# Part 1: July 25, 2016

[List of participants omitted]

1. **Introductions and working group report dynamics**
	* No formal workshop report will be submitted for this workshop; PG&E to draft initial workshop notes to be distributed for parties to augment or correct as necessary.
2. **Discussion of goals and outcomes including directives from the Decision and November 1st consensus proposal. (Broad Discussion)**
	* Introduction by Katherine Stockton (Energy Division): Ordering Paragraph (OP) 9 of Decision (D.) 16-06-008 ordered a meeting of stakeholders to develop consensus proposal to streamline and simplify the direct participation enrollment process, including adding more automation, mitigating enrollment fatigue, and resolving any remaining electronic signature issues.
	* Discussion of other goals and outcomes:
		+ Understanding what is non-negotiable in terms of California law (John Anderson, Ohmconnect), and with respect to other prior CPUC decisions, including Rule 25 and 27 (Chris Warner, PG&E), without re-litigating what has been decided by the CPUC in D.16-06-008 (Katherine Stockton, ED).
		+ A customer providing its signature on the CISR-DRP form is a legal contract that authorizes the Utility to release information to the demand response provider (DRP); it is not a contract for DRP services. It is important to distinguish between content and format of the paper form or other means of authorizing. (Werner Blumer, ED).
3. **SCE presentation on current CISR process and Green Button Connect**
	* Please see SCE’s presentation for the content of the presentation
	* SCE: Through GBC, customer is authenticated which is essential; this is done through My Account (username and password).
	* The CISR-DRP form authorizes what actions to be made by the utility?
		+ The release of the customer’s data to a third party, including interval meter data, Sub-LAP, p-node, etc.
		+ Authorization to disenroll a customer from Peak Day Pricing (PDP).
		+ Reprogramming of the meter to 15-minute intervals (particularly for residential customers who are often on hourly meter intervals).
	* Differences between the CISR-DRP form and the Green Button Connect (GBC) process:
		+ GBC satisfies the data sharing component but not the customer authorization to disenroll a customer from PDP – the DRP’s customer notification letter to the customer provides that authorization. The actual removal of a customer from PDP is done during the registration process.
		+ SCE owns the meter and will reprogram meters as needed. It is a company policy to automatically reprogram the meters of customer participating in the Rule 24 process.
		+ Question by W. Blumer: Why is SCE reprogramming meters at time of CISR submittal when participation is not assured? Seems ratepayer money waste.
		+ The terms and conditions for GBC are more generalized than the CISR-DRP form, so it is somewhat different.
		+ GBC is a single, standardized platform for a customer to release their data to a third party, regardless of program they are participating in. It is not tailored for the CISR-DRP.
	* Is there automatic disenrollment for other utility DR programs, including residential customers participating in SmartRate?
		+ No. Customers participating in SmartRate or other utility DR programs (other than PDP) are not automatically disenrolled during the registration process.
		+ If customers do not disenroll from these programs prior to submitting a CISR-DRP form or completing the GBC process, they are rejected and returned to the DRP.
		+ For PG&E, fewer than 5% of CISR forms are rejected for this reason.
		+ For Olivine, these rejections take approximately 80% of the time to resolve.
	* Does the GBC process allow a customer to consent to being enrolled in a Proxy Demand Resource (PDR)?
		+ No, the CISR-DRP is primarily for the release of information. Enrollment of the customer in a PDR (or RDRR) is done through a separate agreement with the CAISO.
	* Could PG&E use its GBC process (known as Share My Data) for the CISR-DRP form?
		+ No, not at this time. In its current form it does not allow for customers to authorize DRP actions. PG&E will re-program meters only once the customer is successfully enrolled at the CAISO.
4. **PG&E presentation on current CISR-DRP process**
	* Please see PG&E’s presentation for the content of the presentation
	* Is PG&E’s process designed for Rule 24?
		+ Yes, it is specifically designed for Rule 24, and allows for a three-party CISR-DRP (one form for two parties: a DRP and an aggregator).
	* What happens if a customer signs on with a DRP under DRAM and submits a CISR-DRP under Rule 24, but later wants to enroll in an IOU DR program?
		+ Steve Debacker (PG&E): If a DRP registers a customer at the CAISO for a pre-defined period of time, this will be set as a flag which will prevent the enrollment of the customer in an IOU program. If the customer wants to leave the DRP, the IOU will see that they have left the CAISO registration and they will be free to enroll in the IOU program.
5. **SDG&E presentation on current CISR-DRP process**
	* Please see SDG&E’s presentation for the content of the presentation
	* How is your process for DocuSign unique from PG&E’s DocuSign proposal which was rejected by the CPUC?
		+ SDG&E accepts DocuSign from third parties but does not require it.
6. **Ohmconnect presentation on current enrollment process**
	* Please see OhmConnect’s presentation for the content of the presentation
	* Chris Warner (PG&E): In looking at OhmConnect’s website, it requires a customer to provide their utility account information, including the login and password. Authentication is at the beginning of the process. This would continue to work with the evolution of privacy standards at the utility, right?
		+ John Anderson (OhmConnect): We want to find the minimal sets of information where the IOU can be reasonably confident. Yes, third parties would be at the same standard as utilities.
		+ Sharon Alonik (PG&E): Does only the customer have the customer’s credentials?
		+ John Anderson (OhmConnect): Yes. We use it once and do not store it.
	* Cole Hershkowitz (Chai): The customer does not have the chance to make a mistake in filling out the application using the OAuth approach; support this approach.
7. **EnergyHub presentation on current enrollment process**
	* Please see EnergyHub’s presentation for the content of the presentation
	* Laura Kier (EnergyHub): discussion of EH experience in DRAM 1
		+ EH lost about 85% of interested customers because of the account number requirement. Then, 51% of those potential customers who had provided the account number were lost during the DocuSign step.
		+ Multiple enrollment steps and redirecting customers to different websites (like GBC and DocuSign) create customer fatigue.
		+ Method of customer information feedback from the utilities is not scalable and provides poor customer experience.
			- EH received PDF redlines of CISR rejections, which is not scalable. Ideally, this would be in a machine readable format – an excel spreadsheet or a CSV file.
	* There were multiple problems in customer information provided by the LSE which needed to be fixed, thereby slowing the registration problem. Even in the best case scenario, customer information was received in irregular chunks of time. Entire resources need to be re-registered if there is a problem with one customer’s information, which is a particularly significant problem for residential aggregators. When the customer finally receives feedback from the third party on whether he/she has been accepted or rejected, the customer may have forgotten that he/she applied.
	* Laura Kier (EnergyHub): The DRP should be responsible for verifying a valid “electronic signature” under federal and state electronic laws. If the customer challenges this in court, DRP will be responsible for providing an audit trail that shows exactly when the customer signed, prove what set of terms the customer signed, and show what the customer saw before checking the box.
		+ John Anderson (OhmConnect): Are the IOUs in a position to shed the legal liability of authentication? The CPUC also has jurisdiction over the DRPs for authentication.
		+ Chris Warner (PG&E): We cannot waive our liability because this is a secondary use.
		+ Cole Hershkowitz (Chai): It will be difficult for third parties to enter this market if they are fully liable.
		+ John Anderson (OhmConnect): If the IOUs take this on, we need commitment that there will be a customer-friendly experience.
	* Laura Kier (EnergyHub): OAuth still requires utility credentials, which is not readily accessible information. This excludes customers who have not yet signed up for an online account with their utility or do not easily remember their user ID or password. OAuth also sends customers to the utility portal, which contains too many steps and is a complex user interface.
	* Laura Kier (EnergyHub): For the ERCOT approach, ERCOT already has customers’ information so customers don’t need to provide account number or credentials.
		+ Laura Kier (EnergyHub): A tool (with corresponding API) should be provided that allows for a quick look up address so aggregators can instantaneously check whether customers are in a sublap or on the appropriate rate plan during the application process. This would allow feedback to customers in a matter of days, rather than weeks.
	* Is there a way to envision the authentication process to happen instantaneously? What's the time horizon in which that would be possible and is there a way to leverage current processes to support this?
		+ Steve Debacker (PG&E): This is optimal but it takes time to design and build.
8. **Discussion of topics for next meeting schedule and format for future meetings**
	* Overarching topics and questions that were discussed in a number of presentations and require further discussion at future meetings:
		+ Beth Reid (Olivine): GBC requires a customer that needs to authorize two different entities (a DRP and an aggregator) to go through the process twice.
		+ Beth Reid (Olivine): There have been instances in which multiple DRPs have tried to register the same customer at the same time, and the customer does not realize that these third party programs are tied to the same utility program (DRAM).
		+ Beth Reid (Olivine): What is the best way to address how to move beyond registering a single customer in GBC? If the DRP and an aggregator need to get the same customer data GBC only allows for one customer authorization at a time.
		+ Beth Reid (Olivine): What is the timing of a customer’s disenrollment from PDP, with respect to when they are enrolled at the CAISO?
		+ Authorization:
			- SCE & PG&E: Any change in customer service or rate requires customer consent.
		+ Authentication:
			- Enrollment versus authentication:
				* Beth Reid (Olivine): Need to differentiate between enrollment and authentication processes. Want to focus on the overall process then drill down into the details; who is responsible for what?
				* Bruce Kaneshiro (ED): Need to make sure we also focus on streamlining and simplifying, so there is an enrollment component to this work as well as authentication.
			- How to allocate responsibility for authentication among IOUs and DRPs:
				* Chris Warner (PG&E): We need to have a shared approach to authentication. These techniques are rapidly evolving and PG&E is interested in seeing how the DRPs are evolving with these. We need to determine what should be the appropriate form of authentication, which may mean allowing tools like DocuSign.
				* SDG&E: Would like to see current Ohmconnect processes.
			- E-Motorworks: For the authentication process, what are the IOUs screening for?
				* Chris Warner (PG&E): Impersonations and slamming.
			- EMotorWerks: other issues:
				* Simple, user-friendly consent, for example, by clicking an “I agree” button
				* Simplified, unified CISR form applicable to all programs (not separate CISR forms for DRAM and SSP, for example)
				* User-friendly language (not legalese)
			- OAuth:
				* SDG&E: It will take longer to set up, but OAuth is a secure way for a customer to demonstrate to a third party that they are who they say they are according to the IOU. Prevents the DRP from seeing customer log-in info.
				* Cole Hershkowitz (Chai): Is the login or the signature the authenticating method? The login doesn't actually authenticate – anyone can create an account.
				* Jennifer Chamberlin (CPower): Large customers usually have a centralized My Account login used by the finance department, which may be in a different office or even state as the facility that is authorized to sign up for a DR program. It can be difficult to track down the My Account login to use the OAuth methods (this is also true for GBC).
	* Can the November advice letter include a request for funding?
		+ Nathan Gonzalez (SCE): Some funding can be requested in the advice letter but some would be needed in an application.
	* Will have a call later this week or early next week to plan next workshop.
	* Next issues for discussion:
		+ Authentication and authorization.
		+ Unified CISR-DRP for other programs at some point.
		+ Notification and consents wrapped into one step.
		+ Customer agreement in easy-to-understand language, and simplifying (and shrinking) the CISR-DRP form

# Part 2: August 24, 2016

[List of participants omitted]

1. **Introduction**
	* Energy Division (ED) does not think customer authentication is in the scope of this proceeding. Rather, it was resolved in the decision. The focus of this working group is to address the remaining issues around the CISR-DRP form itself, including transmitting, submitting, and processing it, through the data delivery.
	* If changes need to be made to the language of the decision, a Petition for Modification (PFM) should be filed.
2. **Authentication**
	* Clarification of the Decision by Katherine Stockton (Energy Division):
		+ Authentication processes should not require front-end steps (i.e., requiring login to a utility account before filling out the CISR-DRP form, with the exception of SCE’s Green Button Connect (GBC)).
		+ OAuth could be used as a long-term solution to pre-populate the CISR-DRP form, but it is not required by the decision.
		+ D.16-06-008 Ordering Paragraph (OP) 1 and the discussion on pages 10-11 resolve these issues:
			- Click-through definition: a process that provides customer authorization for a utility to release the customer’s data to a third party. It leaves the details for how this works to third parties, and focuses on the interaction between the third party and the utility.
			- The decision does not impose additional requirements to authenticate: utility verification/matching of the data on the CISR-DRP form to its systems is sufficient (page 12, footnote 20, and OP1).
			- The CISR-DRP form may be pre-populated (page 14), with or without OAuth, as long as the customer reviews the contents of the form and both the customer and the utility have access to the form.
			- The customer must provide final authorization and agree to the terms and conditions of the CISR-DRP form, and the third party cannot do that on behalf of the customer: the customer must review the form and agree to the legal terms prior to providing their authorization/approval (page 14), and the customer must see the form or have an option to see the final form.
		+ The following topics are out of scope:
			- Re-hearing the decision and re-hashing the policy issues
			- Verifying third-party DRP compliance with the decision
	* Questions:
		+ Natalie Martinez (SCE): How should the DRP make the completed form available to the IOU and customer? If there are issues with the data in the form, would it be rejected?
			- Katherine Stockton (ED): The specifics of that process should be discussed, but access is needed. And yes, the form should be rejected if there are mismatches.
		+ Sharon Anolik (PG&E): Giving the customer the *option* to review or *requiring* them to review are two very different things. Does the decision only require the former?
			- Katherine Stockton (ED): Not sure, will look into this.
		+ Steve Debacker (PG&E): To be clear, this means that the authentication happens on the utility’s side.
			- Katherine Stockton (ED): Yes.
		+ Steve Debacker (PG&E): We need to distinguish between the DRP providing the CISR-DRP form itself, versus the DRP providing a dataset that contains the contents of the form. If we allow a dataset, that doesn’t hold up in internal utility and Commission audits, which requires that PG&E provide the form. ED needs to clarify that it permits the use of a dataset when it performs an audit of the utilities, and we need to discuss what would happen if a customer comes to the utility and says that they have not seen the form.
			- Mona Tierney-Lloyd (EnerNOC): It is important that the form be provided because different people within a company will need to see the form. The decision does say that the customer is required to review the form (p.14) but this is not mentioned in an OP.
			- Katherine Stockton (ED): DR Parties should also comment. The third party needs to provide a mechanism to revoke authorization on the same form, and utilities could provide a revocation on their websites as well.
		+ Steve Debacker (PG&E): We should discuss what types of electronic signatures can be accepted, particularly with respect to the requirements of internal utility and ED auditors as included in the privacy decisions. Today, the standard being audited to requires DocuSign, so it is important to have documentation specifying otherwise.
			- SCE: For instance, the smart-grid decision specifies that every three years as part of the GRC process, an independent audit needs to occur on access to customer data. There are other proceedings and audit requirements as well.
			- Katherine Stockton (ED): Clarification is reasonable for what an electronic signature means.
3. **Discussion of Issues that Need to be Resolved (and Initial Answers)**
	* Electronic Signatures:
		+ What type is acceptable (per discussion above)?
	* CISR-DRP Form Completion:
		+ Can the language be simplified in the CISR-DRP form?
		+ Should customers have the option to review the filled-in CISR-DRP form, or are they required to review the filled-in CISR-DRP form?
	* CISR-DRP Form Processing and Data Delivery:
		+ Are form rejections unclear or not always provided?
		+ Is processing time lengthy for 1) the approval process and 2) to transmit data?
		+ Does the format of the data delivery vary based on whether the form was filled out on paper or electronically?
			- Not for PG&E, but this is the case for SCE processes that use a paper CISR-DRP versus their Green Button Connect platform. Unclear about SDG&E.
		+ Is it possible to make the format of the data delivery the same across utilities?
	* SCE’s Green Button Connect (GBC) versus the CISR-DRP Form, and Application of GBC to the Click-Through Process:
		+ Does SCE’s GBC process of 13 pages and 20 clicks lead to customer fatigue?
			- SCE is working to minimize the steps and improve the customer experience, but it does provide the customer control in the process to minimize the data released. This optionality may result in the customer providing insufficient data, though, which would require that the customer repeat the process to fix this, and then repeat to allow for the data release to an additional DRP.
		+ Does SCE’s GBC contain the authorization necessary to dis-enroll a customer from time varying rates?
		+ Does SCE need authorization to reprogram a customer’s meter?
			- No, but there may be concerns over the timing of the reprogramming if there is cost involved.
			- Each utility does this differently right now, but PG&E is required, per its settlement, to reprogram after successful registration at the CAISO.
		+ Can all of the utilities leverage their GBC platforms to meet the needs of Rule 24?
			- Yes, though it would be a longer term solution for PG&E and SDG&E. Current processes do not specifically address the authorization necessary to dis-enroll a customer from time-varying rates or to reprogram a customer’s meter, so adding these authorizations to the front end of this process may work without recreating GBC. The benefit is that the GBC process is designed for large volumes, but it needs to align with only providing the minimum amount of data necessary for Rule 24, versus other types of CISRs, and the idea that data should be released for a “specific purpose” per the utilities’ privacy rules.
	* Click-Through Process:
		+ Can DRPs request that a customer provide their utility logins to obtain the information necessary to fill out the CISR-DRP form?
			- No (nearly unanimous). First, the DRP gains full access to the customer’s account, which allows for them to impersonate the customer to pull data necessary to fill out the CISR-DRP form, but it would also allow them to change a customer’s rate, access financial information, and shut down service. Second, it is not clear that the customer has provided their consent/authorization and agreed to the terms and conditions contained within the CISR-DRP form if the DRP uses this access to fill out and sign the form on the customer’s behalf.
			- If the customer wants this kind of experience, isn’t it within their rights to provide their login? Customers probably provide their logins because it’s easier, and that’s important to note for developing the customer experience.
			- Does it violate the terms and conditions of the utilities’ My Account websites? It’s unclear to DRPs if this is the case, but if a third party does use this process, it creates a competitive advantage that would make it unfair to parties who do not do this. Any solutions proposed should note that processes that violate the terms and conditions of My Account should not be used.
			- Can the utilities block this type of access? Yes, the utilities are within their rights to shut this down if they believe it is a violation of the terms and conditions of their My Account websites.
			- Does this become a policy issue? The advice letter (AL) process does not allow for addressing policy issues, and the ED is not able to answer these types of questions. However, there is no clear forum to discuss these issues, which affect the design of the click-through process and may impact the solutions presented in the AL.
		+ Does the click-through decision allow all of the steps to be done on the DRP website?
		+ Pre-population of data in the CISR-DRP form:
			- Does the decision say that click-through is the CISR-DRP? No, the click-through is used to complete the CISR-DRP form, which is then sent to the IOUs.
			- Is pre-population of data necessary? It improves the customer experience. OAuth is a safer way to pre-populate this data, or the customer could start on the third party website, go to the utility website (framed within the third party website, as a pop-up box, or a simple re-direct), and return to the third party website.
		+ Who keeps the record of a customer’s authorization of the CISR-DRP in the click-through process?
			- Absolving the utility of the responsibility would mean it could stay on the third party website, but without that, the CISR-DRP form needs to be provided to the utility.
		+ Who is responsible for adjudicating customer complaints?
			- For residential and small commercial customers, it is the CPUC, which collects a bond from DRPs for customer damages.
			- For medium and large commercial customers, they have other legal options.
			- CPUC can revoke a DRP’s registration, but has no civil or criminal jurisdiction.
			- Result is that IOUs must authenticate the customer.
4. **Creating a Process Flow**
	* Key Considerations:
		+ The decision requires that the process starts and ends on the third party website.
		+ Not all customers (particularly large commercial and industrial customers) will have access to a utility login, or the ability to create one.
		+ Authentication standards will need to evolve over time, so there will have to be some flexibility built for this.
	* Short-Term versus Long-Term Solutions:
		+ What defines short-term? For ED, before 2018. For PG&E, shortly after the November filing date/approval of the November 1 advice letter, but would likely require the CISR-DRP form to be provided. For SDG&E, after March 2017. For SCE, looking into this, but it depends on liability for customer protection.
		+ Utilities will try to develop a list of short-term solutions that can be accomplished with existing budgets.
		+ Long-term solution may require funding authorization.
5. **Meeting Schedule**
	* In-Person Meetings
		+ September 13 @ 455 Golden Gate Avenue
		+ September 27 @ TBD (CPUC or PG&E)
		+ October 11 @ TBD (CPUC or PG&E)
		+ October 25 @ TBD (CPUC or PG&E)
		+ Calls: As needed between in-person meetings, particularly for sub-group meetings
6. **Next Steps**
	* Check-in call on September 6 or 7 – DRPs to schedule? Initial agenda:
		+ DRPs to present a couple of discreet customer flows, evaluating and prioritizing what is important (with respect to a value/time tradeoff) and what their show-stoppers are.
		+ IOUs to provide feedback on the preliminary customer experience flows.
		+ IOUs to provide a list of short-term solutions within their current budgets.
		+ IOUs to start discussing how to deal with the e-signatures.
		+ The next subgroups can be developed at this time.

# Part 3: September 13, 2016

[List of participants omitted]

1. **Introduction**

Purpose of this workshop is to start talking about short-term and long-term solutions to the issues that have been brought up over the first two workshops.

1. **UtilityAPI Presentation (on behalf of the DRPs) re: Ideal Proposal for Long-Term Vision**
* Guiding Principles on Functionality:
	+ Full data set
	+ Synchronous data
	+ Instant, digital authorization
	+ Instant, consumer-centric authentication
	+ Seamless click-through
	+ Strong security protocols
* Overview of the DRPs’ proposed long-term solutions (the DRPs are not advocating for a limit of one solution):
	+ Can be completed on a mobile device or on a computer
	+ Can facilitate an out-of-band request (e.g. a paper CISR with the same computerized data output)
	+ Are synchronous for the authorization/authentication section
	+ Can provide synchronous and/or asynchronous data feeds
	+ Meet the six principles (mentioned above)
	+ Provide auditable records and user receipts
	+ Are compatible with one another and can be implemented side-by-side
* Key definitions:
	+ Client = browser
	+ Token = exchanged back and forth between third party and utility, unique to each authentication/one-time use, third party has access to the token
	+ Secret = identity badge, unique to the third party, not evident to the client/browser (more secure)
	+ Receipt = acknowledgement of the authorization
* API Solution 1: similar to credit card payment processors, like Stripe and PayPal
	+ Pros: Pretty easy to implement; authentication parameters go straight from browser client to utility (does not pass through 3rd party servers); does not require integration to IOU user experience; eliminates the most “clicks” for the user; third parties can capture all information on just one page.
	+ Cons: Utilities need to implement 2 API endpoints and the latter has to be browser friendly, not just server friendly. This option cannot accommodate a password reset, but it could be implemented alongside a password-reset wizard.
	+ Questions/Comments:
		- Where does the password change originate?
			* At the IOU website.
* API Solution 2: simple and fast-to-implement
	+ Pros: fastest and cheapest to build; does not require integration to IOU user experience; eliminates the most “clicks” for the user; third parties can capture all information on just one page.
	+ Cons: Authentication credentials (account number, zip code, username, password) pass directly through the 3rd party servers; and this option cannot accommodate a password reset.
	+ Questions/Comments:
		- Solution 2 is simpler than Solution 1 but it allows DRP to see the customer authentication credentials; it is also cheaper to construct but does not accommodate password reset like Solution 1.
		- In Solution 2, the third party does not keep the customer credentials but they do temporarily have possession of them. Neither 1 nor 3 allows for the third party to have access to the customer credentials.
		- SCE has customers complaining that they have not intended to provide their authorization for DRPs to do certain things; SCE wants to have true authorization by the customer.
* OAuth Solution 3: similar to social networks like Facebook and Twitter
	+ Pros: The customer is held within the third party flow, but actually on the utility website in a pop-out or iframe. Most versatile, in that this option can accommodate the most use cases, e.g. whether the utility account holder has an online account or not, remembers password or not, wishes to bypass online account, etc.
	+ Cons: Utility needs to build and maintain a section of the interface that must facilitate most minimal user fatigue and DRP input; may add 2-3 more “clicks” and “pages”; less customizable for the DRPs.
	+ Questions/Comments:
		- Is the third party capturing the customer credentials?
			* No, similar to Solution 1.
		- DRPs would like any OAuth solution to be simple and involve one click to the input screen then one click to submit. This is a key issue because it involves more clicks than the other two solutions.
* Alternate Out-of-Band solution: could be added to any of these solutions
	+ Pros: Entirely over paper CISR or by telephone call (presumably to utility), but provides same data output.
	+ Cons: Longer utility implementation time and documentation.
* Overarching Questions/Comments:
	+ DRPs expressed that they should not be held to a higher standard than the IOUs in authentication.
	+ Having multiple solutions is desirable to the DRPs because it is not clear yet which of the three solutions will be most successful; however, this requires more time.
	+ Both third parties and utilities have customer experience.
1. **Utility Responses to Long Term Vision, and Presentation of Short Term Solutions**
* SCE
	+ Assumptions:
		- DRP proposed solutions note SCE will authenticate the customer
		- SCE will select the data elements to authenticate the customer
		- DRP will not store the data provided by the customer used for authentication
		- Fulfillment will continue to be filled in the same timeframe it is today (Green Button Connect fulfillment will occur in 1-5 days)
		- SCE reserves the right to implement enhanced authentication measures (e.g. Captcha)
		- DRP’s are subject to CPUC jurisdiction for fraud and identity theft under Rule 25
	+ In Scope:
		- Customer authentication
		- Customer authorization
		- Data fulfillment (automated and manual)
		- Meter change requests
		- Revocation
		- Green Button Connect Enhancements to support Rule 24 (similar to DRP’s recommended Solution #3)
		- Questions/Comments:
			* Who should perform the revocation?
				+ SCE: Need to figure this out.
				+ PG&E: DRPs should support this, as well as updates to authorizations, on their websites.
			* PG&E: SCE should add updates to customer authorizations (changes to what data is authorized to be delivered to the DRP) to this scope.
	+ Out of Scope:
		- Customer Enrollment in Rule 24
		- Real-Time Data Fulfillment
		- Questions/Comments:
			* Can any data be sent real-time, such as meter data on an hourly interval?
				+ SCE: This is not easy – it depends on when batches are run.
			* Can real-time authentication occur and is this in scope?
				+ SCE and PG&E: Yes.
	+ Short-term Solution
		- Manual fulfillment: When a hard copy CISR form is provided, it will be a fully manual process as is done today. SCE will work with other IOUs to develop a consistent data format.
		- Green Button Connect Partner: Will leverage the existing platform to transmit the data.
	+ Feedback on Long Term Solutions Proposed
		- API Solution 2: not feasible
		- API Solution 1: SCE can do this but with a few caveats:
			* SCE determines data needed for authentication
			* DRP will not store the data customer uses for authentication
			* SCE requests DRP to send the completed CISR to SCE at same time the copy is sent to the customer
			* Data will be provided based on today’s fulfillment standards (not less than 90 days)
		- OAuth Solution 3: SCE’s preferred method and per to implement only one solution
			* Similar to SCE’s Green Button Connect
			* SCE can modify Green button connect to support the start and end on the 3rd party site.
			* SCE will not deliver data in less than 90 seconds.
			* Fulfillment through GBC is 1-5 business days and every day interval usage data feed afterwards
* Data elements:
	+ - The principle of "data minimization" is that data provided should be limited to what is directly relevant and necessary to accomplish a specified purpose.
* SDG&E and PG&E agree.
	+ - Statements:
* Historical Bills: SCE can provide the previous 13 months of historical billing data but can discuss expanding this. This aligns with other data storage requirements.
* Payment Information: SCE will not be able to provide payment information
* Historical Intervals: SCE will not be able to provide since the beginning of service
* Identity and contact information of customer’s LSE, MDMA, and MSP: SCE will not be able to provide the contact information
* Questions/Comments:
* Why do the DRPs need # of meters at the service account level? To determine if it is aggregated meter data or not.
* Local Capacity Area: Why do the DRPs need this? Local RA (for now, until there is SubLAP realignment, which goes into effect January 1, 2017)
* Overarching Questions/Comments:
	+ Can GBC be used for Solution 1?
		- SCE considered this but the DRP would need to be a Green Button Partner. SCE would look at revising the GBC front end so it could be used for Solution 1 or Solution 3.
	+ For customers who do not have MyAccount, would Solution 1 or Solution 3 require a MyAccount?
		- SCE & PG&E: No. Trying to work on this.
	+ Defining the CISR form as the “receipt” and questions around the utility providing the fields necessary to fill out the CISR form for this receipt:
		- Having the completed CISR at the same time it is sent to the customer allows the customer to call the utility and verify that the receipt has been received.
		- SCE: The decision (D.16-06-008) states the CISR form itself should be provided, and while having the data within the CISR form might be ok for some purposes, there are audit requirements that need to be met. However, OP 1 of D.16-06-008 requires that the customer and IOU both need to be sent a completed CISR-DRP which means the IOUs would have to provide all of the necessary customer data up front. Another option would be to simplify the CISR-DRP form.
		- PG&E: The problem with the utility transferring this data to the DRP is that the point of the process is to make it easier. If we get authorization to release this data that’s in our system, we don’t need to send a form back and more information is exchanged than is necessary. Once we know that the customer is who they say they are, we could provide that information.
		- SCE: Transferring the data to fill out the CISR form obviates the data minimization principles, utilities need the authorization, and a customer needs notice of the transaction.
		- Matt Tisdale: If parties feel that OP 1 should be changed to allow the CISR-DRP data in a different format to be sent to the customer and IOU then that can be requested.
		- PG&E: Clarifying that ED can’t change an OP themselves, but they can interpret it. An advice letter with a PFM can be done. SCE: Or a judge may be able to do it themselves.
	+ Is the account and zip code considered confidential? They are included in the feed after there is an agreement.
		- PG&E: SAID is different from account number, which is tied to a customer’s financial information and may include a number of locations and service accounts. The CISR is a specific authorization based on the SAID and location.
	+ What data do the DRPs expect back in the 90-second period?
		- Olivine: Everything, but assume only authentication is feasible.
		- UtilityAPI: Trying to understand the different latencies to different pieces of information. We interpret Commission decisions as saying that a customer is required to have immediate access to their data, and ask that a third party a customer requests to manage that data be afforded the same access.
* PG&E
* Short-term enhancements using existing funds
	+ Allow additional types of electronic signatures that can be used on the CISR-DRP.
		- Use of e-signatures that do not require an e-signature provider.
		- Use of e-signature providers other than the two currently required by PG&E.
	+ Clarification of PG&E’s position on the use of screen scraping by DRPs to obtain the information needed to complete the CISR-DRP.
		- PG&E knows that outside parties are currently performing screen scraping of MyEnergy.
		- At this point, PG&E is not taking action to prevent this screen scraping when it does not affect the ability of PG&E and its systems to authenticate the customer and does not degrade system performance. Screen scraping can improve the accuracy of the CISR-DRPs.
		- PG&E reserves the right to implement measures that require a user to be interacting directly with MyEnergy (e.g. Captcha).
		- Receipt of customer credentials by a DRP makes the DRP subject to CPUC jurisdiction for fraud and identity theft under Rule 27.
	+ Questions/Comments:
		- SCE’s GBC is not equipped for screen scraping, which slows systems down. They are taking action to prevent this sort of behavior.
		- Whether screen scraping is appropriate behavior is outside of the scope of this working group.
		- Some DRPs prefer screen scraping, others are not comfortable with the idea or the uncertainty of building a system to support this, when it may not be available.
		- SCE: Ultimately, it’s the DRP’s business decision, though there are federal decisions on this topic, and litigations occur at the 9th circuit court, and it’s not the Commission’s position to provide an opinion on this. It’s under a higher level computer act that addresses this type of issue.
		- PG&E is not advocating for screen-scraping, simply acknowledging that it is happening, that so far systems have not been impacted by the type of one-time use that has been used, but downloading meter data will contribute to a greater problem.
* Short-term enhancements needing additional funds
	+ Simplification and streamlining of the CISR-DRP and the data collected. Changes to be determined.
	+ Provide additional data elements to the flat file that is delivered via ESFT.
	+ Incorporate dynamic barcodes on CISR-DRP to enhance intake processing.
	+ Develop a special SMD portal specifically for Rule 24 authentication and authorization.
		- Use OAuth.
		- Specific terms and conditions for Rule 24.
		- Available to registered DRPs only.
		- Pre-selected set of options.
	+ Data delivery improvements
		- After removing outliers, the current average processing time is approximately 6 calendar days.
		- Run intake jobs multiple times per day.
		- Run data collection jobs multiple times per day.
		- Run data delivery jobs multiple times per day.
		- Changes should reduce average to approximately 3 calendar days.
* Feedback on Long Term Solutions Proposed
	+ PG&E strongly prefers Solution 3 because there is already infrastructure set up for this, it’s fastest, and cheapest to implement. Token management structure is already set up, and it’s standardized and secure, with the appropriate features for auditability. This is the shortest long-term solution.
	+ PG&E does not have all of the Rule 24 elements yet in Share My Data (SMD), but there may be a way to make the SMD process quicker if DRPs register with SMD and pre-define the options they want. That way, the customer experience would be simpler, with the customer logging in, completing one or two pages (selecting which meters/SAs and confirming terms and conditions), and then redirecting them back to the third party website.
* Questions/Comments:
	+ PG&E: Two-party CISRs haven’t been discussed yet.
		- Olivine: The two parties could be embedded in the same token to indicate this. This is really important.
	+ WeatherBug: How much quicker would it be than API Solution 1?
		- PG&E: Can’t answer at this time. Token management, auditing, reporting – rebuilding all of those from scratch would be a very new project that needs to be properly scoped. It’s not as easy as it is described in the presentation.
	+ Chai: This solution puts a lot of the customer experience on the utility site. Have you built in processes that work with the third parties to improve the customer experience?
		- PG&E performs usability testing on its website, and gathers feedback from third parties as a part of that process. PG&E expressed a willingness to create a process for vetting with DRPs to make sure the customer experience is maximized.
		- Olivine: DRPs do not prefer OAuth, or GBC, because it is out of the control of the DRPs, so controls are important. Are the utilities interested in SLAs related to system response times, uptime, etc.?
		- The issue is complicated by how the same systems are utilized by other parties. It is in the interest of both the utilities and the third parties to have a positive customer experience.
* SDG&E
* Prefers Solution 3; they cannot support the first two solutions. SDG&E prefers a single solution.
* For the 90-second turnaround time they cannot release the data until the CISR is validated and approved; also the time needed to actually pull the data must be considered.
* If the requirement to have a PDF CISR form is removed, then the process could be faster.
1. **Advice Letter Process**
* Section 5 of the decision allows the IOUs to request additional funds via a Tier 3 advice letter (AL), but stay within the funding caps. Requests for funding must be tied to improving the customer rate of enrollment through a click-through process and enabling quicker processing of CISR-DRPs.
* ED prefers that the IOUs ask for funding for the long-term solution in the November 1 AL. Otherwise, the IOUs could submit a request for an extension on the AL deadline or submit a supplemental AL.
* ED is allowing the IOUs to submit separate ALs, but prefers a similar long-term solution across the utilities.
* The AL would not include costs for meter change requirement costs, which would have to be a different AL for PG&E and SDG&E.
1. **Sub-groups**
* Parties agreed to bi-weekly calls in between the in-person working group meetings, with sub-group work happening alongside this.
* Stakeholders who want to participate in the following working groups should reach out to the leads below:

|  |  |  |
| --- | --- | --- |
| Subgroup | Topic | Lead |
| 1 | CISR form simplification and processing in the short-term | Natalie Martinez (SCE) |
| 2 | Data needs and formatting of the fulfillment of the data in the short-term | Steve Debacker (PG&E) |
| 3 | Working through the long-term solution | N/A, full working group |

1. **Develop Roadmap**
* IOUs prefer Solution 3 but several DRPs prefer Solution 1 because there are the fewest number of screens; also, DRPs cannot customize the customer experience fully for Solution 3. Olivine to support DRPs to see what solution they prefer.
* The IOUs need exact requirements of a solution before they can put together detailed budget estimates.
* IOUs will start developing requirements (process mapping) for the customer journey for Solutions 1 and 3 to then send it to the DRPs by middle of week of 9/19.
* The DRPs would like to have input on the user interface.
* Next meeting, will report out on short term solutions and long term solutions (DRP response to IOU customer journey documents).

# Part 4: October 18, 2016

[List of participants omitted]

1. **Introduction**

This workshop consisted of brief updates to the CISR-DRP form sub-group and the data exchange and format sub-group, and then the Energy Division provided guidance on the advice letter process as a result of the informal status report that was served last week.

1. **Data Exchange and Format Sub-Group Update**
* Two meetings have been held to date, and the utilities are taking the list of data elements provided by the DRPs to see if they could be provided, which will be followed by an estimation of the timeline/phasing of adding any new data elements
* Areas of consensus:
	+ Method of data delivery has been consolidated from the use of both an API and a spreadsheet to only an API, which simplifies processes.
* Advice letter topics based on Energy Division guidance:
	+ A list of which data items have been agreed to and why certain data items cannot be provided
	+ An estimate of how data elements that can be provided will be delivered (likely phased)
	+ Any cost estimates/budget required to implement the provision of additional data items (per phase)
1. **CISR-DRP Form Sub-Group Update**
* SCE has revised the CISR-DRP form based on the two meetings that have been held for this sub-group:
	+ Certain sections were removed, consolidated, or edited for language and clarity.
* Two key elements that need to be conveyed to customers in any online versions of the form:
	+ Financial consequences for removal from a utility CPP program
	+ Potential costs of a meter change
* Questions:
	+ What is the significance of the CPP program removal?
		- The customer may face financial consequences for technology incentives they received.
		- The customer loses bill protection if the customer switches off of PDP and moves to DRAM.
	+ Why is the phone number required?
		- Steve Debacker (PG&E): This was discussed during the sub-group meeting, but either the phone number or the email address needs to be provided, but the customer should decide which. PG&E does not want to provide the DRPs with the phone number on file, because that may not be accurate or the same number as the person filling out the CISR.
	+ How much of the language will be transferred from the paper form to the online experience?
		- Natalie Martinez (SCE): The display is up to the DRP, but there are important aspects associated to the consequences of providing this authorization that the customer needs to be aware of. OAuth includes a lot of this information if the customer uses their credentials.
1. **ED Guidance**
* ED and Commissioner Florio’s office read the report and ED provided guidance to the Commissioner’s office, instructing the working group to proceed first with Solution 3, because it is the most practical, has the best chance of being implemented quicker, and the primary concern is to get something in place to impact the 2018 DRAM as much as possible, and within the budget cap. In addition, since Solution 1 is still worthwhile to discuss, the ED wants to see a schedule for developing cost and details for a separate Tier 3 AL.
* The Commission provided guidance for the Tier 3 advice letter ordered in D.16-06-008:
	+ Utilities should file for an extension to allow time to determine the cost and timeline to develop Solution 3.
	+ Utilities should request approval of Solution 3 and provide a timeline and cost recovery request for Solution 3.
	+ Within this advice letter, the utilities should also discuss how they plan to determine the technical description, timeline, and cost recovery for Solution 1.
	+ Describe a tracking system to provide transparency into the utilities’ GBC performance for Solution 3.
* The utilities will also file a Tier 2 advice letter with short-term solutions and/or improvements to the click-through process associated to the sub-group work.
* The timeline and cost recovery request for Solution 1 will be a Tier 3 advice letter.
* Clarification on the DRP conditions in Solution 3:
	+ No more than 2 screens for authorization and authentication
	+ An alternative to utility account login should be provided for authentication
	+ A forum for incorporating feedback from DRPs should be considered
	+ Improvements based on the data exchange/format sub-group:
		- DRPs should be provided a full data set
		- Utilities should design Solution 3 with the vision that eventually billing, interval, and location data should be synchronous
* Measuring utility GBC performance:
	+ Transparent system of tracking performance of Solution 3:
		- Load time per page
		- Time spent between first and last step
		- Number of views
		- Authorizations completed
	+ ED wants to see this information publicly available on the utility websites
* Questions:
	+ Would current processes be in place until Solution 3 is implemented?
		- Bruce Kaneshiro (ED): Yes, along with any short-term enhancements.
		- Steve Debacker (PG&E): If the CISR form modifications are approved, then we can use an electronic signature, moving away from the DocuSign requirements, to allow a broader selection of e-signature vendors or simply a “/s/ John Doe” signature without an e-signature vendor. The form itself would need to be filled out as well. PG&E will provide an overview of this in the advice letter. PG&E already has approval for the electronic signature, but PG&E would want an IP address.
		- Laura Kier (EnergyHub): DRPs may not be able to provide the IP address based on their own terms and conditions and privacy issues.
	+ Cole Hershkowitz (Chai): The advice letter should also discuss next steps if these metrics aren’t aligning with expectations.
		- Bruce Kaneshiro (ED): An oversight framework would be helpful to discuss in the AL.
		- Nathanael Gonzalez (SCE): Shouldn’t we also discuss if Solution 3 meets every metric and makes Solution 1 obsolete?
		- Natalie Martinez (SCE): Customer feedback should be considered as well.
		- PG&E, SCE, and SDG&E: Scalability needs to be considered, and Rule 24/32 click-through processes would not function in a vacuum, but are dependent on other systems and processes that utilize the same resources. This is both in terms of implementation and response time for metrics. The click-through process is not a core business function for the utilities, and this is complicated by needing to balance resources and dependencies that affect this process.
		- Bruce Kaneshiro (ED): What constitutes a passing grade may not be something we can come to an agreement on, and the utilities could outline that in the AL.
	+ Amy Costadone (PG&E): Each of the three IOUs are at different starting points. Thinking about a schedule of deployment, would the ED want each utility to do as much as they could and deliver a solution that varies from utility to utility by the deadline to support the 2018 DRAM, or, is the goal to have the same base level of requirements met across all utilities? For instance, PG&E already has mobile support ready, but we are not sure what the other utilities have available. Some requirements will be easier or harder to implement for each utility.
		- Cole Hershkowitz (Chai): User experience-based differences are fine, and each utility does not need to be in lock-step, but the data delivery should be aligned and synced. Only Solution 3 is viable if all of the requirements in Appendix E are met.
		- Mona Tierney-Lloyd (EnerNOC): Her company would prefer to have the same requirements met, as it is difficult to build out three systems.
		- Robert Anderson (Olivine): It sounds good to be perfectly synchronized on the user experiences (UX), but it wouldn’t be realistic. If we wait for that, then we wait until the slowest utility is done. Everybody should work as fast as they can and prioritize certain features to be developed.
		- Heidi Lubin (UtilityAPI): Staying in sync in terms of communication would be a good goal, but it’s not helpful to hold up progress given the timeframe. In terms of reporting performance metrics, could we recommend rewards or incentives for usage?
		- SDG&E: It’s a matter of constraints to system resources and protecting the investment in our infrastructure. Metrics are a natural part of any reporting, but some of these metrics exist on the DRP side, and it would make sense for DRPs to track and make public metrics since the customer experience starts and ends on the DRP website.
		- Cole Hershkowitz (Chai): We don’t feel a commitment to make all of our metrics public.
		- Laura Kier (EnergyHub): We made our metrics public and will continue to share those statistics.
		- Amy Costadone (PG&E): PG&E is committed to meeting the requirements put forward, but each of these requirements has a timeline and cost associated to it that need to be worked through, and the time frame for implementation is a concern.
* Data Exchange/Format Subgroup Guidance from ED: In terms of the AL schedule and costs, the AL could contain the individual timelines/costs for each requirement, and stakeholders could respond accordingly.
	+ Additional data items:
		- Carol Manson (SDG&E): SDG&E is still discussing the provision of additional data items internally, as it needs to provide only data that is absolutely necessary for registration at the CAISO. It’s a bigger policy issue and privacy issue, and SDG&E is looking for direction as to which proceeding this should be properly taken up with. SDG&E disagrees with parties’ positions that the data items requested are within the scope of Rule 24/32, but reserves further response for legal counsel.
		- Heidi Lubin (UtilityAPI): In their collective understanding, everything on the list is within scope of Rule 24/32, and any disagreement over language needs to be resolved. Mona looked and didn’t see anything that wasn’t to the letter of the law against those rules.
	+ Synchronous data:
		- Natalie Martinez (SCE): SCE is looking at how to get the data available in some format, but is not in a position to provide it synchronously, which would be extremely difficult and would likely far exceed the budget cap allowed in the decision.
		- Katherine Stockton (ED): If there’s a way to design it now given the current budgets that would be different if you were planning for the future to make this available, then prefer not to close the door on this. It could be provided at a later time, such as including it in the advice letter for Solution 1 cost recovery.
		- EnergyHub and OhmConnect: Their priorities are the qualification of the customer and registration of the customer into the CAISO, so as to provide the customer with a quick response if they are in the program.
		- Robert Anderson (Olivine): Unfortunately, all of the DRPs do not align on what their needs are, and that’s an issue. For Olivine, the priority is on location information.
		- Steve Debacker (PG&E): It’s more of an issue about where the data is in the system, and if it isn’t available, a human needs to step in and provide it. Pnode is a good example. 95-98% of the time, this is easy, but there will be instances where the topology of the electrical system and the routing of wires up and down a street change, or a feeder changes, and PG&E does not have control over these changes, so they need to be mapped when this data is not available. Pre-mapping is not feasible since this would cause major maintenance issues, and would be done if it was possible. Some data items will be blank in this case until a mapping could be done.
		- Jerry Yip (PG&E): In addition, ShareMyData was created out of a privacy decision, and the back-end systems that support this are based on interval data and billing, but DR was never considered and those use cases were not considered. Providing data on a synchronous basis also gets much more complicated when a customer has thousands of SAs, but PG&E already has a synchronous API for ShareMyData data for a single SA.
* CISR-DRP Form Sub-Group Guidance from ED: include revisions to the CISR-DRP form in an advice letter, with any updates that are necessary to Rule 24/32 to shortern/streamline the form.
* Overall:
	+ Matthew Tisdale (CPUC): It was a well prepared document, and Commissioner Florio and he poured over it. Energy Division prepared the presentation in conjunction with the Commissioner’s office.
	+ Robert Anderson (Olivine): Is this the only form of the guidance or is anything written? There may be additional questions.
		- Matthew Tisdale (CPUC): The CPUC will remain available for clarifying questions, but the written reasoning behind the guidance will not be provided.
	+ Natalie Martinez (SCE): It is her understanding that the utilities will focus on Solution 3 and put a plan in place for when they could do Solution 1, but that they can’t be done in parallel.
		- Matthew Tisdale (CPUC): We do not want them to be done in parallel. We want a means for which it can be done, if it remains needed. We want a schedule and ideas/suggestions for how to execute on this in terms of costs, i.e., milestones for how long it would take to actualize.
	+ Carol Manson (SDG&E): The guidance provided, in the absence of a ruling, seems out of scope of the decision. SDG&E has serious cybersecurity concerns about Solution 1 and has not agreed that it is even an option at all. To be given informal guidance to put forward in an advice letter without a paper trail opens SDG&E up to risks and if the guidance isn’t formalized, it’s not clear why SDG&E would offer to scope out a solution it is not required to implement, and SDG&E does not want to make it appear that they think it is in the best interest of their ratepayers or for the privacy of their customers. In addition, the DRPs could be seen as receiving preferential treatment (compared to EE and solar partners who are also asking for additional data) without a clear paper trail.
		- Matthew Tisdale (CPUC): That’s good feedback on how to write an OP, and it’s something to consider for framing this advice letter filing. The utilities counsels are very capable of framing how the filing discusses this issue, and the Commission has an open mind to being wrong, and will do what it needs to do.
	+ Nathanael Gonzalez (SCE): Procedurally, the utilities need to file for an extension five business days in advance of the due date. Should a date be specified?
		- Bruce Kaneshiro (ED): Yes, he has never seen an open-ended extension, but a second extension has been done.
		- Timeline: “In time for” DRAM 2018 implies that if a DRP has to have all their resources set up by November 1, 2017, then it’s likely that customers are going to be registered in September 2017, unless DRPs have summer-only programs. There also needs to be time for testing prior to this. This does not leave much time for implementation, but DRPs could structure their bids according to the implementation schedule.
1. **Developing a Work Plan for the Advice Letter and Next Steps**
* Amy Costadone (PG&E): There needs to be consistent documentation around the DRP requirements, need an expansion of Appendix E. PG&E can build a structure around that, circulate that among the utilities, and provide a starting point for a discussion with the DRPs.
* Natalie Martinez (SCE): There has to be an understanding that there are different business and system requirements, and they're unique to the utility. System requirements would be fairly similar, but we would have to be in the same room talking through these issues. Business requirements are more unique to the actual utility, so we usually develop those separately. scope needs to be built and we stay within that scope. We would bring out our business requirements folks. The first step is defining the business requirements of the DRPs and translate that into business requirements for the utilities. Then it goes through estimation, and technical folks then ask questions. If 90% of the business requirements are known, estimates could be provided with an 80% confidence level, then we could get started. That's a good 2-3 month process. IT folks need 4-6 weeks to do a proper estimation. Propose 3 months to complete the entire process if we have all of the information known today.
	+ Claudio Pellegrini (SDG&E): Agreed. Reducing he level of confidence means things may not be thought through fully, and the implementation could be delayed or more problematic if it lacks due diligence.
	+ Bruce Kaneshiro (ED): It sounds like 80% confidence in the costs is the threshold that they’re comfortable with.
	+ Carol Manson (SDG&E): In addition, for SDG&E, the same team is working on the DR application due mid-January, so there are limited resources.
* Jerry Yip (PG&E): In terms of immediate next steps, we need to have core requirements that can be shared across the utilities with buy-in from the DRPs. Weekly meetings would be helpful to interpret what is in Appendix E.
* The working group determined that the next three meetings would be as follows:
	+ Next week: 2-hour call, where PG&E would format Appendix E into business requirements and this would be a technical call facilitated by Jerry Yip (PG&E).
	+ Following week: keep November 3 full day working group meeting in person, with a hope of finalizing the DRP business requirements then.
	+ Following week after that: 2-hour call