

**September 20, 2007**  
**SWRAC Meeting Summary Notes**

**Members present:**

Greg Apa, Mauricio Avila, Eve Clute, Stuart Funke-d'Egnuff, Darlene Endrina, Rob Hoonan, Debra Kelly, Kuhea Paracuelles, Steve Perkins, Victor Reyes, Terryl Vencl, Councilmember Mike Victorino, and Jack Freitas.

**Members not-present:**

Councilmember Bill Medeiros, Susie Thieman, Rick Woodford

**Non-members present:**

Chace Anderson, Frank Bernheisel, Stacia Bobikevich, Billy Buchanan , Kim Compoc, David Galazin, Rubens Fonseca, Michael Kehano, Gregg Kresge, Karl Motoyama, Diane Petropulos, Steve Price, Hana Steel, Tracy Takamine and Mike Teegarden

**I. Call to Order**

Hana reminded everyone that the topic for the next two meetings will be coming to consensus on recommendations. Topic for Nov. 8 is financing, zero waste and education. Diane welcomed the group and shared an article on the Ritz-Carleton who is using bio-degradable plastic cups.

**II. Public Introduction**

Stacia Bobikevich - County Solid Waste Division, David Galazin – Corporation Counsel, Gregg Kresge – Dept. of Environmental Management, Bill Buchanan – Kamehameha Environmental, LLC, Karl Motoyama - Department of Health, Office of Solid Waste Management (taking Lane Otsu's place), Steve Price – President, Kamehameha Environmental, Tracy Takamine - Solid Waste Division, Mike Teegarden - Kamehameha Environmental.

**Approval of the Minutes**

Addendum to p. 4 paragraph 3

Need to correct a misconception. There is local central landfill however there are commercially operating MRF that are handling the island's recyclables now.

p. 4 "Consumer" and "descendents"

**Information from Corp Counsel**

You can't vote on anything if you are not here. You can submit data, or have something read into the record.

Re: the questionnaire with the five scenarios for discussion.

Chace: the questionnaire will be a replay of the recommendations seen in the presentation. You would have a week to look at it, and then you discuss it, come to consensus, where you would advise the county to go.

Re: members who leave early. David – please announce ahead of time to avoid quorum problems. Meeting will have to end otherwise

Q. Is it ok to come at 3 if that's as soon as you can come? Hana and Diane say yes.

## **Presentation: Capacity: County of Maui Landfills**

(Refer to PowerPoint)

### **Discussion**

- Concerns about the Dirt/trash ratio in the Landfill, how much space is wasted with air space and dirt. Compaction is 1200 pounds per cubic yard, working to be 1400. 2 to 1, so 1/3 is dirt. Chace – They are using green waste ground up. They are spreading the dirt thinner. And pursuing a heavier compacter.
- Should be 22% dirt, but it can be as low as 12%. Is this a self-induced crisis? The recommendations should have an operational person come in to address this. Chace – A-Mehr is addressing dirt to trash ratio with significant depth.
- The way the dirt is calculated can significantly affect the life of the landfill. Tracy – the information we have is not accurate. We are trying to improve it. By permit we are required to hire 3<sup>rd</sup> party to help us improve efficiency, which we plan to do.
- Chace - Dirt to trash ratio is based on a volume basis.
- With ADC (alternative daily cover), you can save dirt in ways that are legal. Dirt is an operational expense. Chace -They will be moving the dirt off and re-using it. Frank – we will clarify with A-Mehr whether he has introduced best practices and present that later.
- How many layers down can we scrape the dirt to extend the life of the Landfill? Tracy – you scrape off the top 6 inches. According to DOH, we can't go below that.
- Frank –In Florida and New Jersey they have done landfill mining. You can get about 50% out, dirt and other organic compositable material. Can be costly.
- Discussion of the necessity for presentation from the consultant on the Central Maui Landfill. We ought to know what they are up to. Why do we have two plans? (Central Maui Landfill Master Plan and Integrated Solid Waste Management Plan) Tracy – CMF has a permit plan requirement to review the internal plan, operations, capacity, roads, timeline. Gregg – SWRAC is the integrated plan for the whole county.
- Discussion of landfill capacity. On Oahu they are fighting for a landfill. The more expensive the landfill, the more that people are motivated to look at alternatives. What year to plan for? Is the SWRAC putting cart before the horse to not have this information from landfill to pinpoint the recommendations? Should SWRAC make recommendations based on worst case scenario? What are the cost considerations?
- Frank - You have some capacity projections today. It would be remiss on anyone doing projections to plan on improvements that are too idealistic. We will clarify on how the projections are made. You're not in a crisis position on any of the landfills yet.
- Discussion of Waste to energy and the concept of zero waste. Are they contradictory? Waste to energy requires waste. But with zero waste the goal is non-generation. This is a landfill capacity issue.

## **Presentation: Solid Waste and Recycling Facilities Presentation**

[Refer to PowerPoint handout]

### **Discussion**

- Presentation said Redemption materials info difficult to get from state. This is unacceptable because the state collects information every month, quarter, year.
- Discussion of the cost of redemption. Isn't the public paying for the redemption with the cans that are not returned. Hana – system was set up so the purchasing cost is built into the container (HI-5). The county does not pay any portion of this redemption. 1 cent to the state for administration.
- Discussion of which should come first: the costs considerations or the recommendations? Important to not to spin our wheels with ideas that will never be funded. Must know how much money we have. We should know already how much is being spent. Frank – Staff and committee must examine recommendations and prioritize. The scenarios will have schedule, timeline, costs and feasibility. Hana - The scenarios will dictate the costs. In terms of funding there are many financials ways, bond issues, many ways to fund programs. On Nov 8 County Finance Director will explain.
- Recommendation for new facility in Central Maui Landfill. Who owns the land for Wailuku and Makawao baseyards? Frank - Owned by the county, and operated by the highway division. Solid waste is borrowing the space.
- Gregg – before we were one department and could share staff through temporary assignment. Now with two departments, union restrictions complicate that. We need to have adequate facilities without relying on the highways.
- RE: Slide 5, are the County managed recycling areas being handled by a private hauler? Frank - Central Maui Landfill is managed by County staff. Maui Disposal operates Olowalu, Molokai, Makawao, Lahaina and Kihei. Tri-Isle RC&D operates the one on Lanai. Maui disposal is not at capacity. We could triple it.
- Are the recommendations shown in the presentations the same ones that will come up in the next two sessions? Chace – yes.
- Would it be possible to add scenarios where you have not only the recommendations if there was an improvement to the current practice? That way we have other options.
- RE: Slide 5. It is very glaring that Kahului has only 108 tons of recyclable materials and with a population base it should be 4 or 5 times the volume. It should be put in the recommendations b/c that is very obvious.
- Slide 21. Central Maui receives 29,803 tons of green waste. These are materials used for composting. Are we paying EKO for taking them, or is it free? It costs us money to landfill it. Hana – depends on the material. Can we get that info? Tipping fees pay for it. There is a cost of processing it. Profit from the sales becomes the profit of the business. There are costs to compost the materials. The green waste we process for free, you quadruple the waste from 12 yeas ago. But in the very beginning of the contract this is the biggest bang for the buck.
- On the 18<sup>th</sup> there will be a presentation on finances, including alternative methods of finance. –Chace. We can't go after every possibility and give a cost. It will take too much time.
- RE: Slide 16 the cost per ton. Is the cost of building the transfer station built into figure? Frank – No, it's just transportation costs.

- Discussion of Alternative land cover using green waste. Tracy - they were trying to use ash from sugar mill, but it's hard to get clearance from DOH. It could be free because they have a hard time getting rid of it.
- Junk cars – under Arakawa administration, there was an idea to tax new cars an extra \$300 for the disposal of the car. Did it pass? No.
- Is there money in the budget for a MRF? No.
- Is recycling cost-efficient or does it actually cost tax payers more money? We need to know the numbers because it's unclear.
- The recommendations so far have been minor adjustments, without enough of the big ideas we saw on the tour. Diane – the next two meetings we will have time to discuss recommendations. Frank – these recommendations are there to get you thinking about what the committee wants. Curbside collections and a new MRF are considerable changes. The costs are germane, these are expensive already.
- Discussion about the need for more time to talk, make sure the recommendations SWRAC approves represent the best ideas and not rubberstamping. Chace – there is no limit to the conversation.
- We must think in a broader scope of economics because the next generations are going to pay 10 times more than today.

### **Break**

- Tracy – RE: MRF. No money in the budget b/c no to capital costs of MRF. (Costs \$40-50,000 to build a MRF.) We do have a line item for a permitting report for engineering, but not for the capital costs. The plan is to construct a MRF at the Puunene site. DLNR says it's not an appropriate use for that. In dialogue with the state right now.

### **Presentation: Alternative Resource Management**

#### **What would be the benefits and drawbacks of implementing WTE on Maui?**

- WTE requires that we have a resource. What will happen to the other programs that are continually decreasing the amount of resource? They are in competition with each other. (See PPT for more detail answer)
- Discussion of how to measure the impact of WTE versus other choices. What is the impact on the environment of refining petroleum, tanking it, etc. versus WTE? Not just locally but on a macro scale? Frank – Green house gas emissions are lower with WTE versus the alternatives. Analysis from cradle/grave on all alternatives is big study which nobody has done. Do we cost the wars in the middle east? How does that figure or not?
- Is WTE going to pollute more or less? This is a key question
- On the mainland, I got the impression WTE would require a huge amount of garbage that we would not have. 75 tons per day on slide 26. Can facilities be sized to Maui? Could we make it profitable by also burning Oahu's waste? (See PPT for more detail answer)

- Pollutants. What are the effects of these? To me it doesn't matter what EPA says. If it's bad for you it's bad for you. It's important to know b/c if I am going to advocate for something I have to know b/c I have to live with it.
- I've never seen H power plant on Oahu. Could we get tour? Hana, I can arrange.
- What are the octane levels of WTE? It's equivalent to natural gas. In Covanta and Marion County, we learned that it's less than fireplaces.
- I don't want to choose between WTE and recycling.
- MSW-we have 14 tons per day being generated in 2005, that should be considered.
- Important to do this properly and community has to be involved. We have limited land, we care about the environment. Social, environmental, economic issues need to be balanced. SWRAC will face criticism otherwise.
- Discussion of the volume coming out. It's got to be disposed of. All of these require disposal of material. Frank – you get 25% of the input material out as ash by weight. You get 10% by volume. If you pull inerts out in front there's less. See scenarios in later presentation.
- Where's MECO, why are they not here? Do they want this gas? Would this affect jobs? I need it brought down to what we can use on Maui. Mainland info not helpful. Frank – MECO said they would like to be customer for this type of power. They are eager customer b/c it's a renewable energy. Also you have high electricity costs here, which is in favor of WTE.
- When we talk options, everything happens incrementally, especially the budget process. If we want WTE, then we can plan for it.

**Who should take the risk to develop new waste utilization technologies? How much risk should Maui County take?**

- I don't think we can consider plasma here b/c not tested enough. Solution has to be environmentally smart and close to where MECO is building.
- The plasma plant on Oahu was closed due to cost? He couldn't operate b/c he only got one ton a day, he had too much to deal with.
- Slide 33, the net thermal efficiency, there are capital considerations for every technology. Do you have data like this for the cost? Frank – Los Angeles City website is the best source. The plant all uses some energy. This is the net out the backdoor available for sale.
- Needs to be compared with diesel comparison.
- There is value in each resource material (plasma, WTE, etc) and profits should drive the decision, this balances the risk. How much does dirt cost? How much can be saved from selling it? We are watching the people's money. Individual companies actually taking the risk more than the County.
- How much growth are we planning for? Frank – the tables use the county's 2030 projection for population.
- How mature are these technologies? On Mainland, some of these are experimental stage. Frank – plasma, gasification, these are developing, so more risk involved in the project. In Oregon there are multiple similar facilities, their costs are well documented, a mature technology.

- I think we are getting ahead of ourselves with plasma arc. We can't even get landfill together.
- The question is ridiculous. The risk will be transferred to the private contractor. The risk automatically transferred to the successful bidder. Frank – our experience is that it's not that simple.
- Oahu sent RFP 600 tons a year. The city and county will not take part in the financing. Tipping fees are there, no bonds.
- Fermentation has been going on for thousands of years, that is not an immature technology. Biological is not immature technology, may be more palatable here. Frank – I disagree, the next presentation will explain more.

**What questions will this community need to have answered about WTE environmental impacts (emissions and ash)?**

- Discussion of toxins in the ash and how much is acceptable. Frank – heavy metals and dioxin are present in the ash. Important to realize we deal with toxins every day.
- My issue is contamination of the water supply and the ocean. Dioxin is in a category of its own. So are heavy metals. Frank – this is a regulation issue. The people who study it say this is the safe level for humans. Burning engines and fireplaces produce more dioxin than a WTE plant. Hana – Heavy metals needs to be defined. Heavy metals are in your vitamins. Important to do your own research to understand better
- RE: Slides, calculations from the 2005 to 2030, about 39% increase in total waste and then for recycling 42%. The chart says that in terms of recycling, we're going to be doing the same in 2030 as we are today? Frank – yes, it assumes the base case. 2<sup>nd</sup> scenario is recycling increases by 50%, 3<sup>rd</sup> scenario is it increases by 100%. I picked those arbitrarily. How we do 100% recycling, is another discussion.
- RE: Ethanol based on corn, this is bad for Maui b/c of soil erosion, pesticides, and fertilizer. Takes too much land for small megawatts of energy. Cost is too high compared to WTE facility. Plenty of data on that. Worst thing the administration is doing is subsidizing this line of work. Cellulose technology is in its infancy. It uses Genetically Modified Organisms, controversial to many, but I'm ok with it.
- EPA talks about what the body is willing to tolerate, which may be different from what a community is willing to tolerate. Can GBB provide more info on what the effects are? Frank – This is not in our scope of work with the County. I would look at current exposure to chemicals compared to exposure in the scenarios.
- This presentation is premature without knowing the baseline. The scope is to produce an integrated solid waste management plan. We can do more research but that is outside the original scope of work.
- We bury things on Maui, and water falls on it. How does that compare with WTE facility? Or bio diesel?

- Gregg, risk exposure, etc. the plant will be regulated by the TCLP testing, and the tests that are there to test it. If you want to go further, you have to do that research and bring it here. It will be regulated by county/state/federal law. If your criteria is more stringent than the laws, that needs to be dealt with on a political level.
- I disagree with Frank re: mass burn. There is no MSW that is going through digestion. We are here to look at what we can do in our community having visited several facilities. Source separation, different ways to look at the waste at their basic level, not mined waste, if we have the waste streams more anaerobic, if cellulose rich stuff, you got me wrong. Those are the things we should be looking at. We are not saying to stuff into anaerobic digester. I am not saying that.
- In the first part of the presentation, with 260 tons municipal waste per year we would generate – that’s 13.9 megawatts. So the megawatts hours in the last slide need to be multiplied by year. Operating hours with 20.5 megawatts is way too high. 13.9 is about right. The other numbers 20.5 megawatts may be too high, don’t want to get excited at such a high amount.
- No matter what we put into a plan, by contract it has to go through an EIS for each project. You’re asking for a huge environmental global plan.
- It’s our job to think about these things and put into the plan what is good for the people. We can’t just say it’ll be studied later. We need it to make sense on all levels. It’s too often that these questions are brought up too late.

**If Maui County chooses WTE, how does this community and the County go about this rigorous development process?**

- On slide 70, what does it mean “where the land is expensive”? Frank – If land is expensive the landfilling costs more, hence WTE looks more financially feasible. If the land is less expensive, then WTE isn’t as economically viable alternative to landfilling.
- Discussion about whether it is better to have a global picture discussion (“harmonized”) v. discussion organized into components (“one at a time”).
- Valuable to look at organic waste that is in the stream so we can use some of the biological tech to produce energy. Valuable to replace the fuel we are importing.
- This is the picture of WTE – with what would be suitable for Maui. For most members it could be more useful to not include the biological technologies. I understand how presentations can get confusing. The purpose is to look at the options, and get us to consider them. Whatever is presented will not be the whole package. Don’t get so bogged down. We will need to put the package together next time. I know it’s confusing, but I understand what they are trying to get to.
- Gregg – I asked them to break up the slides b/c it’s such complicated material. I was worried that the questions would get lost.
- How much time for presentations next meeting? Chace – 20 minutes. Most of meeting will be for discussion.

- The two recommendations: mass burn WTE, and refuse derived WTE. Are there contractors willing to come to Maui? There are substantial contractors with technological expertise that can build this kind of plant, “turn key.”
- Where are we going to get land from? Hana brought a proposal to have a facility in West Maui. Landowners said no. Where is the cooperation from landowners? We don’t have to worry. Landowners in Central Maui that are waiting for us. They know there are many intertwined issues: land, water, electricity. Whatever we do is a long term decision.
- Hana – how many of you have made presentations to the community? We have to get the word out. If you have not made them, please sign up at the public fair.

### **Public Comment**

Steve Price from Kamehameha Environmental. We would like to present our ideas for WTE. We are confident in this process. We are eager to talk about this. (See letter). Europe standards are higher than EPA. Our rate is 7% ash. We use it as road waste, not putting it back into the ground. I have the money to put in the whole thing and an electrical plant. We need an agreement to mine the landfill. We have 14 plants in operation now. One running for ten years. The emissions from chevron are huge. We have none in US, but several in Europe. I am a Molokai resident now, where I have a restaurant and a home. The report will be emailed to all.

- Questions for Steve: Do you have the land? I would like to put the site at the landfill site. That way we can mine that product. We’re not taking jobs, we would just be right there. What does the DOH say? Haven’t gotten that far yet. Still trying to get community approval first.
- Request for the comparative technology for Central Maui and Maalaea.

Homework – Household Hazardous Waste is the one presentation in the next meeting (October 4). The rest of the time is consensus points.