Cal TF Custom Subcommittee Meeting #6

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MARCH 1, 2023

Agenda & Goals

- **Meeting Agenda**
  - ❑ General updates [10 min]
  - ❑ eTRM Phase 1 for Custom Measures – Update [20 min]
  - ❑ Streamlining Efforts [45 min]
    - ✖ ISP White Paper
    - ✖ Providing clear CPUC guidance on custom projects
  - ❑ Statewide Custom Measure Names [45 min]

- **Meeting Goals**
  - ❑ Provide updates on various custom activities
  - ❑ Collect input/participation on ISP White Paper and Regulatory Updates effort
  - ❑ Collect input on initial proposal for SW Custom Measure ID Structure

Custom Initiative – Status

BP Metric	Activity	Status	Upcoming
5A	Develop proposal to improve approach to summarizing and providing clear CPUC guidance on custom projects	**Cal TF Staff presenting initial concepts today**	Cal TF Staff will bring updates and recommendations to subcommittee for input
5A	Identify potential Measures and Tools that could be uploaded and managed in eTRM	In progress by Cal TF Staff	Cal TF Staff will solicit info on claims data and recommended measures/tools
5A	Develop SW Custom Measure ID Structure	**Cal TF Staff presenting initial concepts today**	TBD
5B	Custom Roadmap	Cal TF Staff drafting based on stakeholder input to date	Draft for Custom Subcommittee review by end of March
5C	SW Measure Characterization	In progress through measure working groups	Measure groups will bring work product to Subcommittee
5C*	SW Measure and Tool Development Workflow	(new)	-
5D	Update eTRM Documentation	Updating Measure Characterization template for Custom	TBD based on eTRM priorities
5E	Implement custom measures/tools in the eTRM	Created "Phase 1" functional specifications; implementation timing will depend on overall eTRM Enhancement priorities	Define additional eTRM functions/features to support Custom (future subcommittee discussion)
6B	White Paper: ISP	**Affirmed by TF (Jan); presenting approach for discussion today**	Data collection / survey to support white paper

eTRM for Custom

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CHAU NGUYEN
ARLIS REYNOLDS

eTRM for Custom

Objective: Provide input on Cal TF Staff analysis of how existing eTRM tools can be used to standardize and streamline custom projects

Phase 1: Updated functional specifications

Phase 2: Define business requirements in 2023

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- **"Phase 1" Scope**
  - Creates **Custom Measures** in the eTRM to host information on <u>calculation methods</u> and <u>calculation tools</u> for common custom measures
  - Creates **Custom Library** in the eTRM to host calculation tools, templates, and other key statewide resources
  - Does **not** include site-specific data or measure/project tracking

- Activities
  - Custom Subcommittee input to shape functional specs
  - 1/23 – Presented wireframes to eTRM development team
  - 2/1 – Present wireframes to Subcommittee
  - 2/8 – Follow-up Subcommittee discussion on wireframes
  - 2/28 – Updated functional specifications w/ software team
  - Next – TBD based on eTRM Enhancement Priorities

- Materials on SharePoint
  - eTRM for Custom (folder)
  - Custom eTRM Design 1.2 (Phase 1 Wireframes)
  - Custom eTRM Phase 1 Functional Specs
  - Q&A Summary from Subcommittee Meetings (new)
    - Includes notes for potential future enhancements
  - Custom eTRM Phase 1 Function Specs – Updated
    - In progress by OMBU

Summary of Changes

Cal TF Staff recommends the following changes based on stakeholder input/discussion:

Custom Tool View
- Show the tool Version in the download button
- Include the tool Version in the filename when downloading a custom tool
- Add "Source Description" rich text block to provide additional information, including hyperlinks, with a custom tool

Including a Custom Tool in a Characterization
- Enable option to link/embed calculation tools within the Measure Characterization
  - ❑ Need stakeholder input on link or button (next page)

Custom Tools in Calculations
- Show the tool Version in the download button

Creating a Custom Tool
- Add "Effective Start Date" (required) and "End Date" (optional)
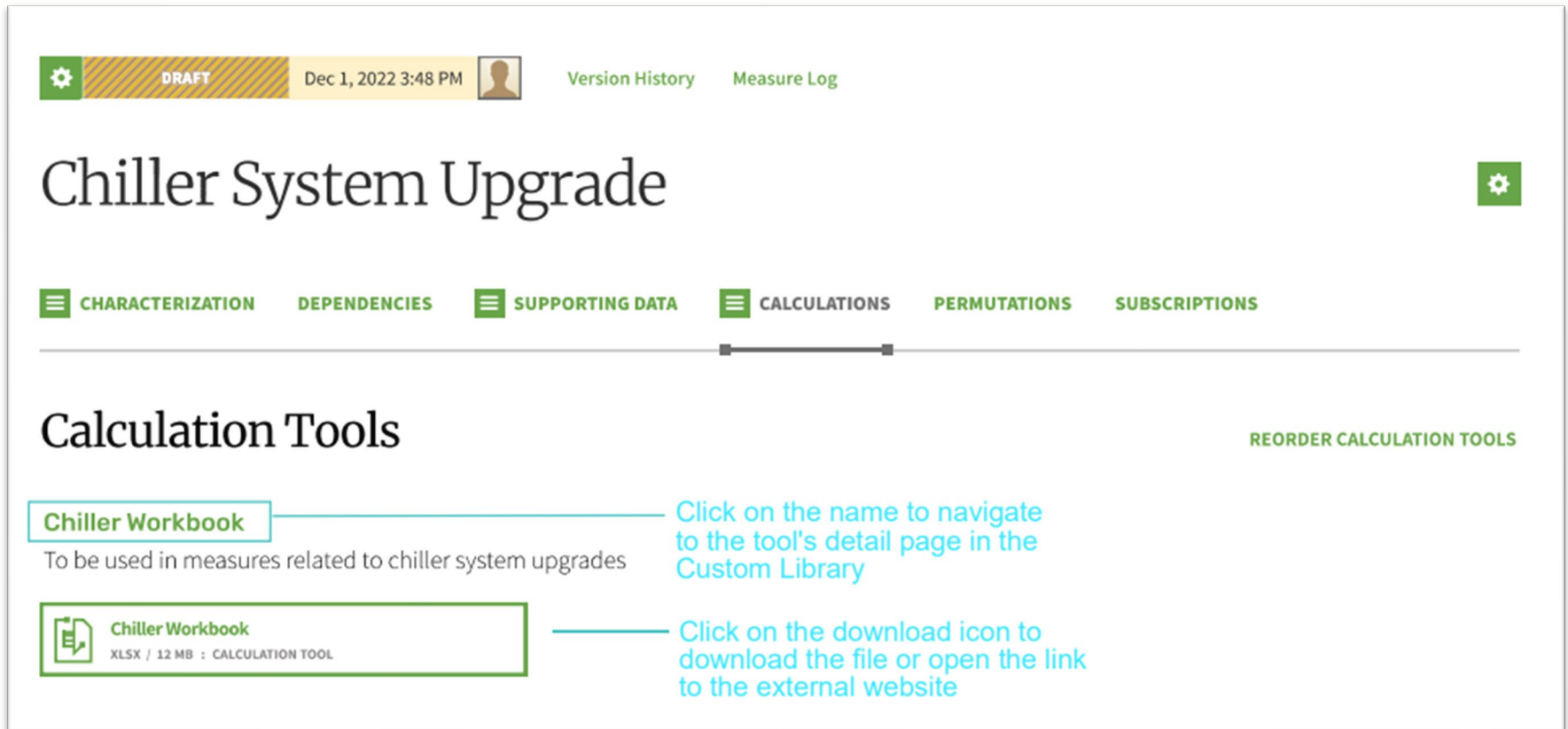
Creating a Custom Measure
- Change "Effective Date" to "Effective Start Date" (to be consistent with the deemed measure view)

NOTE: Many comments saved for potential future enhancements; see Q&A Summary

Custom Measure > Calculations Tab

Custom Measure > Characterization

Table of Contents

Technology Summary

Measure Case Description

Base Case Description

Code Requirements

Program Requirements

Program Exclusions

Data Collection Requirements

Electric Savings (kWh)

Peak Electric Demand Reduction (kW)

Gas Savings (Therms)

Life Cycle

Base Case Material Cost

Measure Case Material Cost

Base Case Labor Cost

Measure Case Labor Cost

Net-to-Gross

Gross Realization Rate (GRR)

Non-Energy Impacts

DEER Differences Analysis

Technology Summary

Chiller Workbook
XLSX / 12 MB : CALCULATION TOOL

Measure Case Description

Base Case Description

Discussion topic:
#1. Would this feature be useful? (As an eTRM user reads the text, they have immediate access to the file). OR Do we prefer to keep just one central location to access custom tools (i.e. the "Calculations" tab) to maintain a simple UI and avoid possible confusion on where to go to download custom tools

#2. When clicking on the embedded icon, what should be the eTRM action - (a) download the file OR (b) navigate to the Calculations tab
OR to the Custom Tool View, where other versions can be accessed

3/1/2023

Custom Tool View

Access past versions of the tool and the incremental changes between versions

chillerWorkbook-002 **CPUC APPROVED** Dec 30, 2022 12:05 PM **Version History**

< **CUSTOM LIBRARY**

Version and status

Chiller Workbook

Name

View all the eTRM measures that use this tool. This is one method to see related measures

DETAILS **DEPENDENCIES** **SUBSCRIPTIONS**

Calculation Tool

To be used in measures related to chiller system upgrades.

Type

Full description

Chiller Workbook
XLSX / 12 MB : CALCULATION TOOL

Download button with name, file metadata, and type

A calculation tool's detail view has the same tabs as a Shared Parameter

The dependencies tab allows the user to view all downward dependencies, i.e. all the eTRM objects that depend on this custom tool

The subscriptions tab allows the user to subscribe to announcements related to this calculation tool

Dependencies view:

ASSOCIATED OBJECT	VERSION	STATUS	TYPE
Chiller System Upgrade	CMAP001-01	CPUC Approved	Measure

Questions

- Preferences for the Custom Tools link/button embedded in Measure Characterizations?

- Need for additional Q&A on eTRM for Phase 1 Custom?

- Need for eTRM Overview re: functions and features that could be useful for Custom?

ISP White Paper

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SPENCER LIPP

Background

- Background
  - ❑ Highest scoring topic in TF White Paper Survey
  - ❑ See [WP ISP Brainstorm](#) from December TF meeting
  - ❑ TF affirmed White Paper topic in January

- Agenda
  - ❑ Present purpose, approach
  - ❑ Stakeholder input
    - ✖ Objectives
    - ✖ Approach and activities
    - ✖ Sources of existing data/information
    - ✖ Volunteers
  - ❑ Next steps – form ISP Subcommittee

Purpose

Objectives

1. Streamline ISP process
   a) Developing ISPs
   b) Communicating ISP updates/outcomes
2. Make ISPs <u>accessible</u>, <u>transparent</u>, <u>informative</u>, and <u>up-to-date</u>
3. Facilitate sharing of ISP data
4. Develop strategy to keep ISP information up to date
5. Identify specific market segments and products that need an ISP
6. Support clarification ISP requirements where needed

Benefits

- Reduce cost, time to develop ISPs
- Increase certainty in outcomes
- Increase consistency of outcomes
- Increase access/transparency of ISP data/outcomes
- Improve Customer Experience

- Potential metrics:
  - Fewer supplemental data requests
  - Faster review times; faster project development times
  - Increase rate of adoption of ISP baselines

Approach

- **Data Collection**
  - Completed ISP studies and outcomes
  - Stakeholder input
    - Who: PAs, implementers/developers, CPUC reviewers
    - What: Data, Experience, Recommendations
    - How: Small group discussions, online survey

- **Develop template for ISP studies/outcomes**
  - What information should be clearly available (e.g., to clarify relevance)?
  - What information and level of detail should be provided in dispositions?
  - How can we make clear/consistent the bounds for each SP determination?
  - How should information be organized, characterized (e.g., to facilitate searching)?

- **Summarize/characterize existing ISP results/outcomes and data**
  - Existing resources
  - Existing challenges

- **Summarize clarifications needed or helpful for stakeholders**
  - Areas of confusion and/or inconsistency

- **Estimate baseline metrics**
  - Cost/time to develop/review ISPs, SDRs, adoption rate, awareness/sharing)

- **Develop recommendations**
  - Streamline ISP process
    - Development
    - Communication
  - Improve access, transparency, clarity, searching, and sharing
    - Existing and future ISP data, studies, dispositions
  - Keep ISP information up to date
  - Identify future ISP research needs
  - Support clarification of ISP Requirements (where needed)
    - Support common understanding of what and who are acceptable references

Discussion

- Objectives

- Approach and activities

- Sources of existing data/information
  - CAEnergyGuidance.com
    - 9 ISP studies (most recent from Oct 2019)
    - Redacted dispositions
  - Others?

- Cal TF ISP Team
  - Champions: Chas, Spencer Lipp
  - You?

Discussion Points for Subcommittee

- Input on the goals and objectives
- Input on the approach and schedule/cadence of the meetings
- ID volunteers to help with a.) research, b.) writing, c.) reviewing, d.) outreach
- List of SP research targets, market sectors, delivery channels, prior standard practice assessments ripe for review
- For each area of study, ID stakeholders that should be updated regularly on progress and invited to contribute to the SPA
- Consider idea of forming market study review panel(s) for targeted market sectors (for early feedback on study objectives, tie breakers…)
- Make call to PAs to assist with data collection to assemble existing studies and dispositions
- Develop metric(s) for characterizing the level of rigor found in past ISP reports and new ISP studies (# primary and secondary sources, age of oldest and newest study, likelihood of finding bias in sources, rigor and completeness of data collection effort, reliability of the report authors (manufacturers and vendors vs regulators and non-profit market actors), etc.

Providing clear guidance on custom projects

Workplan Part 1 – Problem Statement, Goals, Benefits

Workplan Part 2 – Scope, Deliverables, Schedule, Team

Notes from previous brainstorms

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- Problem Statement
  - There is no single, central, up-to-date source of custom policy/guidance
  - Stakeholders have different access to regulatory information (e.g., disposition decisions)
  - Existing regulatory communication efforts are resource-intensive and involve redundant efforts.
  - Regulatory information comes in various streams, including through ad hoc communication and confidential project-specific discussions.

- Goals, Metrics, Objectives
  - Propose improvements that will:
    - make current/future guidance clear and accessible to all stakeholders
    - keep guidance documents clear and current
    - Improve access and searchability to policy/guidance
    - improve understanding of guidance and predictability of project outcomes
    - facilitate clarification with regulatory authorities when needed
  - Any quantifiable metrics?

- Stakeholder Benefits
  - **Cost Savings**, by reducing individual stakeholder resources required to aggregate guidance info
  - **Time Savings**, by improving awareness of policy/guidance at the start of measure development
  - **Transparency**, by making the statewide summary publicly accessible
  - **Clarity and Compliance**, by improving stakeholder access to and understanding of all relevant regulatory policy/guidance.

Providing clear guidance on custom projects

Workplan Part 1 – Problem Statement, Goals, Benefits

Workplan Part 2 – Scope, Deliverables, Schedule, Team

Notes from previous brainstorms

- Scope
  - Review workplan with CPUC; ID any concurrent CPUC efforts
  - ==Understand current condition: define existing types, formats, frequencies of regulatory guidance==
  - Compile and organize current guidance materials
  - Survey stakeholders to identify areas to improve clarity, access, consistency, etc.
  - Develop recommendations for:
    - Improving clarity and access to current guidance
    - Distinguishing current from past/outdated guidance
    - Communicating policy guidance updates to all stakeholders

- Considerations
  - A centralized resource must be "official"

- Deliverables
  - Memo/presentation with recommendations on guidance materials (e.g., disposition database) and process

- Schedule
  - TBD

- Stakeholders and Team Members
  - IOUs, Implementers, Project Developers
  - CPUC Staff, Ex Ante and Ex Post Consultants

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Sources for Custom Policy Guidance

Source	Link	Access	Use / Value
Commission Decisions (public)		Public	
SW Custom Project Guidance Document	Statewide Custom Project Guidance Document, version 1.4 (6/2/2021)	Public	
CPUC CPR Guidance Documents	Webpage link	Public	
Statewide Memos	CMPA	IOU only	
Dispositions	CAEnergyGuidance.com (redacted dispositions)	Public	
Dispositions	Unredacted dispositions	IOU only	
Early Opinion Responses	CMPA	IOU only	
CPUC/IOU Meeting Notes	CMPA	IOU only	
IOU Resources		Implementers, subscribers, access-controlled	

3/1/2023

Questions

- What are the sources of regulatory policy/guidance for custom?

- Which sources do you use most frequently?

- Which sources are most helpful?

Custom Statewide Measure ID

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SW Custom Naming Convention

- Objective
  - ❑ To create statewide consistency
    - ✕ Same/similar measures have the same SW Custom Measure ID across PA tracking systems
  - ❑ To facilitate analysis of statewide custom measure activity
    - ✕ Easy to aggregate statewide measures and claims by measure type

- Approach
  - ❑ Match SW deemed measure code convention (as much as possible)
  - ❑ Review alignment, considerations for IOU/LADWP systems
  - ❑ Reviewing codes effective 1/1/2023 and going forward

Custom Measure Codes - Current State

- IOU/POU have different conventions for custom measure codes:
  - ❑ 123456
  - ❑ CAA99
  - ❑ AC-12345

- Total # of custom measures by IOU/POU:
  - ❑ SCE - 546
  - ❑ SCG - 195
  - ❑ PG&E - 463
  - ❑ SDG&E - 902
  - ❑ LADWP - ?

Current State: SoCalGas

- SCG has our own measure code system to classify measures based upon an umbrella high level description as gas has very unique measures. For example… We categorize our measures based upon what type of heating… 3 of the most common are the following:
  - 1. Hot Water
  - 2. Steam
  - 3. Process Heating
- Under those, we have subcategories: IE)
  - Equipment replacement,
  - Controls,
  - Water Treatment,
  - Reconfig/upgrade,
  - Condensate Recovery,
  - Economizer,
  - Insulation,
  - Heat Recovery,
  - Process Improvement
- Heat Recovery and Process Improvement can be widely use for many other specific measures. That's why we kept it high level in order to group many measures closest to the measure categories. **We didn't want a measure list that is 100 and never use them.**
- For custom, you have to keep it high level to capture more unique measures vs being very specific. It'll be up to the Engineering/Project Developer to categorize it correctly. I'm only speaking on behalf for the Natural Gas side.

Deemed SW Measure ID Structure

- The **Statewide Measure ID** identifies a unique measure and is based on the Use Category.
- The nomenclature of this identifier is shown below. This convention is tied to CEDARS categories.
- The **Statewide Measure ID** is auto-generated by the eTRM to ensure that numbers to not duplicate.

SWWH003-03

Statewide Designator	Use Category	Measure Number	Version Number
SW	AP - Appliance or Plug load BE - Building Envelope CR - Commercial Refrigeration CA - Compressed Air CA - Compressed Air FS - Food Service HC - HVAC LG - Lighting MI - Miscellaneous PR - Process RE - Recreation SV - Service WB - Whole Building WH - Service & Domestic Hot Water WP - Water Pumping/Irrigation	Automatically assigned, starts at 001 for the first measure in the use category.	Automatically assigned, starting at 01 for the first "Published" version of a measure package (MP).

Deemed SW Measure ID Structure

SWWH003-03-A

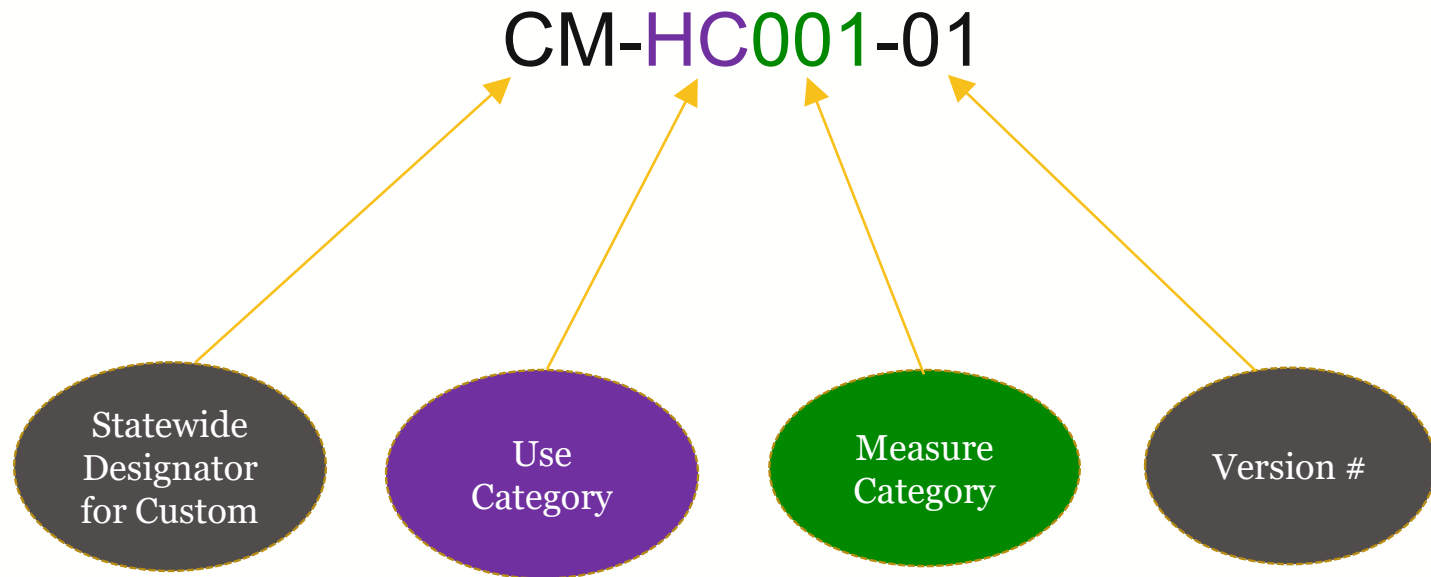| SW Measure ID	Description	Location	Fuel Type	Flow Rate	Measure Application Type	Statewide Measure Offering ID	Measure Offering Description (Text)
SWWH001-03	Faucet Aerator	Kitchen	Gas	1.5 gpm	AOE	A	Faucet, kitchen aerator, 1.5 gpm, gas, AOE
SWWH001-03	Faucet Aerator	Kitchen	Gas	1.5 gpm	AR	I	Faucet, kitchen aerator, 1.5 gpm, gas, AR
SWWH001-03	Faucet Aerator	Lavatory	Electric	1.2 gpm	AOE	F	Faucet, lavatory aerator, 1.2 gpm, electric, AOE
SWWH001-03	Faucet Aerator	Lavatory	Electric	1.2 gpm	AR	N	Faucet, lavatory aerator, 1.2 gpm, electric, AR
SWWH001-03	Faucet Aerator	Lavatory	Electric	1.0 gpm	AR	O	Faucet, lavatory aerator, 1.0 gpm, electric, AR
SWWH001-03	Faucet Flow Control Valve	Lavatory	Gas	1.0 gpm	AOE	S	Faucet, lavatory flow control valve, 1.0 gpm, gas, AOE
SWWH001-03	Faucet Flow Control Valve	Lavatory	Electric	1.0 gpm	AOE	W	Faucet, lavatory flow control valve, 1.0 gpm, electric, AOE

Deemed SW Measure Detail ID Structure

- **Measure Detail ID** is a unique identifier for each permutation. This field is populated with an auto-generated identifier created as a concatenation of:
  - ❑ Measure ID
  - ❑ Version ID
  - ❑ Offering ID
  - ❑ Measure Application Type
  - ❑ Delivery Type
  - ❑ Sector
  - ❑ Bldg Type
  - ❑ Bldg Vint
  - ❑ Bldg HVAC
  - ❑ Bldg Loc
  - ❑ NTG_ID
  - ❑ GSIA_ID
  - ❑ PA Type
  - ❑ PA

CM-HC001-01

Statewide Designator for Custom

Use Category

Measure Category

Version #

Custom SW Measure ID Structure
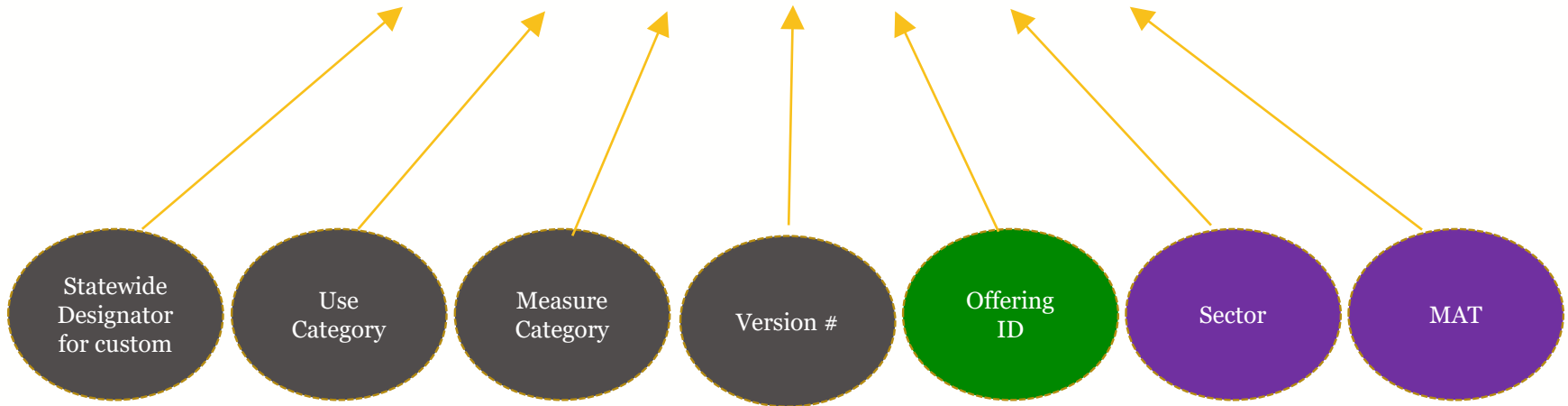
Use Category	
AP	Appliance or Plug load
BE	Building Envelope
CR	Commercial Refrigeration
FS	Food Service
HC	HVAC
LG	Lighting
MI	Miscellaneous
MT	Motors
PR	Process
PM	Pumps
RE	Recreation
RF	Refrigeration
SV	Service
WH	Service & Domestic Hot Water
WP	Water Pumping/Irrigation
WB	Whole Building

Measure Category	
1xx	Equipment Retrofit
2xx	System Upgrade/Reconfig.
3xx	Controls
4xx	Other
5xx	RCx

Custom SW Measure Detail ID Structure

CM-HC001-01-A-IND-NR

Statewide Designator for custom	Use Category	Measure Category	Version #	Offering ID	Sector	MAT

Sector:
- Any
- Commercial
- Industrial
- Agriculture
- Non-Res

MAT:
- NR
- NC
- AR
- AOE
- BRO
- BW

Example: RCx

Use Category	Measure Code	Version	OfferingID*	MAT	Delivery Type	Sector
HC (HVAC)	5XX (RCx)	01	A – Scheduling Optimization B – Economizer Optimization C – Static Pressure Reset D – Supply Air Temperature Reset E – Fan Speed Optimization F – VAV Flow and Reheat Flow Adjustment G – CHW Plant Lockout Control H – Chiller Staging Sequence Optimization I – CHW Temperature Reset J – CW Temperature Reset K – Water Side Economizer Optimization L – Cooling Tower Staging Sequence Optimization M – Controls Optimization for Existing SCHWP VFD N – CHW Differential Pressure Reset O – Controls Optimization for Existing CW Pump VFD P – HW Lockout Control Q – Boiler Staging Sequence (for multi-boiler systems) R – HW Temp Reset S – Controls Optimization for Existing SHWP VFD T – HW Differential Pressure Reset	BRO	DnCust	Any

* OfferingIDs based on controls measures in the PG&E HVAC Tool

Example: Chiller System Upgrade

Use Category	Measure Code	Version	OfferingID*	MAT	Delivery Type	Sector
HC (HVAC)	2XX (Chiller System Upgrade)	01	A – Chiller Replacement (or Load Change) (NC/NR/AR) B – Secondary Chilled Water Pump VFD (AOE) C – Condenser Water Pump VFD (AOE) D – Chilled Water Plant Lockout Control (BRO) E – Chiller Staging Sequence Optimization (BRO) F – Chilled Water Temperature Reset (BRO) G – Condenser Water Temperature Reset (BRO) H – Water Side Economizer Optimization (BRO) I – Cooling Tower Staging Sequence Optimization (BRO) J – Chilled Water Differential Pressure Reset (BRO)	NC NR AR AOE BRO	DnCust	Any

* OfferingIDs based on controls measures in the PG&E HVAC Tool

Example: Steam Boilers

One Custom Measure for **Steam Boiler** Equipment….

Use Category	Measure Code	Version	Offering ID	MAT	Delivery Type	Sector
PR (Process)	1XX (Steam Boiler)	01	A – Custom Steam Boiler (NR) B – Custom Steam Boiler (AR)	NR AR	DnCust	Any

… and a different Custom Measure for **Steam Boiler Add-On** Equipment/Controls

Use Category	Measure Code	Version	Offering ID	MAT	Delivery Type	Sector
PR (Process)	3XX (Boiler Add-ons)	01	A – Economizer B – Parallel positioning controls C – O2 Trim controls D – Burner retrofit (TBD) E – VFD/ Blower controls (TBD) F – Possible reset controls (TBD)	AOE	DnCust	Any

Questions

- Hurdles for implementing the approach?
- Would it help to have more program designation in measure category?
- Would it help to have more equipment type in measure category such as compressor, condenser?
- Is it better to have more measure ID and less offering ID, or vice versa?
- How to handle RCx/Commissioning/MBCx measures?
- Is Whole Building a separate category in itself?

Wrap-Up & Next Steps

- **Action Items**
  - Share input on:
    - eTRM Development
    - SW Custom Measure ID structure
  - Join ISP White Paper team
  - Measure Groups continue standardization efforts

- **Upcoming**
  - Measure Group meetings
  - 3/23 – TF Meeting (remote)
  - <mark>TBD</mark> – eTRM Enhancement Charette (LA)
  - 4/4 – Custom Subcommittee Meeting (remote)

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Open Discussion