

RENEWABLE WASTE - PART 1

Renewable Energy – What’s more “Renewable” than Waste?

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The California Energy Commission (CEC) once again has proposed significant changes to the Guidebooks, those ever-shifting Policy documents that seem oh, so much like back-room regulations. Time to check on Sanity, and see what if anything has been accomplished, and what has been lost, concerning municipal solid waste conversion into renewable energy (http://www.energy.ca.gov/portfolio/notices/2010-08-30_Staff_Workshop.pdf).

California’s Renewable Portfolio Standard (RPS), and CEC’s Implementation Guidelines among other things, dictate what gets certified as an “eligible renewable energy generating facility”. The series of Guidebooks built over two years after the RPS was signed into law are intended as an explanation of CEC’s renewable energy portfolio implementation policies to would-be participants. They also document the agency’s *interpretation* of the on-going stream of amendments and modifications.

The first adopted Eligibility Guidelines came out in August 2004, and contained eight rather ludicrous and technically inaccurate criteria (the “Holy Eight Criteria”) by which Municipal Solid Waste (MSW) might be turned into Renewable Electricity, using a “non-combustion thermal process”. There has been about one attempt per year at legislating “MSW Conversion” change to these criteria, since the Guidebooks first appeared; all have failed. But wait! Those Guidebooks are supposed to show the Bright Path through that maze, so California can actually keep the RPS strong and growing. Six years surely have provided an opportunity to make sense of that initial mess ... but how are we using that opportunity?

Original Guidelines, August 2004

Solid Waste Conversion Facilities: A facility that uses a non-combustion thermal process to convert MSW to a clean burning fuel that is then used to generate electricity is eligible for the RPS and may qualify for SEPs if it qualifies as new or repowered and is located in-state or satisfies the out-of-state requirements. Such facilities must meet all of the following criteria in accordance with Public Utilities Code section 383.5(b)(1)(C), as amended by Public Resources Code section 25741(a)(3) <http://codes.lp.findlaw.com/cacode/PRC/1/d15/8.6/s25741>

Proposed Guidelines, August 2010

Solid Waste Conversion Facilities: A facility is eligible for the RPS if 1) it uses a two-step process to create energy whereby in the first step (gasification conversion) a non-combustion thermal process that consumes no excess oxygen is used to convert MSW into a clean burning gaseous or liquid fuel, and then in the second step this clean-burning fuel is used to generate electricity, 2) it is located in-state or satisfies the out-of-state requirements, and 3) it the conversion process meets all of the following criteria in accordance with Public Resources Code Section 25741, Subdivision (b)(3)

The proposed 2010 changes give us a two-step process, and it mentions Fuels. I’d say that is an improvement. But then, it just dumps us right back into the Holy Eight Criteria (the Public Resources Code (PRC) reference, slightly abbreviated):

RENEWABLE WASTE

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- 1. *The technology does not use air or oxygen in the conversion process, except ambient air to maintain temperature control.***

No Change, 2004 to 2010. Translation: keep that thermal reaction running sub-stoichiometric, folks. We still can't consider using well-proven oxy-flood gasification. Why? I wish it was a performance issue, but no, the “industry specialists” who “helped” write the regs didn't want to be out-competed by Texaco, who was making great advances in its Clean Coal research. There is absolutely no sound engineering reason to create a Prescriptive criterion that constrains any operating parameter, whether Retention Time, Temperature, or Oxygen. A system either meets the established standards for environmental quality, or it doesn't. If you dial down the O₂, you just have to dial up the retention time and/or the operating temperature, and that compromises the ability to optimize for a specific input and desired output.

- 2. *The technology produces no discharges of air contaminants or emissions, including greenhouse gases as defined in Section 42801.1 of the Health and Safety Code.***

We've added the bit about Greenhouse gases to the original. “No Emissions???” Reeee-diculous: “Everything Emits”, as a fine colleague of mine once commented ... only, some, more than others ... and we already HAVE laws that tell us how much we can let fly ... Now, WHY can't our Guidebook simply “interpret” this to mean, really, that we need to follow the federal Clean Air Act, as embodied in our state Air Quality regulations? Quote the proper Code, and get on with it ...

- 3. *The technology produces no discharges to surface or groundwaters of the state.***

Ditto: California already HAS some of the most strenuous water quality control regulations in the US, implementing and exceeding the federal Clean Water Act. Why are we telling Industry they can't do what existing state and federal law allows, and so completely regulates? Again: Quote the proper Code in the Guidebook, and leave it at that.

- 4. *The technology produces no hazardous wastes.***

I wonder if the California Department of Toxics would agree with an Energy-related regulation absolutely forbidding a certain industrial sector to do what is already allowed and so tightly controlled for everyone else. DTSC *shouldn't* agree, if they are paying attention ...

- 5. *As much as possible, the technology removes all recyclable materials and marketable green waste compostable materials from the solid waste stream before the conversion process, and the owner or operator of the facility certifies that those materials will be recycled or composted.***

That's easy: Time is showing that there IS no viable “green waste” compost marketplace big enough to absorb the entirety of California's mountains of would-be mulch ... oh, wait, that's OK: let's spread it on the trash at the landfill and call it “Alternative Daily Cover”! That way, we can save the Waste Management industry (and the Munis) some serious money because we can skimp on the amount of Dirt we buy, and instead we can bury valuable organic Resources in the landfill. A better idea, right??

- 6. *The facility at which the technology is used complies with all applicable laws, regulations, and ordinances.***

(... duh ...) But wait another minute ... Shouldn't somebody check to see if that is even POSSIBLE to comply with “all applicable laws...”, given the mash-up of these Criteria??

- 7. *The technology meets any other conditions established by the State Energy Resources Conservation and Development Commission (formal name of the California Energy Commission).***

RENEWABLE WASTE

Renewable Energy – What's more “Renewable” than Waste?

Whenever the CEC decides to flex their Amendment muscles ... as often as the CEC might wish to change those “conditions”. OK, so CHANGE something, here.

- 8. The facility certifies that any local agency sending solid waste to the facility diverted at least 30 percent of all solid waste it collects through solid waste reduction, recycling, and composting.**

OK, **MRF First!** We GET it ...

But then, check that wording again: both the state and the federal Waste Management Hierarchy (<http://www.calrecycle.ca.gov/ReduceWaste/define.htm>) read, “Reduce, Reuse, Recycle” *then* Disposal, not “Reduce, Recycle, and Compost”.

Two years ago the Europe Union (EU) issued a Directive that established a brand new Waste Hierarchy (<http://www.europarl.europa.eu/oeil/file.jsp?id=5303132>). The new framework puts Recovery of resources from municipal solid waste for energy and fuels just below Recycling in order of preference, and both are above Disposal. The EU Parliament has already done the hard lifting; we could do worse than learn from their example. We can chew more on the possible addition of Recovery as a formal step in our state's Waste Management Hierarchy as a separate issue.

Sooooo ... there are at least three key questions that come from this review:

Question 1:

WHAT IF we are really trying, with these “Renewable Energy” rules and regs, to meet and exceed our ever-increasing mandated quota of Renewable Energy and Fuels, whether or not that supports the entrenched Waste Management and Recycling industrial and municipal infrastructures?

Question 2:

Just how much *CAN* the staff of the Energy Commission clarify the unclear, in implementation of law and regulation, by nudging the wording in the Guidebooks in the right direction? It seems the door is wide open for a line-by-line reference to existing, superseding law. At this point, that may be all that needs to occur, to untangle this almost-a-decade-old mess.

Question 3 and maybe the most important:

Why in the world doesn't the conversion of municipal solid waste into renewable energy, fuels and other useful commodities equate to “Diversion” from our landfills, when that is *precisely* what it accomplishes?

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