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VIA E-MAIL DOCKET@ENERGY.CA.GOV

California Energy Commission
Dockets Office, MS-4
Re: Docket No. 13-IEP-1
1516 Ninth Street
Sacramento, CA 95814-5512

Re: 2013 Integrated Energy Policy Report Update: Comments of Pacific Gas and Electric Company on June 19, 2013 Nuclear Workshop

I. INTRODUCTION

Pacific Gas and Electric Company (PG&E) appreciates the opportunity to provide comments on the California Energy Commission's (CEC or Commission) Joint Lead Commissioner Workshop on Nuclear Issues (June 19 Workshop), held as part of the 2013 Integrated Energy Policy Report (IEPR) proceeding.

In these comments, PG&E provides additional information on its Diablo Canyon nuclear power plant, responds to questions raised at the workshop on cybersecurity and Diablo Canyon's seismic hazard design, and provides additional information on spent fuel pool activities.

II. DIABLO CANYON PROVIDES SAFE AND RELIABLE ELECTRICITY SUPPLIES TO CALIFORNIA

PG&E is proud of Diablo Canyon's exemplary record of safety and reliability that has been established in its 28 years of operation. Diablo Canyon provides 2,240 MW of operating capacity for PG&E customers. Diablo Canyon consists of two nuclear power reactor units, each capable of generating up to approximately 26 million kilowatt-hours (kWh) of electricity per day. Diablo Canyon Units 1 and 2 began commercial operation in May 1985 and March 1986. The operating license expiration dates for Diablo Canyon Units 1 and 2 are September 2024 and April 2025, respectively. DCPP provides about 6 percent of the energy generated in California annually, enough to meet the energy needs of more than 3 million northern and central Californians.

Diablo Canyon has become an even more valuable, environmentally beneficial resource to PG&E's customers with the advent in 2011 of GHG emissions regulation in California, which will require reductions of GHG emissions to 1990 levels by 2020. Diablo Canyon generation avoids 7 to 8 million total tons per year of GHG emissions that would otherwise be produced by conventional generation resources.

The first responsibility of a nuclear facility operator is the safety of the public and employees. The second responsibility is to generate reliable and cost-effective electricity. PG&E accomplishes this by maintaining high safety standards, continuously improving its operations and managing costs. The safe operation of DCPP at all times is essential to continued reliable energy production. When Unit 2 completed its 16th refueling outage (2R16) in June 2011, it completed Fuel Cycle 16 with the best generation performance in Unit 2's operating history, achieving a Fuel Cycle Capacity Factor of 92.98 percent. In 2011, DCPP set a plant operating record generating 18,656 gigawatt-hours (GWh) of electricity. PG&E reports Diablo Canyon Unit 1 and 2 performance for 19 Performance Indicators to the Nuclear Regulatory Commission (NRC) on a quarterly basis. Diablo Canyon currently has the highest measure, a rating of "green," for each of the NRC's Reactor Oversight Process Performance Indicators.

PG&E is also strongly focused on safety for the PG&E personnel working at Diablo Canyon. PG&E measures personal safety at DCPP by the Occupational Safety and Health Administration (OSHA) recordable injury rate. DCPP personal safety performance has continually improved during the 2006-2011 period. In 2011, PG&E's OSHA recordable rate fell to a low of 0.13 recordable injuries per 200,000 hours worked. In addition, there has been a significant decrease in collective radiation exposure among DCPP personnel during this time period, with 2011 levels achieving a low of 36 Person-REM (as compared to 131 Person-REM in 2010 and 368 Person-REM in 2009).

Diablo Canyon has had an excellent operating record in its 28 years of operation. As nuclear industry experience has shown, however, investment will be needed to continue reliable plant operation. No other industrial facility has the requirement that a nuclear power plant does to run in as "perfect condition" on the last day of operation as it did on its first day of operation.

III. DCPP PROVIDES MANY BENEFITS TO THE NATIONAL AND REGIONAL ECONOMY

A new economic study led by the California Polytechnic Institute (Cal Poly) Orfalea College of Business[1] reports that PG&E's Diablo Canyon Power Plant is a powerful economic engine, with a total impact on the U.S. economy of $2 billion in 2011. DCPP provides a significant stimulus to the national, state, and local economy through the revenue it provides to other firms, the well-paid jobs it provides, and the tax revenues it pays to help fund public services. The study indicates that DCPP will provide tens of billions of dollars in ongoing benefits if its licenses are

[1] Mayeda, P., & Kenneth, R. (2013). Economic Benefits of Diablo Canyon Power Plant: An Economic Impact Study. Orfalea College of Business, Cal Poly, San Luis Obispo and Pacific Gas and Electric Company. Retrieved from http://www.pge.com/includes/docs/pdfs/shared/edusafety/systemworks/dcpp/PGE_Economic_Impact_Report_Final.pdf

extended.[2]

The cited benefits reflect the direct economic impact of the electricity the facility produced in 2011 (18,566 gigawatt-hours), which had a wholesale value of more than $675 million. Large indirect and induced economic stimulus or "benefits" through purchases by the company, its employees, and its pensioners add to the direct benefits from the plant. For the national economy, these indirect benefits totaled $1.3 billion, while within California, the stimulus totaled $425 million. San Luis Obispo and Northern Santa Barbara Counties received more than half of the California total, with indirect benefits totaling $244 million. DCPP also made local purchases in excess of $22 million in 2011.

DCPP provides additional benefits to the San Luis Obispo area as a non-seasonal, non-cyclical operation that is an important stabilizer for the local economy. DCPP makes PG&E the largest private employer in the area with more than 1,400 workers and a payroll of $203 million in 2011. Furthermore, more than 700 local retired PG&E employee call the region home with pension payments of more than $19 million.

DCPP and its business operations also create substantial revenue to fund vital public services at the federal, state, and local level with a total federal tax impact in 2011 of $96.5 million and a total state and local tax impact of $85 million. As a result of the multibillion-dollar investment made by PG&E in Diablo Canyon, the company pays more taxes to support local government services than any entity in San Luis Obispo County. PG&E's 2011/2012 Unitary Property Tax payment for San Luis Obispo County was $25,373,098. This tax payment helps fund schools, public work projects, public safety, and health and other vital services. Furthermore, given that Diablo Canyon provides its own water, sewer, and roads, and most of its own security and fire protection, the plant places a very low burden on county public services. PG&E supports the San Luis Obispo County Office of Emergency Services and other entities involved in offsite public preparedness programs.

The region also benefits from PG&E's strong commitment to strengthening the communities it serves. PG&E also provides enormous support to the local community through millions of dollars in (shareholder-funded) charitable contributions and thousands of hours of volunteer time. PG&E supports the San Luis Obispo County Office of Emergency Services and other entities involved in offsite public preparedness programs. In 2011, PG&E made charitable contributions of about $1.1 million to more than 90 nonprofit organizations in the San Luis Obispo and Santa Barbara communities. In the same time period, PG&E employees contributed more than $429,100 to nonprofit organizations in San Luis Obispo and Santa Barbara Counties through the company's "Campaign for the Community" program. Those contributions to educational and environmental organizations were matched by PG&E.

[2] PG&E is evaluating the results of recent seismic studies and will be making a decision on when to restart the relicensing process once the seismic study process is further along.

Beyond dollars and cents, PG&E employees volunteered more than 32,000 hours of their personal time to after-school athletic programs, environmental organizations, churches and other community organizations in 2011.

PG&E is a committed business partner to these communities. PG&E finds and retains highly qualified employees, vendors and suppliers and will continue to do so in years to come.

Longer-term, if the operating licenses are renewed, the plant would continue to generate substantial economic benefits similar to those that exist today. The study estimates that the total local economic impact over the 20-year license extension period would be more than $42 billion. Alternatively, if the plant were decommissioned, the site would likely revert to cattle grazing, with an economic impact of only about $15 million a year—a 99% loss in benefits.

In addition to the financial benefits detailed in the Cal Poly Report, earlier IEPRs have also recognized that continued operation of California's nuclear power plants can provide certain benefits to the state.[3] Diablo Canyon provides about 6 percent of the state's electricity. The operating costs of Diablo Canyon are lower than most other types of generating plants, and its directly emitted greenhouse gases (GHG) are negligible. Continued operation of Diablo Canyon enhances the state's fuel diversity and reduces demand for natural gas.

IV. PG&E IS COMMITTED TO TRANSPARENT DECISIONMAKING ON THE SAFETY OF DIABLO CANYON

PG&E is committed to transparent decision-making on the safety of Diablo Canyon. Numerous public venues are available to provide oversight and information on Diablo Canyon safety and operations. The Diablo Canyon Independent Safety Committee (DCISC) and the Senior Seismic Hazard Analysis Committee (SSHAC) process, as it applies to PG&E, both offer opportunities for public engagement.

A. THE DIABLO CANYON INDEPENDENT SAFETY COMMITTEE PROVIDES A UNIQUE OPPORTUNITY FOR PUBLIC REVIEW OF DIABLO CANYON OPERATIONS

As part of a 1988 settlement agreement approved by the CPUC, a Diablo Canyon Independent Safety Committee (DCISC) was established to review Diablo Canyon operations for the purpose of assessing the safety of operations and suggesting any recommendations for safe operations. Neither the Committee nor its members have any responsibility or authority for plant operations, and they have no authority to direct PG&E personnel.[4] Diablo Canyon is the only nuclear power plant in the nation with an independent safety committee.

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[3] 2005 IEPR, http://www.energy.ca.gov/2006publications/CEC-150-2006-001/CEC-150-2006-001-F.PDF pages 12 to 14.

[4] For more information, please see the DCISC website at www.dcisc.org.

The settlement agreement that established the DCISC provided that:

1) The DCISC shall have the right to receive certain operating reports and records of Diablo Canyon;
2) The DCISC shall have the right to conduct an annual examination of the Diablo Canyon site and such other supplementary visits to the plant site as it may deem appropriate;
3) The DCISC is to prepare an annual report, and such interim reports as may be appropriate, which shall include any recommendations of the Committee.

The three-member DCISC provides an annual report summarizing its activities and reviewing Diablo Canyon operations. The annual report also documents the members' conclusions and recommendations regarding Diablo Canyon operational safety.

PG&E provides a written response to each recommendation, which is published with the annual report. The DCISC then reviews PG&E's response and, if the DCISC is dissatisfied with PG&E's final response to any recommendation, the DCISC may raise the matter with the CPUC, with any or all of the Committee Members' appointing entities, or with the Nuclear Regulatory Commission. To date, PG&E has ultimately responded appropriately to each of the DCISC recommendations.

The DCISC also typically conducts three public meetings each year in the San Luis Obispo area. Dates, times and locations for these meetings are posted on the committee's website, advertised in local newspapers, and notices are sent to other news media and those persons who have requested advanced notice of the public meetings. All meetings include an opportunity for the public to address comments and provide information to the Committee members. PG&E representatives are present to make informational presentations to the Committee on topics requested by the members. Certain public meetings may include a limited number of members of the public on a first-come, first-served basis, governmental representatives, and members of the media. The meeting agenda and supporting documents, as well as a transcript of discussion at the public meetings, are on file and available to members of the public.

The DCISC also conducts numerous fact-finding visits by individual committee members and consultants to the plant site and to other locations as necessary to assess issues, review plant programs and activities, interview and meet with PG&E management and employees, follow-up on current items on the DCISC's open items list and to identify agenda items for future public meetings. These fact-finding visits generally occupy one or two intensive days of research and investigation concerning PG&E's current activities and programs. Committee representatives also frequently observe meetings of PG&E's internal safety review organizations and committees. A detailed written report, summarizing their activities, is prepared for each fact-finding visit by the participants. Comments concerning these reports are sought from each of the other members and consultants and, when approved by the Committee as part of a public meeting, the fact-finding reports are provided to PG&E. Fact-finding reports are included as a part of the Committee's Annual Report and represent a valuable and useful tool for the Members,

consultants, and PG&E. The Committee's fact-finding visits constitute a vital and important aspect of the Committee's safety review function.

Finally, the DCISC provides extensive publicly available information concerning Diablo Canyon, maintaining transcripts and minutes of each public meeting and reports of each fact-finding meeting, as well as the annual reports on the safety of Diablo Canyon.

B. SEISMIC HAZARD ANALYSIS MEETINGS

PG&E has made a commitment that SSHAC meetings where only PG&E data are discussed will be open to the public. PG&E-specific SSHAC meetings are publicized in advance in local media and on PG&E's website to encourage public participation. There are multiple layers of public and independent review in the SSHAC process to update the seismic hazard analysis. This includes an independent peer review of all data from the advanced seismic studies, public and technical expert participation meetings, and a full review of all data and findings by the NRC. In fact, PG&E has a dedicated website on SSHAC activities that can be found at http://www.pge.com/mybusiness/edusafety/systemworks/dcpp/SSHAC/.

At the June 19 CEC workshop, the Alliance for Nuclear Responsibility (A4NR) showed a video clip from a recent PG&E DCISC meeting. The DCISC members were discussing a March 19, 2013 Southwestern Ground Motion Characterization SSHAC meeting that was held in Oakland, California and a denial of entry to representatives from A4NR.

The SSHAC meeting in question was a collaborative meeting with other western utilities and scientific experts to discuss and evaluate what type of data are needed to determine ground motions in the Southwestern United States. PG&E was one of many participants in this particular meeting and PG&E does not have the authority to unilaterally open the meeting to the public as it involves other utilities. PG&E notes, however, that all non-proprietary presentations from the March 2013 workshop were posted on a website available to the public at http://www.swus-gmc.com/. Additionally, any commitments made or actions taken in that meeting that affected Diablo Canyon will be discussed during PG&E's next San Luis Obispo-based SSHAC public meeting on March 25 through 27, 2014.

C. SEISMIC STUDY DATA ACCESS

In addition to participating in the DCISC and SSHAC processes, PG&E routinely makes information gathered through the extensive seismic studies near and around Diablo Canyon publicly available for researchers and the public. This information is available at http://www.pge.com/mybusiness/edusafety/systemworks/dcpp/SSHAC/.

V. DIABLO CANYON HAS AN ADEQUATE SAFETY MARGIN TO WITHSTAND GROUND MOTION FROM THE HOSGRI AND SHORELINE FAULTS

At the June 19 CEC workshop, the A4NR presented a series of PG&E emails on a DCPP licensing issue with the NRC.[5] The issue, which centered on how to evaluate new seismic information, is not new and has been resolved. It was resolved when the NRC provided such guidance and directed all U.S. nuclear power plants to conduct new seismic hazard evaluations.[6]/[7]

As noted earlier in these comments, safety is the top priority at DCPP. The plant was built with seismic safety in mind and is designed to withstand the largest ground motions, or shaking, that could be expected to be generated from any of the nearby faults. PG&E employs a seismic department staffed with experts who continually study earthquake faults in the region and global seismic events as part of the plant's unique comprehensive safety program, known as the Long-Term Seismic Program. Through this program, which has been in place for decades, PG&E has conducted extensive seismic research to ensure that Diablo Canyon is seismically safe.

Under the seismic hazard re-evaluation process, existing and new seismic information is being reviewed and evaluated by independent experts as part of the SSHAC process. The conclusions of the SSHAC process will be used to update the model that characterizes the seismic hazard near Diablo Canyon. The results of the seismic hazard update will be used to validate the seismic design of the plant and will be provided to the NRC for their independent review.

PG&E believes in an open and transparent seismic information evaluation process that involves the input of external stakeholders. As noted above, PG&E has chosen to make public all SSHAC meetings that focus solely on PG&E data.

At the core of the issue raised by A4NR is whether PG&E is in compliance with its operating license and has properly addressed whether Diablo Canyon could withstand an earthquake on the Shoreline, San Luis Bay, Los Osos and Hosgri faults. These ground motion issues and the Double Design Earthquake (DDE) were resolved in the late 1970s with the seismic retrofitting of the plant. When DCPP was under construction, a nearby fault known as the Hosgri was discovered. Because the ground motions from the Hosgri fault could exceed the DDE postulated in DCPP's operating licenses, prior to commencing operations, DCPP was retrofitted to withstand the ground motions from the Hosgri fault. The ground motions from the Shoreline, San Luis Bay, and Los Osos faults also exceed the DDE, but they are below the Hosgri ground

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[5] These emails were provided in response to a data request in PG&E's 2014 General Rate Case, further illustrating PG&E's transparency on Diablo Canyon safety issues.

[6] Sebrosky, J. (2012). Diablo Canyon Power Plant, Unit Nos. 1 and 2: NRC Review of Shoreline Fault. Retrieved from http://pbadupws.nrc.gov/docs/ML1207/ML120730106.pdf

[7] Bahadur, S. (2012). Memorandum to Kriss M. Kennedy: Revised Response to Task Interface Agreement-Diablo Canyon Seismic Qualification Current Licensing and Design Basis (TIA 2011-010). Retrieved from http://pbadupws.nrc.gov/docs/ML1229/ML12297A199.pdf

motion levels for which the plant was retrofitted. The San Luis Bay and Los Osos faults were previously evaluated and approved by the NRC in the 1990's as part of the license-required LTSP evaluation. As a result, the plant is able to withstand the largest ground motions, or shaking, that could be expected to be generated from any of the nearby faults.

The Hosgri fault is the dominant seismic hazard in the region of Diablo Canyon. The plant is designed to withstand the largest ground motions, or shaking, that could be expected to be generated from this fault. This design, known as the Hosgri Earthquake (HE), is reflected in the plant's operating licenses.

The Shoreline fault (SF) was discovered in 2008. It was analyzed and the predicted SF ground motions, along with the updated ground motions of the previously documented Los Osos and San Luis Bay faults, were compared against the HE ground motion levels. The analysis confirmed the ground motions from these faults did not exceed the ground motions from the Hosgri fault.[8] This confirmed Diablo Canyon has adequate safety margin to withstand the ground motions from these faults. This report was submitted to the NRC for their review in January 2011.

NRC Senior Resident Inspector Dr. Peck disagreed with how PG&E evaluated the Shoreline fault, stating that PG&E did not follow conditions of its operating licenses and that it must perform a Prompt Operability Assessment (POA). PG&E then performed a POA which reaffirmed that Diablo Canyon, due to the HE design, has adequate safety margin to withstand the ground motions from these faults. The NRC initially reviewed Dr. Peck's concern and stated in an inter–NRC memorandum (TIA 2011-010) that the new seismic information developed by the licensee is required to be evaluated against all three of the seismic design basis earthquakes (DE/DDE/Hosgri).

Dr. Peck subsequently disagreed with how PG&E performed the POA, believing the company should have compared the postulated ground motions of the Shoreline, Los Osos and San Luis Bay faults against the Double Design Earthquake (DDE), not just the HE design, to prove the plant was safe to operate since both designs are included in our operating licenses.

Seeking clarity on how to evaluate new seismic information and after multiple meetings with the NRC that were open to the public, PG&E filed a License Amendment Request (LAR) on October 20, 2011 to the NRC to clarify the DCPP seismic licensing basis and establish an NRC-approved process to address new seismic information. The LAR did not propose to eliminate the DDE from the DCPP seismic licensing basis. It instead proposed to clarify, consistent with the NRC's Supplemental Safety Evaluation Report 7, that the Hosgri earthquake is the equivalent of DCPP's safe shutdown earthquake and to

[8] See NRC News Release entitled "Additional NRC Analysis Confirms Earthquake Safety at Diablo Canyon Nuclear Power Plant," http://pbadupws.nrc.gov/docs/ML1228/ML12286A313.pdf

establish an evaluation process for new seismic information based on current seismic and engineering knowledge, requirements, and standards.

The NRC issued a Regulatory Information Letter (RIL) in October 2012 in response to PG&E's 2011 Shoreline Fault Report that confirmed through an independent assessment that the ground motions produced by the Shoreline fault are at or below the level of the Hosgri fault ground motions for which DCPP was previously evaluated, modified and demonstrated to have a reasonable assurance of safety. The NRC concluded in the RIL that the Shoreline Fault scenario should be considered as a lesser included case under the Hosgri evaluation and the licensee should update the Final Safety Analysis Report, as necessary, to include the Shoreline scenario. The NRC also concluded in the RIL letter that that the 50.54(f) seismic re-evaluation process is the appropriate venue for addressing new seismic information and the NRC staff expects PG&E to use the DDE for comparison with the reevaluated seismic hazard ground motion response spectrum (GMRS) that is being developed to respond to the 50.54(f) request for information.

Since the NRC established a process for review of new seismic information, PG&E withdrew the LAR. The NRC subsequently superseded their original TIA 2011-010 memorandum guidance on how to evaluate new seismic information and in November 2012 issued TIA 2012-012 to state the NRC's current position that new DCPP seismic information should follow the process established in the post Fukushima 50.54(f) process and in the RIL Letter.

For PG&E, the 50.54(f) process for new seismic information would: 1) result in a risk informed, performance based Ground Motion Response Spectra (GMRS), 2) a comparison of the GMRS to the DDE spectra, 3) updated seismic hazard curves and 4) an updated seismic Probabilistic Risk Assessment (SPRA). This new seismic information would be provided to the NRC for them to determine whether any additional regulatory action is needed.

VI. PG&E'S SPENT FUEL POOL IS APPROPRIATELY MANAGED TO ENSURE PUBLIC SAFETY

At the June 19 workshop, questions were asked about the speed with which the utilities were transferring spent fuel from the spent fuel pool to the Independent Spent Fuel Storage Installation (ISFSI). PG&E's May 19 and June 17 data request responses provide information on the quantity of spent fuel that has now been moved to the ISFSI, along with PG&E's plans to move additional spent fuel to the ISFSI this summer.

PG&E's plan for storing spent fuel in pools is a safe, proven, and effective strategy that is employed successfully throughout this country and around the world. The storage methods used at Diablo Canyon follow the industry's best practices and have been approved, and are continuously monitored, by the Nuclear Regulatory Commission. While PG&E regularly moves fuel from the pools to the dry cask facility, speeding up the transfer does not serve the interests of public safety or of PG&E's customers.

PG&E's spent fuel management program is guided by a well-considered strategy and an established process. In particular, there are safety and operational reasons for keeping the fuel in the pools for longer than the minimum 7 years before moving it to dry storage.

A. SAFETY

From a safety standpoint, keeping older, colder assemblies in the pools provides important advantages as these older assemblies are strategically placed around younger, hotter assemblies to help absorb and dissipate heat. This added thermal barrier makes it much easier to maintain constant pool temperatures, which aids in the cooling of the younger assemblies. In addition, the NRC requires that spent fuel in pools be arranged in this "checkerboard" fashion as it reduces the chances that the fuel would catch fire if the assemblies were ever exposed in an emergency.

While maintaining a constant pool temperature is important, it is equally important to effectively manage the heat load in the dry casks storing spent fuel. To ensure the safety of the dry cask storage system, PG&E strategically loads the casks with a mixture of older fuel, with cooler assemblies, surrounding hotter assemblies. As such, PG&E needs to have available a supply of spent fuel at various ages in the pools to properly load the casks.

B. OPERATIONAL

From an operational standpoint, moving this fuel from pools to dry storage is very complex and takes years to plan and perform. From an industrial safety perspective, PG&E wants to minimize the amount of time spent during the actual fuel transfer, along with the number of transfers we perform, to minimize interference with the day-to-day operations and schedules of the plant.

C. OTHER

In addition to safety and operational reasons, it is also desirable to retain newer assemblies in the spent fuel pool for a period of time for backup purposes. Many assemblies have useable energy left. It is desirable to have them available to be reloaded into the reactors as a contingency if PG&E finds a damaged assembly during a refueling outage.

D. NRC DRAFT STUDY INDICATES FASTER REMOVAL OF SPENT FUEL FROM POOLS TO DRY CASK STORAGE DOES NOT SIGNIFICANTLY IMPROVE PUBLIC HEALTH AND SAFETY

On June 25, 2013, the NRC announced that it is interested in comments on a draft study examining if faster removal of spent reactor fuel from pools to dry cask storage significantly reduces risks to public health and safety. Based on previous research showing earthquakes present the dominant risk for spent fuel pools, the draft study evaluated how pool leakage from a potential earthquake might cause the spent fuel to overheat and release radioactive material to the environment. The draft study concludes there is approximately a one-in-10-million-years chance of a severe earthquake causing a radioactive release from the pool at the site examined.

As noted by the NRC in its press release, the NRC began the study following the March 2011 Fukushima nuclear accident, where the spent fuel pools survived a strong earthquake. The study considered a spent fuel pool similar to those at Fukushima and 23 other U.S. reactors, and an earthquake several times stronger than what the pool's design considered. The study examined both a "full" spent fuel pool and one with less fuel and more spacing between individual fuel assemblies, as well as emergency procedures for adding water to the pool in the unlikely event that the earthquake causes the pool to lose water.

Brian Sheron, Director of the NRC's Office of Nuclear Regulatory Research, indicated "Our detailed analysis showed that even a very strong earthquake has a low probability of damaging the pool studied to the point of losing water. The draft study also shows that even if this particular pool was damaged, the fuel could be kept safely cool in all but a few exceptional circumstances. We'll use the final study to inform further analysis of U.S. spent fuel pools."

In cases where the analysis led to fuel damage, the draft study concluded existing emergency procedures would keep the population around the plant safe. Those emergency measures could mean relocating people from a large area of potentially contaminated land. The study also examined the potential benefits of moving all spent fuel older than five years (and therefore easier to cool) into storage casks within five years. For the scenarios examined, the study concluded faster fuel transfer to casks would not provide a significant safety benefit for the plant studied. The NRC will incorporate public comments and use the final study in a broader regulatory analysis of the spent fuel pools at U.S. operating nuclear reactors as part of its Japan Lessons-Learned activities.

VII. TECHNOLOGY COST COMPARISONS MUST REFLECT THE VALUE OF COMPARABLE ATTRIBUTES

At the June 19 workshop, A4NR included a comparison of the cost of wholesale energy prices to the cost per megawatt-hour (MWh) of nuclear energy generated at the San Onofre Nuclear Generating Station (SONGS).[9] While PG&E offers no opinion on SONGS' cost of electricity generation, the comparison of wholesale energy market prices to the cost of generation at a specific site is inappropriate for a number of reasons. First, the wholesale prices used by Mr. Geesman represent day-ahead energy only prices, which account primarily for resources' marginal energy costs. Such day-ahead energy only prices also reflect short-term market conditions. The 2012 and early 2013 prices Mr. Geesman uses were heavily influenced by current low gas prices, low loads resulting from slow economic recovery conditions, and are impacted by the large infusion of renewable resources added to meet the State's Renewables Portfolio Standard requirements, rather than to meet a resource need, which results in more energy being generated in the market than is currently needed most of the time. These effects

[9] Geesman, J. (2012). Business Judgment, Market Forces, and Aging Nuclear Plants. Presented at the Lead Commissioner Workshop on California Nuclear Power Plant Issues, Sacramento, CA. Retrieved from http://www.energy.ca.gov/2013_energypolicy/documents/2013-06-19_workshop/presentations/10_Geesman_Business_Judgment_Market_Forces_and_Aging_Nuclear_Plants.pdf. Pg. 3 to 6.

should dissipate over time, however, with continued economic recovery and retirements of existing resources and day-ahead energy only prices would be expected to increase as a result.

PG&E also notes that day-ahead energy prices also ignore the reliability (capacity) value of resources. Therefore, Mr. Geesman's cited wholesale energy market price fails to capture the capacity value of the underlying resources, which may be recovered through a separate contractual mechanism, not through the energy market. A proper comparison of resource generation costs should account for the long-term value of energy, capacity, and other energy products that existing nuclear generation provides.

VIII. THE RESULTS OF THE CURRENT SEISMIC STUDIES WILL ALLOW FOR BETTER CHARACTERIZATION OF THE HOSGRI AND SHORELINE FAULTS

At the June 19 workshop, PG&E provided an update on the seismic studies that are currently underway at DCPP. Through these studies, PG&E will gain a more accurate and detailed picture of the region's complex geology and help to further define the level of seismic activity that earthquake faults in the region are capable of producing, including the Shoreline Fault. Once this research is complete, PG&E will use the data to support its ongoing work to continually assess and validate the seismic design of the plant. PG&E will also share information collected with local public and government agencies so they can incorporate it into their respective emergency preparedness plans and ensure the safety of critical infrastructure. The data collected will also support a new, federally mandated seismic risk evaluation. All nuclear power plants are required by the NRC to conduct such an evaluation after the Fukushima Daiichi power plant tragedy in Japan.

PG&E has completed the data collection process for the 2-D and 3-D Low Energy Onshore and Offshore Studies. These studies analyze the fault zones near DCPP with advanced techniques including two-dimensional and three-dimensional seismic reflection mapping to further understand the seismic environment near DCPP and within the greater San Luis Obispo area. The seismic data analysis will be incorporated into PG&E's existing long-term Seismic Program (LLTSP). PG&E uses the LTSP to continually evaluate seismic issues and apply new information to assure that the plant is seismically safe.

PG&E had also planned to do additional 3-D High Energy Seismic Studies (HESS) in the waters off the coast of DCPP. However, the California Coastal Commission declined to issue a permit to PG&E to do this work. This proposed survey is only one component of PG&E's larger, multi-layered seismic research program and PG&E is now focused on gathering and interpreting the Low Energy Survey data noted above. Furthermore, many have questioned the benefit of the data that would be derived from performing the HESS studies. At the June 19, Dr. Chris Wills of the California Geologic Survey indicated in his report to the CEC that there appeared to be little benefit to pursuing the 3-D HESS work.

Once the data collected during the 2-D and 3-D Low Energy Studies are fully analyzed and the results reported (by mid-2014), PG&E's understanding of the seismic characteristics of the region around the plant will be more informed by these studies that use the latest technology. The results of the data evaluation will shape PG&E's future decisions on how to best adapt its Long-Term Seismic Plan for the site.

IX. CYBERSECURITY THREATS TO CRITICAL INFRASTRUCTURE ARE VERY SERIOUS

At the June 19 workshop, CEC Chair Weisenmiller asked about cybersecurity protections for Diablo Canyon and other critical energy infrastructure. The cybersecurity threat to critical infrastructure is very serious and something PG&E does not take lightly. The Department of Homeland Security (DHS) reports that in 2012 the attacks against the energy sector comprised over 40% of all incidents reported to them. PG&E is committed to the highest levels of safety and security and takes extensive measures to ensure its control systems and customer data are secure and protected.

The company's cybersecurity measures are robust and consistent with the best practices being employed in the industry, including processes to analyze and assess cybersecurity threats and vulnerabilities on a continuous basis. PG&E's cybersecurity experts regularly work with federal law enforcement and homeland security agencies to stay in front of potential issues. For security reasons, PG&E provides information only to appropriate authorities on the specific controls we have in place and threats we may have encountered.

At Diablo Canyon, PG&E's comprehensive cybersecurity program encompasses protection for digital computers, communication systems and networks associated with safety, security and emergency preparedness functions, as well as critical equipment that supports those functions. In addition to the existing controls, the NRC, Federal Energy Regulatory Commission (FERC), and DHS provide additional regulatory expectations to manage cyber attacks on all of PG&E's critical infrastructure assets. These actions will help to ensure protective, robust cyber security plans are in place to continue to protect critical assets from emerging threats.

X. CONCLUSION

In closing, PG&E respectfully requests that the CEC decline to add this list of many issues to the 2013 IEPR. Please feel free to contact me with any questions you may have.

Sincerely,

/s/

Valerie J. Winn

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