SMUD®

June 17, 2014
LEG 2014-0492

California Air Resources Board
1001 I Street
P.O. Box 2815
Sacramento, CA 95812

Re: Sacramento Municipal Utility District's Comments on Potential Amendments to the Mandatory Reporting Regulation (June 2, 2014 "Informal Discussion Draft")

SMUD appreciates the opportunity to provide informal comments regarding the Air Resources Board's proposed amendments to California's Mandatory Reporting Regulation. SMUD supports the process of providing an informal draft of the revisions for stakeholder comment and continued informal interactions with stakeholders prior to reaching the stage of a formal rulemaking expected later this year.

SMUD's informal comments primarily address the proposed change to the MRR structure that would include in MRR §95111(g)(1)(N) a requirement to perform a "lesser of" calculation for certain specified resources. SMUD remains opposed to this requirement in general, but appreciates the significant narrowing of application apparent in the proposed text for §95111(g)(1)(N). SMUD recommends at least additional narrowing, if not complete removal, of this proposed policy and provides a lengthy rationale for our proposal below.

In addition, however, SMUD is watching carefully the proposed and potential changes in §95892(d)(5) on possible new data reporting requirements for wholesale sales into the California Independent System Operator (CAISO) markets. SMUD believes that ARB already has the data necessary for this calculation through CITSS, and hence sees no need for an additional reporting requirement here. The additional burden of an unnecessary reporting requirement may be small if it is truly "aggregate," such as reporting only the annual sales into the CAISO market. SMUD believes that the administrative burden of anything other than annual totals for this purpose would make the requirement onerous.

SMUD Recommends Alternative Language Regarding Meter Data Reporting and Subsequent Calculations for Specific Resources.

ARB staff have proposed new language in §95111(g)(1)(N) to clarify existing requirements about what is supposed to happen with hourly meter generation data that is currently required to be retained for verification purposes. The new language (shown

below) indicates that, for certain resources, an hourly comparison between metered and "scheduled" data must be made, and the sum of the lesser of these hourly values be calculated for reporting.

(N) For verification purposes, retain meter generation data to document that the power claimed by the reporting entity was generated by the facility or unit at the time the power was directly delivered. For all imports from specified sources for which ARB has calculated an emission factor of zero, and for imports from California Renewable Portfolio Standard (RPS) eligible resources a lesser of analysis is required, and must be conducted according to the follow equation.

Sum of Lesser of MWh = ΣHM_{sp} min(MG_{sp}, TG_{sp})

Where:

ΣHM_{sp}= Sum of the Hourly Minimum of MG_{sp} and TG_{sp} (MWh).
MG_{sp}= metered facility or unit net generation (MWh).
TG_{sp}= tagged or transmitted energy at the transmission or subtransmission level imported to California (MWh).

SMUD appreciates the ARB staff's attempt to clarify this requirement. This has been a muddy area, with such a "lesser of" calculation not required in the text of the MRR, but addressed and requested in various reporting guidance documents or templates, and then (in SMUD's experience) not clearly expected when it comes to actual reporting submittals.

SMUD also understands that ARB staff is attempting to both match a similar "lesser of" analysis required by the CEC and the CPUC for certain resources in California's 33% RPS, and achieve a perceived increase in the accuracy of reporting imported emissions. However, staff's proposal does not achieve either purpose, as explained below, and hence must be changed. As currently drafted, the proposed policy:

- Does not match CEC and CPUC RPS policy for "lesser of" analysis of certain resources;
- Is inconsistent with common market scheduling and tracking procedures for energy;
- Does not achieve any real improvement in emission reporting accuracy;
- Appears to be inconsistent with other portions of the MRR and the Cap and Trade regulations; and

- Is administratively burdensome, at best, without commensurate benefit.

Mismatch With CEC/CPUC RPS Policy: The CEC and CPUC have interpreted SBX1 2 to mean that certain specific renewable contracts must be tracked/verified on an hourly basis. However, this policy only applies to eligible renewable contracts signed after 6/1/2010 from resources that are located outside of California (generally) and where the power is "directly scheduled" into California, without either using substitute power explicitly or being dynamically scheduled. The proposed ARB language, in contrast, would apply to all zero-emission specified sources and all imports of eligible RPS resources. **The bottom line is that the proposed ARB policy represents a significant expansion, for SMUD and other retail sellers, to many renewable contracts not covered by the CEC/CPUC RPS policy as well as to some non-renewable resources**.

Specifically, the proposed ARB policy would go beyond the "lesser of" analysis required in the California RPS for the following types of specified source resources:

1) "Grandfathered" RPS contracts for imported power – these are renewable contracts signed prior to 6/1/2010, also known as "product content category 0" resources. These are significant – they make up nearly all of SMUD's substantial RPS procurement to date. For the "PCC0" contracts that involve imported power, SMUD is *not* required by the RPS to perform any "lesser of" analysis.

2) "Firmed and shaped" RPS contracts, such as might normally be used for out of state solar and wind (intermittent) contracts, also known as "product content category 2" resources. SMUD currently has none of these resources, but other utilities have these contracts, and there is no "lesser of" analysis required by the RPS. (It is unclear from the placement of the text for the proposed changes whether the "lesser of" requirement applies for these contracts, but if it is intended to apply here, it risks rendering these contracts nonviable. These contracts will have such significant differences between metered and scheduled data on an hourly basis that if the proposed policy was applied, the procurement would essentially be "non-renewable" and have significant positive emissions associated.)

3) "Dynamically scheduled" RPS contracts – these are renewable contracts that are located out of state but scheduled in such a way that they can be thought of as "local". A "lesser of" analysis in this case is moot, since the scheduled and metered amounts should be identical.

4) Large hydro, nuclear, and other zero-emission resource imports that are not eligible for California's RPS, but apparently covered by the proposed ARB language.

In addition, even in the limited cases where the proposed ARB policy matches the treatment of a contract with the CEC/CPUC "lesser of" policy, the result may end up being inconsistent without further regulation changes at ARB. The CEC/CPUC "lesser of" policy has the intent of dividing between two "types" of renewable generation to be counted. The CEC/CPUC "lesser of" total is deemed "product content category 1," while any scheduled power above this total is deemed to be either a "product content category 2" or "product content category 3" resource, depending on contract-specific circumstances. The point here is that ***all*** of the scheduled power is deemed renewable under the RPS, even when the "lesser of" analysis yields a smaller number. It is unclear in the proposed regulations, but it would appear from previous discussions with ARB staff that the proposed ARB policy would result in a "lesser of" total that would be deemed to have specified source emissions (zero-GHG renewable), while any scheduled import above this total would presumably acquire a default emissions factor.

Hence, there would potentially exist a situation where the CEC/CPUC are counting imported power as "renewable," but the ARB is imposing a default emissions factor for this same power. This normally is accounted for under the Cap-and-Trade by using the "RPS Adjustment," and that may be feasible here as well, but it would seem that such use of the RPS adjustment would require further changes in MRR and the Cap-and-Trade regulations to clearly allow this treatment (see below for more discussion of the potential inconsistency and complications with MRR/C&T regulations and the proposed policy).

Inconsistent With Market Scheduling and Tracking Practices: The electricity market is typically structured with monthly or even annual reconciliation of contracted-for and transmission-scheduled imported power, in contrast to the hourly "reconciliation" envisioned by the proposed MRR policy. **The bottom line is that asking the market to move to hourly reconciliation for GHG tracking reasons will increase import electricity costs, either by inducing overscheduling of the transmission system, inducing contractual changes to account for hourly shortfalls, or both.** The CEC's policy to reconcile certain, limited renewable transactions on an hourly basis suffers from this problem, but it is limited to fewer resources than ARB proposes, and the CEC believes that they are required by SBX1 2 to follow this path. The ARB has no similar legal language to interpret as a potential requirement for the hourly reconciliation.

For the California RPS, renewable generation nearly always must be tracked in the Western Regional Energy Generation Information System (WREGIS). This tracking occurs through WREGIS "certificates," with each "certificate" (essentially a REC)

representing a MWh of renewable generation. These certificates are created, held, moved from one account to another, and retired with reference to the month of generation, not the hour. Hourly generation is ***not*** tracked in WREGIS, only monthly. Hence, the CEC/CPUC policy has required creating a tracking structure outside of WREGIS to consider hourly generation versus scheduled data, which will then presumably be used to divide the monthly WREGIS numbers into different "categories" of renewable generation.

Non-renewable, but zero-emission, generation is not tracked in WREGIS, but reconciliation of what is generated versus what is actually delivered (via e-tags) is typically done on a monthly basis. While it is true that e-tags are hourly, market transactions are normally not reconciled on an hourly basis, allowing for typical small differences between actual generation and transmission-scheduled power to "factor out" over time. This allows baseload generating facilities to be procured and scheduled across transmission lines without either: 1) suffering the transaction costs of accounting for minor differences between the generation and the scheduled amounts or 2) using up space on the transmission system by overscheduling to insure receiving the full amount of contracted generation.

What this comes down to for the importer is usually a monthly import total from a specified source that is simply the sum of the hourly e-tags. The importer, in most cases, does not have access to the metered generation data, nor do they perform any hourly "matching" or "true-up" procedures – they simply verify that they are getting the delivered amounts, properly "tagged," as per contract. Importers do not normally see or participate in the reconciliation between tags and generation – this reconciliation happens between the generator and their respective balancing authority to account for any small hourly deviations.

In addition, many contracts are not for the entire output for a particular generator. In these cases, just like with full-output contracts, the contracting party simply depends on the proven, scheduled delivery of the contracted amount of power, verified by e-tags. As usual, the importer or contracting party will not normally have access to or rights to information about the metered generation from the facility, particularly in cases where a portion of the generation is being sold/used by some other party. Here, there is no market or contractual reason for the importing party to have knowledge of what the total amount of generation from a particular facility is, or where any generation beyond that contracted for goes, on any timeframe. All that really matters is that the contracted-for generation amount is scheduled as per agreement, which is verified by the schedule e-tags. In general, SMUD believes the ARB should avoid requesting information from importers that they do not normally have as part of market transactions.

Finally, it is unclear exactly how the ARB policy being proposed (or the more limited CEC policy, for that matter) would apply to "multi-fuel" facilities. The hourly metered generation from these facilities may or may not correspond well to annual renewable totals being determined and used. Generally, a facility can use up to 2% fossil fuels and have all the generation counted by the RPS as renewable, above that percentage, only the renewable portion counts. This is, SMUD believes, determined on an annual basis – certainly not on an hourly basis.

No Real Improvement in Reporting Accuracy: SMUD understands from discussions with ARB staff that one rationale for the proposed "lesser of" hourly reconciliation policy is to achieve greater accuracy in reporting of emissions from imported power. The logic goes that in hours in which the scheduled import is *greater than* the specified source generation, the imported power is only partially from the specified source, with the remainder from an unspecified, default or "system" source. On the other hand, in hours where the scheduled import is *less than or equal to* the specified source generation, the imported power is fully from the specified source, but any excess generation in that hour is not imported to California, but normally used in the system where the generator is located. This leads to the concept that the accuracy of reported emissions from imports may be improved by hourly reconciliation as proposed by MRR staff -- by using the default emissions factor rather than the specified source factor to account for the emissions associated with the unspecified or "system" power in those hours where specified generation is less than scheduled. However, in reality, this policy is likely to only provide a false sense of improving the precision of identifying which sources are contributing in certain hours, while likely decreasing the overall accuracy of the imported emissions picture.

The default emission factor is a broad reflection of system or unspecified emissions over a timeframe of multiple years from systems outside of California in general, not an accurate measure of unspecified source emissions in any particular hour from any particular location. This works fine to attribute emissions to unspecified imports in general, particularly in the absence of a specified source being part of a particular transaction or contract (that is, a straight up purchase of unspecified power). It may be appropriate to update this factor periodically, to reflect changes in sources that have been specified in contracts, and hence removed from the "unspecified" mix.

On an hourly basis in reality, there will be a highly varying mix of resources contributing to unspecified imports from a particular location. Hence, using the default emission factor as it stands for the partial "system" or unspecified generation in those hours where the generation from an actual specified source is less than scheduled is in effect using a relatively constant approximation for the likely highly varying unspecified emissions from that location in those hours. We use a relatively constant, high-level default emissions factor because it would be problematic for the market to have a

frequently varying default emissions factor for imports (not to mention cost-prohibitive, if not impossible).

In an individual case where a specified source is newly contracted for and imported to California, it alters the emissions that would come from any remaining, unspecified power in the system where the source is located, but we do not and should not change the default emissions factors to reflect this. The emissions from this remaining, unspecified, power also vary from hour to hour (minute to minute) depending on what resources are generating in that hour (minute) in the system, what resources are on the margin, and what other resources have been "tied up" already in specified contracts, but, again, we use a constant, high-level default emissions factor.

Examining what happens in reality to actual emissions on an hourly basis when a specified source generates more or less than scheduled leads to the conclusion that overall accuracy is not improved by using the default emissions factor for a portion of the specified generation in any hour. More specified source generation than scheduled will contribute more to the overall emission profile of a system than expected, and vice versa when generating less, all else being equal. A theoretical, completely "accurate" calculation would adjust the remaining system emissions based on the metered generation of the specified source. So, in this hypothetical structure, if we look at an hour in which a zero-emissions specified source is generating less than the scheduled amount, the remaining emissions would presumably be higher, reflecting the lower than expected generation from that zero-emission specified source in that hour. In an hour when the zero-emissions specified source is generating more than scheduled, the greater-than-expected (but not imported) generation from that source would tend to reduce the remaining emissions in the system in that hour. Hence, assigning a portion of the scheduled specified source import for an hour to unspecified power using the constant default emissions factor does not appear to improve emission reporting accuracy and may, in effect, distort the overall picture of imported emissions. It is more accurate to simply use the specified source emission factor for all scheduled power, without a "lesser of" hourly reconciliation.

Inconsistent With MRR and Cap And Trade Rules: It is unclear in the proposed text exactly how what emissions would be attributed to that power that is presumably deemed not from the zero-emission specified source through the "lesser of" calculation. However, previous discussions with ARB staff suggested that the RPS Adjustment could be used to in effect restore the zero-emissions aspect of the imported power falling above the "lesser of" total. If that is the concept, it appears to be inconsistent with the definitions and rule requirements in the MRR and Cap-and-Trade regulations, requiring ARB to either make modifications to these definitions and rules or suggest in guidance that they be used for hourly reconciliation even though inconsistent.

For example, the MRR and Cap-and-Trade regulations define substitute power as:

> "Substitute power" or "substitute electricity" means electricity that is provided to meet the terms of a power purchase contract with a specified facility or unit ***when that facility or unit is not generating electricity***. (*Emphasis added.*)

This is consistent with a typical use of substitute power, for a "firmed and or shaped" contract, where the scheduled power from a contract often comes in hours when a facility is not generating. However, the proposed ARB "lesser of" policy appears to imply use of the "substitute power concept" in hours where a specified facility or unit is generating electricity almost as expected, but not exactly at the level in the hourly import schedule for the contract. This seems inconsistent with the definition of "substitute" power in the regulations.

Also, the Cap-and-Trade regulations in §95852 (b)(4)(D) state regarding the RPS Adjustment requirement:

> (D) No RPS adjustment may be claimed for an eligible renewable energy resource when its electricity is directly delivered.

However, the proposed ARB hourly reconciliation policy applies, as SMUD understands it, only to specified source imports that are directly delivered. If the RPS Adjustment is contemplated for use here, it would seem that ARB staff and obligated entities would be using the RPS Adjustment in a manner inconsistent with the Cap-and-Trade regulations. In addition, this use of the RPS Adjustment is clearly different than the typical use, which requires RECs tabulated on an annual basis used to determine an adjustment to emissions imported from entirely different sources, even in entirely different years, than the underyling renewable generation.

Administratively Burdensome: SMUD believes that as proposed the "lesser of" hourly comparison will require at least the following administratively burdensome steps:

1) Contractual changes or other methods for requesting hourly generation data from counterparties where this is normally not provided;

2) Retention of hourly scheduled data in cases where normally not kept for a year;

3) Creation of an hourly comparison mechanism (e.g., spreadsheet);

4) Ensuring that hourly times in both portions of data comparison match up with potential time zone differences, etc.;

5) Ensuring that special cases of multiple purchasers of a scheduled generator's output and multi-fuel facilities are tracked appropriately for all at an hourly level;

6) Creation of contractual mechanisms or other methods for accounting for difference in product delivered as a result of hourly reconciliation rather than standard monthly or annual.

Even with a spreadsheet, it is clear to SMUD that there are a lot of steps here that are labor-intensive, and bring with them the opportunity for error and significant time and burden tracking down discrepancies in data sources. In addition, it is clear that the administrative burden from the CEC hourly reconciliation policy, which covers only a small portion of the renewable contracts for the RPS, is significantly less than an expanded ARB MRR policy. This represents a lot of administrative burden for the importers and the generators. Even if SMUD agreed that there was a degree of improvement in the accuracy of overall imported emissions, which it does not, they do not seem worth the burden.

SMUD again appreciates the opportunity to informally comment on the proposed MRR changes.

/s/

_____

WILLIAM W. WESTERFIELD, III
Senior Attorney
Sacramento Municipal Utility District
P.O. Box 15830, M.S., B406, Sacramento, CA 95852-0830

/s/

_____

TIMOTHY TUTT
Program Manager, State Regulatory Affairs
Sacramento Municipal Utility District
P.O. Box 15830, M.S. B404, Sacramento, CA 95852-0830

cc: Corporate Files