PASADENA WATER AND POWER

March 23, 2018

Submitted Electronically

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California Air Resources Board
1001 I Street
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Subject: City of Pasadena Comments on the March 2, 2018 Joint Agency Workshop on SB 350 Integrated Resource Plans

The City of Pasadena Water and Power ("PWP") Department appreciates the opportunity to provide comments on the March 2, 2018 Joint Agency Workshop by the California Air Resources Board ("CARB"), California Energy Commission ("CEC") and the California Public Utilities Commission ("CPUC") on SB 350 Integrated Resource Plans ("IRPs").

PWP is a publicly owned utility of the City of Pasadena, with a service population of over 141,000 residents. We are committed to providing safe and reliable water and power services with superior customer service at reasonable rates.

PWP has shown an on-going commitment to addressing climate change, including an adopted Renewable Portfolio Standard Goal of 40% of retail energy sales by 2020. Additionally, PWP has adopted an impressive 60% reduction in greenhouse gases ("GHG") from our own 1990 GHG levels by 2030.

PWP's comments related to the Joint Agency Workshop are focused on the proposed areas below:

1) CARB Presentation
2) CEC Presentation

CARB Presentation:

Overall Comments:
PWP appreciates CARB's range for the GHG emissions planning target, rather than a set target, as outline in the 2017 Scoping Plan. PWP is supportive of the CARB's clarification that the GHG emissions planning targets are to be calculated using the Mandatory Reporting Rule ("MRR") requirements. Lastly, in order to be consistent with SB 350, PWP is supportive of having the GHG

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emissions planning targets, as a planning tool, not a mandatory compliance obligation. This gives utilities the flexibility to meet the SB 350 requirements, through cost effective methods.

PWP is concerned that the high and low end of the electric sector GHG emissions planning target, as a percentage, far exceed the economywide 40% GHG emissions reduction target, as highlighted in SB 350. In CARB's presentation, on Slide 39, it states that the GHG emissions planning range in the Scoping Plan represents a 51-72% GHG emissions reduction, compared to 1990 levels. However, the implications to individual utilities can be greater. Once distributed to utilities, specifically PWP, the GHG emissions planning target is between a 75-86% GHG emissions reduction based on PWP's 1990 GHG emissions by 2030. The electric sector has long been the example used for carbon reduction, through CARB's effort. Imposing stricter targets on the electric sector, as compared to other sectors, will have a disparate impact on our ratepayers. As mentioned earlier, PWP has reached a 40% GHG emissions reduction based on PWP's 1990 levels and will reach a 60% GHG emissions reduction based on PWP's 1990 levels by 2030.

PWP recommends that CARB work closely with utilities that have special circumstances, such as reliability constraints. PWP is one of a handful of utilities statewide that has an import limit, or a tie constraint. Due to limitations in our transmission and distribution system, PWP can only import a maximum of 280 MW in a given day, when the transmission and distribution system is fully operational. PWP's highest peak on record was 320 MW, and even with the maximum import limitation of 280 MW, PWP relied on internal gas fired generation to fill in the 40 MW gap. Under certain circumstances, such as outages, failures or maintenance, the import limitation has fallen drastically, to below 130 MW, causing PWP to rely on additional internal gas fired generation to prevent blackouts. Without operating these resources, PWP may not be able to meet the electric demands of customers, causing reliability, health and safety issues. As a member of the California Independent System Operator ("CAISO"), PWP relies on its internal generation to meet the reliability requirements for the state. PWP is home to several higher educational institutions (CalTech, Art Center College of Design, Pasadena Community College, Fuller Seminary, to name a few), many start-up tech firms and is the headquarters for many large companies—all of which rely on PWP to keep the lights on. Customer service and safety, of which reliability is a key factor, is of paramount importance to PWP.

PWP recommends that the CARB develop the GHG emissions planning target as a range based on a 40-60% GHG emissions reduction, compared to each electric distribution utility (EDU) 1990 actual GHG emissions. For example, if an EDU had 1,000,000 MT of CO2 in 1990, their GHG emissions planning target would be between 400,000 MT CO2 and 600,000 MT CO2 by 2030. This method is consistent with SB 32 and SB 350.

During the workshop, Mandip Samra, our Power Resource Planning Manager inquired about the Joint Agency (CEC-CPUC-CARB) process, and the role of the CAISO. It was made clear that the CAISO is not part of the Joint Agency process, though the Joint Agencies meet with the CAISO on a regular basis. The strict nature of the CAISO reliability requirements, specifically the Resource Adequacy ("RA") requirements, makes the CARB GHG emissions planning targets for CAISO members challenging. With the Local Reliability Requirement ("LCR"), Flex RA and System RA requirements, it will be difficult to plan for and model the GHG emissions planning target range, without natural gas or local baseload renewable resources (of which the supply is limited).

More clarification is needed to understand how Transportation Electrification ("TE") and overall electrification efforts were incorporated in the CARB GHG emissions planning target. As required by SB 350, POUs are mandated to develop a TE program. With TE comes an increase in energy

demand and usage. As a result, GHG emissions may increase. PWP encourages the CARB to consider a high level of TE programming into the GHG emissions planning target. Specifically, PWP proposes that any increase in GHG emissions as a result of TE, be excluded from the GHG emissions planning target. However, given the relative new nature of TE programing, it will be difficult to estimate the implications of TE for future years. In the meantime, CARB should accommodate for utility electrification efforts, by working with these utilities to develop metrics to track the implications of TE and overall electrification in a tangible manner.

Response to Questions Posed:

1. Does this range reflect the appropriate breadth for planning purposes given the factors affecting electricity demand and supply?
    a. *PWP's Response: As mentioned earlier, though PWP appreciates a GHG emissions planning target range, the range is still overly burdensome and creates a disparate impact on the electric sector and represents at least a 75%-86% GHG emissions reduction based on PWP's 1990 levels. PWP has long term investments in fossil fuel generation, which go beyond the IRP analysis timeframe. Considerations should be made for stranded investments and investments made to ensure reliability, public health and safety. Renewable integration is a major concern, statewide, due to unpredictability. As a result, the CAISO introduced the Flexible Resource Adequacy Requirement, which requires utilities in the CAISO to submit monthly (and annual) plans that contain resources that can ramp up and down, quickly to mitigate the impacts of renewable integration. A majority of these resource are natural gas units.*

2. How and on what basis might a more fine-tuned range be developed?
    a. *PWP Response: PWP recommends that the Joint Agencies, specifically CARB, work closely with the EDUs to develop a range that accommodates for reliability, health and safety concerns, transportation electrification, renewable integration and stranded investment. As currently presented, the planning range is overly restrictive with the types of resources that utilities can procure in the future.*
    b. *PWP recommends that the CARB develop these GHG emissions planning targets as a range based on a 40-60% GHG emissions reduction, compared to each EDUs 1990 GHG emissions. This would be consistent with SB 350 and SB 32, which strives for a 40% GHG emissions reduction economywide by 2030. For example, if an EDU had 1,000,000 MT of CO2 in 1990, then their target would be between 400,000 MT CO2- 600,000 MT CO2 by 2030. The electric sector has already contributed significantly to GHG emissions reductions, through an increase in the Renewable Portfolio Targets, GHG Cap and Trade, energy efficiency, TE programming and other programs. As mentioned earlier, imposing stricter targets on the electric sector, as compared to other sectors, will have a disparate impact on our ratepayers and could lead to negative impacts on reliability, health and safety.*
    c. *PWP Response: PWP recommends that the Joint Agencies hold more Joint Agency workshops to discuss these and other issues. These meetings should occur sooner rather than later, as the CPUC has an IRP deadline in August 2018 and the CEC has an IRP deadline of January 1, 2019. The timing of the GHG emissions planning target is not ideal. Many entities have either completed their IRPs or are too far along in the process and implementing these specific GHG emissions planning targets could lead to additional costs to develop the IRP or missing the IRP deadline altogether. At this time, PWP recommends that entities*

develop their IRP with a GHG emissions reduction target of 40% GHG emissions reductions, as compared to their 1990 GHG emissions level.

3. What factors should be considered in picking a point estimate within a range for implementation purposes
    a. *PWP Response: Import limitations, stranded investment, reliability, economic impacts (such as job force considerations), financial impact to ratepayers, and health and safety concerns must be taken into consideration.*

4. What other assumption about future electricity demand should be considered?
    a. *PWP's Response: The implications of TE need to be included in the GHG emissions planning target range. As mentioned earlier, TE may increase electric load and electric sector emissions. Utilities should not be penalized for their TE efforts. Special consideration should be made for TE, including the ability to subtract TE associated emissions from the GHG emissions planning target. However, as mentioned earlier, it is difficult to monitor and track TE associated emissions. Several tools exist to model TE GHG emissions, but it is difficult to track actual emissions. This type of methodology should be determined through a Joint Agency process.*

5. Is there a need to apportion the GHG planning target to CEC and to the CPUC as well as to LSEs and POUs?
    a. *PWP Response: PWP does not have a response at this time.*

6. How should the electricity sector GHG target be evaluated with respect to the entities not subject to SB 350 IRP requirements?
    a. *PWP Response: Entities not subject to the SB 350 IRP filing requirements should still be responsible for their share of GHG emissions reductions.*

CEC Presentation:

PWP appreciates the CEC's efforts in implementing the SB 350 compliance requirements.

Overall Comments

The table below illustrates the CEC's Proposed Targets for CO2 emissions for 2030 and the implications it has on PWP. The PWP GHG emissions planning target represent a 75-86% reduction in GHG emissions, compared to 1990 levels, by 2030. This far exceeds the SB 350 and SB 32 mandate of 40% GHG emissions reduction, by 2030.

Electric Sector GHG Emissions Planning Target (CO2 MMT)	30,000,000	42,000,000	53,000,000
PWP Share of GHG Emissions Planning Target (CO2 MT)	127,906	179,068	225,967
Total GHG Emissions Reduction for PWP Compared to PWP's 1990 GHG Emissions	86%	81%	75%
PWP 1990 Emissions (CO2 MT)	918,622		

As part of PWP's past IRPs, PWP committed to a 40% GHG emissions reductions compared to 1990 levels by 2020 and a 60% GHG emissions reduction, compared to 1990 levels by 2030. The

proposed GHG emissions planning target range far exceeds our City Council adopted voluntary targets and may impact reliability, public health and safety.

As stated earlier, PWP has an import limitation and these GHG emissions planning targets may conflict with PWP's reliability, public health and safety concerns. PWP is a strong proponent of environmental stewardship, as is evident though PWP's historical IRPs and implementing and achieving goals that far exceed state mandates for RPS, GHG emissions and energy efficiency. GHG emissions planning targets should continue to be a planning tool (as implied through the term "GHG emissions *planning* target" and in SB 350) and not a compliance obligation.

PWP encourages the CEC to work with POUs to understand POU specific constraints and issues and to incorporate those into an appropriate GHG emissions planning target.

Conclusion

PWP appreciates the opportunity to provide comments on the March 2, 2018 Joint Agency Workshop on SB 350 IRPs. Thank you for your consideration. Should you have any questions, please feel free to contact Mandip Samra at (626) 744-7493.

Sincerely,

Anthony D'Aquila
Interim Assistant General Manager
Pasadena Water and Power

AD/MS