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CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512
www.energy.ca.gov

DATE: November 9, 2017

TO: Interested Parties

FROM: Leonidas Payne, Project Manager

SUBJECT: **Palomar Energy Center (01-AFC-24C)**
Staff Analysis of Petition to Amend to Augment Cooling Water

The Palomar Energy Center (PEC), a combined-cycle, natural gas-fired, 550-megawatt facility, was certified by the California Energy Commission with the Final Decision on August 6, 2003, and began commercial operation on April 1, 2006. The facility is located in the city of Escondido, in San Diego County, California.

On June 22, 2017, the San Diego Gas and Electric Company (SDG&E or petitioner) filed a petition (TN 220471) with the California Energy Commission (Energy Commission) requesting to modify the Final Decision for the PEC. This petition to amend (PTA) requested the Energy Commission to augment cooling tower makeup water with fire hydrant flushing water and storm water captured onsite.

Staff assessed the impacts of this proposal on environmental quality and on public health and safety. It is staff's opinion that the facility would remain in compliance with all applicable laws, ordinances, regulations, and standards (LORS), and the proposed changes would not result in any significant, adverse, direct, indirect, or cumulative impacts to the environment (Cal. Code of Regs., tit. 20, § 1769). Changes to two Soil and Water conditions of certification are needed to allow the use of storm water and recycled water from the fire hydrant for cooling and to ensure this water is metered. Therefore, staff will be recommending approval of the PTA at the December 13, 2017 Business Meeting of the California Energy Commission.

The Energy Commission's webpage for this facility, http://www.energy.ca.gov/sitingcases/palomar/, has a link to the PTA and staff's analysis on the right side of the webpage in the box labeled "Compliance Proceeding." Click on the "Documents for this Proceeding (Docket Log)" option. The Energy Commission's Order regarding this PTA will also be available from the same webpage.

This notice is being mailed to the Energy Commission's list of interested parties and property owners adjacent to the facility site. It will also be emailed to the facility listserv. The listserv is an automated Energy Commission system by which information about this facility is emailed to parties who have subscribed. To subscribe, go to the Commission's webpage for this facility, cited above, scroll down the right side

of the project webpage to the box labeled “Subscribe,” and provide the requested contact information.

Any person may comment on the staff analysis. Those who wish to comment on the analysis are asked to submit their comments by 5:00 p.m., December 11, 2017. To use the Energy Commission’s electronic commenting feature, go to the Energy Commission’s webpage for this facility, cited above, click on either the “Comment on this Proceeding” or “Submit e-Comment” link, and follow the instructions in the on-line form. Be sure to include the facility name in the comments that you submit. When the Energy Commission Dockets Unit reviews and accepts your comments, you will receive an email with a link to them.

Written comments may also be mailed or hand-delivered to:

California Energy Commission
Dockets Unit, MS-4
Docket No. 01-AFC-24C
1516 Ninth Street
Sacramento, CA 95814-5512

All comments and materials filed with, and approved by, the Dockets Unit, will be added to the facility Docket Log and become publicly accessible on the Energy Commission’s webpage for the facility.

If you have questions about this notice, please contact Leonidas Payne, Project Manager, at (916)651-0966, or via e-mail to leonidas.payne@energy.ca.gov.

For information on participating in the Energy Commission's review of the PTA, please call the Public Adviser at (800) 822-6228 (toll-free in California) or send your e-mail to publicadviser@energy.ca.gov. News media inquiries should be directed to the Energy Commission Media Office at (916) 654-4989, or by e-mail to mediaoffice@energy.ca.gov.

CC: Mail List # 7152
Palomar Listserve

PALOMAR ENERGY CENTER (01-AFC-24C)
Petition To Amend: Augment Cooling Tower Makeup Water
EXECUTIVE SUMMARY

Leonidas Payne

INTRODUCTION

On June 22, 2017, the San Diego Gas and Electric Company (SDG&E or petitioner) filed a petition (TN 220471) with the California Energy Commission (Energy Commission) requesting to modify the Final Decision for the Palomar Energy Center Project (PEC). This petition to amend (PTA) requested the Energy Commission to augment cooling tower makeup water with fire hydrant flushing water and storm water captured onsite.

The purpose of the Energy Commission's review process is to assess any impacts the proposed modifications would have on environmental quality and on public health and safety. The process includes an evaluation of the consistency of the proposed changes with the Energy Commission's Final Decision and an assessment of whether the project, as modified, would remain in compliance with applicable laws, ordinances, regulations, and standards (LORS) (Cal. Code Regs., tit. 20, § 1769).

Staff's analysis focuses on the cooling water proposal, and updating relevant conditions of certification.

PROJECT LOCATION AND DESCRIPTION

The PEC is a 550-megawatt (MW), combined-cycle, natural-gas-fired generating facility, located in the city of Escondido, in San Diego County, California. The project was certified by the Energy Commission on August 6, 2003, and began commercial operation on April 1, 2006.

DESCRIPTION OF PROPOSED MODIFICATIONS

SDG&E would like to amend the project design as described in the Energy Commission Final Decision (CEC 2003b) to use water reclaimed onsite to augment cooling tower makeup water. The sources of the reclaimed water are:

- Fire hydrant flushing water; and
- Storm water runoff from the site.

Currently PEC directs storm water runoff to an onsite detention basin at the south end of the facility. The detention basin discharges to the city of Escondido storm water sewer system, which is part of the Jurisdictional Runoff Management Program permitted by the San Diego Regional Water Quality Control Board Order Number R9-2013-0001 (MS4 permit), and ultimately down Escondido Creek to the Pacific Ocean. Based on reported historic annual rainfall of 15-inches in Escondido, this would generate an

estimated 7,192,000 gallons per year of storm water runoff from the site, with a maximum daily storm water volume for use in the cooling tower of 375,000 gallons. Petitioner proposes to capture some of this storm water and use it in the cooling tower.

PEC currently uses the same source of reclaimed water in its fire suppression system as it does for cooling tower makeup. Routine system testing and flushing generates up to approximately 25,000 gallons per year of water that is currently discharged to the city's sewer system.

To store and convey the storm water, a small concrete sump would be constructed in the bottom of the storm water basin and approximately 50 feet of discharge piping would be installed to enable moving storm water runoff to the cooling tower system. The installation of the discharge pipeline would require a 13-foot long, 1-foot wide cut across an existing road, and a 17-foot long, 1-foot wide excavation parallel to an existing drain pipe between the chemical storage area containment and the chiller building, where the discharge pipe would be added to an existing pipe rack.

NECESSITY FOR THE PROPOSED MODIFICATIONS

Approval of the modification would result in significant water savings. Together, reclaimed water from the identified sources would constitute approximately 7.2 million gallons per year, which would reduce the need to import an equal amount of makeup water.

STAFF'S ASSESSMENT OF THE PROPOSED PROJECT CHANGES

Staff reviewed the PTA for potential environmental effects and consistency with applicable LORS. Staff's conclusions in each technical area are summarized in **Executive Summary Table 1**, below.

Executive Summary Table 1
Summary of Impacts for Each Technical Area

TECHNICAL AREAS REVIEWED	STAFF RESPONSE			Revised Conditions of Certification Recommended
	Technical Area Not Affected	No Significant Environmental Impact or LORS Inconsistency*	Process As Amendment	
Air Quality		X		
Biological Resources		X		
Cultural Resources		X		
Efficiency	X			
Facility Design	X			
Geological & Paleontological Resources		X		
Hazardous Materials Management		X		
Land Use		X		
Noise & Vibration	X			
Public Health	X			
Socioeconomics		X		
Soil & Water Resources			X	Yes
Traffic & Transportation		X		
Transmission Line Safety & Nuisance	X			
Transmission System Engineering	X			
Visual Resources	X			
Waste Management		X		
Worker Safety & Fire Protection		X		

*There is no possibility that the proposed modifications may have a significant effect on the environment, and the modifications will not result in a change in or deletion of a condition adopted by the Commission in the Final Decision, or make changes that would cause project noncompliance with any applicable laws, ordinances, regulations, or standards (Cal. Code Regs., tit. 20, § 1769 (a)(2)).

Staff has determined that the technical or environmental areas of **Efficiency, Facility Design, Noise and Vibration, Public Health, Transmission Line Safety and Nuisance, Transmission System Engineering, and Visual Resources** are not affected by the proposed changes.

For the technical areas of **Air Quality, Biological Resources, Cultural Resources, Geological and Paleontological Resources, Hazardous Materials Management, Land Use, Socioeconomics, Soil and Water Resources, Traffic and Transportation, Waste Management, and Worker Safety and Fire Protection**, staff has determined the project would continue to comply with applicable LORS and no

changes to any conditions of certification, or new conditions of certification, are needed to ensure that no significant impacts occur. Staff notes the following for these technical areas:

Air Quality. Reclaimed water is currently the only source of cooling tower makeup water allowed. The currently approved Condition of Certification **AQ-35** requires the maximum total dissolved solids (TDS) concentration of the reclaimed water to be used in the cooling towers not to exceed 4,000 mg/l. To allow for changes in the source of cooling tower makeup water, the same requirement must be extended to all makeup water sources, including fire hydrant flushing water and storm water. These changes are addressed in the separate staff analysis for *Palomar's Advanced Gas Path Upgrade and Response to Addenda to Air Quality Petition to Amend* (TN 69634). That petition was originally submitted on February 22, 2013 but petitioner requested a series of changes. The most recent request from SDG&E was submitted on February 24, 2016 asking the Energy Commission to recombine the Advanced Gas Path (AGP) upgrade amendment with the modification of the air quality conditions. The San Diego Air Pollution Control District (SDAPCD) performed an engineering evaluation for the AGP upgrade and issued a new authority to construct. Condition **AQ-35** will be revised and renumbered to **AQ-22** in the Advanced Gas Path upgrade request as follows:

AQ-22 The maximum total dissolved solids (TDS) concentration of the water used in the cooling towers shall not exceed 4,000 mg/l. This concentration shall be verified through quarterly testing of the water by a certified lab using EPA approved methods.

Verification: The project owner shall certify compliance with this condition as part of the Quarterly Operational Report (**AQ-SC7**) and shall make the site and data available for inspection by representatives of the District, ARB, or Energy Commission.

Therefore, no further **Air Quality** conditions of certification changes are needed for the current PTA. The requested project changes would continue to comply with all applicable federal, state, and SDAPCD, air quality laws, ordinances, regulations and standards (LORS). The amended project would not cause any significant adverse air quality impacts.

Biological Resources. The proposed modification would divert storm water runoff that amounts to approximately 0.2 percent of the annual flow in Escondido Creek. Staff considers this incremental diversion of storm water runoff to have insignificant downstream effects to habitat. Ground disturbance associated with the proposed sump pump and discharge piping would occur only in areas that have been previously disturbed. None of this work would have significant direct impacts, as the area has been previously cleared and is devoid of natural vegetation. Although potential impacts from the construction of the proposed modifications are not expected, staff recommends implementation of existing Conditions of Certification **BIO-3** (Designated Biologist), **BIO-5** (Worker Environmental Awareness Program (WEAP)) and **BIO-6** (Biological Resources Mitigation Implementation and Monitoring Plan). to ensure the Designated Biologist is notified by the project owner if activities related to this project modification

impact biological resources, that subcontractors are informed about sensitive biological resources associated with the project, and that the construction boundaries are clearly marked and all equipment storage stays within the designated construction zone.

Cultural Resources. As proposed, augmentation of the water supply would not impact any known cultural resources. If construction and excavation were to go below the levels of previous disturbance, buried, as-yet unknown cultural resources could be impacted. If native soils are encountered, Condition of Certification **CUL-6** would require cultural resources monitoring in the area and would reduce any potential impact to a less than significant level. The proposed water supply augmentation would also continue to comply with all applicable LORS.

Geological and Paleontological Resources. No significant, site specific geologic or paleontologic resources, or geologic hazards, were identified prior to construction of PEC by staff. Construction of a portion of the discharge pipe would involve ground disturbance. All work would occur within the PEC property boundary. Worker safety can be mitigated by following procedures outlined in current Geology LORS. When the excavation is properly backfilled and re-compacted in accordance with **GEN-1** and **CIVIL-2** there would be no impact to the integrity of the storm water basin. Excavation will take place within fill material; therefore there is no impact to paleontologic resources. Staff concludes the proposed modifications would have no significant impact on geologic resources or impacts to public health and safety due to geologic hazards.

Hazardous Materials Management. During the installation of the storm water sump and its appurtenances, several hazardous materials will be used onsite. Similar to equipment maintenance activities, these materials would include solvents, gasoline, lubricants, and welding gases which are already included in the annual compliance report under the existing **HAZ-1** condition. No extremely hazardous or regulated hazardous materials will be used on the site specifically for the installation of the storm water sump and its appurtenances. Therefore, with project owner's continued compliance with existing conditions of certification, **HAZ-1** specifically, the proposed modification would not have a significant effect on the environment and would continue to comply with all applicable LORS.

Land Use. The proposed modifications to augment the cooling tower makeup of water with fire hydrant flushing water and storm water captured on site would be within the licensed project boundaries and would have no significant land use impacts.

Socioeconomics. The proposed modifications to augment the cooling tower makeup of water with fire hydrant flushing water and storm water captured on site would require two to three workers and one week to complete. From a socioeconomics standpoint, the proposed amendment would have insignificant workforce-related impacts on housing and community services.

Traffic and Transportation. The approximately two-person construction workforce and 28 total worker and delivery truck trips for the project would not significantly increase vehicle trips on local city roads causing a decrease to a level of service on a road or intersection delay.

Waste Management. Construction of a portion of the discharge pipe would involve ground disturbance. All work would occur within the PEC property boundary. The proposed maximum depth of disturbance would be one-foot. Soil and fill excavated will be reused as backfill to the extent possible, and any other non-soil materials excavated such as buried pipe, rebar, concrete, or electrical lines would be dealt with in accordance with the Construction Waste Management Plan (**WASTE-5**). In the event contaminated soil is unearthed during excavation, Conditions of Certification **WASTE-1** through **WASTE-5** provide guidance for the mitigation of contaminated soil. The proposed modifications would not result in additional significant environmental impacts in terms of waste management in comparison with the original analysis for the approved project, provided the owner complies with Conditions of Certification **WASTE-1** through **WASTE-5**.

Worker Safety and Fire Protection. By continuing to comply with the existing conditions of certification, the project owner's proposed construction of the storm water sump and its appurtenances would not have a significant effect on the environment, and the project would continue to comply with all applicable LORS. Activities to be performed during construction duration required for the installation of the storm water sump would comply with worker safety and fire safety requirements already contained in health and safety plans utilized for construction of the main facility per Condition of Certification **WORKER SAFETY-1**.

For the **Soil and Water Resources** technical area, staff determined the proposed project changes would affect that technical area and has proposed modifications to several **Soil and Water Resources** conditions of certification in order to assure compliance with LORS and to reduce potential environmental impacts to a less than significant level. The **Soil and Water Resources** analysis follows this summary.

ENVIRONMENTAL JUSTICE (EJ)

Environmental Justice – Figure 1 shows 2010 census blocks in the six-mile radius of the Palomar Energy Center with a minority population greater than or equal to 50 percent. The population in these census blocks represents an EJ population based on race and ethnicity as defined in the US Environmental Protection Agency's (EPA) *Guidance on Considering Environmental Justice During the Development of Regulatory Actions*.

Based on the American Community Survey (ACS) data in **Environmental Justice – Figure 2** and presented in **Environmental Justice – Table 1**, staff concluded that when compared with the below-poverty-level population in San Diego County, the cities of Escondido and San Marcos have a higher percent of people living below the poverty level, and thus are considered an EJ population based on low income.

Based on California Department of Education data, staff concluded that the percentage of those living in the Escondido Union Elementary School District (in a six mile radius of the project site) and enrolled in the free or reduced price meal program are comparatively greater than those in the reference geography, and thus are considered an EJ population based on low income as defined in EPA's *Guidance on Considering Environmental Justice During the Development of Regulatory Action.*

Environmental Justice – Table 1
Poverty and Low Income Data within the Project Area

GEOGRAPHIES IN A SIX-MILE RADIUS	Total Population*	Population Below Poverty Level	Percent Below Poverty Level (%)
	Estimate	Estimate	Estimate
Escondido	147,387 ±325	27,578 ±1,980	**18.7** **±1.3**
San Marcos	88,558 ±253	14,139 ±1,588	**16.0** **±1.8**
REFERENCE GEOGRAPHY			
San Diego County	3,143,203 ±2,532	454,876 ±9,006	**14.5** **±0.3**
SCHOOL DISTRICTS IN SIX-MILE RADIUS	Enrollment Used for Meals	Free or Reduced Price Meals	
Escondido Union Elementary School District	19,067	12,601	**66.1%**
Rancho Santa Fe Elementary School District	675	7	**1.0%**
REFERENCE GEOGRAPHY			
San Diego County	504,603	259,517	**51.4%**

Notes: `Population for whom poverty is determined. Staff's analysis of the estimates returned coefficient of variation values less than 15, indicating the data is reliable. **Sources**: United States Census Bureau, S1701 POVERTY STATUS IN THE PAST 12 MONTHS- 2011 – 2015 American Community Survey 5-Year Estimates, http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml. California Department of Education, DataQuest, Free or Reduced Price Meals, District level data for the year 2015-2016, <http://dq.cde.ca.gov/dataquest/>.

Environmental Justice Conclusions

If affected, the following technical areas discuss impacts to EJ populations: **Air Quality, Cultural Resources (Indigenous People), Hazardous Materials Management, Land Use, Noise and Vibration, Public Health, Socioeconomics, Soil and Water Resources, Traffic and Transportation, Transmission Line Safety and Nuisance, Visual Resources, and Waste Management. Air Quality, Cultural Resources, Hazardous Materials Management, Land Use, Socioeconomics, Soil and Water Resources, Traffic and Transportation,** and **Waste Management** are affected by the proposed petition. For all of these technical areas, except for **Soil and Water Resources**, staff has determined that the impacts of the proposed modifications would be less than significant. In the technical area of **Soil and Water Resources**, staff concludes that the project modifications would not cause impacts to potable water supplies or surface water quality or create any additional flood risks and thus would have a less than significant impact on any population in the project's six-mile radius, including the EJ population represented in **Environmental Justice – Figure 1**, **Figure 2**, and **Table 1**.

STAFF RECOMMENDATIONS AND CONCLUSIONS

- Staff concludes that with the adoption of the attached conditions of certification, the modified PEC would continue to comply with applicable LORS. The proposed changes would not result in significant impacts with the implementation of the revised conditions of certification.

Soil and Water Resources Table 1, beginning on page 3 of the **Soil and Water Resources** analysis, lists each of the proposed changes. With the implementation of the proposed modifications to the **Soil and Water Resources** conditions of certification, staff concludes the following required findings, mandated by California Code of Regulations, Title 20, section 1769 (a)(3), are met, and therefore recommends approval of the petition by the Energy Commission:

- There would be no new or additional unmitigated, significant environmental impacts associated with the proposed modification(s);
- The facility would remain in compliance with all applicable LORS;
- The proposed modifications would be beneficial to the public because they will assist in California's water conservation efforts by reducing the facility's annual water import by up to approximately 7.2 million gallons per year; and
- The proposed modifications are justified because they support California's ongoing drought response and Governor Brown's Executive Order B-29 by implementing an onsite storm water capture system

REFERENCES

CEC 2003a -- California Energy Commission Palomar Energy Center Final Staff Assessment, (01-AFC-024C), January 2003 (TN 27877)

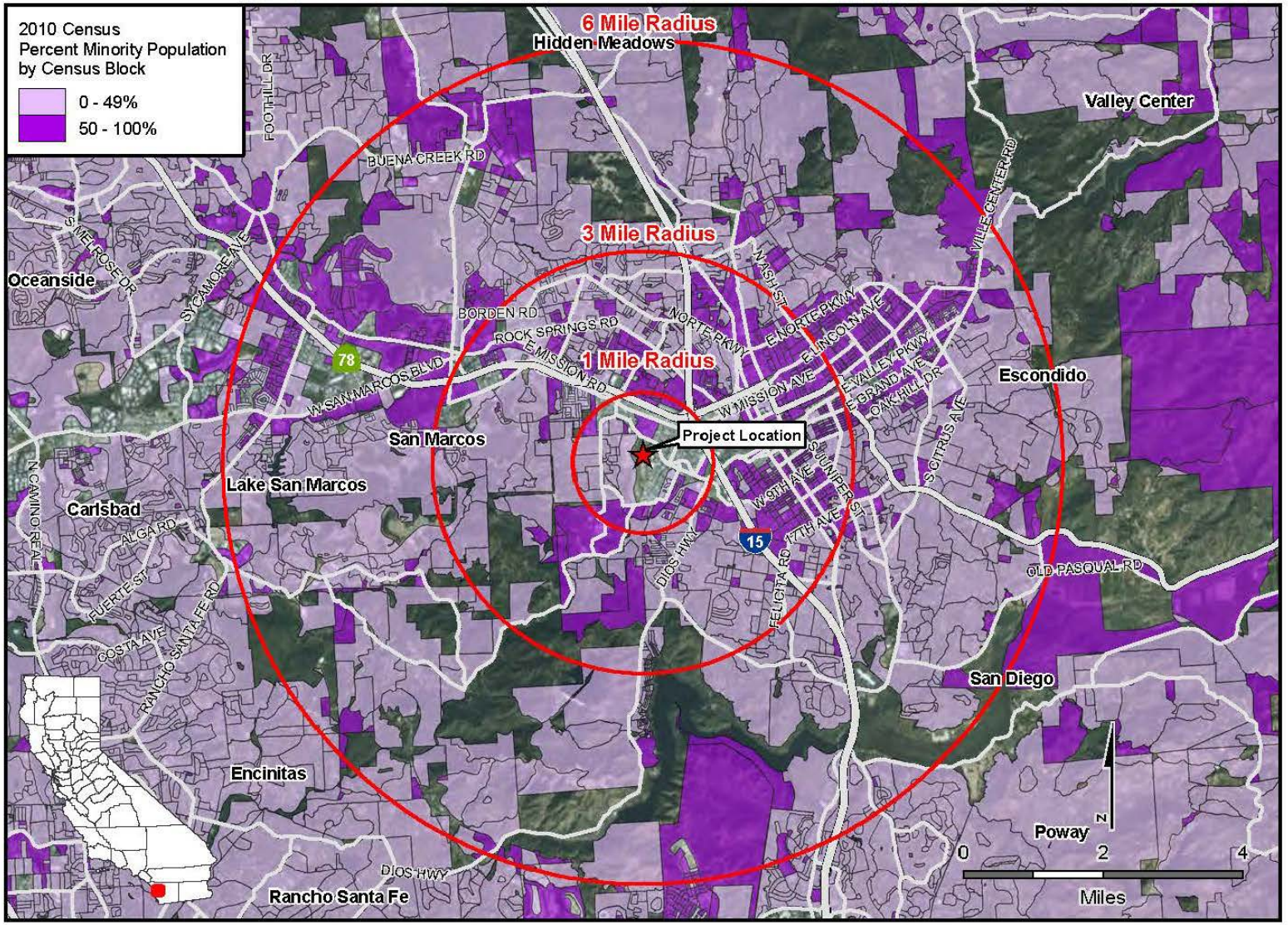
CEC 2003b -- California Energy Commission Final Commission Decision on the Application for Certification of Palomar Energy Project (01-AFC-24), August 2003 (TN 29561)

CEC 2006 -- California Energy Commission Order Approving a Petition to Allow the Use of Raw Water as Back-up Supply to Recycled Water. Palomar Energy Center (01-AFC-24), April 14, 2006 (TN 36735)

PEC 2017-- San Diego Gas & Electric Company, Petition for Change of the Project Description in the Final Decision to Augment Cooling Tower Makeup Water With Water Reclaimed Onsite, Palomar Energy Center, June 2017, Docket No. 01-AFC-24C (TN 220471)

ENVIRONMENTAL JUSTICE - FIGURE 1

Palomar Energy Center - Census 2010 Minority Population by Census Block



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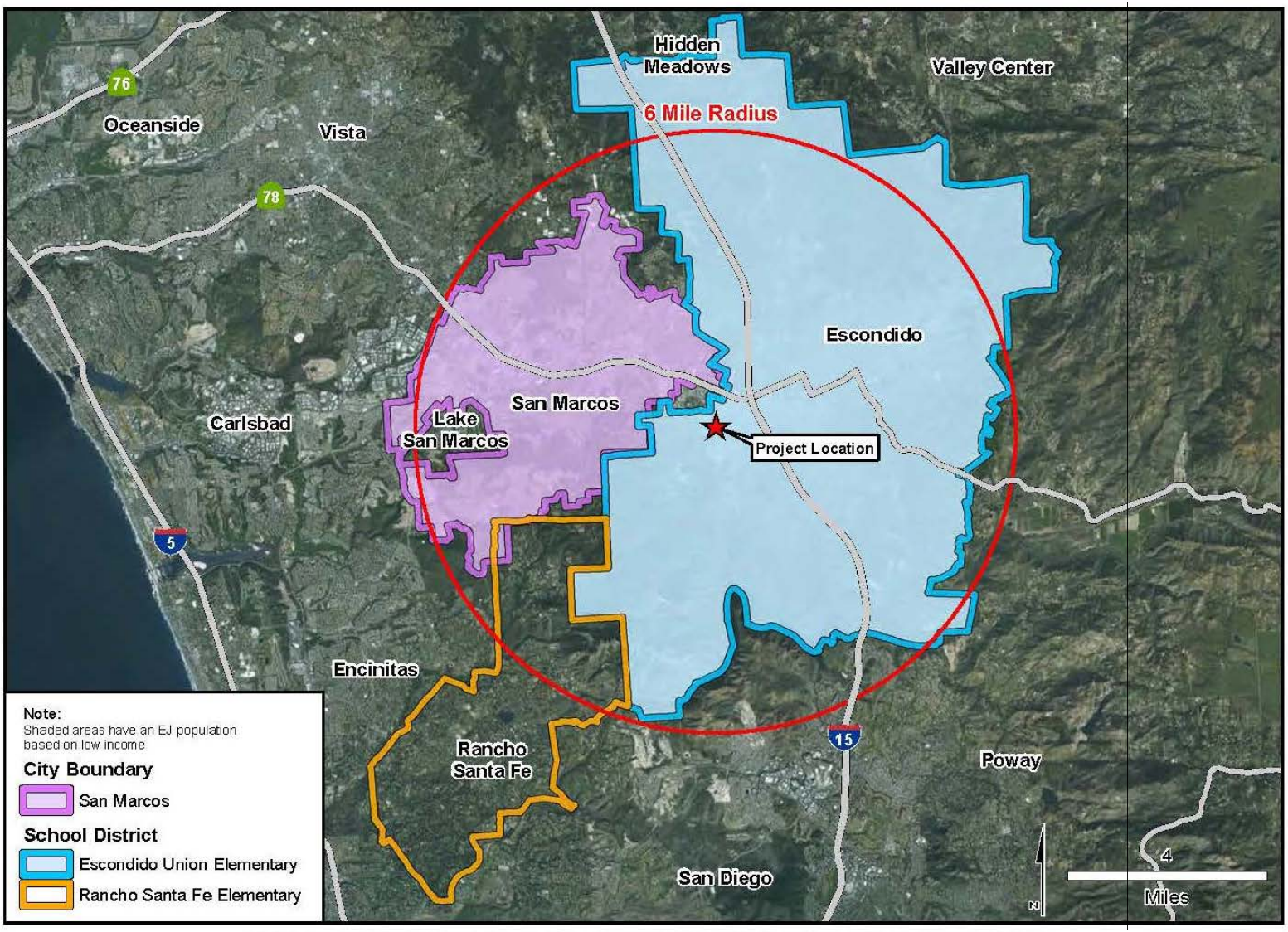
SOURCE: Census 2010 PL 94-171 Data

ENVIRONMENTAL JUSTICE - FIGURE 2

Palomar Energy Center - Environmental Justice Population Based on Low Income



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SOURCES: TIGER Data, S1701 ACS 5-Year Estimates, CA Dept. of Education Data Quest

PALOMAR ENERGY CENTER (01-AFC-24C)
Petition To Amend: Augment Cooling Tower Makeup Water
SOIL AND WATER RESOURCES

Abdel-Karim Abulaban and Paul Marshall

INTRODUCTION

San Diego Gas & Electric Company (SDG&E or petitioner) filed a Petition to Amend (PTA) the project design to augment cooling tower makeup water with fire hydrant flushing water and storm water captured onsite (PEC 2017) for the Palomar Energy Center (PEC).

SCOPE OF ANALYSIS

The scope of this analysis is to determine whether augmentation of the PEC design to use water reclaimed onsite to augment imported water would result in significant impacts to soil and water resources. California Energy Commission staff (staff) identify whether existing laws, ordinances, regulations, and standards (LORS), or conditions of certification, address the impacts. Staff also identify whether it is necessary to change, delete, or add any new conditions of certification in order to avoid, or reduce to less than significant levels, identified risks to the environment associated with this PTA.

BACKGROUND

PEC was certified by the Energy Commission in August 2003 as a 550-MW (nominal) natural gas-fired, combined-cycle power plant in the city of Escondido in San Diego County. SDG&E would like to amend the project design as described in the Energy Commission Final Decision (decision) (CEC 2003b) to use water reclaimed onsite to augment cooling tower makeup water. The sources of the reclaimed water are:

- Fire hydrant flushing water; and
- Storm water runoff from the site.

Together, reclaimed water from these sources would constitute approximately 7.2 million gallons per year, which would reduce the need to import an equal amount of makeup water. PEC currently uses the same source of reclaimed water in its fire suppression system as it does for cooling tower makeup. Routine system testing and flushing generates up to approximately 25,000 gallons per year of water that is currently discharged to the city's sewer system.

Currently PEC directs storm water runoff to an onsite detention basin at the south end of the facility. The detention basin discharges to the city of Escondido storm water sewer system, which is part of the Jurisdictional Runoff Management Program permitted by the San Diego Regional Water Quality Control Board Order Number R9-2013-0001 (MS4 permit), and ultimately down Escondido Creek to the Pacific Ocean. Based on reported historic annual rainfall of 15-inches in Escondido, this would generate an estimated 7,192,000 gallons per year of storm water runoff from the site, with a maximum daily storm water volume for use in the cooling tower of 375,000 gallons. Petitioner proposes to capture some of this storm water and use it in the cooling tower.

To store and convey the storm water, a small concrete sump would be constructed in the bottom of the storm water basin and approximately 50 feet of discharge piping would be installed to enable moving storm water runoff to the cooling tower system. The installation of the discharge pipeline would require a 13-foot long, 1-foot wide cut across an existing road, and a 17-foot long, 1-foot wide excavation parallel to an existing drain pipe between the chemical storage area containment and the chiller building, where the discharge pipe would be added to an existing pipe rack.

ANALYSIS

Disturbed Areas: All of the proposed modifications are within the boundaries of the originally analyzed and certified project. Therefore, the proposed changes will not have any additional environmental impacts compared to what was analyzed for the final decision.

Water Quality: Wastewater associated with the proposed modifications would be discharged in compliance with the Industrial Storm Water Pollution Prevention Plan (SWPPP) documents, required in accordance with Condition of Certification **SOIL & WATER–3,** and the site specific Erosion and Sedimentation Control Plan (ESCP) required by **SOIL & WATER–2.** However, the plans should be updated to show the proposed changes and necessary storm water controls. Petitioner obtained approval from the San Diego Water Quality Control Board for use of the fire hydrant water in the cooling tower, indicating that such use would not have significant water quality impacts (PEC 2017).

Drainage: The modifications would result in a slight decrease in the volume, but no changes to the quality, of the storm water discharged by the project.

Sanitary Wastewater: There are no changes to the volumes or quality of sanitary wastewater from the proposed modifications.

Water Supply: The proposed modifications request approval for the use of a combination of the storm water that falls on the site and fire hydrant water used for equipment testing. These sources would replace an approximately equal amount of recycled water used in the cooling tower. According to the petitioner, the storm water is generally of lower quality than the recycled water as it contains a high concentration of suspended solids and iron. Use of this water is therefore consistent with the Energy Commission's policy requiring that water of the lowest quality be used for cooling purposes. In addition, given the water situation in the state of California, especially the southern part where the project is located, there have been efforts to encourage home owners as well as business to capture storm water for beneficial use. This reduces the demand on the over allocated water resources in the state and reduces discharges of storm water that could impact downstream water quality. For example, Proposition 1, approved by California voters in November 2014, allocates $200 million for storm water capture projects. One of the goals of the funded projects is improving regional water self-reliance, while reducing reliance on the Sacramento-San Joaquin Delta for supply. Implementation of Proposition 1 was delegated to the SWRCB in December 2015. To help achieve this goal the SWRCB adopted a Strategy to Optimize Resource

Management of Storm Water (STORMS). The stated vision of STORMS is “Successful implementation of the Storm Water Strategy will result in a future where storm water is sustainably managed and utilized in California to support water quality and water availability for human uses as well as the environment”.

The fire hydrant water used for equipment maintenance and testing is normally discharged to the city sewer. Use of this water in the cooling tower would therefore reduce the load on the treatment facility receiving the wastewater.

Staff concludes that the proposed modifications would not have any additional impacts in terms of volumes and sources of water supply to the project. In fact, use of the proposed streams of water would have a favorable impact on the project water supplies by reducing the amounts of water delivered to the project, thereby making them available for other beneficial uses.

LAWS, ORDINANCES, REGULATIONS, AND STANDARDS COMPLIANCE

Staff has reviewed the LORS identified in the Energy Commission’s Final Staff Assessment for the PEC (CEC 2003a) and found they remain applicable. Staff also found that a new LORS is applicable due the proposed use of storm water for evaporative cooling. Section 10574 of the California Water Code would apply to the proposed use and is listed in **Soil and Water Table 1**.

Soil and Water Resources Table 1
Laws, Ordinances, Regulations, and Standards

Applicable LORS	Description
State:	
California Water Code (CCR Division 6, Part 2.4): CONSERVATION, DEVELOPMENT, AND UTILIZATION OF STATE WATER RESOURCES, Rainwater Capture Act of 2012	The Act allows for the capture of rainwater for direct use or to contribute to local water supplies by infiltrating and recharging groundwater aquifers without requiring a water right permit.

Staff evaluated whether a water right would be needed for the capture and consumption of storm water for power plant cooling. Prior to enactment of the Rainwater Capture Act of 2012 (Act) (CCR Division 6, Part 2.4), the SWRCB required all would-be appropriators to apply for and obtain a permit to appropriate water from any source, including water falling in the form of precipitation. Under the Act, however, the use of rainwater - defined as "precipitation on any public or private parcel that has not entered an offsite storm drain system or channel, a flood channel, or any other stream channel, and has not been previously put to beneficial use" - is not subject to the California Water Code's SWRCB water right permit requirement [California Water Code §§ 1200 *et seq.*] Relief from the permit requirement enables residents, private businesses, and public agencies to create new on-site water supplies to meet water supply needs, thus decreasing the use of potable water to meet those needs. The language of the Act recognizes that it may contribute to attainment of the statewide "20x2020 goal", which aims to achieve a 20 percent reduction in urban per capita potable water demand by December 31, 2020. [2012 Cal. Stats. Ch. 537, Sec. 2.] In accordance with the Act,

staff concludes the proposed use of storm water collected from the project site would not require a water rights permit and is consistent with state strategies and goals.

CONCLUSIONS AND RECOMMENDATIONS

After considering all the proposed modifications, staff concludes that they will not result in any additional environmental impacts in terms of soil and water resources in comparison with the original analysis for the final decision and certification of the project. The existing conditions of certification, with the inclusion of modifications to Conditions of Certification **SOIL&WATER-5** and **SOIL&WATER-6,** as recommended by staff, are adequate to ensure there will be no unmitigated significant impacts. The project will also comply with applicable LORS.

The ESCP and Industrial SWPPP required in Conditions of Certification **SOIL&WATER-2** and **SOIL&WATER-3,** respectively, should be updated to reflect the changes in storm water capture and use where necessary.

The preceding subsections found that the proposed modifications would not cause impacts to potable water supplies or surface water quality. With respect to flood risks, staff believes that the proposed modifications would not create any additional flood risks in the vicinity of the project. Thus, staff concludes that all impacts associated with the proposed modifications would have a less than significant impact on any population in the project's six-mile radius, including the EJ population represented in **Environmental Justice – Figure 1**, **Figure 2**, and **Table 1**.

PROPOSED CHANGES OR MODIFICATION TO CONDITIONS OF CERTIFICATION

Condition of Certification **SOIL&WATER-5** needs to be modified to allow the use of the storm water and recycled water from the fire hydrant for project cooling. Staff concurs with the proposed edits submitted by the petitioner. Staff also notes however, Condition of Certification **SOIL&WATER-6** requires metering of water used by the project from all sources. Recycled water used in the fire hydrants is included in the total recycled water reported, but since the storm water is a new source, it also needs to be added to the requirements of **SOIL&WATER-6. SOIL&WATER-6** therefore needs to be modified to include the storm water in the reporting requirements. **SOIL&WATER-6** also needs to be modified to include metering of the raw water that was approved by the Energy Commission in 2006 for backup in case of interruptions in recycled water (CEC 2006).

The proposed modifications to **SOIL&WATER-5** and **SOIL&WATER-6** are shown below with new text shown as **bold underline** and deleted text in ~~strikethrough~~ format:

SOIL&WATER 5: The ~~PEC~~ **project** shall **primarily** use recycled water for cooling tower makeup, process water, landscape irrigation**,** and all other non-potable uses. If recycled water is unavailable due to maintenance or events beyond the control of the **c**ity of Escondido (City), the ~~PEC~~ **project** may use raw water supplied from the emergency backup water supply system operated by the **city**. The project owner shall notify the CPM immediately whenever raw water

is used. The project owner shall provide reports detailing the duration of outages and quantities of water used to the CPM. Raw water shall not be used for more than seven consecutive days or 20 days in a calendar year without CPM approval. **The project may augment cooling tower makeup water with recycled water, sourced from the fire suppression system and captured storm water.**

Following each instance of raw water use, a fee of $522 per acre-foot of water use during the outage (from the time of notification by the city that raw water has been entered the system to the time of notification that its delivery has ceased) shall be paid to a water conservation program. The mitigation fee shall be adjusted annually consistent with the annual adjustment of the compliance fee described in public resources code subsection (b 25806).

The ~~PEC~~ **project** shall comply with all Title 22 California Code of Regulations requirements while using either source of water.

Verification: At least 60 days prior to the start of construction of the water supply system, the project owner shall submit to the CPM its water supply system design demonstrating compliance with this condition. Those required features shall be included in the final civil design drawings submitted to the CBO as required in Condition of Certification **CIVIL-1**. Approval of the final design of the water supply and treatment system shall be obtained prior to the start of construction of the systems.

The CPM shall be notified in writing within 24 hours of any time raw water is delivered to the recycled water system, and shall be notified again when raw water delivery has ceased. Upon notification by the **city** of the delivery of backup water, the project owner shall record the amount used in acre-feet (to at least two decimal places) and the duration of use in hours. Following notification that raw water delivery has ceased, an event report shall be provided to the CPM within 30 days identifying the cause of the interruption of recycled water, any efforts underway to remedy the cause, the duration of the outage, the amount of water used, and evidence that funds were deposited with the San Diego County Water Authority conservation program, or other, **CPM-**approved conservation program. If raw water is approved for use beyond 7 consecutive days or 20 days in a calendar year, the project owner shall provide a weekly report to the CPM for as long as raw water use continues, including the amount used and progress by the **city** of Escondido towards restoring recycled water delivery.

SOIL&WATER 6: Potable water will not be used for the wet cooling system, landscape irrigation, or for any purpose other than domestic and sanitary use, and shall not exceed two acre-feet in any calendar year. Prior to the use of any water by the ~~PEP~~ **project**, the project owner shall ensure that metering devices are in place to monitor and record in gallons per day (gpd) the total volumes of potable**,** ~~and~~ recycled water**, raw water, and storm water** supplied to the ~~PEP~~ **project**. Those metering devices shall be operational for the life of the project. An annual summary of daily water use by the ~~PEP~~ **project**, differentiating between ~~potable and recycled~~ **the different sources of** water, shall be submitted to the CPM in the annual compliance report.

Verification: No less than 60 days prior to the start of operation of the ~~PEP~~ **project**, the project owner shall submit to the CPM evidence that metering devices have been installed and are operational on the pipelines serving the project. Those devices shall be capable of recording the quantities in gallons of water delivered to the ~~PEP~~ **project** in order to report daily water demand. The project owner shall provide a report on the servicing, testing and calibration of the metering devices and operation in the annual compliance report.

The project owner shall submit a water use summary report to the CPM in the annual compliance report for the life of the project. The annual summary report shall be based on and shall distinguish recorded daily use of ~~potable and recycled~~ **each** water **supply**. Included in the annual summary of water use, the project owner shall submit copies of meter records from the Rincon del Diablo Municipal Water District documenting the quantities of tertiary-treated disinfected wastewater in gpd delivered to the ~~PEP~~ **project,** ~~and~~ potable water**, and raw water** supplied over the previous year. **The report also shall include the amounts of storm water as metered by the project owner.** The report shall include calculated monthly range, monthly average, and annual use by the project in both gallons per day and acre-feet per year. After the first year and for subsequent years, this information shall also include the yearly range and yearly average water used by the project.

REFERENCES

CEC 2003a -- California Energy Commission Palomar Energy Center Final Staff Assessment, (01-AFC-024C), January 2003 (TN 27877)

CEC 2003b -- California Energy Commission Final Commission Decision on the Application for Certification of Palomar Energy Project (01-AFC-24), August 2003 (TN 29561)

CEC 2006 -- California Energy Commission Order Approving a Petition to Allow the Use of Raw Water as Back-up Supply to Recycled Water. Palomar Energy Center (01-AFC-24), April 14, 2006 (TN 36735)

PEC 2017-- San Diego Gas & Electric Company, Petition for Change of the Project Description in the Final Decision to Augment Cooling Tower Makeup Water With Water Reclaimed Onsite, Palomar Energy Center, June 2017, Docket No. 01-AFC-24C (TN 220471)