



CPUC Public Agenda 3414
Thursday, March 22, 2018 9:30 a.m.
San Francisco, CA



Commissioners:
Michael Picker, President
Carla J. Peterman
Liane M. Randolph
Martha Guzman Aceves
Clifford Rechtschaffen

www.cpuc.ca.gov





The Pledge of Allegiance



“I pledge allegiance to the Flag of the
United States of America,
and to the Republic for which it stands,
one nation under God,
indivisible,
with liberty and justice for all.”





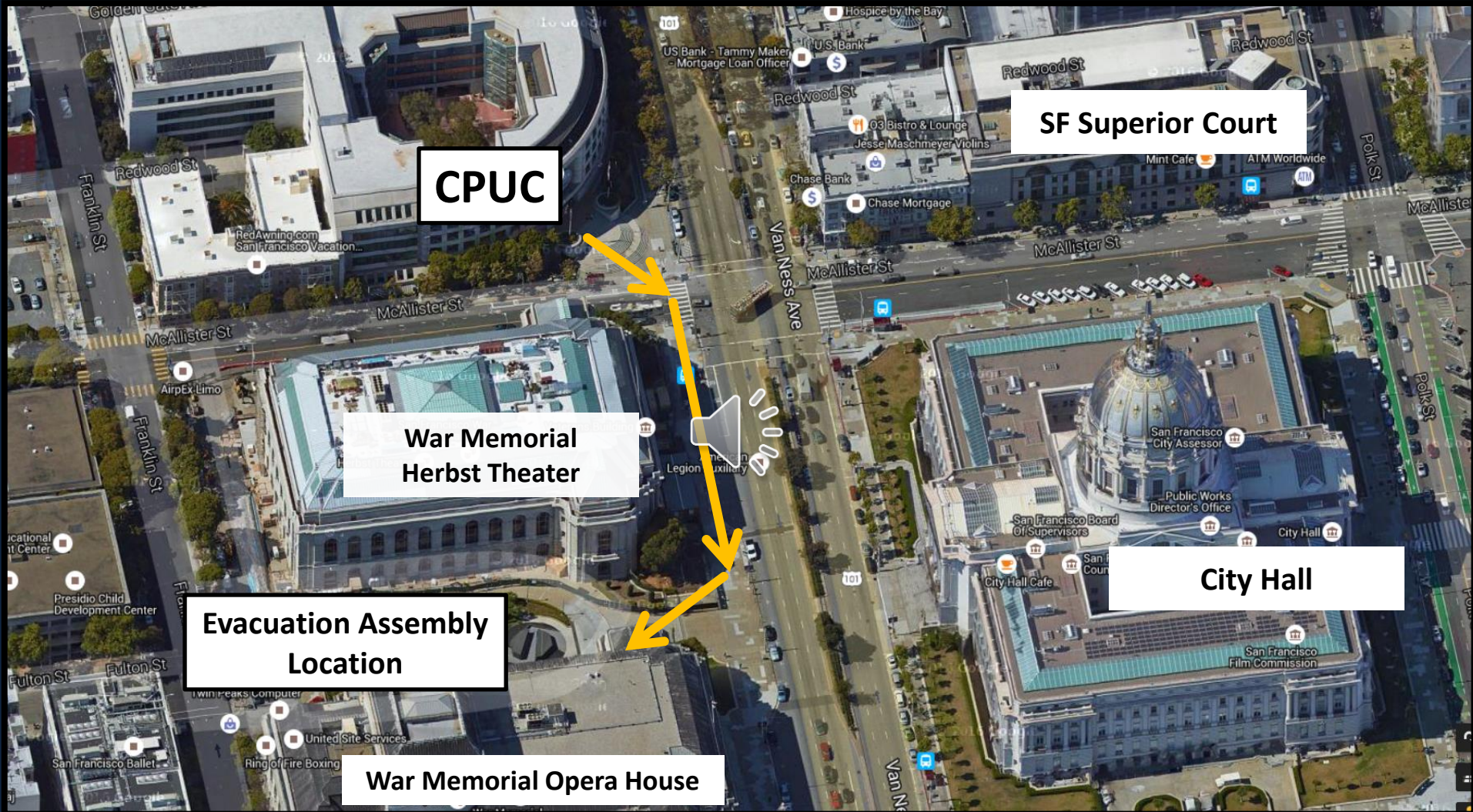
Emergency Evacuation

Safety is our number one priority:

Please listen to the emergency evacuation instructions for this location.



Evacuation Assembly Location





CPUC Mission

The CPUC regulates services and utilities, protects consumers, safeguards the environment, and assures Californians' access to safe and reliable utility infrastructure and services.





CPUC Core Values

Accountability
Excellence
Integrity
Open Communication
Stewardship





Commissioner Code of Conduct

- **I. Commissioners should conduct themselves in a manner that demonstrates respect for the public, for fellow Commissioners, and for Commission staff.**
- **II. Commission meetings should be opportunities for a full and respectful exchange of ideas and the responsible execution of Commission duties.**
- **III. Serving on the Commission is an honor and Commissioners should treat their colleagues at the Commission with respect for the varied backgrounds, skills and interests that each one brings.**
- **IV. Commissioners are public officials who should uphold the integrity of their office at all times.**





Public Comment

- Per Resolution ALJ-252, any member of the public (excluding parties and their representatives) who wishes to address the CPUC about matters before the Commission must sign up with the Public Advisor's Office table before the meeting begins. If an individual has signed up using the electronic system on the Commission's website, they must check in with the Public Advisor's Office on the day of the meeting, by the sign-up deadline.
- Once called, each speaker has up to 3 minutes at the discretion of the Commission President. Depending on the number of speakers, the time limit may be reduced to 1 minute.
- A sign will be posted when 1 minute remains.
- A bell will ring when time has expired.
- At the end of the Public Comment Section, the Commission President will ask if there are any additional individuals who wish to speak. Individuals who wish to speak but did not sign up by the deadline, will be granted a maximum of one minute to make their comments.

Public Comment is not permitted on the following items:

- **37, 43, 44, 45, and 46**
- All items on the Closed Session Agenda





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- Once called, each speaker has up to 2 minutes at the discretion of the Commission President. Depending on the number of speakers, the time limit may be reduced to 1 minute.
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Public Agenda Changes

Items shown on the Consent Agenda will be taken up and voted on as a group in one of the first items of business of each CPUC meeting.

- Items on Today's Consent Agenda are: **1, 2, 3, 8, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, and 40.**
- Any Commissioner, with consent of the other Commissioners, may request an item from the Regular Agenda be moved to the Consent Agenda prior to the meeting.
- **Item 47** from the Regular Agenda has been added to the Consent Agenda.
- Any Commissioner may request an item be removed from the Consent Agenda for discussion on the Regular Agenda prior to the meeting.
- **Item 5** has been moved to the Regular Agenda.
- **Items 4 and 43** have been withdrawn.
- The following items have been held to future Commission Meetings:
Held to 4/26/18: **5, 6, 7, 9, 10, 11, 18, 41, and 41A.**





Regular Agenda

- Each item on the Regular Agenda (and its alternate if any) will be introduced by the assigned Commissioner or CPUC staff and discussed before it is moved for a vote.
- For each agenda item, a summary of the proposed action is included on the agenda; the CPUC's final decision may, however, differ from that proposed.
- The complete text of every Proposed Decision or Draft Resolution is available for download on the CPUC's website: www.cpuc.ca.gov.
- Late changes to agenda items are available on the Escutia Table.





Orders and Resolutions

Item # 5 [16180] – Request for Modifications to Electric Rule 21 Tariff to Incorporate Smart Inverter Phase 3 Advanced Functions in Compliance with Decision 16-06-052

Res. E-4898, Pacific Gas and Electric Company's Advice Letter (AL) 5199-E and Southern California Edison Company's AL 3647-E both filed August 18, 2017; and San Diego Gas & Electric Company's AL 3106-E filed August 17, 2017 - Related matters.

PROPOSED OUTCOME:

- Approves, with modifications, Pacific Gas and Electric Company, Southern California Edison Company and San Diego Gas & Electric Company's proposed revisions to the Electric Rule 21 Tariff incorporating eight Smart Inverter Working Group Phase 3 advanced functionality recommendations.
- Modifies the effective dates and adjusts technical requirements of the eight functions.
- Rejects the proposed revisions to the Electric Rule 21 Tariff communications requirements for smart inverters.

SAFETY CONSIDERATIONS:

- Implementation of smart inverter Phase 3 advanced functions could improve the safety and reliability of the distribution system and overall electric grid.

ESTIMATED COST:

- This Resolution is expected to reduce ratepayer costs associated with interconnecting distributed energy resources under the Electric Rule 21 Tariff by minimizing the impact of those resources on the distribution system.





Resolution E-4898 on Phase 3 Smart Inverter Functions

March 22, 2018
Edward Randolph
Energy Division Director





Summary of Resolution E-4898

- Resolution approves Utilities' proposal to modify Electric Rule 21 Tariffs (Rule 21) to incorporate the eight Phase 3 function capabilities.
- Resolution modifies the effective dates of the function capabilities and adjusts technical requirements of the eight functions, primarily to align with the update to international standard IEEE 1547.
- Resolution approves activation of Function 5, Frequency Watt Mode, and Function 6, Volt Watt Mode, as default settings for all new smart inverters starting early 2019.
- Resolution requires the development of monitoring and reporting methodologies for frequency events and voltage excursions, and orders reporting on frequency events, voltage excursions, and Utilities' voltage complaint processes for the three years following activation of functions.
- Resolution rejects the proposed revisions to the Rule 21 communications requirements for smart inverters.





What is a Smart Inverter? What Problem Do They Solve?

- A inverter is a power electronic device needed by many distributed energy resources (DERs) to interconnect to the grid and a smart inverter is one with sophisticated capabilities.
- Smart inverters mitigate many of the traditional concerns associated with variable DER generation, enable greater penetration of DERs, and enhance DER value by enabling grid services.





Smart Inverter Functions

Phase 1 Autonomous Functions	Phase 2 Communications	Phase 3 Advanced Functions
<ul style="list-style-type: none">• Anti-Islanding• Voltage Ride-Through• Frequency Ride-Through• Volt Var Control• Default and Emergency Ramp Rates• Fixed Power Factor• “Soft-Start” Methods	<ul style="list-style-type: none">• Three Pathways:<ul style="list-style-type: none">• IOU – DER• IOU – DERMS• IOU – Retail Aggregator• Default Protocol: IEEE 2030.5 (aka SEP 2.0)	<ul style="list-style-type: none">• Monitor Key DER Data• DER Cease to Energize/Return to Service Request• Limit Maximum Real Power Mode• Set Real Power Mode• Frequency Watt Mode• Volt Watt Mode• Dynamic Reactive Current Support Mode• Scheduling Power Values and Modes





Smart Inverter Benefits by Phase

Phase 1 Autonomous Functions	Phase 2 Communications	Phase 3 Advanced Functions
<ul style="list-style-type: none">• Reduces impact of DERs contributing to system disturbances and unnecessary disconnections• Mitigates DER voltage and power quality issues	<ul style="list-style-type: none">• Enables active management, monitoring, and coordination of DERs with distribution equipment• Allows for updating of Phase 1 settings and Phase 3 functions	<ul style="list-style-type: none">• Increases utility visibility and control of DERs• Enables DERs to assist grid operations under normal (ex. maintenance) and abnormal (ex. emergency) grid situations• Further reduces impact of DERs contributing to system disturbances and unnecessary disconnections





Basic Definitions

Term (unit)	Definition	Relevant Smart Inverter Function/s
Voltage (volt, V)	<p>“Energy per electron.” Voltage flows from high to low, from generation to load. Analogous to pressure in a water system. Voltage must be maintained within certain ranges. Too low or too high voltage results in damage to equipment and presents a safety hazard.</p>	Volt Watt Mode
Real Power (watt, W)	<p>Portion of power that results in a net transfer of energy in one direction. Real power is what people are compensated for generating.</p>	Frequency Watt Mode Volt Watt Mode
Frequency (hertz, Hz)	<p>Number of times the current and voltage cycle per duration of time (60 Hz = 60 times per second).</p>	Frequency Watt Mode





Volt Watt Mode

Function Definition: When voltage is high, reduce real power production. Purpose is as a backup for safety and reliability when voltage has risen past allowable limits.

Background: The utility is required under its Electric Rule 2 Tariff (Rule 2) to provide customers with voltage between 95% and 105% nominal voltage. Utilities design and operate to maintain this range by installing distribution equipment (voltage regulators, capacitor banks, and load tap changers).

Why Does It Matter: ***Volt Watt Mode serves as a backup for safety and reliability and is not intended to be a permanent voltage regulation solution.*** The proposed default setting is 106% which is past the Rule 2 range of 105%. Volt Watt Mode safeguards against further deviation from the proper limit in real time. The utility can then resolve the issue. ***The proposed settings ensure that the function is only used when necessary.***





Volt Watt Mode

The Resolution requires default setting for Volt Watt Mode to be set to “active” mode which would modify the active power exported from DERs based on predetermined voltage ranges (<94% or >106% of nominal voltage) only during periods when the grid was already experiencing a voltage excursion (Rule 2 requires voltage to stay within 95%-105% of nominal voltage) in order to prevent the local voltage on the distribution circuit from rising/dropping outside of allowable levels.





Benefits of Volt Watt Mode

Activation provides benefits to the grid, DER customers, and ratepayers.

- Enables streamlined Rule 21 interconnections as need for engineering analysis and distribution upgrades is diminished.
- Allows for higher penetrations of DERs as more DERs are permitted to interconnect.
- Together with Volt Var function from forthcoming Resolution, saves ratepayers from paying for distribution upgrades.
- Increases safety due to prevention of high voltage situations.
- Reduces impact to surrounding customer's electricity bills as higher voltages result in higher energy consumption from many consumer devices.





Volt Watt Mode

Stakeholder Contention	Energy Division Response
<p>Customers may not be contributing to the problems and cannot plan for or control impact.</p>	<ul style="list-style-type: none"> • DERs are the primary contributor to rising voltages on the distribution level. • Volt Watt Mode is meant to serve as a temporary solution for unforeseen problems. • If Volt Watt Mode is being triggered, it means utility is out of compliance with Rule 2 and must make upgrades.
<p>There are no means for accurate measurement of energy loss.</p>	<ul style="list-style-type: none"> • Stakeholders expressed that measurement was possible when promoting their own pilot.
<p>The Hawaii PUC has not required activation of Volt Watt Mode based on a NREL study.</p>	<ul style="list-style-type: none"> • The NREL Hawaii study assumed that the Volt Watt Mode function would continually be used to resolve voltage issues. In California, Volt Watt Mode will be used for backup when voltage has already passed allowable limits and once the situation has been identified. Therefore, the NREL study should not be used for comparison purposes. • In Hawaii, DER customers are obligated to pay for distribution upgrades when interconnecting and thus have an incentive to use the Volt Watt Mode function as opposed to distribution .





Volt Watt Mode

Stakeholder Contention	Energy Division Response
<p>Activation will impact DER project economics and financing capability, which primarily affects low and middle-income families.</p>	<ul style="list-style-type: none"> Data requests have shown that the IOUs are within the Rule 2 ranges of 95% and 105% over 99% of the time. The proposed default setting is further outside of this range. Therefore, the expected impact to DER economics is de minimis. There is no reason to expect there to be a significant impact particularly to these customers.
<p>Activation will have a devastating impact on a small percentage of customers over the lifetime of their systems with no compensation of the impacts.</p>	<ul style="list-style-type: none"> Data requests have shown that the IOUs are within the Rule 2 ranges of 95% and 105% over 99% of the time. When there is use of Volt Watt Mode, the intention of the Volt Watt Mode is to serve as a temporary solution before ultimately being resolved by the utility. Therefore, the impact is expected to be de minimis. IOUs have estimated that approximately 0.1% of customers would experience over 1% of losses in real power production and that is with the assumption that the voltage issue is resolved by use of the Volt Watt Mode throughout the lifetime of the PV system.
<p>Activation should not occur until a compensation mechanism is established.</p>	<ul style="list-style-type: none"> There is no need to compensate for the proposed default settings. Compensation of customized settings is to be examined in R.17-07-007 with an expected Proposed Decision on the topic by Summer 2019.
<p>The existing Volt Var function likely addresses the potential impacts of DERs to increase voltage.</p>	<ul style="list-style-type: none"> Use of Volt Watt Mode begins when voltage is already beyond allowable limits and is only used after the Volt Var function is no longer sufficient.



Voltage Reporting Requirements

Resolution requires development of methodology for IOUs to monitor frequency and duration of voltage excursions and estimated impact to DERs, particularly on circuits where smart inverters are present. IOUs will file annual reports using approved methodology for three years.

Resolution requires annual reporting on utility voltage complaint process for three years.

Intent of both sets of reports is to:

- Help understand how often Volt Watt Mode is used;
- Allow the Commission to monitor and enforce utility compliance with Rule 2 obligations and thereby minimize the use of Volt Watt Mode; and
- Ensure voltage issues are resolved in a timely and appropriate manner, with or without customer complaint.





Frequency Watt Mode

Function Definition: When frequency is high, reduce real power production. When frequency is low, increase real power production. Purpose is to help the grid at large avoid system outages.

Background: The frequency is a system-wide parameter and is effectively the same (60 Hz) throughout the Western Interconnection. Historically and currently, frequency is primarily supported by conventional, large, spinning generators (frequency response).

Why Does It Matter: While frequency events are uncommon and are generally short in duration, ***the impact of these events, if left unmitigated, is potentially detrimental to all customers, i.e. cascading blackouts.*** As traditional, spinning generation retires, the grid will lose the support it needs and will become more prone to grid disturbances which affect everyone.





Frequency Watt Mode

The Resolution requires Frequency Watt Mode function that will decrease real power production when frequency rises above 60.036 Hz and increase real power production when frequency drops below 59.964 Hz.

The impact of this default setting for this function is that the smart inverter will provide more or less real power to help keep the entire grid within allowable frequency ranges once a frequency excursion, a rare event, is already underway.





Frequency Watt Mode

Stakeholder Contention	Energy Division Response
<p>Activation will primarily impact energy storage customers who were counting on the stored energy for other purposes.</p>	<ul style="list-style-type: none"> • Frequency events are generally seconds to minutes in duration if mitigated in a timely fashion and the impact from the use of Function 5 to individual DER systems is expected to be de minimis. The IOUs have estimated using 2011 to 2017 data that a worst case scenario of 5% frequency droop during under frequency events, i.e. 5% of nameplate capacity for required generation during those times, would result in 16 kWh of required generation per kW of capacity per year. • If DERs do not provide support at these times, it is likely that grid disturbances will expand and not only will these DERs be affected, many other customers will be impacted as well.
<p>Frequency response is not a distribution service and therefore is not the responsibility of DERs but rather CAISO and wholesale generators.</p>	<ul style="list-style-type: none"> • As more conventional fossil fuel generation is removed from the grid, frequency will become the responsibility of all generating resources. • The international organization IEEE approved the updated frequency range because it aligns with NERC standards which require balancing authorities to stay within the range. • The storage industry wants to be compensated for use of the function. The Commission may later examine compensation for the interval between 59.964 Hz and 60.036 Hz.





Frequency Watt Mode Reporting Requirements

Resolution requires development of methodology for IOUs to monitor frequency and duration of frequency events and estimated impact to DERs with advanced inverter functions. IOUs will file annual reports using approved methodology for three years.

Intent of reporting is to monitor the impact of activating Frequency Watt Mode function.





Orders and Resolutions

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PROPOSED OUTCOME:

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- Modifies the effective dates and adjusts technical requirements of the eight functions.
- Rejects the proposed revisions to the Electric Rule 21 Tariff communications requirements for smart inverters.

SAFETY CONSIDERATIONS:

- Implementation of smart inverter Phase 3 advanced functions could improve the safety and reliability of the distribution system and overall electric grid.

ESTIMATED COST:

- This Resolution is expected to reduce ratepayer costs associated with interconnecting distributed energy resources under the Electric Rule 21 Tariff by minimizing the impact of those resources on the distribution system.





Regular Agenda- Water/Sewer Orders

Item # 42 [16274] – Cost of Capital for Class A Water Companies for the Three Years Beginning January 1, 2018

A16-04-001 A17-04-001, A17-04-002, A17-04-003, A17-04-006 - Related matters.

In the Matter of the Application of San Jose Water Company for Authority to Adjust Its Cost of Capital and to Reflect That Cost of Capital in Its Rates for the Period from January 1, 2018 through December 31, 2020. Consolidate applications include Golden State Water Company, California-American Water Company, and California Water Service Company.

Ratesetting

Comr Guzman Aceves - Judge Bemserfer

PROPOSED OUTCOME:

- Sets returns on equity, costs of debt, and capital structures for Class A water Companies for 2018-2020.
- Continues Water Cost of Capital Mechanism for Class A water companies for 2018- 2020.
- Closes the proceeding.

SAFETY CONSIDERATIONS:

- There are no safety considerations associated with this decision.

ESTIMATED COST:

- There are no costs associated with this decision.





Regular Agenda- Orders Extending Statutory Deadline

Item # 44 [16351] – Order Extending Statutory Deadline

C10-10-010

Michael Hetherington and Janet Hetherington vs. Pacific Gas and Electric Company.

Adjudicatory

Comr Guzman Aceves - Judge Roscow

PROPOSED OUTCOME:

- Extends statutory deadline for completion of this proceeding until October 13, 2018.

SAFETY CONSIDERATIONS:

- There are no safety considerations implicated with this Order Extending Statutory Deadline.

ESTIMATED COST:

- There are no costs associated with this Order Extending Statutory Deadline.





Regular Agenda- Orders Extending Statutory Deadline (continued)

Item # 45 [16354] – Order Extending Statutory Deadline

C16-04-009

BB's Deli, LLC vs. San Diego Gas & Electric Company.

Adjudicatory

Comr Guzman Aceves - Judge Miles

PROPOSED OUTCOME:

- Extends statutory deadline for completion of this proceeding until October 12, 2018.

SAFETY CONSIDERATIONS:

- There are no safety considerations implicated with this Order Extending Statutory Deadline.

ESTIMATED COST:

- There are no costs associated with this Order Extending Statutory Deadline.





Regular Agenda- Orders Extending Statutory Deadline (continued)

Item # 46 [16355] – Order Extending Statutory Deadline

17-04-009

Order Instituting Investigation on the Commission's Own Motion into Why the Commission Should not Impose Appropriate Fines and Sanctions Against Rasier-CA LLC for Violating the Commission's Decision 13-09-045, Safety Requirement D by Failing to Comply with The Zero Tolerance Rules and Public Utilities Code 5381.

Adjudicatory

Comr Randolph - Judge Mason

PROPOSED OUTCOME:

- Extends statutory deadline for completion of this proceeding until October 6, 2018.

SAFETY CONSIDERATIONS:

- There are no safety considerations implicated with this Order Extending Statutory Deadline.

ESTIMATED COST:

- There are no costs associated with this Order Extending Statutory Deadline.





Commissioners' Reports





Management Reports





Regular Agenda – Management Reports and Resolutions

Item # 48 [16337]

Report and Discussion on Recent Consumer Protection and Safety Activities





POSITIVE TRAIN CONTROL (PTC)



Roger Clugston

Deputy Director, Office of Rail Safety (ORS)
Safety Enforcement Division (SED)

March 22, 2018





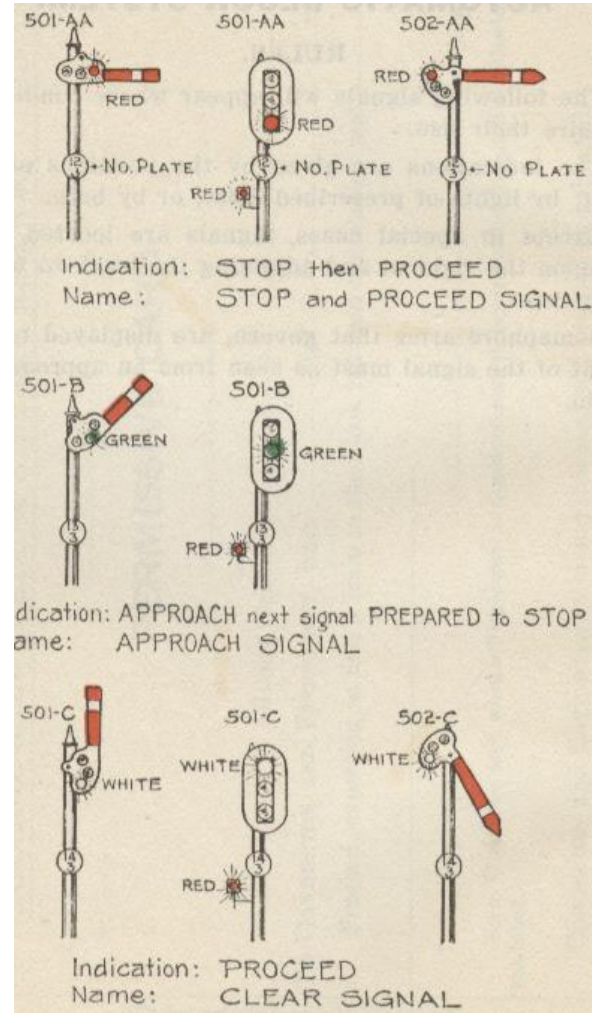
Presentation Overview

- Controlling train movements
- How PTC Works
- PTC Goals
- PTC Limitations
- PTC Components
- Problems In PTC Implementation
- PTC and Accident Prevention
- Legislative Background
- CPUC PTC Activities
- PTC in California – Passenger Railroads
- PTC in California – Freight Railroads
- Questions



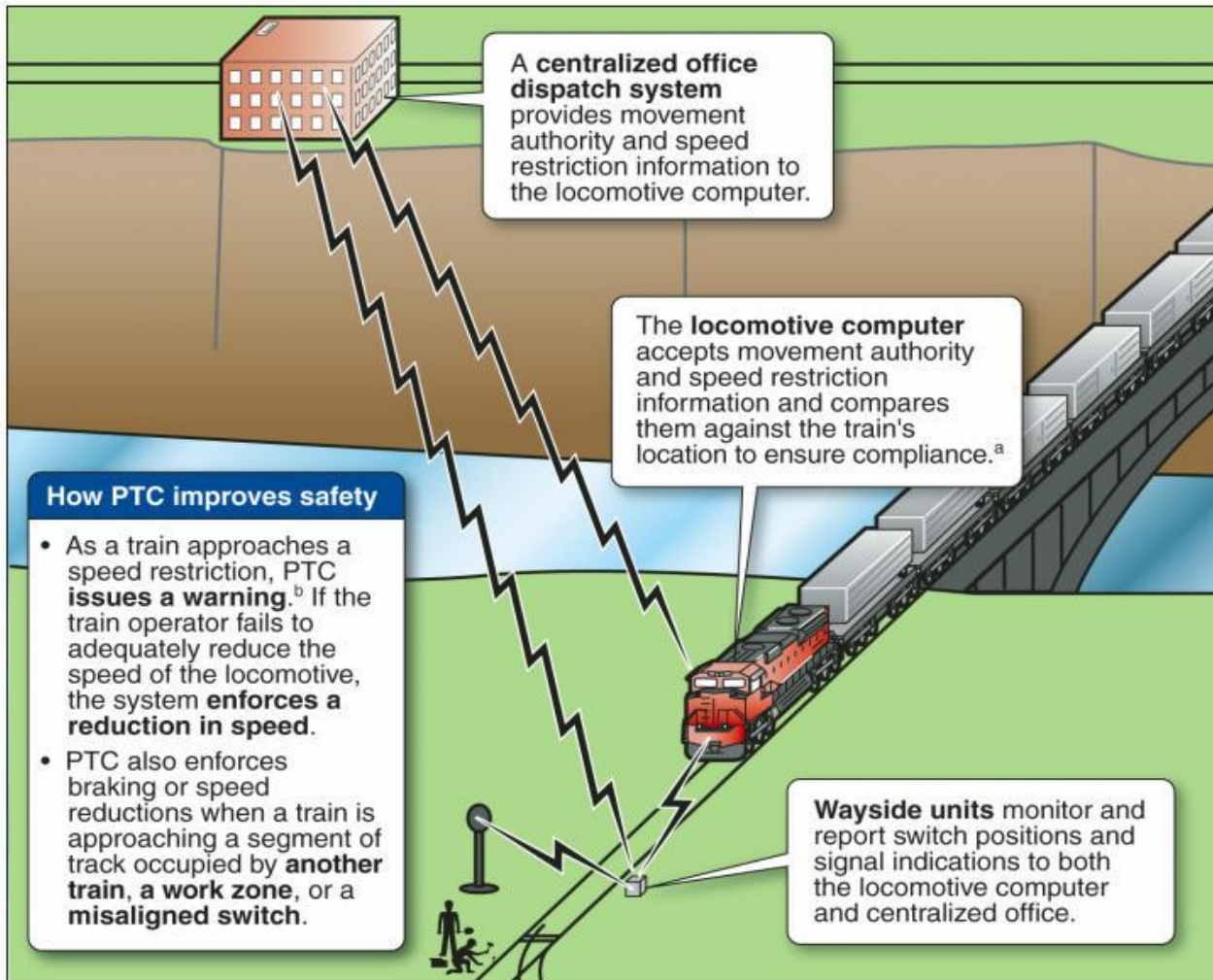


Controlling Train Movements - Prologue





How PTC Works





PTC Goals

PTC is intended to prevent:

- Train-to-train collisions
- Derailments caused by excessive speed
- Unauthorized incursions by trains onto sections of track where maintenance activities are taking place
- Movement of a train through a track switch left in the wrong position



Photos - Joe Taul Collection





PTC Limitations

PTC will **not** prevent:

- Accidents caused as a result of track or equipment failure
- Improper vehicular movement through a grade crossing
- Trespassing on railroad tracks
- Certain types of train operator error

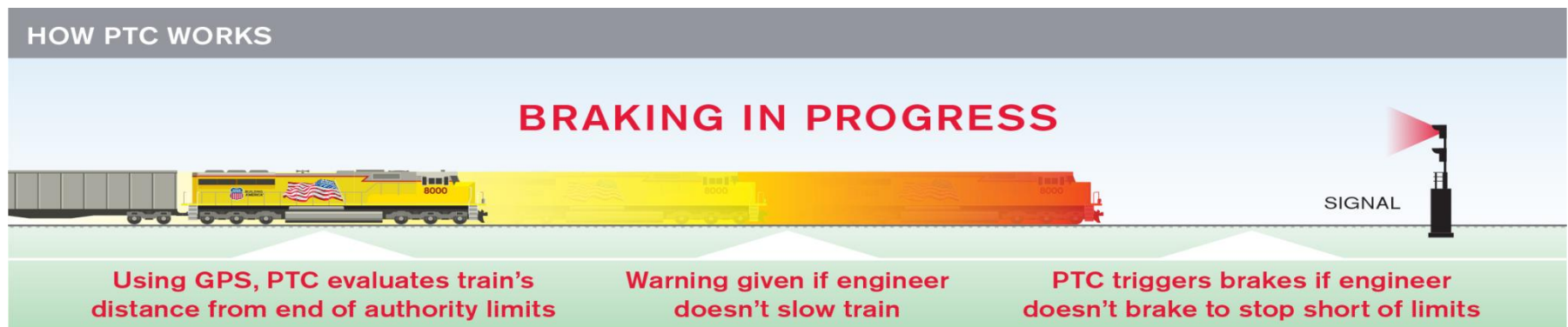




PTC Components

PTC uses Global Positioning Systems, Wi-Fi and high-band radio transmission to:

- Ensure that trains do not exceed their authority
- Determine the location, direction and speed of the trains
- Take action by stopping a train if there is not a response by the train crew



Union Pacific Railroad illustration





PTC Components

There are three main elements of a PTC system, which are integrated by a wireless communications system:

- **Onboard Locomotive System:** Monitors the train's position and speed and activates braking as necessary to enforce speed restrictions and unauthorized train movement into new sections of track.
- **Wayside System:** Monitors railroad track signals, switches and track circuits to communicate movement authorization to the locomotive.
- **Back Office Server:** The storehouse for all information related to the rail network and trains operating across it. It transmits the authorization for individual trains to move into new segments of track.





PTC and Accident Prevention

Since 1969, the National Transportation Safety Board (NTSB) has investigated 148 accidents that were determined to be preventable by PTC. These accidents resulted in 298 fatalities and 6,763 injuries.





Legislative Background

The Rail Safety Improvement Act of 2008 (P.L. 110-432), enacted after the Chatsworth accident, required Class I railroad main lines handling poisonous-inhalation-hazard materials and any railroad main lines with regularly scheduled intercity and commuter rail passenger service to fully implement PTC by December 31, 2015.



Los Angeles Daily News photo





Legislative Background

In the Positive Train Control Enforcement and Implementation Act of 2015 (P.L. 114-73), Congress extended the PTC implementation deadline by at least three years to December 31, 2018, with the possibility of an extension to a date no later than December 31, 2020, if a railroad completes certain statutory requirements that are necessary to obtain an extension:

- a railroad must have all spectrum acquired and;
- all hardware installed, at minimum, before further consideration for extension.





Challenges In PTC Implementation

Government Accountability Office, 3/1/18:

- PTC is a new way of operating and involves technologies that are more complex to implement than many other railroad capital projects
- There are a limited number of individuals with PTC technical expertise available to successfully implement the technology
- Some railroads have faced unexpected delays in obtaining PTC equipment
- PTC is being implemented by different types of railroads using different systems, and achieving interoperability among PTC systems can complicate implementation
- Unexpected issues with components or technology can also require additional time to complete certain activities, causing schedules to slip
- FRA officials stated that reviewing all of the safety plans in a timely manner will be a challenge given staff resources





CPUC PTC Activities

During 2016-17, the CPUC PTC specialists performed the following:

- Conducted observations of 17 field activities
- Performed 45 PTC surveillance observations
- Monitored and participated in 20 PTC status meetings
- Provided ongoing correspondence with the railroads to determine status, challenges, and issues of implementation
- Provided monthly reports of PTC activities to CPUC management
- **2018 will see a large increase in PTC field activities by CPUC**





PTC in California – Freight Railroads

In the freight industry, PTC made mixed progress during the first half of 2017. As of June 30, 2017, only 4 of the 36 freight railroads in California were implementing PTC: UPRR, BNSF, Pacific Sun (PacSun), and San Joaquin Valley Railroad (SJVR).

- UPRR and BNSF are required to implement a PTC system as per federal regulations as set forth in 49 CFR 236.1005 (Requirements for Positive Train Control Systems).
- PacSun and SJVR do not fall under the federal requirements to install PTC systems; however, both railroads were served notices by other railroads to equip their locomotives with PTC equipment to allow them to operate on tracks owned by the Class 1 carriers.





PTC in California – Freight Railroads

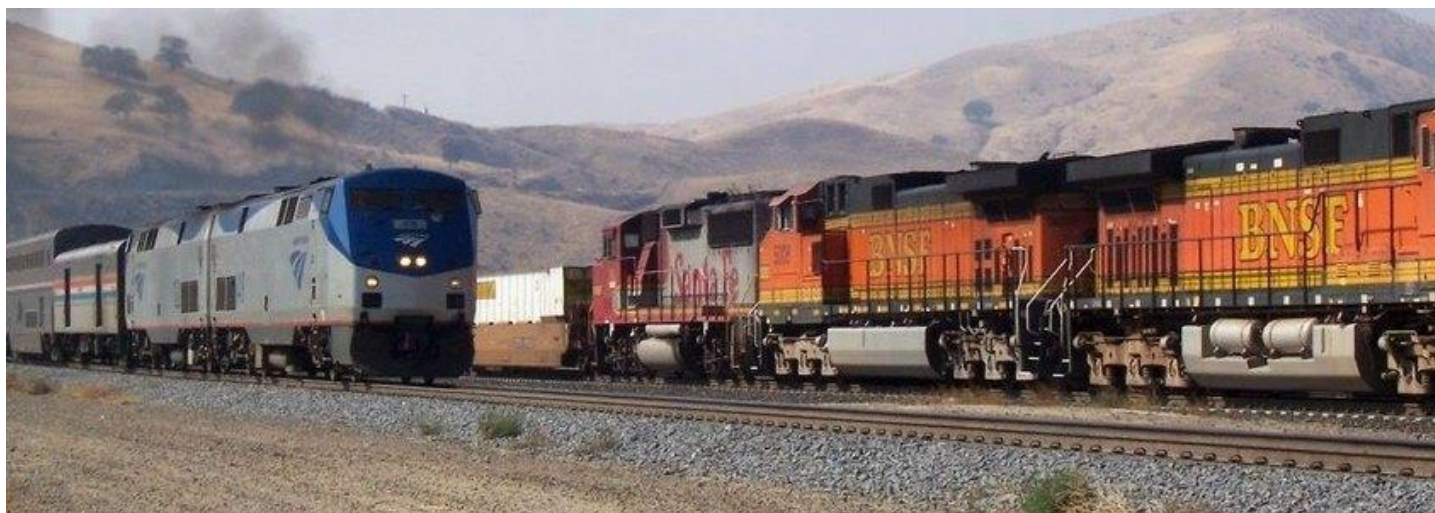
	Freight Railroad	Stage of PTC Implementation
1.	BNSF	All subdivisions in California have PTC installed and in revenue service. BNSF reported that 88.8 percent of their PTC runs are uneventful. All of the required BNSF employees have been trained (1,800 employees). BNSF anticipates PTC interoperability with other railroads by the following dates: Metrolink currently; UPRR by the first quarter of 2018, NCTD by the first quarter of 2018, and Amtrak by the first quarter of 2018.
2.	UPRR	As of June 30, 2017, the CPUC is aware of only two subdivisions in Southern California that have PTC in RSD: the Los Angeles subdivision and the Alhambra subdivision. Other subdivisions in the UPRR system are in varying states of installation and implementation. UPRR does not have interoperability with BNSF or Metrolink. A timeline for full PTC implementation has not been announced. The crews who are operating on the PTC equipped subdivisions are receiving training as required.
3.	PacSun	The NCTD served PacSun a notice to equip their locomotives with PTC because PacSun operates on NCTD lines. PacSun has three locomotives, all of which are equipped. They are currently conducting interoperability testing with NCTD. Initial training for the employees has been contracted. PacSun anticipates full operability by December 2017.
4.	SJVR	SJVR shares track with BNSF and UPRR, which have served notice to SJVR to equip their locomotives with PTC. SJVR's parent company, Genesee & Wyoming Inc., plans to start testing on one of their railroads in Oregon in the third quarter of 2017. No SJVR locomotives are equipped with PTC and there is no anticipated date when this will take place.





PTC in California – Passenger Railroads

While the implementation of PTC has made significant progress in passenger service, not all passenger lines will meet the 2018 deadline.





PTC in California – Passenger Railroads

	Passenger Railroad	Stage of PTC Implementation
1.	Metrolink	In Revenue Service Demonstration (RSD). Interoperability with tenants is next challenge. Slow implementation by UPRR as a host and tenant is a significant challenge to interoperability.
2.	North Coast Transit District (NCTD)	Waiting for RSD approval for Coaster. Coaster operating PTC seven days a week beginning December 2017. Interoperability testing underway March 2018.
3.	Sonoma Marin Area Rail Transit (SMART)	Waiting for RSD approval to begin passenger service. SMART utilizes signals in the rail versus radio frequencies for PTC operation.
4.	Amtrak	Waiting for interoperability testing. Amtrak is a tenant railroad in California.
5.	Caltrain	Progress is halted due to termination of the PTC contractor, litigation, and new contractor search.
6.	Altamont Corridor Express (ACE)	Waiting for UPRR as host railroad to be ready to test interoperability. On-board equipment for ACE locomotives has been on backorder but should arrive by the end of 2017.





Questions?

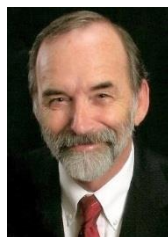




Thank you!

For Additional Information please contact me or visit our webpage:

<http://www.cpuc.ca.gov/rail/>



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Regular Agenda – Management Reports and Resolutions

Item # 48 [16337]

**Report and Discussion on Recent Consumer Protection and Safety
Activities**





Regular Agenda – Management Reports and Resolutions

Item # 49 [16338]

Management Report on Administrative Activities





Employee Recognition of CPUC Employees



Alice Stebbins
Executive Director

California Public Utilities Commission

March 22, 2018



Employee of the Quarter – 4th Qtr. of 2017

- **Jacqueline Lau - Building Morale**
- **Marc Monbouquette - Driving Innovation**
- **Ryan Cayabyab - Embodying Core Values**
- **Edgar Hanson - Excelling at Customer Service**





Regular Agenda – Management Reports and Resolutions

Item # 49 [16338]

Management Report on Administrative Activities





Management Reports





The CPUC Thanks You For Attending Today's Meeting

**The Public Meeting is adjourned.
The next Public Meeting will be:**

**April 26, 2018 at 9:30 a.m.
in San Francisco, CA**

