, 2021. There were responsive comments and other language proposals provided on January 6, 2022, and now the next phase will be actually occurring. The Commission is holding a workshop today to address that language. A brief summary of the transportation electrification.

The next component is transmission plan, and as you recall, the transmission planning component required that NV Energy file an amendment to its pending integrated resource plan application, and to include a proposal for certain specified high voltage transmission projects that the Commission had previously found prudent for utilities to move forward with conceptual designs permitting and land acquisition for. Essentially it was the remaining projects associated with the Greenlink transmission project that I know you are all very aware of. That plan was incorporated into the resource plan application as an amendment and was carved out as a separate phase of the resource planning proceeding that is pending before the Commission as phase four. That is the final phase of the resource plan

proceedings before the Commission. NV Energy's testimony was due yesterday. However, in my notes, on the slides before you, do not reflect this, but last week the Commission received a consensus stipulation, settling all of the issues that were presented, and so it is very unlikely that we will actually see a hearing and further testimony in this matter. I think you can expect to see that stipulation be brought to PUCN in an upcoming agenda and public meeting for the Commission to vote on. Given the fact that the utility, according to the signatories to the stipulation, satisfy the requirements of SB 448 with regard to that transmission infrastructure for a clean energy economy plan. No one is contesting the terms of the stipulation and it will potentially be resolved within the next step by the end of the month.

Some of the other resource planning requirements that are addressed by SB 448 are a requirement that at least 10 percent of the expenditures related to energy efficiency measures focus on low-income households, residents, and customers in historically underserved communities. That requirement has been incorporated into the planning process for the Commission. There is proposed language in the rulemaking proceeding that I referenced previously addressing this matter. All resource planning issues related to SB 448 are being addressed in Docket Number 21-06036. I believe there is a workshop as we speak. The other resource planning requirement is that the utilities be required to include in their plan a scenario that would achieve zero carbon emissions by 2050, and then another scenario that would achieve an 80 percent reduction compared to 2005 levels by 2030. Those scenarios contemplating what it would look like to get to those carbon emission reduction goals. That is a new statutory requirement that ensures a review of planning decisions that would be necessary to reach those outcomes.

The economic development electric rate rider, provisions within SB 448, would extend the availability of the discounted electric rates for new, commercial, or industrial businesses in Nevada. A rulemaking the Commission has initiated to implement those new requirements is in Docket Number 21-06037. The proceedings in that rulemaking have included comments and draft language being due on July 30th. The Public Utilities Commission of Nevada held an informal workshop, not the workshop required by the Administrative Procedure Act, but one to help to facilitate discussion and address the draft language. That was held on August 10th. On August 13, 2021, the Commission sent the proposed regulation to LCB for preadoption review. It has since had the proposed regulation returned by LCB in revised form. On December 2, 2021, PUCN concluded the revised proposed regulation would not be likely to impose a direct or significant economic burden upon small businesses. I have an update now that is not on the slide. The required workshop and hearing, under the Nevada Administrative Procedure Act, have been scheduled for February 14th and 16th, respectively. Following that workshop and hearing, the Commission can then proceed to adoption of regulation.

Regarding the regional transmission organizational (RTO) components of the bill, I know you are going to hear about RTOs during a later presentation from NV Energy so, I will focus on the component that explicitly requires action from the Commission for implementation and that is being addressed in PUCN Docket Number 21-06038. It addresses basically the offramp provision within the bill through which if a utility demonstrates that despite all reasonable efforts being made to comply with the requirement to join an RTO by 2030, it is unable to find a viable option and that it is not in the best interests of both the transmission provider and its customers to join on or before January 1, 2030, the transmission provider may request that PUCN waive that requirement to join by January 1, 2030. The Commission is going to be adopting a regulation that outlines the framework for evaluating such a request to offramp it from that requirement.

These are additional provisions that I will briefly outline that do not require new regulations by the Commission, but will affect utility operations and PUCN decision making. The first of these additional provisions is related to net energy metering and Section 36. It provides some guidance regarding the definition of public utility. It exempts from that definition, owners of net metering systems that deliver electricity to multiple master-metered persons, units, or spaces. It helps to provide guidance to both the utility and its administration of the net metering programs and to the Commission in determining eligibility for that program. The burden of proof and utility rate cases is something that you might recall was discussed last Session. Basically, this is not something that is going to change the way the Commission has been recently reviewing rate cases and considering those applications. However, it will provide clarity to the utility applicants there is no presumption that any of its expenses or investments, including the application, were prudently incurred. It clarifies what that burden of proof is for the utility. We will hopefully ensure the utility is fully aware of what needs to be included in applications moving forward. The next additional provision is related to the disposal of generation assets. This is a rarely referenced statutory provision, but it will become relevant if Sierra Pacific Power Company and Nevada Power Company do seek to merge into a single utility in the future. The Commission will go through the process of evaluating such a proposal under the public interest standard rather than there being a procedural barrier to that change in ownership of generation assets compared to the law that existed prior to this bill. I am happy to answer any questions.

Chair Monroe-Moreno:

Thank you so much. Members any questions?

Senator Brooks:

Thank you, Chair. I just want to make a comment. There is a lot in that bill and almost all of it affected the PUCN, and created quite a bit of work. I see there are several open dockets and have been tracking them. Just wanted to thank the Commission for their efficient handling of the things that were in that Senate bill through the whole docket process, and everything that we have going on.

Chair Monroe-Moreno:

Members, any other questions, or comments? Thank you so much for presenting not once but twice today. We truly appreciate it.

We will move on to our next agenda item number seven. We will hear presentations on the regional energy markets.

AGENDA ITEM VII—PRESENTATIONS ON REGIONAL ENERGY MARKETS

Chair Monroe-Moreno:

As many of you know, this is not a new topic for those members who have participated in energy issues in the past. Throughout the years, Western states have explored the creation of a Western regional energy market. This Session we passed SB 448, which created the Regional Transmission Coordination Task Force. The Task Force chaired by Senator Brooks is charged with advising the Legislature and the governor on topics and policies related to regional energy transmission in the Western states. It will study the cost and benefits of transmission providers in Nevada joining a regional transmission organization to provide access to a wholesale electric market. The presentations this morning will provide some fundamentals of the regional energy markets for the newer members of the Committee and

serve as a review for other Committee members. I am going to take the presentations a little bit out of order, and instead of starting with Item A on your agenda, we are going to start with Item C on the agenda. There will be a presentation by NV Energy. I believe it is going to be Miss Carolyn Barbash.

C. Overview of NV Energy's Participation in the Western Markets

Carolyn C. Barbash, Vice President, Transmission Development and Policy, NV Energy:

I am Carolyn Barbash. I am the Vice President of Transmission Development and Policy, NV Energy. Today I have two of my colleagues, Ryan Atkins, our Director of Resource Optimization and David Rubin, who is our Director of Federal Energy Regulatory Commission (FERC) Regulatory Affairs. They both are going to be taking different parts of this presentation. David is going to be available for questions and answers at the end. In my job, I am responsible for the Greenlink projects. You will hear a little bit about that today if I have time and some wholesale market development. Ryan Atkins in his resource optimization job is directly involved in the outbreaks that we market in today and investigating other efforts that are looking at pieces of a whole market. In my role when I am not trying to get Greenlink built or designed, I get involved in market efforts that would eventually end up with us having all components of an energy market by one market operator and have it be a regional market.

The topics we will cover today are, and I apologize for some of you, as Chair Monroe-Moreno says, some of this will be a review (Agenda Item VII C). Some of it will be brand new, some it will be a reminder, especially for those of you who are new to the Committee, or the Legislature, or have enough of a life that you do not go home and read trade journals about wholesale markets. Since Garrett from PUCN did such a good job, I will flip out some slides on SB 448, and then Ryan Atkins will go into some of the markets that we operate today or that we are involved in reviewing to other single attributes of a full wholesale market. I will go into some future things that were working on to try to get the State of Nevada into a regional wholesale market with all the bells and whistles and services. And if I have time, I will talk about where we are at on the Greenlight projects and why we are building them and what they do. Just in case somebody here is not familiar with those because they are very important to a regional market and having it function properly.

There is often a thought that Nevada is not in a wholesale market. Well, we are. We participate in bilateral markets, meaning we go out and we find a seller of energy, or a buyer of our energy, and we make a deal and set the price. Usually, it is under a standard regulatory approved contract and we buy that resource. Then we, more recently, joined the energy imbalance market (EIM), which Ryan will speak to, makes up in real time some of those imbalances where we forecast our load and actual loads always differ from that. If a generator is not producing as much as we projected it to, it will go find the energy for us. If a generator is producing more, it will sell it in that real time market. With a clearing price, buyers and sellers are brought together sort of like a stock exchange, but it is a very, very small piece of an electric market. An organized market does that, and is more like a stock exchange rather than an over-the-counter market. It brings buyers and sellers together, sets clearing prices, is much more liquid and more efficient, can optimize resources better, and clear congestion on the highways, which are transmission paths. They provide a lot of benefits and savings to customers and a lot of other things. They present a little more risk in that we do not know that the exact path it is taking to get to us. We cannot point to that brick-and-mortar resource although there is one, but we do not know which one it is. They are often more financially firm products, meaning if the product does not show up, you might have some load problems, but your customers get compensated for not having that

energy. Bilateral markets exist in organized markets, meaning mostly utilities like us go out and secure a long-term resource or resources to serve our baseload, and then enter the organized market to optimize those resources in a shorter horizon in the real time, minute to minute or in the day ahead. That is the market piece. Regional Transmission Organizations do a lot more than that. They build transmission. They have resource adequacy requirements to ensure reliabilities, and there is a lot of other things involved in a full RTO wholesale market Independent System Operator (ISO)—those terms can be used interchangeably. The map there shows areas of our country that have full operating energy markets with all those attributes I just talked about.

I will not go through this too much as others will probably cover this later. They are all bid based; they provide energy services; real time day ahead and ancillary services; which are sort of the products that help make the product get delivered reliably and keep the frequency in the voltage where they need to. It is a lot more complicated than a stock exchange, because you are not just matching up buyers and sellers, you must worry about this other weird electricity stuff too. There is clearing congestion, which is, maybe wrapping up a generator in one location and ramping down in another location, because your highways are full. They all use a locational marginal pricing to set that price so that it indicates the price having to do everything you have to do to get the energy to that location. They are all approved by the FERC. They include regional transmission planning and development and requirements to ensure that each user in the market, meaning the utilities that serve their customers, have adequate resources every day, every minute, and even in the long term.

Garrett did a wonderful job on this Section 30 that talks about RTO requirements and that transmission providers in Nevada and the energy utility being one of those. Probably the largest with the most assets are required to belong to an RTO by 2030, unless a waiver is filed. The waiver may site detriment to customers, lack of the right partners, or inability to get a regional scope. It may not be in the public interest, meaning the cost outweighs the benefits, or it compromises in Nevada’s clean energy goals. It would be probable cause to file a waiver for a delay in getting there.

The State of Nevada has defined in SB 448 what an RTO means to the state. It differs a bit from the FERC's definition of what they approved as an RTO, but that all meets the same intent. We cannot sacrifice our reliability to be in an RTO. Most of Nevada's customers are in Las Vegas, which is fortunately very recently built. It has very good reliability and in the top ten percentile. We do not want to compromise that. No advantages to any particular customers, so there is no cheating. Bills should be lower prices and reliable clean energy. It should be good for planning infrastructure around, because—as outlined in the presentation—the RTO assures that structure of governance or control that is independent of the users of the transmission facilities. Control that is an independent of users of the facilities that is highlighted because I think that is important to NV Energy and it is important to Nevada to know it that there is only one organized market. It is very close to us. It is in California, but that organized market is controlled by a governance board that is appointed by the governor of California. They approve every market rule and every decision about how expensive transmission projects will be allocated to customers. Nevada is not represented on that adequately right now, so it is not available to join without some changes. There is a lot of good things about the California ISO. It has successfully operated that regional energy and balance market; and very good operations. But right now, we are not able to join the full contingent and participate in RTO. We also have a task force set up in Nevada, which will analyze and report back to the governor and the Legislature on what it might cost, what our customers in Nevada might get in return, what laws might need to be changed, ways to increase economic development through belonging to a wholesale market,

and availability of low carbon energy. It will study attracting people and renewable generation to Nevada. The first report from that committee is due November 30, 2022, and then it will be on every other year basis after that.

The members that have been appointed. Senator Brooks will chair the committee as the sponsor of SB 448. He is someone very knowledgeable to lead that group. I believe all the members here are populated except two members of the Senate and two members of the State Assembly. They are not currently on that list. If they have been selected, they are not yet when the slides were updated. I have covered some of the basics about where we are at in this wholesale market, why we are trying to do it, and I am going to turn it over to my colleague Ryan Atkins to talk about the markets that we do operate in and other pieces of the market t we are looking at under various initiatives in the West.

Ryan Atkins, Director, Trading, Analytics and Operations, NV Energy:

Good morning. I am Ryan Atkins. I am the Director of Trading, Analytics and Operations at NV Energy. I oversee our group that buys and sells our electricity or natural gas and schedules all our resources. I am going to talk about the market options that are currently in place, as well as some of the other discussions that are ongoing. I think what you are going to see and hear are that there are a lot of options being talked about. What is important is that NV Energy and other entities in the West are looking for a long-term solution, and we will see if that through smaller incremental steps or going right into a full-scale market. I think really the discussion starts with the Western EIM. The EIM is a real time energy market operated by the California ISO. It was launched back in 2014. NV Energy joined in 2015, as the third participant. The EIM is a true imbalanced market and it is optimized at the five minute level. It is important to note, this is a voluntary market and participating is not equivalent to being a full member of the Council, so the transmission control, the resource adequacy, the resource planning remains with the member utilities. As you can see on the slide, there is the continued growth and expansion of the EIM. By next year there will be 22 active participants, representing 84 percent of the demand in the Western United States. This huge geographic footprint means bigger benefits both economically and reliability for us. Looking at the benefits for NV Energy, since joining the EIM through the third quarter of 2021, benefits exceeded $151 million. On the next slide, it shows all entities throughout the history of the cumulative benefits have exceeded $1.7 billion.

From the California Independent System Operator (CAISO) perspective, the next incremental step is really this extended day ahead market or EDAM as it is called. This is just expanding the concept of the EIM to the day ahead timeframe. This would be more of an incremental step on the way to a full scale market. It would remain voluntary, similar to EIM and would not be equivalent to becoming a full member of the CAISO. It would allow current EIM members to leverage a lot of the work that they have done with their systems, but from signing up with the EIM and participating in CAISO. The day ahead timeframe would allow for additional fuel and purchased power savings and just continued integration of renewable resources. This effort was really kicked back off in late 2021, and will continue through this year. At this time, no determination has been made as to whether in NV Energy will participate.

Policy design discussions will be going on through this year, with expected implementation in 2023, with potential implementation in 2024. That is one of these incremental options that we are talking about. On the next slide is a bit of a new wrinkle that has come into play—a new unique kind of market option—a Western Resource Adequacy Program, the WRAP they call it from the NorthWest Power Pool. Rather than being a real time or day ahead market design for optimization, this is really focused on capacity sharing and

ensuring resource adequacy for its members. It is going to match up a resource deficient member and pair it with another member who may have a little bit of excess. It is more focused on the reliability piece and less on the real time optimization piece that we have been talking through with EIM and, potentially, EDM. There is a lot of participation in this program already. It would be another incremental step towards greater regional coordination and a potential long term market solution. Currently, the program has retained Southwest Power Pool (SPP) as the program operator, and they are preparing a nonbinding test of requirements for this summer and upcoming winter. They anticipate being fully up and running by 2024, and NV Energy is participating in the current phase to be able to determine the long-term feasibility and benefits of this program.

If you look at the next slide, the map. It shows that, similar to EIM, a large footprint across the West and this regional collaboration what is really going on with these market options. Then if you go forward two slides, another key initiative related to regional coordination FERC Order 1000 requires the participation in regional transmission planning groups. If you see on the map, NV Energy has been participating in WestConnect, which is in the green, but we just received approval from FERC and the PUCN to join NorthernGrid. Looking at the map, NorthernGrid is going to be a combination of Columbia Grid in purple, the Northern Tier transmission group in yellow, and the State of Nevada. You are going to have one really large transmission planning group coming out of that. It is going to help with our improved ties in the north and the east to take advantage of Greenlink, which Caroline will talk to you in a little bit. The most important point is this is another step towards widespread transmission coordination rather than a more siloed approach to transmission plan. Looking at what we call multi-attribute market initiatives, I would say greater than an incremental step like we have been talking about, the first thing that has come out is the Western markets exploratory group. This is a group of Western utilities announced back in October of 2021. They have come together to talk and identify market solutions to achieve the goals that we have all been talking about, carbon reduction, reliability, and affordable service. Finding and developing a long-term solution for the entire West. One important thing about this group is they are really going to incorporate lessons learned from these existing markets, as well as these ongoing efforts across the West that I am talking through. The current process or the current members are in the process of selecting a facilitator, a project manager that has some experience to really start putting together a structure of what a new option could look like. As you can see on that table, quite a large list of large utilities are a part of these discussions, including NV Energy, this really helps identify one of the options now and what else could exist going forward that would satisfy our needs.

Finally, I want to talk about SPP and their potential expansion. If you see on the map, SPP already has an RTO in the midcontinent; in the Dakotas, Nebraska, Kansas, Oklahoma into Texas, but they are expanding. They had launched their own Western Energy Imbalance Service (WEIS) in February of 2021, so this is similar to the EIM that we participate in where members do not have to be a full member of SPP. It is managing them on a sub-hourly level. There are numerous participants already that are in mostly Colorado and Wyoming areas. There is the potential of that expanding into a full SPP RTO West in 2024, so that would have SPP really starting to get into the Western region. SouthWest Power Pool is also offering what they call a market plus concept, so it would combine this real time functionality with day ahead functionality but would not require participants to go all the way into signing up for a full RTO membership. They are trying to come up with some unique options that entities may be interested in, you can see right with the markets. Plus, it is a bit of a hybrid between the current path of full RTO and what they are offering. I think the key takeaway of all these options that I have outlined, and I have tried to keep a very high level, it is just NV Energy and a lot of entities are really trying to look at all these options of keeping an open mind, but we cannot do it alone. We all have an interest in

finding the best solution. I think it is going to be really critical to try and identify a single market solution, so if it ends up being multiple markets with multiple steams between those markets, it will lead to lesser economic and reliability benefits. This really is a key time, and the reason that there are so many options that are currently in play. I am going to hand it back to you, Carolyn, to talk through Greenlight.

Carolyn Barbash:

Thanks Ryan. An update on the Greenlight transmission project, let me walk through what they are. Transmission is extremely important to the topic of wholesale markets. Without that, we do not really have a robust interconnection with other states. These transmission projects are all within Nevada, but as you can see over here in the Ely area, we have strong interconnections and a lot of development interests over here. To our eastern states, some of the states that have a little bit more complementary resources to Nevada's large amount of solar, meaning wind and hydro. The wind usually blows when the sun is not shining and often picks up in the eastern parts of the Western states at night when the sun goes down. It is very complementary and hydro as well, because Nevada is not known for its large supply of water. Greenlink West is about 350 miles long in total, about from Yerington down to the Las Vegas Valley at the Northwest substation is about 230 miles and then over into the City of Las Vegas through the City of Las Vegas to the Harry Allen substation, probably another 30 to 35 miles. Then we have another part of Greenlink is Greenlink North, which is this line across which is basically following Highway 50 across Nevada from Yerington over to the Ely area, about 250 miles of 500 kilovolt (KV) line.

We have things that we call the common size, which pick up what I like to think of as big sources of supplying bulk energy. It picks up that energy and steps it down to 345 KV, which used to be the largest voltage we had in Nevada, and delivers it into some of these large growing areas in the Tri Center area. The Carson Valley released some, reliability problems in the Carson and Mason Valleys and it also picks up a lot of renewables in those areas as well. Why are we proposing to build these lines? For connectivity to other states. Just in a little bit more detail; this online project was our first interconnectivity between two utilities. Greenlink West was approved by PUCN to be constructed from Fort Churchill down to the NorthWest Substation and be in service by December 2026. This provides a lot of optimizing and saves our customers a ton of money is what I should say this online project was built back in 2004. We had a good service in December 2013. We really share a lot of resources between northern and southern Nevada. There is a great seasonal diversity in our loads, and there is a great difference in resources as well. The two ends of the state are very complementary and sharing those resources. If this line were to go out it is out until it gets back in. If there is a wildfire it is out until we can order poles in the supply chain—wire, whatever gets burnt out and we can rebuild it. We do not want to lose that money, meaning all those savings we have been passing on to customers right now. We also get suspended from the EIM market which is a big energy saver. This line will provide some redundancy, some really good reliability. It is also very strategically planned to run through very rich solar energy zones. There are three solar energy zones around there, probably some of the richest in the country. Those will be Nevada's to serve our customers with low-cost energy. There is a lot of interest from renewable developers who can provide economic development to our state with new jobs, clean resources, and add to our carbon bills. The area has no access to our grid right now so this project will open it up. Our major purpose for building it, was to get energy into northern Nevada and meet our Nevada clean energy goals. The economic development it provides is just really icing on the cake with these projects. It will position us as a leader, we are centrally located, what is needed for the State of Nevada geographically to be part of a regional market. We connect all the complementary resources right through our state. We are right in the middle. We are a hole

in the middle of the donut. It has positioned us to be a leader in the energy market. Greenlink North is going to create a total redundant triangle around the state meaning, you could lose any one of these 500 KV lines and still have delivery to the two points, Ely and Yerington. It is building in some very much needed redundancy finally, for the State of Nevada. It is encouraging business development. This line was strategically planned to follow some wind zones, geothermal zones, and additional solar zones. There is a lot of pumped hydro interest in Ely, Nevada, which is complementary solar as well, because you can let the water flow at night like a hydro plant. Water can also be pumped uphill while we have excess solar during hot summer days down there in Clark County. These 345 KV lines and this first phase of Greenlink West are moving forward with construction. They are well into the EIS and National Environmental Policy Act (NEPA) permitting stages with the Bureau of Land Management (BLM). We filed September 1st to include these in accordance with SB 448 with Northwest to Harry Allen and the Greenlink North Line to be in service by December 2028. As PUCN representatives, Ms. Mullen and Mr. Weir, said at the beginning of their presentations, we filed that plan and a stipulation, which is under review to approve inclusion of that Greenlink North project in the final phase of Greenlink West in those construction plans. We also have David Rubin, who is very knowledgeable about federal regulatory requirements and the history of wholesale markets in general. He has been involved in the creation of a lot of them. I will open for questions from the Committee.

Chair Monroe-Moreno:

Perfect. Thank you both for that presentation. I believe first up with questions is Senator Brooks.

Senator Brooks:

Thank you, Chair and thank you for the presentation on the regional markets and regional transmission, but my questions are around Greenlink specifically. I see where the routing is. Do you know if it has been determined yet where some of the collector substations are going to be? Will the utility be taking interconnection requests before the line for the substations are built, but I guess obviously after these substations are sited?

Carolyn Barbash:

Correct, yes, very good question. Thank you, Senator Brooks. We will be taking applications for interconnections before the lines are placed in service. For the collector stations, there are two designs proposed on Greenlink West and one currently on Greenlink North. Those locations are not firm, as you know. We are doing routing and siting through the BLM, and they do the NEPA process. It is really their decision and their process. We are the project sponsor, but we do not decide the route. It is decided based on the least impact to our lands and our natural resources in Nevada in consultation with cooperating agencies, the cities and the counties, the tribes, the Department of Defense, and all those agencies that participate and have concerns over routing and siting. They have interest in the lands and they are providing comments. Environmental and geotechnical surveys need to be done before we can say this is where these collector stations are going to go. If we start accepting applications or renewable interconnections right now, I think it would be a little bit of a disservice to those renewable developers who might be entering a request for approval (RFP) and not scoring high enough, or missing out on that bid losing it because they think they are lead line to the collector stations longer than it really is going to be. We would have to do the studies all over again and re-estimate the cost. We want to get a little bit more certainty. I think when we get to a good point when we feel like we are closer to a record of decision and the routes sited, we will communicate over our Oasis system, which

is what the FERC requires at least two weeks in advance. We will be accepting generation interconnection requests and transmission service requests to those collector stations and over the line.

Senator Brooks:

Thank you for the answer. On the permitting and routing side of this, I know that there are bi-state and greater sage grouse issues. There are all kinds of environmental and cultural considerations on routing. Have you faced any insurmountable obstacles in that process? Could just give me a brief update on what that permitting, and routing process looks like now.

Carolyn Barbash:

Not so far that I have heard. I do not have any of our smart, permitting folks and environmental folks on the phone. We have not run into anything that we do not think we can mitigate. There are some private lands, although it is probably 85 and 90 percent federal lands that we are crossing, there are some private land concerns. Some expansion plans, probably from the Department of Defense, conflict with some of the Native American tribal organizations. We are trying to work with all the constituents along the route to find mitigation and alternative routes. We try to minimize the length of the route, so we do not want to have to go 80 miles around something because that is going to increase the cost to customers, nothing insurmountable yet.

Senator Brooks:

Thank you. I just want to thank you for the work that you are all doing. I get a chance, both as a policymaker and in my professional life, to talk to a lot of developers, transmission developers, and renewable energy developers. The work that you are doing has sent a message across the entire West and has really kicked into gear tens of billions of dollars of investment around transmission in the West and development in our state. It would mean tens of thousands of jobs and hundreds of millions of dollars in tax revenue over the life of the project. Good job and what we thought and hoped would be accomplished through statute, we are already starting to see the results of it. I am appreciative of your efforts.

Carolyn Barbash:

It is good to hear. I have to say, the state BLM office has really stepped up. They realized the importance of this project to the State of Nevada, to our Legislature, to our governor, to economic development, and clean energy efforts. This is the most aggressive schedule NV Energy has had on a transmission project in the 30 to 32 years I have been here. It is going very well because of the importance that has been placed on the project. Thank you.

Chair Monroe-Moreno:

Members, any other questions? Assemblyman Ellison. Senator Hammond, you will be after him.

Assemblyman Ellison:

I am looking at the map, and I am seeing that between Ely and Yerington, some of the strongest, most powerful resources we have is hydropower up by Crescent Valley, Beowawe, over by Fernley and down that way, and that does not even show on the map. That was my first question. The next one is, we lost a large wind generation system

between Idaho and Nevada, up in the northern corner that was denied because of the sage hen. Do you think you are going to run into a lot of these issues as we go along?

Carolyn Barbash:

This is a different area than Beowawe and Crescent Valley for those geothermal resources. But there are some geothermal resources and we are going to have to go through this whole environmental impact statement and NEPA process, and try to find mitigating factors such as re-routing the line and things like that. The renewable developers will have to get their own permits, and they may face some of that as well.

Assemblyman Ellison:

Up to the north there is a lot of geothermal that is being used, but it is still untouched compared to some of the other resources that they are using. It is a natural resource that keeps on giving. I am hoping you take that into consideration. Hydropower is great.
One thing you did discuss, is moving water and hydropower up and down. There was a large project under study that did not go anywhere. They pumped water upstream in the middle of the night when the demands were low and then, the next day when demands were high, they would take water out of the lakes and move it back down. I thought that was pretty interesting.

Carolyn Barbash:

That is becoming a lot more feasible now that we have a lot of solar development that is very complimentary and is providing energy to pump it during the day and then when the when the sun goes down to have that energy from the hydro that was pumped up the hill. It is very, very complementary. It solves a lot of the excess energy problems, and it is really a good use of the resources and combining them.

Assemblyman Ellison:

Thank you, Madam Chair.

Chair Monroe-Moreno:

Senator Hammond.

Senator Hammond:

Thank you, Madam Chair. I think for the presentation, it is just three quick questions.
I wanted to go back to the discussion of the RTOs since that seems like we are taking those baby steps to get to that that stage. If somewhere under this research I think it would be really beneficial to know a few things. Could you tell me the oldest RTO that has been around? And related to that, what is the newest RTO? And is there one RTO that is sort of the gold standard, something we could look at it and say they got it right? Maybe they looked at mistakes have been made in the past that you know how the organization is and so forth, and that is the one you kind of want to look at a little bit.

Carolyn Barbash:

Probably the oldest is the PJM [PJM is a regional transmission organization that coordinates the movement of wholesale electricity in all or parts of 13 states and the District of Columbia]. All the RTOs in the east, the New York ISO, the New England ISO, and PJM are

operated in these very tight power pools. It takes about five of their states to fill the regional geography of the State in Nevada. Crossing interstate lines is not that uncommon. There is where you have these multiple jurisdictions and regulatory commissions to get across and allocate the costs and things like that. The newest is probably California or Existing Transmission Contracts (ETCs). David Rubin would probably be able to answer that. The answer on what is the best is—they each have really good attributes, they all have really troublesome attributes, and some of them are more fitting for a state like Nevada and some of them are not. I am part of the Western Market Exploratory Group (WMEG) effort, very involved in finding our facilitator and things like that, which we are in the final stages of. We have told them that if we do not need to, we do not want to waste our time recreating something that has already been done. We want the best of all worlds. We want what is appropriate for us. If it is the resource adequacy program, which the California ISO has or the congestion management program that ETC has or the transmission planning at PJM. Then take those pieces of their tariffs they have already been approved by FERC. A large thing about markets is their resource adequacy and whether they have the capacity market, whether they have price cap markets, or whether they require showings, but they have the resources. There are reasons for different models all around the country. Some because they have a very strong retail access program, would have a capacity market because smaller providers of service do not have access to building capital resources to serve their customers. Whereas a resource like the SPP would have a resource showing program because there is no retail access to speak of in that footprint. One thing the State of Nevada cannot do is be an RTO on its own. It is going to take a lot of outreach and a lot of working with other partners, which is why we are going in baby steps because our neighbors in the West want to. We cannot say we are going to do it all within the State of Nevada, because then you are not a regional market. You are NV Energy operating as if it were a market, and that is what we already do today. I will leave you with that. David Rubin might address oldest and newest RTOs.

David Rubin, Director, Federal Energy Policy, NV Energy:

I came out of the New England Power Pool and did the same or in the same with PJM. Early efforts there in the mid-continent and SPP sort of grew similar to what potentially we are doing in the West with imbalanced market services first and then of evolving into what they call a day two or more of the RTO market that we see today. Those are the ones that are newer and they did not come out of that tight, power pool the way the eastern ones did.

Senator Hammond:

I appreciate that you are seeing things like WMEG. As I make decisions, I need to know more, so I appreciate your willingness to give us some more information, and that helps out. Thank you.

Carolyn Barbash:

Sorry, we did not make an effort to explain the 14 different utilities that Ryan was speaking about. We had it up on the screen, but one of them was and it is in your presentation.

Senator Hammond:

I am grateful for the presentation because it did, as you were going along, talk about how you want to get into an imbalanced market, or at least, that is the newest way to get into an RTO, and that is the kind of the stuff I was trying to learn. What have we learned over the years of trying to get into RTOs? It sounds like the newer RTOs baby stepped in by

starting with imbalanced markets. You guys had a good presentation. Thank you again and thank you for the question.

Carolyn Barbash:

Thank you. I will add one thing on that WMEG slide that you all have. LEWP is also a member now. They were not when we created the slide, but they have also committed. We also have public service of New Mexico. There are two more entities in that group.

Chair Monroe-Moreno:

Members, any other questions for the presenters? Seeing none, thank you so much.

Carolyn Barbash:

Thank you Chair and thank you, Committee for your time.

Chair Monroe-Moreno

Next up, we are going to go back to the top of the section. Mister Cameron Dyer, Managing Senior Staff Attorney with Western Resource Advocates (WRA) and Mister Vijay Satyal, Regional Energy Markets Manager with WRA. They will present information on the Western resource market.

A. Western Markets and Opportunities for Nevada

Cameron Dyer, Managing Senior Staff Attorney, WRA:

Good afternoon members of the Committee. Thanks for inviting us to present today. My name is Cameron Dyer and as the Chair mentioned, I am Senior Staff Attorney with WRA. I am also on the RTO task force along with Miss Barbash. With me today is Vijay Satyal, Regional Energy Markets Manager. I am going to share our presentation explaining the WRA organization (Agenda Item VII A). We are a non-profit that impacts a series of conservation issues across seven states in the interior West, and numerous areas to protect climate, land, air, and water. Vijay and I are focused on energy issues with my time focused entirely on energy. I am going to pass the presentation to Dr. Satyal to talk through our work in Western regional markets, and then I will come back to talk through how to impact those future potential markets more directly. Thank you.

Vijay Satyal, Regional Energy Markets Manager, WRA:

Thank you, Chair Monroe-Moreno, and Committee members. We appreciate the chance to speak. Thanks to the NV Energy team for covering a lot of the regional initiatives that are in play. We are coming at this slightly differently, but having the same common message to give that the regional markets in the West are needed and helpful. As you can see from this visual, this really gives you a complete visual comparison of existing RTOs in the United States. As you may realize, the electric grid in the U.S. is not limited to political boundaries The electric grid in the West does go into Canada as well, but in the West, there is a large gaping hole. It is the reason where we do not have a market. We have what is called bilateral markets for energy and transmission, and this is the area where we feel policy needs to change and to make a larger sink, ideally a larger footprint ISO or RTO. Senator Brooks has been a champion in this regarding Nevada. This is critical, not just because it sounds good, feels good to have one large footprint. It is also because it can

really incentivize and foster development of renewable energy and create automation and efficiency.

The next slide is one of my favorite slides and from my time prior to being at WRA, I was senior policy advisor at Western Electricity Coordinating Council (WECC). One thing I learned at WECC, which no other place taught me, is the huge degree of interconnectedness of the West. The Western Interconnection is truly diverse. It is so diverse that you can have geographic diversity of assets that should be better used. It should have resource variability across time zones that is not currently being used. If you notice in both the scenarios that I brought up that are not being used can being enabled. It can be done. The regional market would allow what is called situational awareness, enhance reliability, and help bring resources and transmission together. One thing to keep in mind, if you look carefully in this map—Cameron will highlight it more in a very interesting way—without historical visual you will see the dark lines of the green and the red lines and the Northwest. That is the strong grid current transmission system, which can be called electrons highways. In the middle we do have some transmission system, and I am glad NV Energy is working to expand their transmission network. It is what market would enhance and incentivize better use of very same transmission system. In other words, we have a doughnut system, which now, is not as significant as it was 20 or 30 years ago.

What does an organized market really mean? Everybody talks a lot about it in different ways. Carolyn touched on it really well. To your question Senator Hammond, different markets have different services. Typically to the left, you will see on your screen a good organized market should ideally have fewer balance areas (BAs). For BAs, there are less checkbooks to manage the accounting for, how much boost managing end supply to meet load. You also will try to have a common resource adequacy standard. I hope you will agree with me. We do not have different roles for seatbelts in different Western states. We do not have different rules for using an Uber or Lyft in different Western states. We have a common application to use an Uber whether you are in Portland, or in Carson City, Nevada, or in Salt Lake City, Utah. The same goes with a good organized market, which would be independent. It would have board members who are truly independent. The process is transparent like the Legislature. And more importantly, you have not-for-profit intentions for the market operator to manage energy flow. If you do not have these characteristics, you are going to have, of course, the heavy hand of FERC oversight questioning the independence of the jurisprudence of the good ethically and robust market work. Three of the things that are important for good organized markets are the ability and the facility to track greenhouse gases and the impact of fossil fuels versus non-fossil fuels. This is not necessarily to question why fossil fuel emissions are happening. This is to help create an inventory. The last thing is transmission. I do think a single organized market has a single transmission operator, manages transmission assets of the utilities that release it, and allow it for centralized dispatch. The keywords are centralized dispatch, and if you like, it is like another card service, but a good organized market could include single or shared transmission planning. You do not have a patchwork of different transmission planning processes that many regional transmission groups have. You do not have to have that if you want state level, influence, or voice, but you still do need some of those items that I spoke to. The essence of these functions to the right are the services. That is enhancing reliability; allowing for consistency of planning for demand and supply of energy; making sure that the processes of tariff setting and prices are transparent, clear; and market operating rules are well understood by buyers and sellers. Most importantly, I think even NV Energy will agree on this team and our partners coming behind us is the grid is changing and the grid economics are changing. If we want an organized market, we do not just want it because it is cheap, efficient, or economical. It is also the need of the future, as a society, is changing.

How do regional energy markets help renewables? I touched on it earlier, but I will bring it up again in a different way. The geography, diversity, time and again, over two decades, we have had enough studies that have shown the diversity if automated and used well, can truly enhance resource availability. You can help adjust when the load is not big and where the load is low, you can adjust the resource diversity to ensure your large available pool of supply of clean energy options. The second thing it does is you are reducing containment which is stopping the supply of energy that otherwise could be used. We do not see what we do not know is how much energy we are not able to bring into the system. And the second is economics. You will see, and time and again, studies have also proven that investments allow independent merchant projects that support zero carbon resources. They are economical and if they are dispatched well and automated value, create consistency of planning, it can overall help reduce costs, reduce wholesale energy acquisition costs that can help ensure more regular energy is part of the larger mix.

To summarize, a good RTO development needs to consider these five or six elements. To Senator Hammond's question, if you want the baby step approach, one example is if you develop an energy balance market. You have one in the West and one in the southeast; and they are trying this one with SP. Imbalance markets are typically a very good way to start reserved sharing in real time. Western Resources Advocates a is proponent of the day-ahead market, but eventually it should all help the maturity of the concept lead to a full RTO. The three boxes you see highlighted in some solid red shadow effect is the area that WRA is committed to engagement for five years. We will be committing to engage in improving the governance structure, and making sure that we address public interest groups' concerns and recognizing that consumer advocates outside California alone have an equal voice if there is a solution that includes entities outside California. Any arguments being done in the West should have a fair, independent, transparent government structure. We believe that you need to have good transparency in reporting metrics. If you do not have that, how would you know how well the arguments function? This is important for state decision makers, regulators, policymakers, and legislators. The third important thing for WRA is we believe in a decarbonized grid. My language is not just show me the money, it is also show me the benefits. Show me how the areas getting cleaner or show us how we are truly seeing green electrons, as to speak equally on the table as we have had fossil fuel resources in the past. Greenhouse gas accounting is not just for greenhouse gas impacts. It is to show the justification for future clean energy investments that are needed. Ironically, you will be surprised to know, fossil fuel generators also want greenhouse gas accounting, so it helps them better plan and deal with state requirements or obvious needs they encounter in their own portfolios. We have a proposal and a white paper, which comes out on Friday, discussing leveraging greenhouse gas proposals in different forums.

Today, I will get to the crux of WRA work with public interest organizations, but we also met with the utilities. We have done nine months of outreach and engagement with energy customer groups and utilities. We are proposing a regional greenhouse gas accounting platform that is needed across the West to prevent a big problem. Currently, we have a patchwork system. We have some states with some greenhouse gas accounting, and please note that greenhouse gas accounting does not mean carbon pricing. You may want to track your greenhouse gas emissions with or without a carbon program and state whether you believe in a federal program or original program you still need state level tracking. This would enhance existing RPS tracking, which is only clean energy development, which is new generation. We work to propose a structure and a tool concept that would not interfere with state level goals, not affect utilities from dispatching energy, but help create a one stop shop inventory to track greenhouse gas emissions and regional impacts.

Where do we go from here? We do not want to sell something that just sounds good, feels good. We recognize the political and economic challenges. We recognize there are some regulatory areas to work on and there are some market design challenges. How are the rules of the game designed? These are all opportunities; these are not problems. There are ways that other regional markets have addressed losing control issues. States have a voice, state committees that get engaged in a governance structure. There are ways to ensure state policy goals are not compromised and there are ways to ensure how rules and a great design; so you can have both your benefits visible at the retail level, there is a role for you all to play. There is a role in ensuring regulators can also work to make this happen. On the regulatory side, WRA believes, and I am sure Cameron will be happy to work with you in every possible way to ensure sustainable infrastructure is meeting the needs of the future grid. We need to find ways for environmentally sustainable solutions that show land use is being allocated and infrastructure can be built within state level approvals.

The last thing I want to touch on is rules of the game called market design. There are a lot of challenges with how costs will be allocated across the system because of the existing way the grid is designed. As we move towards the future, we will have to work through some adjustments and ensure how costs are managed for winners and losers. That is an area of interest for us. Community utilities and public marketing agencies all have a common stake in this game, and this is what we are trying to work on. Thank you for allowing me to present.

Cameron Dyer:

Thank you, Chair. I am Cameron Dyer, with WRA, for the record. The first slide is a short list of select policy provisions that have sought to and successfully have addressed some of the impacts that our state has had on climate change. It is not meant to be exhaustive. It is meant to illustrate that Nevada has a long history of tackling problems in a measured and effective manner. For instance, the Renewable Portfolio Standard (RPS) was active 2001, which I accidentally left off this slide here, and has updated several times since. As you know, the Governor's Office of Economic Development [should be Governor's Office of Energy] was instrumental in preparing and publishing Nevada climate strategy recently. *Nevada Revised Statutes* 455B.380 [should be NRS 445.380] was recently amended to require annual inventories for greenhouse gas emissions by the transportation and electricity production sectors.

The question is, "How to account for greenhouse gas emissions in Nevada?" The Nevada Department of Environmental Protection (NDEP) recently released its annual greenhouse gases for 2021. At a high level, the inventory focuses on the transportation and electricity production sectors. However, they also include the industrial sector in their current report to improving greenhouse gases. They also have quadrennial or every four-year inventory that is much more comprehensive for the entire state. What you will see in the report and what is highlighted is that the most important greenhouse gases for energy generation are carbon dioxide and methane. Fossil fuels generation converts methane to carbon dioxide to generate electricity. Where the state has made the most progress in reducing for those greenhouse gas emissions from possible generation is converting existing fossil generation to renewables such as solar and geothermal. Currently, our RPS is focused on electricity generation. What is needed is a shift away from the RPS to an attribute-based system, which Dr. Satyal discussed earlier. This would focus on the consumption of energy that is consistent, easily verified, can be done in real-time, and accounts for power purchases that come from the market but not necessarily with those attributes. As also noted, we have offered the white paper that will be ready for distribution at the end of the week.

On the next slide, you will see the transmission doughnut. I am using a relatively old map. This is from 1989, highlighting how transmission in the West has developed. If you look at the map from Dr. Satyal's slides, there is some development of transmission in the Nevada doughnut. However, much of that has not necessarily connected to our neighbors in the north and east. This is the same map with lines added to illustrate approximately where transmission either has been developed or will be developed. You already saw more accurate mapping of the Greenlink path in NV Energy's presentation. On the right side of the slide is the currently operating One Nevada Line that runs around Las Vegas to central eastern Nevada. On the left is the Greenlink West line approved by the PUCN last year. The red horizontal line is Greenlink North that was subject to the provisions of SB 448, which was discussed by Mr. Weir and Ms. Mullen. It is currently at PUCN, discussed by other folks, and subject to stipulation and approval by Commissioners. The other two lines listed here show the Southwest Intertie Project going north and the TransCanyon Cross-Tie project in yellow and going east. Those are largely outside of NV Energy's control or control of the state. However, if they are approved and built, they would provide some of the new, good transformation interconnection that would address the doughnut hole. It would convert the West into a transmission "cake" if you will.

What does this mean for Nevada? This is another map showing Nevada with an overlay of the same transmission lines. However, it also has the renewable energy zones shown there. They are little hard to determine, but you have geothermal zones, you have wind zones, and you have solar zones. What this map is meant to illustrate, ultimately, is that the proposed Greenlink lines will touch on or be very close to existing renewable energy zones. The transmission lines proposed would provide access to opportunities for Nevada's consumption, but also for export of any excess generation to other states through these proposed transmission lines. Lines also allow that in part when you are looking at other states, hydrological generated energy. This type of import-export scheme is called geographic diversity, as Dr. Satyal mentioned and serves several purposes. First, it ensures that the energy in Nevada can be delivered to the areas that need it. For instance, if there are thunderstorms over northern Nevada in the summer that impact solar generation, energy from other parts of Nevada can be sent to keep the lights on. The same as true in reverse. This is a very important component of reliability that an RTO would offer. Second, if Nevada is generating more renewable sources, we could sell that excess energy to neighbors commoditizing whenever it goes to funding, resources, sunlight. Finally, as part of a regional market, any renewable energy that would generate will have attributes that will be fundamental to creating other greenhouse gas production targets throughout the West.

This slide is a response to the slide that Dr. Satyal indicates is a portion of the challenges Nevada is facing in developing an RTO. These are ways that we can address those issues. Let us think about a framework. For instance, governance is an issue and what we need to ensure that we are active and attentive to this issue to ensure that all stake holders in an RTO are treated fairly. From a regulatory perspective, an RTO would make it much easier for Nevada to achieve our greenhouse goals and greenhouse gas reduction targets if we have regional partners. Another example is that we want to ensure that system design results in greater benefits than costs. These are all feasible outcomes and items that we can look at in a proper planning and engagement by this Committee and the RTO task force. That is all I have. Thank you for your time, and we are happy to answer questions the Committee may have.

Chair Monroe-Moreno:

Thank you both so much for the presentation. Looks like Nevada is the central key to pulling all this together and filling that donut hole. Members, any questions for the presenters?

Senator Brooks:

Thank you, Chair. I just wanted to reference slide 12 that shows the doughnut hole turning into a cake. I wanted a reference that the north line as well as the cross-tie line, would not really have the same value and potentially would not even be feasible if we did not have Greenlink North and Greenlink West. Also, it would open access into the entire Pacific world and the Idaho Power and Bonneville Power world just by having those two built. It almost doubles, I believe, the directional capacity of the existing line just by increasing the capacity at those substations with Greenlink West and Greenlink North. While those four or five lines do not necessarily tell the whole story, they do indeed, fill that hole in the doughnut that you referenced. It starts a lot of energy capacity flowing through Nevada.

Mr. Dyer:

Cameron Dyer, for the record. Thank you, Senator Brooks. I think those are all very important points.

Chair Monroe-Moreno:

Members, any other questions, or comments? Seeing none, thank you all for joining today and for the great presentation. We are doing exciting things in Nevada that are going to have impact, not just Nevada but the Western region. I am excited about where we are going. Thank you so much for the presentation. That brings us to our final presentation today that concerns the economic benefits of a Western RTO. We have joining us, Sarah Steinberg, Principle, Advanced Energy Economy.

B. The Economic Benefits of a Western Regional Transmission Organization

Sarah Steinberg, Policy Principal, Advanced Energy Economy:

Thank you. I am Sarah Steinberg, for the record. I am a Policy Principal with Advanced Energy Economy. I want to thank the Committee for giving me time today on your packed agenda to talk about RTOs in the West. This is one of our favorite topics in the advanced energy economy. As many of you know, we are a clean energy industry association representing clean technology businesses and large energy buyers. We work on issues related to reliable and affordable energy transition in Nevada. I want to note here at the top that for the rest of this presentation (Agenda Item VII B) I will be talking about a full Western RTO, which reflects the market structure with the greatest degree of coordination around the West, and ideally the largest geographic footprint that is going to be to ensure the most benefits. A full RTO is what is now required by Nevada law by 2030. To start off, we want to congratulate Nevada on the significant progress that has been made toward the Western RTO, to date. This includes a huge thank you to Senator Brooks, the Growth and Infrastructure Committee, and Governor Sisolak for passing SB 448 last Session. The bill contained the strongest language supporting an RTO that we have seen to date in the West. The bill required utilities to join an RTO by 2030. This bill even beat Colorado to the same deadline by just a few days, which is very exciting for Nevada. We also want to commend NV Energy and the PUCN for supporting major, necessary investments in transmission, which is key to helping move low-cost clean energy from the places where it is most abundant, like Nevada to population centers. Nevada's leadership and the future leadership of the regional Transmission Coordination Task Force really puts the state in a crucial spot to help shape the conversation. Last time we talked about RTO before this Committee was back in January of 2020. As you will remember, the world looked different back then and these conversations were a lot more theoretical, but states and utilities are really moving now and discussing what this can and should look like. For all of you, for the governor, and

for other state leaders, I think that means not letting up on continuing monitoring developments, being active participants in conversations, and stepping up into leadership roles to ensure that the final market design does support Nevada's goals, including and especially its economic development and clean energy goals. This presentation is going to note those benefits. We stand ready to answer questions and support you in navigating the development moving forward.

To begin, you have heard a lot from the other presenters about what an RTO is and what it can provide. I will emphasize again an RTO is a competitive regional energy market that in essence is helping to ensure that the lowest cost energy, regardless of where it is generated around the West, is used to serve customer demand wherever that demand is and at reasonable costs and benefits to the buyers and sellers of that energy. An RTO is the platform that takes in all those available energy resources across the geographic footprint and distributes it more efficiently. Nevada based solar and geothermal resources will be able to be sold to the rest of the region even when there is no additional Nevada demand to serve, which brings economic benefits back home. It also means that Nevada will be able to tap into, for example, the wind energy of Wyoming when its solar resources are not producing. Marginal cost renewable resources can be brought online and integrated into our energy ecosystem, so long as they can be connected with energy demand. One other critical feature of an RTO as other presenters have mentioned, is that it can help coordinate long term planning of critical grid infrastructure like transmission and determine how the beneficiaries should share in those costs. Transmission is hard to build and expensive, but necessary for a reliable, resilient, and clean grid. An RTO is beneficial to developing that infrastructure. Ultimately, what this all means is that more solar and geothermal and other energy resources can be built in Nevada, which creates jobs and tax revenue for the host municipalities and counties. As you have seen from other presenters, Nevada is the hole in the West in terms of transmission, so the regional connectivity is going to require a lot of transmission construction in the state, which creates more jobs and revenue.

All of this, especially the improved grid efficiency and the coordinated planning, is going to add up to real monetary savings. A study that was led by Western state energy officials, including Nevada representatives from the Office of Energy, and PUCN found that the gross benefits of a full RTO can be up to $2 billion by 2030, with $45 million annually flowing directly to Nevada. One of the ways to do this is by simply reducing energy waste. Available low cost clean resources will be more effectively deployed and less likely to be curtailed or turned off because they cannot reach customers who have that demand. The low-cost resources are then displacing the production of energy from high-cost carbon fuel based generating plants that are more expensive to operate and that also expose energy customers to more volatile commodity pricing. It is something that is really being felt by ratepayers this winter in particular, as natural gas prices spike. The key here and one of the biggest takeaways I would like for all of you to have from this presentation is that Nevada has set out energy policy goals and legislation and its climate strategy in executive orders and in regulation. Going it alone is going to cost Nevada energy consumers more than necessary in both energy and infrastructure costs. Nevada would otherwise have to build and pay for everything itself. An RTO is the lowest cost pathway to a reliable, affordable, and clean energy feature for the State of Nevada.

This regional footprint is also key to ensuring the liability and resilience. Those two things together mean keeping the lights on under as close to all conditions as possible, and that means building out resources for all hours of the day, in all seasons, and to serve extremes when they happen. Those extremes are getting more and more extreme, like the prolonged heat waves that Nevada has experienced and some of its past summers. Regional collaboration through an RTO means that Nevada does not have to carry itself alone if a

severe temperature event hits Nevada and causes several its generators to go offline. An event may require a lot more energy to power up everyone's air conditioning (AC) unit for longer than expected. Nevada will still have access to energy from, for example Oregon, which maybe is experiencing different weather conditions. What happened in Texas last year is a good example that we talked about. Had Texas had this platform and infrastructure to share more energy across its borders, it might have been able to import energy when its own generation plants froze. This is not some be all and end all solution to reliability and resilience. There is a lot more work that needs to be done to support distributed energy resources and micro grids to keep homes, neighborhoods, and critical facilities running during different sorts of extremes, but it is really a key component to a grid that is ready to face the expected and unexpected, especially temperature extremes. And as you all know a reliable grid is key to economic health. Energy intensive businesses and industries, especially entertainment venues and data centers, need to be assured that their operations will not be adversely affected by grid conditions. This gives them confidence to operate in Nevada. Furthermore, large energy users like some of those that I just mentioned are often large employers, generally or sometimes prefer to site their businesses in regions where they are being served by an RTO. This is because an RTO provides more energy purchasing options for them to meet their sustainability or clean energy goals. Nearly half the largest publicly traded companies in this country today have clean energy commitments and that number is growing. Regional transmission organizations offer access to what we call virtual power purchase agreements, which is one of the primary vehicles for companies to procure clean energy, which require a renewable energy developer to be able to deliver their power into a wholesale market. Our tools also offer transparency into energy and capacity pricing, which helps craft green pricing programs. It is another avenue that companies can use to access and claim clean energy resources to match their goals. Regional Transmission Organizations offer more value streams for aggregated distributed energy resources. For example, solar on a home or business and storage and demand response are resources that can serve real grid needs while benefiting the resource owners. They are magnified when they can access an RTO. Finally, RTOs offer single transmission rate and better open access to the transmission system, which enables market entry for more cost competitive resources and better connects potential buyers and sellers of advanced energy resources.

All of this is to say that an RTO provides Nevada with a pathway towards its goals, while also benefiting the state's economy with both energy and non-energy jobs, lower cost, clean, reliable energy to serve Nevada customers. This is why I think you see support for the RTO provisions of SB 448 last Session coming from across the board, including businesses, clean energy developers, large energy users, environmental NGO's, and more. The logos here came from a signed letter in support of the legislation and its provisions to require utilities to join an RTO by 2030. Nevada is of course not the only state making moves towards an RTO. As I mentioned, a Colorado bill last session also required utilities to join an RTO by 2030. The Colorado Public Utilities Commission just determined an RTO to be in the public interest. The Oregon Department of Energy just published a report finding that more regional coordination would be beneficial for the state and region. Conversations continue to take place across various other venues, which include the Western Governors Association Committee on Regional Electric Power Cooperation and Western Interconnection Reserve Regional Advisory Board and between major utilities across the West, including NV Energy. Also, FERC Commissioners are fully supportive of a Western RTO and have indicated their willingness to let the West take the lead to design something new. Something that really works for the West and its unique needs. I think you know there were some questions earlier regarding what RTOs in other regions look like. We have learned a lot of good lessons from those RTOs. We can take the elements and use those, mix and

match, create new things all to serve this region. The West is really stepping up to do just that and should continue do so.

To close, I have listed several items the newly formed task force is going to study. We look forward to assisting it. This task force can maintain Nevada's leadership role as states discuss what this RTO and future RTOs in the West, and by the West, should look like. Nevada has a competitive advantage here because of its first mover status with the legislation and because of its geographic position. It is critical to making an RTO work and making sure those benefits are all realized across the entire West. We really do commend this Committee, the Legislature, and the governor for all the work to position Nevada today on this complicated, but critical topic. This work to establish something new is hard and difficult. There are different interests, in the different states, but keep up the momentum and keep up the conversation because an affordable, reliable, clean energy, grid really does require a Western RTO. I am happy to take any questions. Thank you so much.

Chair Monroe-Moreno:

Members, any questions for Miss Steinberg? That means you gave wonderful presentation. Senator Brooks, thank you for the work that you have been doing these past few sessions. As a member of the legislative body, I appreciate it. We had a packed agenda, but we got through fast.

AGENDA ITEM VIII—PUBLIC COMMENT

[Chair Monroe-Moreno called for public comment; however, no testimony was presented.]

Chair Monroe-Moreno:

I would like to thank all our presenters who were able to join us here today, and the members thank you for jumping on for our first meeting. As we have no one in our waiting room to make comment, this will conclude today's meeting.

Please check your calendar. Our next meeting is scheduled for March 9, 2022, and it will begin at 10:00 a.m. This meeting is adjourned. Have a great day.

AGENDA ITEM IX—ADJOURNMENT

There being no further business to come before the Joint Interim Standing Committee on Growth and Infrastructure, the meeting was adjourned at 1:42 p.m.

Respectfully submitted,

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Christina Harper
Acting Manager of Research Policy
Assistants

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Marjorie Paslov Thomas
Senior Principal Policy Analyst

APPROVED BY:

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Assemblywoman Daniele Monroe-Moreno, Chair

Date: _____

MEETING MATERIALS

AGENDA ITEM	PRESENTER/ENTITY	DESCRIPTION
Agenda Item III	Marjorie Paslov Thomas, Senior Principal Policy Analyst	Committee Brief
Agenda Item IV	Stephanie Mullen, Executive Director, Public Utilities Commission of Nevada, (PUCN) Garrett Weir, Commission General Counsel, PUCN	Microsoft PowerPoint Presentation
Agenda Item V A	Cynthia Alejandre, Director, Contract Management and Special Programs, NV Energy	Microsoft PowerPoint Presentation
Agenda Item V B	Roberta Tapia, Program Specialist III, Workforce Investment Support Services, Employment Security Division, Department of Employment, Training and Rehabilitation	Microsoft PowerPoint Presentation
Agenda Item VI	Garrett Weir, Commission General Counsel, PUCN	Microsoft PowerPoint Presentation
Agenda Item VII A	Cameron Dyer, Managing Senior Staff Attorney, Western Resource Advocates (WRA) Vijay Satyal, Regional Energy Markets Manager, WRA	Microsoft PowerPoint Presentation
Agenda Item VII B	Sarah Steinberg, Policy Principal, Advanced Energy Economy	Microsoft PowerPoint Presentation
Agenda Item VII C	Carolyn C. Barbash, Vice President, Transmission Development and Policy, NV Energy Ryan Atkins, Director, Trading, Analytics and Operations, NV Energy	Microsoft PowerPoint Presentation

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