DOCKETED

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Project Title:	Disaggregated Demand Data Cleaning Workshop
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Document Title:	Presentation - Draft Methods for Collecting and Processing Disaggregated Demand Data
Description:	Presentation by Jason Harville at the December 11 Energy Commission staff workshop regarding draft ETL methods for data described in Section 1353 of the California Code of Regulations, Title 20.
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Draft Methods for Collecting and Processing Disaggregated Demand Data
Under California Code of Regulations, Title 20, Section 1353

Jason Harville

December 11, 2018

California Energy Commission

Agenda

10:00 Welcome Remarks, Commissioner McAllister, CEC

10:15 Purpose and Objectives
- Purpose and Scope
- Background
- Title 20, Section 1353

10:30 Data Contents and Structure
- Source data ID fields
- Source data table schema
- Known unknowns

11:30 Data Cleaning and Transforming
- Transformation rules and ETL process

12:00 Lunch

01:00 Open Discussion All Participants

02:00 Public Comments All Participants

02:45 Next Steps

Workshop Purpose

1. Describe draft methods for collecting and processing meter-level data under Title 20, Section 1353.

2. Explain known unknowns.

3. Solicit discussion and feedback.

4. Provide context for written comments.

5. Use feedback and comments to finalize methods in January 2019.

Out of Scope

- This workshop will not address technical details of data security, confidentiality, or transmission.

- Energy Commission staff will work with utilities' technical staff to address these issues.

Background

- Recently-enacted legislation[*] requires disaggregated analytical products.

- This includes the hourly and seasonal impact of energy efficiency targets on state and local electricity demand.

- Also provides for data collection authority, which was adopted in California Code of Regulations, Title 20, Section 1353.

Section 1353

- Data collection begins in 2019, and will be delivered quarterly.

- Requires electrical and natural gas data for utilities that meet respective service thresholds.

- Includes interval meter data at the most granular level collected.

Section 1353

Electricity Data

- Applies to PG&E, SCE, SDG&E, SMUD, and LADWP.
- For each meter, requires
  - Monthly billing data.
  - Monthly consumption data.
  - Interval consumption data (interval meters only).
  - Associated data, such as address, NAICS code, rate schedule, and energy efficiency participation.
- For unmetered consumption, requires
  - Estimated consumption by service account.
  - Associated data.

Section 1353

Natural Gas Data

- Applies to PG&E, SDG&E, and SoCalGas.
- For each meter, requires
  - Monthly billing data.
  - Monthly consumption data.
  - Associated data, such as address, NAICS code, rate schedule, and energy efficiency participation.

Section 1353

Clarifications and Changes

Pages 5-8 of the draft methods identify areas of the regulation that should be clarified to remove ambiguity, explicitly name additional required data fields, and resolve current requirements that are inefficient or infeasible.

Staff will work to address these issues in the next phase of our data collection rulemaking.

Draft Structure

Two Sections

1. Source Data: Describes data fields and table schema for utilities to report.

2. Methods: Describes general ETL[*] flow and transformation rules for processing source data.

Note: The attached data dictionary supports both of these sections.

Source Data

- Goal: Efficiently structure incoming data to minimize utility burden, data complexity, and processing difficulty.

- Strategy: Require data in a partially-normalized table structure that is consistent across utilities.
  - Balances data size and complexity.
  - Standardizes to reduce future burden and complexity.
  - Implicitly reports historical changes.

Source Data

Four identification fields

1. Service Account
2. Premise
3. Service Point
4. Meter

Relationships (M == 'many')

	PremiseId	ServicePointId	MeterId
ServiceAccountId	M - M	1 - M	1 - M
PremiseId		1 - M	1 - M
ServicePointId			1 - M

Source Data: Table Schema

BillingChargesElec
ServiceAccountId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
BillCharge

BillingConsumptionElec
MeterId
ServiceAccountId
PremiseId
ServicePointId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
KwhNet
IsKwhNetEstimated
IsKwhNetUnmetered
NaicsCode
RateScheduleCode
CommunityChoiceAggCode
DirectAccessCode

IntervalConsumptionElec
MeterId
ServiceAccountId
PremiseId
ServicePointId
IntervalEndTime
IntervalLength
TimeZone
KwhDelivered
IsKwhDeliveredEstimated
KwhReturned
IsKwhReturnedEstimated

PremiseElec
PremiseId
FullAddress
StreetNumber
HouseFractionNumber
StreetPrefix
StreetName
StreetSuffix
Building
Unit
City
State
Zip
Zip4

Billing Charges

- Includes record for each service account and each billing cycle for which there were charges.

- Includes only charges accrued during that billing cycle.

- Raises questions about partial billing reporting, such as when energy charges are via a direct access agreement.

BillingChargesGas
ServiceAccountId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
BillAmount

BillingConsumptionGas
MeterId
ServiceAccountId
PremiseId
ServicePointId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
Therms
IsThermsEstimated
NaicsCode
RateScheduleCode
DirectAccessCode

PremiseGas
PremiseId
FullAddress
StreetNumber
HouseFractionNumber
StreetPrefix
StreetName
StreetSuffix
Building
Unit
City
State
Zip
Zip4

RateSchedule
RateScheduleCode
RateScheduleName
RateScheduleDesc

CommunityChoiceAgg
CommunityChoiceAggCode
CcaName
CcaDesc

DirectAccess
DirectAccessCode
DaProviderName
DaProviderDesc

EnergyEfficiencyParticipation
ServiceAccountId
EeMeasureCode
PremiseId
EeProgramCode
StartDate
EndDate
ClaimDate

EnergyEfficiencyPrograms
EeProgramCode
EeProgramName
EeProgramDesc

EnergyEfficiencyMeasures
EeMeasureCode
EeMeasureName
EeMeasureDesc

13

Source Data: Table Schema

BillingChargesElec
ServiceAccountId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
BillCharge

BillingConsumptionElec
MeterId
ServiceAccountId
PremiseId
ServicePointId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
KwhNet
IsKwhNetEstimated
IsKwhNetUnmetered
NaicsCode
RateScheduleCode
CommunityChoiceAggCode
DirectAccessCode

IntervalConsumptionElec
MeterId
ServiceAccountId
PremiseId
ServicePointId
IntervalEndTime
IntervalLength
TimeZone
KwhDelivered
IsKwhDeliveredEstimated
KwhReturned
IsKwhReturnedEstimated

PremiseElec
PremiseId
FullAddress
StreetNumber
HouseFractionNumber
StreetPrefix
StreetName
StreetSuffix
Building
Unit
City
State
Zip
Zip4

BillingChargesGas
ServiceAccountId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
BillAmount

BillingConsumptionGas
MeterId
ServiceAccountId
PremiseId
ServicePointId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
Therms
IsThermsEstimated
NaicsCode
RateScheduleCode
DirectAccessCode

PremiseGas
PremiseId
FullAddress
StreetNumber
HouseFractionNumber
StreetPrefix
StreetName
StreetSuffix
Building
Unit
City
State
Zip
Zip4

RateSchedule
RateScheduleCode
RateScheduleName
RateScheduleDesc

CommunityChoiceAgg
CommunityChoiceAggCode
CcaName
CcaDesc

DirectAccess
DirectAccessCode
DaProviderName
DaProviderDesc

EnergyEfficiencyParticipation
ServiceAccountId
EeMeasureCode
PremiseId
EeProgramCode
StartDate
EndDate
ClaimDate

EnergyEfficiencyPrograms
EeProgramCode
EeProgramName
EeProgramDesc

EnergyEfficiencyMeasures
EeMeasureCode
EeMeasureName
EeMeasureDesc

Monthly Consumption

- Includes record for each meter and each billing cycle for which the meter was active.

- Allows reporting of unmetered consumption estimates by leaving non-applicable fields NULL.

- Includes codes for rate schedule, CCAs, and direct access lookup tables.

- Raises question of whether unmetered consumption should have its own table.

14

Source Data: Table Schema

BillingChargesElec
ServiceAccountId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
BillCharge

BillingConsumptionElec
MeterId
ServiceAccountId
PremiseId
ServicePointId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
KwhNet
IsKwhNetEstimated
IsKwhNetUnmetered
NaicsCode
RateScheduleCode
CommunityChoiceAggCode
DirectAccessCode

IntervalConsumptionElec
MeterId
ServiceAccountId
PremiseId
ServicePointId
IntervalEndTime
IntervalLength
TimeZone
KwhDelivered
IsKwhDeliveredEstimated
KwhReturned
IsKwhReturnedEstimated

PremiseElec
PremiseId
FullAddress
StreetNumber
HouseFractionNumber
StreetPrefix
StreetName
StreetSuffix
Building
Unit
City
State
Zip
Zip4

CCA and Direct Access

- Lookup tables to identify which CCA or direct access provider a meter is associated with in a given billing cycle.

- Included to resolve issue of unknown partial billing.

BillingChargesGas
ServiceAccountId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
BillAmount

BillingConsumptionGas
MeterId
ServiceAccountId
PremiseId
ServicePointId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
Therms
IsThermsEstimated
NaicsCode
RateScheduleCode
DirectAccessCode

PremiseGas
PremiseId
FullAddress
StreetNumber
HouseFractionNumber
StreetPrefix
StreetName
StreetSuffix
Building
Unit
City
State
Zip
Zip4

RateSchedule
RateScheduleCode
RateScheduleName
RateScheduleDesc

CommunityChoiceAgg
CommunityChoiceAggCode
CcaName
CcaDesc

DirectAccess
DirectAccessCode
DaProviderName
DaProviderDesc

EnergyEfficiencyParticipation
ServiceAccountId
EeMeasureCode
PremiseId
EeProgramCode
StartDate
EndDate
ClaimDate

EnergyEfficiencyPrograms
EeProgramCode
EeProgramName
EeProgramDesc

EnergyEfficiencyMeasures
EeMeasureCode
EeMeasureName
EeMeasureDesc

15

Source Data: Table Schema

BillingChargesElec
ServiceAccountId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
BillCharge

BillingConsumptionElec
MeterId
ServiceAccountId
PremiseId
ServicePointId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
KwhNet
IsKwhNetEstimated
IsKwhNetUnmetered
NaicsCode
RateScheduleCode
CommunityChoiceAggCode
DirectAccessCode

IntervalConsumptionElec
MeterId
ServiceAccountId
PremiseId
ServicePointId
IntervalEndTime
IntervalLength
TimeZone
KwhDelivered
IsKwhDeliveredEstimated
KwhReturned
IsKwhReturnedEstimated

PremiseElec
PremiseId
FullAddress
StreetNumber
HouseFractionNumber
StreetPrefix
StreetName
StreetSuffix
Building
Unit
City
State
Zip
Zip4

Rate Schedules

- Lookup table for rate schedule codes provided with each billing cycle.

- May need to include additional flags for options and modifiers.

- Raises question of how rate schedules should be fully specified in this table structure.

BillingChargesGas
ServiceAccountId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
BillAmount

BillingConsumptionGas
MeterId
ServiceAccountId
PremiseId
ServicePointId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
Therms
IsThermsEstimated
NaicsCode
RateScheduleCode
DirectAccessCode

PremiseGas
PremiseId
FullAddress
StreetNumber
HouseFractionNumber
StreetPrefix
StreetName
StreetSuffix
Building
Unit
City
State
Zip
Zip4

RateSchedule
RateScheduleCode
RateScheduleName
RateScheduleDesc

CommunityChoiceAgg
CommunityChoiceAggCode
CcaName
CcaDesc

DirectAccess
DirectAccessCode
DaProviderName
DaProviderDesc

EnergyEfficiencyParticipation
ServiceAccountId
EeMeasureCode
PremiseId
EeProgramCode
StartDate
EndDate
ClaimDate

EnergyEfficiencyPrograms
EeProgramCode
EeProgramName
EeProgramDesc

EnergyEfficiencyMeasures
EeMeasureCode
EeMeasureName
EeMeasureDesc

Source Data: Table Schema

BillingChargesElec
ServiceAccountId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
BillCharge

BillingConsumptionElec
MeterId
ServiceAccountId
PremiseId
ServicePointId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
KwhNet
IsKwhNetEstimated
IsKwhNetUnmetered
NaicsCode
RateScheduleCode
CommunityChoiceAggCode
DirectAccessCode

IntervalConsumptionElec
MeterId
ServiceAccountId
PremiseId
ServicePointId
IntervalEndTime
IntervalLength
TimeZone
KwhDelivered
IsKwhDeliveredEstimated
KwhReturned
IsKwhReturnedEstimated

PremiseElec
PremiseId
FullAddress
StreetNumber
HouseFractionNumber
StreetPrefix
StreetName
StreetSuffix
Building
Unit
City
State
Zip
Zip4

Interval Consumption

- Includes a record for each active interval meter reading, including zero readings.

- Interval lengths should be the shortest intervals recorded by each meter.

- Separately records data deliveries (to the meter) and returns (to the grid).

BillingChargesGas
ServiceAccountId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
BillAmount

BillingConsumptionGas
MeterId
ServiceAccountId
PremiseId
ServicePointId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
Therms
IsThermsEstimated
NaicsCode
RateScheduleCode
DirectAccessCode

PremiseGas
PremiseId
FullAddress
StreetNumber
HouseFractionNumber
StreetPrefix
StreetName
StreetSuffix
Building
Unit
City
State
Zip
Zip4

RateSchedule
RateScheduleCode
RateScheduleName
RateScheduleDesc

CommunityChoiceAgg
CommunityChoiceAggCode
CcaName
CcaDesc

DirectAccess
DirectAccessCode
DaProviderName
DaProviderDesc

EnergyEfficiencyParticipation
ServiceAccountId
EeMeasureCode
PremiseId
EeProgramCode
StartDate
EndDate
ClaimDate

EnergyEfficiencyPrograms
EeProgramCode
EeProgramName
EeProgramDesc

EnergyEfficiencyMeasures
EeMeasureCode
EeMeasureName
EeMeasureDesc

Source Data: Table Schema

BillingChargesElec
ServiceAccountId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
BillCharge

BillingConsumptionElec
MeterId
ServiceAccountId
PremiseId
ServicePointId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
KwhNet
IsKwhNetEstimated
IsKwhNetUnmetered
NaicsCode
RateScheduleCode
CommunityChoiceAggCode
DirectAccessCode

IntervalConsumptionElec
MeterId
ServiceAccountId
PremiseId
ServicePointId
IntervalEndTime
IntervalLength
TimeZone
KwhDelivered
IsKwhDeliveredEstimated
KwhReturned
IsKwhReturnedEstimated

PremiseElec
PremiseId
FullAddress
StreetNumber
HouseFractionNumber
StreetPrefix
StreetName
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City
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Zip4

BillingChargesGas
ServiceAccountId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
BillAmount

BillingConsumptionGas
MeterId
ServiceAccountId
PremiseId
ServicePointId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
Therms
IsThermsEstimated
NaicsCode
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PremiseGas
PremiseId
FullAddress
StreetNumber
HouseFractionNumber
StreetPrefix
StreetName
StreetSuffix
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RateSchedule
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EnergyEfficiencyParticipation
ServiceAccountId
EeMeasureCode
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EeProgramCode
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ClaimDate

EnergyEfficiencyPrograms
EeProgramCode
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EeProgramDesc

EnergyEfficiencyMeasures
EeMeasureCode
EeMeasureName
EeMeasureDesc

Location

- Stores address for each premise.

- Utilities' staff indicate that addresses are assigned at the premise level, rather than service point or meter.

- Each record should have a 'Full Address', a single text field with the entire address.

- Other address components reported separately if available.

18

Source Data: Table Schema

BillingChargesElec
ServiceAccountId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
BillCharge

BillingConsumptionElec
MeterId
ServiceAccountId
PremiseId
ServicePointId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
KwhNet
IsKwhNetEstimated
IsKwhNetUnmetered
NaicsCode
RateScheduleCode
CommunityChoiceAggCode
DirectAccessCode

IntervalConsumptionElec
MeterId
ServiceAccountId
PremiseId
ServicePointId
IntervalEndTime
IntervalLength
TimeZone
KwhDelivered
IsKwhDeliveredEstimated
KwhReturned
IsKwhReturnedEstimated

PremiseElec
PremiseId
FullAddress
StreetNumber
HouseFractionNumber
StreetPrefix
StreetName
StreetSuffix
Building
Unit
City
State
Zip
Zip4

BillingChargesGas
ServiceAccountId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
BillAmount

BillingConsumptionGas
MeterId
ServiceAccountId
PremiseId
ServicePointId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
Therms
IsThermsEstimated
NaicsCode
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PremiseGas
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RateScheduleDesc

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CcaDesc

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DaProviderName
DaProviderDesc

EnergyEfficiencyParticipation
ServiceAccountId
EeMeasureCode
PremiseId
EeProgramCode
StartDate
EndDate
ClaimDate

EnergyEfficiencyPrograms
EeProgramCode
EeProgramName
EeProgramDesc

EnergyEfficiencyMeasures
EeMeasureCode
EeMeasureName
EeMeasureDesc

Energy Efficiency

- EE participation reported by premise and EE measure for each installed measure linked to a premise.

- Programs and measures tables are lookups.

- Fields modeled after CPUC's CEDARS database fields.

- Raises questions:
  - Can IOUs provide data to join to CEDARS in lieu of this EE reporting?
  - Can POUs report equivalent data?
  - Is this sufficient to measure EE impacts at the meter level?
  - Is there a better way to report EE participation?

19

Source Data: Unknowns

Known unknowns: a full list.

- Partial billing charges
  - Identifying when charges are incomplete.
  - Reporting CCA and DA participation.
- Unmetered consumption
  - Where to record in table schema.
  - How to record locational data.
- Rate schedules
  - How to fully identify a tariff, including key options and modifiers.
- Energy Efficiency
  - Can IOUs provide data to join with CEDARS?
  - Can POUs provide equivalent data?
  - Is this data sufficient?
- Submeters
  - Staff is unsure how to best handle submeters, where a meter is behind another physical or virtual meter.
  - Need to avoid accounting errors like double counting.
  - Need to keep track of meter relationships.

BillingChargesElec
ServiceAccountId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
BillCharge

BillingConsumptionElec
MeterId
ServiceAccountId
PremiseId
ServicePointId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
KwhNet
IsKwhNetEstimated
IsKwhNetUnmetered
NaicsCode
RateScheduleCode
CommunityChoiceAggCode
DirectAccessCode

IntervalConsumptionElec
MeterId
ServiceAccountId
PremiseId
ServicePointId
IntervalEndTime
IntervalLength
TimeZone
KwhDelivered
IsKwhDeliveredEstimated
KwhReturned
IsKwhReturnedEstimated

PremiseElec
PremiseId
FullAddress
StreetNumber
HouseFractionNumber
StreetPrefix
StreetName
StreetSuffix
Building
Unit
City
State
Zip
Zip4

BillingChargesGas
ServiceAccountId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
BillAmount

BillingConsumptionGas
MeterId
ServiceAccountId
PremiseId
ServicePointId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
Therms
IsThermsEstimated
NaicsCode
RateScheduleCode
DirectAccessCode

PremiseGas
PremiseId
FullAddress
StreetNumber
HouseFractionNumber
StreetPrefix
StreetName
StreetSuffix
Building
Unit
City
State
Zip
Zip4

RateSchedule
RateScheduleCode
RateScheduleName
RateScheduleDesc

CommunityChoiceAgg
CommunityChoiceAggCode
CcaName
CcaDesc

DirectAccess
DirectAccessCode
DaProviderName
DaProviderDesc

EnergyEfficiencyParticipation
ServiceAccountId
EeMeasureCode
PremiseId
EeProgramCode
StartDate
EndDate
ClaimDate

EnergyEfficiencyPrograms
EeProgramCode
EeProgramName
EeProgramDesc

EnergyEfficiencyMeasures
EeMeasureCode
EeMeasureName
EeMeasureDesc

21

Methods: Transformation Rules

Rules defined in two categories

1. **Quality Rules**: describe how data should be validated, cleaned, or otherwise processed to ensure the resulting dataset is as clean and reliable as possible.

2. **Formatting Rules**: describe how data should be formatted and structured. This includes issues such as standardizing data types, conforming elements of a data field to a consistent format, and eliminating or combining source data fields.

Methods: ETL

Extract, Transform, and Load

- Data submitted to secure landing zone in Amazon Web Services.
  - ETL process performs basic data validations and checksums.
  - If validated, the process archives a copy for long-term backup and proceeds.
    - If not, the process rejects the data and raises a flag.
- Data files are combined and moved to a staging zone.
  - Process applies any interim formatting rules and all remaining data quality rules.
  - Prior to loading, data are transformed into a final relational table structure.
- Data are loaded into a storage hub in AWS, from which they can be queried directly or moved into other data stores.

Methods: Public Participation

The data dictionary describes basic transformation rules, and staff intends on developing more with the ETL contractor.

However, staff would like to leverage existing experience in utilities, academia, and private sector as much as possible to maximize transparency and quality.

Staff will combine public ETL recommendations with contractor recommendations in final draft.

Lunch

Please return at

1:00 PM

Open Discussion

BillingChargesElec
ServiceAccountId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
BillCharge

BillingConsumptionElec
MeterId
ServiceAccountId
PremiseId
ServicePointId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
KwhNet
IsKwhNetEstimated
IsKwhNetUnmetered
NaicsCode
RateScheduleCode
CommunityChoiceAggCode
DirectAccessCode

IntervalConsumptionElec
MeterId
ServiceAccountId
PremiseId
ServicePointId
IntervalEndTime
IntervalLength
TimeZone
KwhDelivered
IsKwhDeliveredEstimated
KwhReturned
IsKwhReturnedEstimated

PremiseElec
PremiseId
FullAddress
StreetNumber
HouseFractionNumber
StreetPrefix
StreetName
StreetSuffix
Building
Unit
City
State
Zip
Zip4

BillingChargesGas
ServiceAccountId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
BillAmount

BillingConsumptionGas
MeterId
ServiceAccountId
PremiseId
ServicePointId
PeriodStart
TimeZoneStart
PeriodEnd
TimeZoneEnd
Therms
IsThermsEstimated
NaicsCode
RateScheduleCode
DirectAccessCode

PremiseGas
PremiseId
FullAddress
StreetNumber
HouseFractionNumber
StreetPrefix
StreetName
StreetSuffix
Building
Unit
City
State
Zip
Zip4

RateSchedule
RateScheduleCode
RateScheduleName
RateScheduleDesc

CommunityChoiceAgg
CommunityChoiceAggCode
CcaName
CcaDesc

DirectAccess
DirectAccessCode
DaProviderName
DaProviderDesc

EnergyEfficiencyParticipation
ServiceAccountId
EeMeasureCode
PremiseId
EeProgramCode
StartDate
EndDate
ClaimDate

EnergyEfficiencyPrograms
EeProgramCode
EeProgramName
EeProgramDesc

EnergyEfficiencyMeasures
EeMeasureCode
EeMeasureName
EeMeasureDesc

Known Unknowns

Partial billing charges
- Identifying when charges are incomplete.
- Reporting CCA and DA participation.

Unmetered consumption
- Where to record in table schema.
- How to record locational data.

Rate schedules
- How to fully identify a tariff, including key options and modifiers.

Energy Efficiency
- Can IOUs provide data to join with CEDARS?
- Can POUs provide equivalent data?
- Is this data sufficient?

Submeters
- Staff is unsure how to best handle submeters, where a meter is behind another physical or virtual meter.
- Need to avoid accounting errors like double counting.
- Need to keep track of meter relationships.

Public Comments

Comments will begin with online participants

In the interest of time, oral comments may need to be limited to 3 minutes per person.

Staff will release prompts for written comments this week.

Next Steps

- Staff releases workshop slides and prompts for written comments this week.
- Written comments due 4:00 PM January 7, 2019.
- Staff releases request for contractor in early January 2019.
- Staff finalizes methods documents in January 2019.
- ETL work should begin February, 2019.
- Staff works with contractor and utilities to resolve any remaining issues, including topics out of scope for this workshop.

Thank You

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Steven Mac
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