



# STAFF WORKSHOP

## Station Service and California's RPS Program

California Energy Commission

**DOCKETED**

**11-RPS-01**

TN 71970

SEPT. 12 2013

Mark Kootstra

Renewable Energy Division

Hearing Room A

9:30 a.m.

September 10, 2013

*Thank you for your participation – the workshop will begin shortly.*

*Please take advantage of the WebEx call-back function.*



# Workshop Agenda

- Welcome & Housekeeping
- Staff Presentation
- Public comments
- Next Steps



# Housekeeping

- Handouts on desk at room entrance
- Restrooms located on 1<sup>st</sup> floor
- Snack bar on 2<sup>nd</sup> floor
- Several restaurants within walking distance
- Emergency evacuation procedures
- WebEx
  - For interactive participation use WebEx



## WebEx Participation

- WebEx users can:
  - View slides
  - “Raise hand” to ask a question
  - “Chat” to the WebEx host
- WebEx users are muted on entry
- WebEx users will be un-muted during Q&A
- Login details are on page 4 of the Workshop Notice



## Ground Rules

- Use blue cards to make speaking request
  - Blue cards available on table at room entrance
  - Submit blue cards to Energy Commission staff
  - Before speaking, provide business card to court reporter
  - Must use microphone at podium to speak
- WebEx and phone-only participants can also ask questions during Q&A



## Public Comments

- Comments will be taken in the following order:
  - Audience in Attendance
    - Blue cards
  - WebEx participants
    - Click the “Raise Hand” button to ask a question
      - We can then un-mute your phone line to take your comment verbally
    - Alternatively, you can “chat” your comment to WebEx “Host”
  - Phone-only participants
    - We will un-mute all phone lines for open ‘mic’ comments - Please only un-mute your phone to speak



## Purpose of Workshop

- Provide clarity on the requirements surrounding station service in the Renewables Portfolio Standard program.
- Seeking public comment on the station service requirements in the Renewables Portfolio Standard program.



## What is Station Service?

In general terms, station service is energy consumed by an electrical generation facility for power plant operations

There is a general consensus that energy used to serve station service load should not result in RECs





## Station Service in the RPS

- The *RPS Eligibility Guidebook* did not mention station service until the seventh edition.
- Participation in WREGIS has been required since the adoption of the third edition of the *RPS Eligibility Guidebook*.



## Requirement to Participate in WREGIS

“Effective January 1, 2008, the Energy Commission requires RPS-certified facilities, retail sellers, procurement entities and third parties to participate in the WREGIS as part of RPS compliance, except for PG&E, SDG&E and SCE, which must register with and use WREGIS by May 1, 2008, as part of RPS compliance” (*RPS Guidebook, Third Edition*, p 46).



## May 2012 Program Administrator's Advice Letter to WREGIS Regarding Station Service

- Developed by interested WREGIS program administrators, including California Energy Commission Staff
- Provided the program administrator's collective position on station service
- Supported current WREGIS practice



## Seventh Edition RPS Guidebook

- Adopted April 30, 2013
- Did not directly address station service
- At the direction of Chair Weisenmiller retained the “status quo language” on station service
- Chair Weisenmiller directed staff to conduct this workshop to gather stakeholder input



## “Status Quo Language”

Continued deference to the WREGIS  
Operating Rules regarding station service:

- **“Station Service:** The electric supply for the ancillary equipment used to operate a generating station or substation” (WREGIS Operating Rules, July 2013, p 6).
- Supported by the May 2012 Advice Letter



# Staff View on Station Service

Three types of energy consumptions:

- Directly contributing to electricity generation
- Station service loads
- Energy Consumption not contributing to electricity generation



## Directly Contributing to Electricity Generation

The utilization of the energy resource(s) is required to generate electricity and is the overwhelmingly primary contributor of energy to the electrical generation facility.

- This may be done directly (photovoltaic) or indirectly (biomass in a Rankine cycle).



# Station Service Loads

Include

- Secondary Processes
- Onsite fuel transportation
- General facility operations





## Secondary Processes

Necessary to generate or control the generation of electricity, but not the primary contributor of energy:

- Pumps
- Condensers
- Feathering systems
- Tracking systems
- Etc.



## Fuel Transportation: Onsite

- Transportation of fuel from the onsite, or nearby, fuel storage area of the ready to use fuel to the combustion chamber.
  - This transportation is for no other purpose than the consumption of the fuel at the electrical generation facility.



## General Operations

- Do not directly contribute to the production of electricity but are necessary to ensure:
  - Operation of the electrical generation facility
  - Optimal operations
  - Safety



## Energy Consumption not Contributing to Electricity Generation

Include

- Fuel Processing
- Offsite fuel transportation
- Maintenance and miscellaneous processes
- Construction and initial operations



# Fuel Processing

Fuel processing does not add or create an energy potential in the fuel, but converts the energy potential to a more usable form:

- Biomass chippers
- Methane capture
- Water impoundment



## Fuel Transportation: Offsite

Delivery of fuel from the onsite, or nearby, fuel storage area for ready to use fuel.

- The transportation energy expenditures have no impact on the electricity generation potential at the electrical generation facility.
- This transportation energy could be expended in the absence of the electrical generation facility, or is expended primarily for another purpose.



# Maintenance and Miscellaneous Processes

## Maintenance activities

- Does not directly contribute to the production of electricity
- Is necessary for the operations of the facility

## Miscellaneous include

- Security
- Worker transportation
- Inspection work



## Construction and Initial Operations

- Construction: one-time, or periodic, energy expenditures necessary for the development of the facility, but do not directly contribute energy to the generation process
- Initial Operations: any energy expenditures that do not result in electricity generation that occur prior the initial startup of the facility.





## Additional Considerations

Potential arbitrage opportunities that should be addressed

- Powering processes with non-electrical energy
- Timing of the station service load relative to the generation of electricity
- Location of the energy consumption



## Staff Position on Additional Considerations

Energy Commission staff believe that station service loads cannot cease to be station service loads simply by changing the source of the power, the time of operation relative to the generation of electricity, or the legal boundaries of the facility.



# Station Service and Geothermal Well Pumps

Stakeholders have argued the following

Geothermal brine = fuel

Geothermal well pumps = fuel delivery

However, staff believes this approach is flawed.



## Geothermal Brine

**Geothermal** – or, relating to, or produced by the internal heat of the earth

**Geothermal brine** – hot, concentrated, saline solution that has circulated through crustal rocks in an area of anomalously high heat flow



## Fuel

**fuel** - substance that is burned or otherwise modified to produce energy, usually in the form of heat.

Geothermal brine  $\neq$  fuel



## Then What is Geothermal Brine?

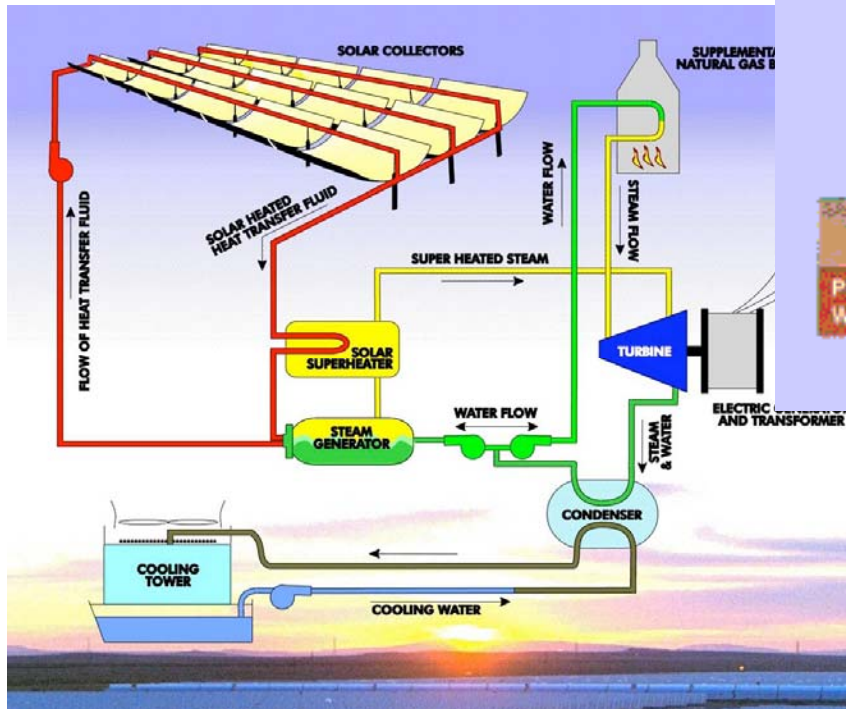
In both direct steam and flash steam plants the brine is the working fluid used to turn the turbine.

In binary systems it is a heat transfer fluid similar to solar thermal with binary systems.

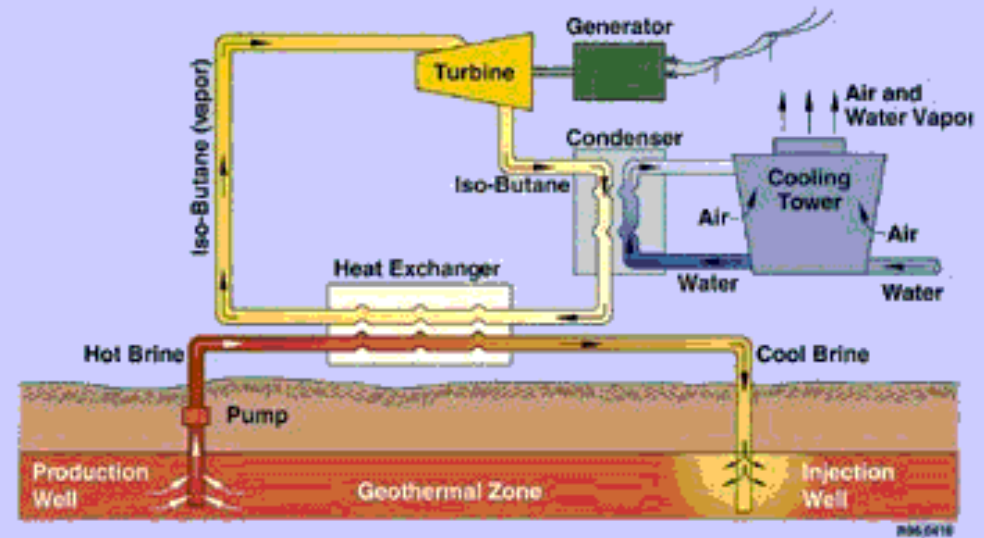


# Binary Plants

## Solar Thermal



## Binary Cycle Power Plant



## Geothermal



## What Powers a Geothermal Facility?

Geothermal facilities are powered by the internal heat of the earth. This energy is collected by the brine for use in an electrical generation facility.





## Questions and Comments about Station Service?



**Please restrict your comments to station  
service.**



**Break**



## Next Steps

- **Comments are due by 4 pm on Sept. 20, 2013**
- Follow filing instructions in Workshop Notice for submitting comments
- Staff recommends the *RPS Eligibility Guidebook* be revised in the future to clarify station service
- An *RPS Eligibility Guidebook* scoping workshop is planned for early 2014, starting the guidebook revision process.



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