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Actionable intelligence

Additional submitted attachment is included below.

Actionable intelligence requires timely accurate information.

The CEC proposed power source disclosure annual report form https://efiling.energy.ca.gov/getdocument.aspx?tn=222151 appears to limit accuracy and is time consuming to enter data. There appears to be no lookup help when entering data. The use of a fixed “firm and shape” greenhouse gas (GHG) value limits the ability to clearly show the amount of GHG produced in supporting renewable energy.

Below is a example of a input form that addresses the shortcomings of the CEC form.

Power Source Disclosure

PERIOD ID: 2018 LSE ID: 1000000 PORTFOLIO ID: 10000 CATEGORY ID: 1

PERIOD: YEAR, 2018-01-01 00:00:00 TO 2019-01-01 00:00:00 LSE: Red Dwarf Energy

PORTFOLIO: Red Dwarf Energy, CONTRACTS, FORECAST CATEGORY: BIOMASS & BIOWASTE

DELIVERED	PLANT	kWh	YEAR	POUNDS CO2
1000000421	Humboldt Bay, Unit 401, Capacity 16,700 kW, CEC G0268, EIA 246	1,000	2016	61,546
1000000424	Humboldt Bay, Unit 402, Capacity 16,700 kW, RPS ID 61152F, CEC G0268, EIA 246	1,000	2016	0
1000000757	Cosumnes Power Plant, CTG 2, Capacity 166,700 kW, RPS ID 60760, CEC G0889, EIA 55970	1,000	2016	749
1000000758	Cosumnes Power Plant, CTG 3, Capacity 166,700 kW, RPS ID 60760, CEC G0889, EIA 55970	1,000	2016	746
1000000759	Cosumnes Power Plant, STG 1, Capacity 166,600 kW, RPS ID 60760, CEC G0889, EIA 55970	1,000	2016	17,446

FIRM AND SHAPE	PLANT	kWh	YEAR	POUNDS CO2
1000000368	Glenarm, GT 4, Capacity 47,300 kW, RPS ID 61109F, CEC G0231, EIA 422	1,000	2016	838
1000000370	Glenarm, GT 5, Capacity 71,000 kW, CEC G0231, EIA 422	1,000	2016	0

The form makes use of foreign key identification of information domains. The first product structure domain is time period (PERIOD ID). There are year, month, week, day, hour and five minute time periods available. Reporting in any of these periods can be chosen by the user to achieve the resolution they wish to display. This allows reporting by the year or the hour if one chooses. There are no technical reasons to limit reporting only to year. Hourly is easily done and can be tracked and audited automatically. In fact the system can report time periods as short a one millisecond. This allow modeling to a high resolution when reporting actual or forecasting usages. A power content label is but one small use of the system.

The next domain is the Load Supporting Entity domain (LSE ID). This domain holds the utility names.

The portfolio domain (PORTFOLIO ID) follows, allowing the registering of portfolios such as green products, annual contracts or any subset of generation sources. The CEC should consider controlling the portfolios that are marketed by the utilities. There appears to be many missing power content labels on the CEC website. Some are missing because of dead links, others may be missing because the CEC is unaware of the utility marketing green products. Take SMUD Greenergy, labels are missing from the CEC website for some years. I find no SMUD SolarShares power content labels, a green product like Greenergy containing only solar.

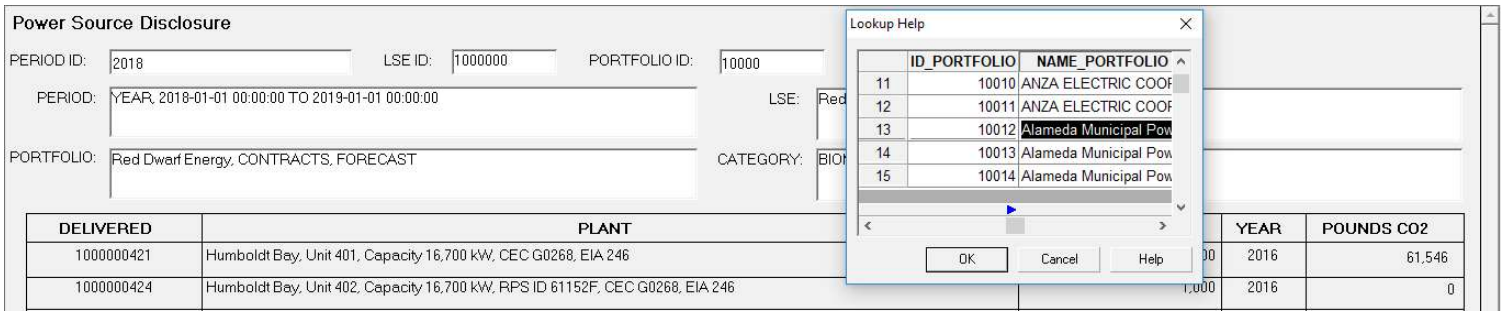
The category domain (CATEGORY ID) holds the generation types, such as solar, wind, large hydro, etc. The generation sources are then sub grouped by how they are fulfilled. Delivered subgroup is as it sounds, energy actually delivered to the purchasing retail customer. Firm and shape subgroup is for the supporting generation for the category and allows zero emission generation to be chosen instead of a fixed GHG value as in the CEC form.

REC ONLY	PLANT	kWh	YEAR	POUNDS CO2
				<Error>

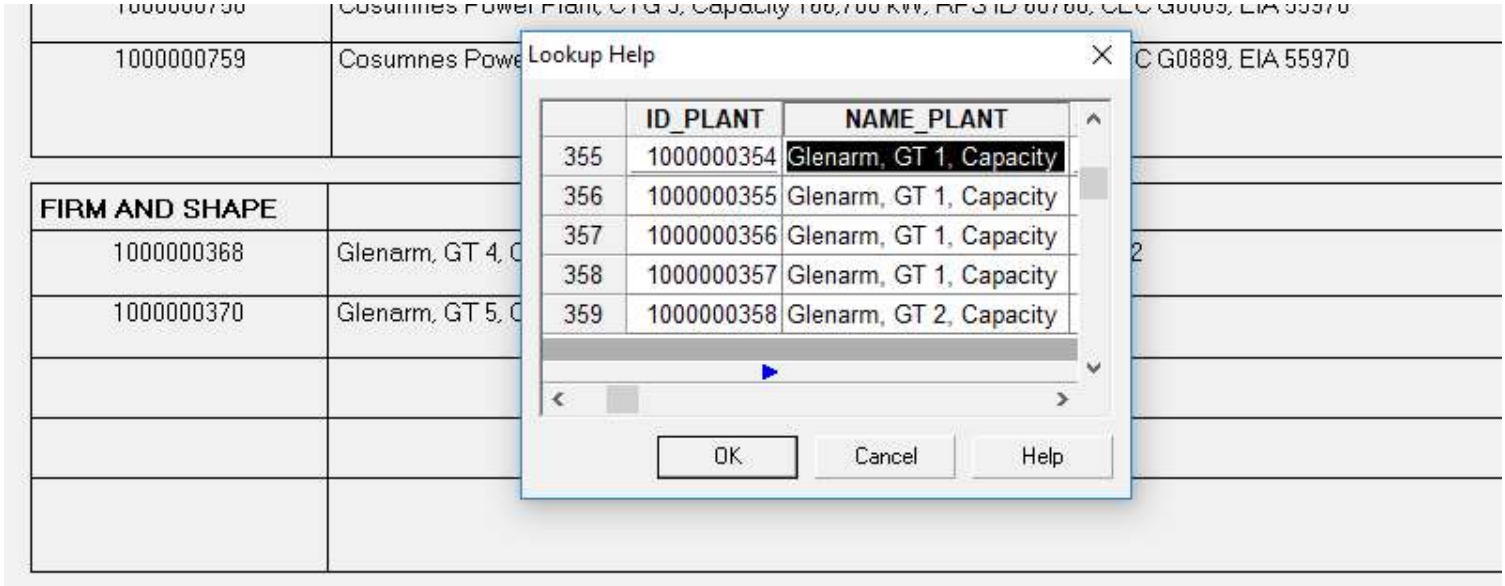
SUBSTITUTE	PLANT	kWh	YEAR	POUNDS CO2
				<Error>

The REC only subgroup is for generation that is not delivered to the service territory of the utility. The substitute subgroup is for the generation sources that deliver energy to the retail customers in place of the REC only sources. This allows the choosing of zero emission generation source instead of a fixed GHG value as is done in the CEC form.

The use of "help and fill" of the foreign keys is shown below. Help and fill speeds up the data entry process, lookup is done on the fly. The first example is for portfolio foreign key.



Next is for the generation plant foreign key.



	kWh	YEAR	POUNDS CO2
	1,000	2016	61,546
	1,000	2016	0
	1,000	2016	749
	1,000	2016	746
	1,000	2016	17,446

Entering the kWh and calculating the GHG the achieved automatically when the kWh and year is entered. The year is a reference to the last pounds per kWh value calculated or the year the REC is from for REC only generation. This allows automatic tracking and auditing of REC usage for each portfolio.

The power plant identification that the CEC uses is not uniform. Uniform identification of domains is required for this type of system to work. The use of the above described system allows for the correction of identification. It appears that few use the CEC identification data contained on the CEC website. Use of this system will end the WOM nature of the CEC power plant identification data. The term WOM is for “Write Only Memory”, it appears that the data is little used as many errors exist in the identification data. The information is written but never read, therefore it is write only.

I have placed the system on the web. By clicking http://ugemrp.com/pal/psd/PSD_INSTALL.fdl (link is case sensitive), if you are a user of Wordperfect Office Pro and did a full install, your browser should suggest the application so you can try the example system. Be aware that you may find many errors in power plant data. This should not stop you from trying the look and feel of the system.

ever onward,

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