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AGENDA

REGULAR MEETING

SANTA FE SOLID WASTE MANAGEMENT AGENCY
SOLID WASTE ADVISORY COMMITTEE (SWAC)
MEETING # 9

DECEMBER 5, 2012

1:30 P.M.

GENOVEVA CHAVEZ COMMUNITY CENTER
CONFERENCE ROOM NO. 1
3221 RODEO ROAD
SANTA FE, NM

- I. Call to Order
- II. Roll Call
- III. Introduction of New SWAC Member – Andrew Leyba, Caja del Rio/Las Campanas Area
- IV. Approval of Agenda
- V. Approval of Minutes for Meeting # 8 – August 1, 2012
- VI. Matters from the Public
- VII. Review of Amended By-Laws and Operating Procedures
- VIII. Election of Chair and Vice-Chair
- IX. Discussion with Possible Action on Formulating Standing and Ad-Hoc Committees
- X. Discussion with Possible Action Regarding the Reuse Committee Recommendations on Reuse Options at the Buckman Road Recycling and Transfer Station (BuRRT)
- XI. Updates
 - (A) Commingled Recycling Dumpster Pilot Program
 - (B) City of Santa Fe
 - (C) Santa Fe County
 - (D) Santa Fe Solid Waste Management Agency
- XII. Presentation on a Medical Waste to Energy Technology (Theresa Cardenas, Synergy Renewables/Noble Renewables Group)
- XIII. Date and Topics for SWAC Meeting # 10
- XIV. Adjournment

Anyone needing further information or requiring special needs for the disabled should contact Lisa Merrill at 424-1850, ext. 420.

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OF THE
SANTA FE SOLID WASTE MANAGEMENT AGENCY
December 5, 2012**

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**PUBLIC MEETING AGENDA
SOLID WASTE ADVISORY COMMITTEE MEETING #9
OF THE
SANTA FE SOLID WASTE MANAGEMENT AGENCY
Room 1
Genoveva Chavez Community Center
December 5, 2012**

I. CALL TO ORDER

A meeting of the Solid Waste Advisory Committee of the Santa Fe Solid Waste Management Agency, was called to order by Acting Chair Richard Hertzberg, on Wednesday, December 5, 2012, at approximately 1:30 p.m., in Room 1, Genoveva Chavez Community Center, 3221 Rodeo Road, Santa Fe, New Mexico.

II. ROLL CALL

MEMBERS PRESENT:

John Lopez, County At-Large Resident, Chair
Randall Kippenbrock, Executive Director, SFSWMA
Olivar Barela, Solid Waste Division Manager, Santa Fe County
Simon Brackley, President, Santa Fe Chamber of Commerce, Business Groups
B.J. Davis, Executive Director, Earth Care International, Environmental Organizations
Andrew Leyba, County Resident, Caja del Rio/Las Campanas Area
Katherine Mortimer, Supervising Planner, City of Santa Fe
Cindy Padilla, Director, Environmental Services Division, City of Santa Fe
Louise Pape, Sustainable Santa Fe Commission
Mary Jane Park, City At-Large Resident
Lisa Randall, Santa Fe Public Schools – Schools
Kim Shanahan, Executive Officer, SF Area Homebuilders Ass'n, Business Groups
Karen Sweeney, County At-Large Resident
Simone Ward, Restore Director, Habitat for Humanity, Reuse Organizations
Barbara Witt, Capital Scrap Metals, Inc, Private Recyclers

MEMBERS EXCUSED:

English Bird, Executive Director, NM Recycling Coalition, Recycling Advocacy Organization
Tim Grey, Bureau Chief, NMED/Solid Waste Bureau, State of New Mexico
Robert Martinez, Public Works, Santa Fe County
Neva Van Peski, City At-Large Resident

MEMBERS ABSENT:

Larry Dennis, Facilities Manager, St. Vincent Hospital, Institutions
Frank Santiago, District Operations Manager, Waste Mgt. Of Central NM, Waste Haulers

CONSULTING TEAM

Richard Hertzberg, Zia Engineering and Environmental Consultants
Justin Stockdale, Recycled Revival.

STAFF PRESENT:

Lisa Merrill, Education and Outreach Coordinator, SWMA
Mike Smith, BuRRT Site Manager, SWMA
Melessia Helberg, Stenographer

There was a quorum of the membership in attendance.

III. INTRODUCTION OF NEW SWAC MEMBERS – ANDREW LEYBA, CAJA DEL RIO/LAS CAMPANAS AREA

Mr. Kippenbrock introduced new member Andrew Leyba who represents the sector for the Caja Del Rio and Las Campanas areas. He said Mr. Leyba has been active in solid waste issues and recycling for many years.

Andrew Leyba said he is a real estate investor, has a wife and children, serves on the Boys & Girls Club Board, and lives in Caja del Rio area. He said he wants to volunteer to help the Committee.

IV. APPROVAL OF THE AGENDA

MOTION: Olivar Barela moved, seconded by John Lopez, to approve the agenda as published.

VOTE: The motion was approved on a voice vote, with Cindy Padilla and Simon Brackley absent for the vote.

V. APPROVAL OF MINUTES FOR MEETING #8: AUGUST 1, 2012

MOTION: John Lopez moved, seconded by Lisa Randall, to approve the minutes of the meeting of August 1, 2012, as submitted.

VOTE: The motion was approved on a voice vote, with Cindy Padilla and Simon Brackley absent for the vote.

VI. MATTERS FROM THE PUBLIC

There were no matters from the public.

VII. REVIEW OF AMENDED BY-LAWS AND OPERATING PROCEDURES

Mr. Kippenbrock reviewed the amended by-laws and operating procedures, which are in the Committee packet. Please see the amended by-laws and operating procedures for specifics of this presentation.

Mr. Kippenbrock noted Committee will now elect a Chair and a Vice Chair, and the Chair's duties will consist mostly of presiding at the meetings and working with Lisa Merrill & himself, and the Vice Chair will preside in the absence of the Chair. Ms. Merrill will prepare the agendas and such.

Mr. Kippenbrock said participation on the Committee will be in person only, and there will be no telephonic participation, nor proxy voting.

Simon Brackley arrived at the meeting

VIII. ELECTION OF CHAIR AND VICE-CHAIR.

Mr. Barela some members of the Committee cannot serve as the Chair or Vice-Chair.

Mr. Hertzberg said employees of the Agency, City or County cannot serve as officers of this Committee.

Ms. Merrill said John Lopez called and expressed interest in serving as Chair, and Tim Gray said he would serve as Vice-Chair if no one else was interested.

Mr. Kippenbrock asked Mr. Lopez to give a synopsis of his experience and qualifications.

Mr. Lopez said he spoke with Lisa to get an idea of the job description. He said she said a lot of it is managing the meeting. He said he worked for more than 30 years in H.R. with the federal government, so he has experience in running meetings. He said he was the President of their homeowners association for 10 years. He said he would like to volunteer his services to the Committee, if it chooses to elect him as Chair.

Ms. Pape asked about his experience in solid waste.

Mr. Lopez said he is passionate about recycling, which is the reason he is on this Committee. He said he was complaining to the County Commissioner and she asked him to help to be part of the solution and that's how he got on this Committee. He said when he worked for the government he moved around a lot, and he has seen a lot of programs, so he has some ideas. He said he lives in the County.

MOTION: Katherine Mortimer moved, seconded by Andrew Leyba, to elect John Lopez as the Chair of this Committee.

VOTE: The motion was approved on a voice vote, with Cindy Padilla absent for the vote.

Ms. Pape asked if Mr. Gray normally will be attending the meetings, and Ms. Merrill said yes.

Mr. Stockdale said Tim Gray is at a State Recycling Operator Certification meeting today, noting the class is being held in Truth or Consequences. He said he has known Mr. Gray for about 5 years, noting he was President of the New Mexico Recycling Coalition for the past 4 years and he has lots of experience managing meetings, and he believes he would be a good Vice-Chair. He said if anybody else is interested, they should submit their name.

Ms. Sweeney she isn't interested, but she attended a composting class in April which was run by Mr. Gray and he ran an excellent class, and she thinks he will do a very good job.

MOTION: Karen Sweeney moved, seconded by Louise Pape, to elect Tim Gray as the Vice-Chair of this Committee.

VOTE: The motion was approved on a voice vote, with Cindy Padilla absent for the vote.

IX. DISCUSSION WITH POSSIBLE ACTION ON FORMULATING STANDING AND AD HOC COMMITTEES

Mr. Kippenbrock said we can formulate these committees at the next meeting. He said the *ad hoc* committee should be done "on the fly," as those topics come along.

Mr. Shanahan said he advocates that we have a standing construction demolition committee of some kind and that it absolutely include a member of private haulers.

Mr. Kippenbrock said once we get more feedback, other committees may include policymaking, education and such.

X. DISCUSSION WITH POSSIBLE ACTION REGARDING THE REUSE COMMITTEE RECOMMENDATIONS ON REUSE OPTIONS AT THE BUCKMAN ROAD RECYCLING AND TRANSFER STATION (BuRRT)

A Memorandum dated November 6, 2012, with attachments to the Solid Waste Advisory Committee from the Reuse Committee is incorporated herewith to these minutes as Exhibit "1."

Mr. Hertzberg said the Reuse Committee met once, noting that was formed from a recommendation from the previous meeting.

Lisa Merrill said she had a meeting with Simone Ward, Simon Brackley, someone from Parks, Justin Stockdale and Jessie Just from the NMRC On October 15, 2012, noting Ms. Just is experienced

with the reuse center in Oregon. She said they discussed a lot of options, mainly that the reuse study conducted by Nancy Judd just didn't show evidence of what is in our waste stream. She said they decided it would be beneficial for the BuRRT to have a month long study conducted at BuRRT toward the end of Spring when it is warm and people are bringing in more items for disposal. She said it would be conducted by a third party consultant, 7 days a week for a month, noting that the details of the study are included in the RFP that Mr. Kippenbrock will be reviewing later in the meeting.

Mr. Stockdale said there was general consensus among the group that a third party should be the operator of any reuse operation at BuRRT, because this isn't something which SWMA is prepared to take on at the moment. He said once there is evidence of what is available for reuse, the thought is to solicit a third party interested in managing those materials. He said there was no formal decision about a structure to do this. He said there are regulatory issues which need to be sorted out, but the first step is to have an analytic study of what is coming through that facility on a daily basis to get a handle on the potential for a reuse operation.

Mr. Shanahan asked if there is a budget for the study.

Mr. Stockdale said it's wrapped into the broader RFP that Mr. Kippenbrock will be speaking to later on the agenda. .

Mr. Hertzberg said his recollection is that the RFP doesn't specifically mention doing a specific study at BuRRT for a certain period of time, although it talks about the potential for refuse.

Mr. Stockdale said it isn't mentioned specifically, but in the meeting it was verbally stated that there would be a 30-day study conducted, so that element is a part of the RFP.

Ms. Merrill said one of the main points which was brought up is, for example, Habitat or Good Will aren't want to come and wade around at BuRRT all day to see what is thrown on the floor. She said we really have to see what we have in our waste stream on the tipping floor before we start thinking about getting a third party involved.

XI CITY OF SANTA FE UPDATES

A) COMMINGLED RECYCLING DUMPSTER PILOT PROGRAM

Ms. Merrill said it is much easier to have one dumpster at a business or the school where people can throw loose cardboard, paper, plastics and aluminum cans, rather than several different dumpsters and carts. She said it isn't easier for the recycling facility, but it makes it easier for the person who is trying to recycle. She said it helps to save space as well. She said they wanted to do a single stream/mingled minus glass, and they felt the schools would be an ideal place for the pilot program.

Ms. Merrill said they spoke with Lisa Randall at the Schools who agreed to help with this, and they created a plan to roll out new dumpsters. The City repainted the current cardboard dumpsters bright blue so kids would know that bin went to the blue dumpster. She said they are now looking at how commingled recycling can be handled at BuRRT. Ms. Merrill said it will take more manpower and man hours, but it is definitely doable.

Mr. Hertzberg said then it is a test both for the schools and for the recycling facility. He asked how long the pilot program has been going on and how many schools are involved, what are the results that can be quantified or qualified, what are the pitfalls, and where it is going.

Ms. Randall said they have always commingled waste, less glass, in the County with Waste Management. She said when she moved to General Services, it was a huge generator of cardboard and other things which had never been recycled, and she called Waste Management, because commingled made sense to her. She spoke with a lot of people and she applauds BuRRT for being willing to do this, noting the results have been phenomenal. There are now 18 schools which commingle recycling, two of which are Waste Management, and the others are public schools in the City limits. She said recycling has increased in those 18 schools from 8% recycling in 2010 to the current average recycling rate of 24% recycling in the commingled facilities. She said what makes sense for the school is simplicity, consistency, predictability, a clear message, clear signage and such. She said with the help of Ms. Merrill, BuRRT and the City, they have established a very clear and simple process, especially for the commingled.

Ms. Randall said they are trying to make this a school-wide effort so that kids take the habit of recycling back to their home, so it isn't just the janitors who are recycling. She said color matters, and she applauds the City for coloring the dumpsters, which has made a lot of difference because it is easily identifiable for a 5-year-old or an 18-year-old. She said at the non-commingled sites the rate in 2010 was 6% and the rate today is 8%.

Mr. Hertzberg asked if she thinks there is still room for growth at the commingled schools.

Ms. Randall said yes. She said we let the schools tell us what works best for them and we support them any we can.

Mr. Hertzberg asked if she has gotten any press coverage about this.

Ms. Randall said they were the large business recycling award recipient for 2012 from the New Mexico Recycling Coalition.

Ms. Merrill said in terms of the pilot project, until we know they what can be done the City will be doing no publicity, to prevent being overwhelmed. She said people have to be trained properly to do commingling to prevent contamination of the waste.

Mr. Stockdale said it is important to know these dumpsters are all outside and most have public access.

Ms. Randall said, although this is true in some cases, more and more schools are behind locked gates.

Ms. Merrill said the dumpster is bright blue with a huge sticker that it is mixed recycling – bilingual picture and text.

Mr. Hertzberg asked what they see as the next steps, and at what point does a decision need to be made as to those next steps.

Ms. Merrill said this is up to Mike Smith, because it would be necessary to hire additional staff. She said they can't get a picture of what commingled dumpsters look like, because 90% of the loads coming in are still pure OCC from the cardboard-only businesses.

Mr. Hertzberg said if there were more schools, couldn't you work with the City to construct a schools only route or routes.

Ms. Randall said that would be good, but the schools are very scattered and the resources are limited, so it isn't feasible right now.

Mr. Hertzberg said the pilot program will indicate the feasible parameter of the program, and Ms. Randall agreed.

Cindy Padilla arrived at the meeting.

Ms. Randall said commingled means they use the rolling push carts called 90's because they're 90 gallons, which were funded by the City to get schools to recycle, which took the financial obstacle out of the way for the schools to do so. She said the schools wouldn't be where they are in terms of recycling if the City hadn't done that. She said the added benefit to the City is that all of these commingled bins are now paying for 60% of their recycling when they used to pay for zero, and have diminished the Schools' landfill contribution by 28%.

Ms. Pape said in her situation, they have a big dumpster and carts, and she goes every day and pulls out the contamination. She couldn't do it if it was a dumpster. She asked if "this is sorted before it goes in, because I just worry about contamination."

[Ms. Merrill's remarks here are inaudible because of a loud ring on a cell phone.]

Ms. Merrill said it is almost mandatory to have someone trained before any school starts recycling. She said the reason they do the traditional method of cardboard only in dumpsters, is because the City collects it, drops it at BuRRT and they then just need to bale it and it doesn't have to go on the sort line. She said the commingled dumpsters add the need for additional man-hours and manpower, because they are receiving a massive volume which probably is 40% cardboard. She said they are getting a lot of huge boxes broken down in the OCC that the City brings. She said the "commingled is mixed into the pile before it goes into the sort line, rather than jamming the sort line with all the cardboard."

Ms. Randall reiterated that education is very important to prevent contamination, noting they did not put a commingle dumpster anywhere there wasn't school buy-in and at least one adult, with their class, who was willing to run the program in their school. It wouldn't work otherwise and it would be contaminated all the time.

Mr. Barela said this is one of the most valuable initiatives he's seen so far. He said they have facilities at the transfer stations, but if people don't show up, they don't have the volume they want. He said this needs to start at home and at school where kids learn the principles and benefits of recycling. He said this is a valuable program and he thinks it will go a long way to get recycling moving forward.

A member said it might be good to start integrating the parents and make it more accessible for them, and if the schools are willing, perhaps they could put big containers there.

Ms. Merrill said that would wind up being a cost burden to the schools.

Ms. Randall said it would be powerful if it were a community effort and we had grant funds or another way to sustain the cost, because operational dollars are always scarce. She said what is spent on trash and recycling isn't being spent in the classroom.

Mr. Shanahan said he would like to understand the recycling rates. He asked if it is 24% of what could be recycled or of the total volume.

Ms. Randall said she was taught to calculate the school recycling rate by dividing the cubic yards of recycling generated weekly by the cubic yards of landfill waste and recycling combined, and multiply times 100, which is the recycling rate.

Mr. Shanahan asked if 40% would be the maximum we could expect.

Ms. Merrill said about 40% would be amazing, noting on average they say that 80% of what is created in schools could be diverted, meaning composting and recycling.

Ms. Randall said the schools average commingled rate of recycling currently is 24%.

Mr. Stockdale said the big question is where this goes next. He said this is in 18 of the 27 schools in the system. He said this is dependent on the City. He said he would envision a zoned route being developed which goes beyond the Schools where they can fill a truck. He said this would give a better handle on what is there. He said this does have consequences to the BuRRT operation, and people need to understand those consequences if this is rolled-out across the system.

Ms. Randall said they could look at the map and add services at schools if it made sense there and with the City's route, and get a pure route. However, the City doesn't want to dump half empty trucks just to get a school route, so it has to make fiscal sense to the City.

Mr. Hertzberg said it sounds like you need to sit and look at this as the next step. He said it is a fascinating and very instructional learning lesson about making pieces of the system work together and what the limits/benefits would be.

Mr. Lopez asked how often dumpsters are emptied, and Ms. Randall said once a week.

Responding to Mr. Lopez, Ms. Randall said 18 out of 32 facilities/schools are commingled.

Mr. Lopez asked if everyone was offered the opportunity to participate.

Ms. Randall said no, because some schools do not have the space, such as at Acequia Madre and Wood Gormley, and there is no place to put a commingled dumpster. She said 5 would be needed at Santa Fe High because there are 11 buildings, a mini-college campus. However, it absolutely is practicable at 75% of their facilities.

Mr. Lopez asked about placing dumpsters at baseball and soccer fields, and such. He said Agua Fria had asked for recycling dumpsters to be placed at the Fire Station, but for some reason the County couldn't accommodate that request.

Mr. Hertzberg said residences in the City do have curbside recycling available.

Mr. Lopez's remarks here are inaudible.

MOTION: Kim Shanahan moved, seconded by Lisa Randall, to reconsider the previous motion to approve the agenda to amend the agenda to hear Item XII next, and to approve the Agenda as amended.

DISCUSSION: Ms. Padilla said she supports amending the agenda. However, she has to leave early, but if she has to leave before she makes the presentation, she is sure Ms. Mortimer can give a quick update on the recycling program.

VOTE: The Motion was approved unanimously on a voice vote.

There was a short break at this time: 2: 35 to 2:45 p.m.

Andrew Leyba departed the meeting

XII. PRESENTATION ON A MEDICAL WASTE TO ENERGY TECHNOLOGY (THERESA CARDENAS, SYNERGY RENEWABLES/NOBLE RENEWABLES GROUP.

A letter dated December 5, 2012, to the Santa Fe Solid Waste Management Agency, from Jim Folkman, Executive Director, Foundation for Building, is incorporated herewith to these minutes as Exhibit "2."

A power point presentation, *Synergy Renewables Transforming Matters – Hospital Waste Systems* from Noble Renewables Group, is incorporated herewith to these minutes as Exhibit "3."

A pamphlet *Healthcare Waste to Energy Facility* prepared by Synergy Renewables is incorporated herewith to these minutes as Exhibit "4."

Mr. Kippenbrock introduced Theresa Cardenas, Noble Renewable Group, Albuquerque; David Cardenas, Synergy Renewables, Health Care Division, Dallas, Texas; and Tom Cardenas Noble Renewable Group, Albuquerque, New Mexico. He said they grew up in Santa Fe, and their father worked at LANL. They used to live near the old dump on Paseo de Vistas, so they do have some history in the area.

Ms. Cardenas said they aren't just one company, they are collaboration of a number of different companies in New Mexico and Dallas. She said she and her brother, Tom, live in Albuquerque, and they have Noble Renewable Group and the other main company which is driving this whole project is Synergy Noble, based out of Dallas, Texas, and her brother David is the managing partner for that organization.

Ms. Cardenas said the other two partners are the Ohkey Owengeh Tribe in Northern New Mexico. The Tribe has a piece of property they are allowing them to lease and on which to run their waste destruction facility on its designated industrial park area.

Ms. Cardenas said, "What we're presenting today is the first phase of a two phase waste-to-energy facility. The first phase will be the medical waste and the second will be the solid waste destruction facility which will turn the waste into energy and put it into the grid, which is further down the road. She said, "This particular phase one is necessary, because we're having a really horrible medical waste issue in New Mexico, and not just here, and you'll hear more about it. David's going to explain that. Synergy is also quite a collection of organizations. Number one is financed by T. Boone Pickens himself, who really has the right plan for really putting this country on the right track with renewable energy. He has the right plan in place. And the other individual is Mike Childers who owns a company that invests in all kind of renewable projects around the country. They're an important team because they'll be actually running the facility, owning it and running the facility and they're the local developers, so that will sort of help you understand the dynamics."

Ms. Cardenas continued, "The other partner happens to be the University of New Mexico School of Engineering. They will be using our project to actually create curriculum to study waste-to-energy. And the other partner, and the last partner is an organization out of Albuquerque. It's a not-for-profit called

Foundations for Building. And there will be an attachment to the minutes, a letter sent by Jim Folkman, who happens to be the Executive Director of the Foundations for Building [Exhibit "1"]. Foundations for Building is responsible for developing the Build Green New Mexico Program, so they believe that this particular type of technology is advancing our consciousness in how we handle our waste stream on all different levels. So with that, I will turn it over to David. We'll have a handout for you."

David Cardenas presented information on the proposed process via power point. Please see Exhibit "3" for more specifics of this presentation.

Mr. Cardenas said, "Theresa said, talking about a two-stage program, first phase meaning waste-to-energy for document destruction, you've got hospital waste destruction. A lot of issues happening throughout the country. New Mexico just seems to be one of them. Several states have adopted certain rules that are pretty hard for some hospitals to keep up with, economic-wise, so it's causing tipping fees to get out of control in a lot of cases, so this management, in some cases with people, things are happening, ending up in waste streams, ending up in landfills that probably shouldn't be there obviously."

Mr. Cardenas continued, "The slide we have up here real quick, is an incinerator inventory back from 1995 to 2010. This is kind of what brought us up to current understanding of how bad medical waste issues are from each state. You'll notice all of the dots up there in light blue, that was the inventory back in 1995, as regulations were really being pushed. EPA is getting tighter on regulations for [inaudible], mercury, everything that is going and being admitted from medical waste incinerators. These are approved medical waste incinerators, that's different from larger incinerator applications."

Mr. Cardenas continued, "And in 2010, those are the only ones that are remaining. Those are federally, approved medical waste incinerators throughout the country, so here's what happens. All of the infectious waste from that time period was being dumped with autoclaving and/or continued incineration, depending on the state. In this state now, the hazardous waste is being transported to one of those facilities. I would imagine it's probably someplace in Nevada, or actually, I want to say Wyoming. But autoclaving is typically what's going on in the country right now, but you can see the impact. What's that going to look like in five years. We saw this two years ago as these were being diminished. And I got all my partners and said let's put a mobile solution, on campus solution, it's not incineration, focus on gasification or pyrolysis which is different than incineration, and stop this problem. We give an economic solution and capture a return at the same time."

Mr. Cardenas continued, "Real quick, this slide shows, from a hospital and the characters, it has untreated medical waste going into an incinerator. The incinerator either autoclaves it or incinerates it, and then you have two separate trucks taking it to two separate landfills in some cases, and then you've got some transportation back to the hospital with reusable containers for sharps and that doesn't always happen. Some hospitals adopt that because of cost and less handling for them. But that's a lot of carbon footprint as you can see. In some cases, intra-state transportation is 200-300 miles away and a lot of carbon footprint going on just for medical waste. So that's the internal impacts from carbon footprint increased traffic."

Mr. Cardenas continued, "And we've got current methods used that are non-sustainable. Again, you've got autoclave/incineration. Incineration numbers are, what it's going to look like in 5 years going back to that slide again, it's going to be a nasty situation for us."

Mr. Cardenas continued, "So, what we decided to do on phase one is make a deal with the Owengeh Tribe to put a facility there, sustainable solution, to handle these categories specifically, prove the concept to Santa Fe, Albuquerque, throughout the entire State here and be able to give a solution by proving ourselves on a smaller basis. So, part of our business solution and plan from the get-go was do all the cap-ex [capital expenditure?] ourselves. We're not asking anybody for any money. We're doing this all equity out of our partnership for each one of these installations, so nobody has to do any cap-ex non-incineration. I'm going to point that out for the 50th time, because I've been in groups where you get in debates if this is incineration or not, in fact we were talking about that just a few minutes ago."

Responding to a question from the audience, Mr. Cardenas said, "Autoclaving is pretty interesting. It is pressure steam over time. So you have a resident time, you've got temperature and steam pressure and it's basically sanitizing the waste stream that's coming out of the hospital. I think I've got a picture of that inside one of these slides."

Ms. Cardenas said it's almost like baking it.

Mr. Cardenas said, "It's identical to the pasteurization method, but it's more baking time basically. But you're really not doing anything to the waste other than just saying, okay, it's non-infectious, it's been in the pressure cooker for, you know, for 3 hours now. Let's go ahead and grind it up, put it in a bale and stick it in the landfill. We really don't know the effect of that, because it's only been going on from 1987 to now in a big massive effort. What's that doing to the landfill, over a period of time, who knows. I'm sure our grandkids will find out from that point."

Mr. Cardenas continued, "Let me kind of show you a real quick solution on what's happening with pyrolysis. This is just a quick little video. These are technologies out of Europe. They've been doing these small systems for a long time. I'll show you some data that is proven on some of the applications out there. But this is pyrolysis. This is basically, exactly a chamber in which the product is being destroyed with no oxygen present. Again, there's 3 things. You've got incineration which is massive oxygen, black smoke. You've got gasification which is controlled oxygen and then you have pyrolysis which is no oxygen, oxygen starved environment. And this system is more sustainable, back to the same method of incineration or non-incineration, destroying it on site."

Mr. Cardenas continued, "From this point... let me start this over... "One of the case studies, the reason why we picked this particular technology, there's several throughout the [inaudible], but very few are bankable, specifically when you're going to put your own cash flow in it. So what we decided to do was look at the case study on every one of their proven solutions that they've been installing, and it just so happens, they've been installing these in the Queen's Navy battleships all the way from 2008 to current. So this one's been actively running, with the exception of going on the ship, DPS was able to give us all the data, enough to where we can underwrite it and be able to support it on our study."

Mr. Cardenas continued, "The other case study, again, goes back to the other applications for the Royal Navy. After that test mode was done for them, they put forward other [inaudible] mounted units back on the Royal Navy carriers. I'm going fast, because I know you guys are short on time. And then finally, the U.S. Army started moving and migrating in here. That's currently under testing mode right now. They're dropping them for helicopters. It's more of a remote type system out in there where they either bring their trash or they're burying it, and that's just what they've been doing forever, or packing it out. So this will be on-site destruction for the U.S. Army."

Mr. Cardenas said, "Key operating characteristics. Our system, whether it's that pyrolysis system or the sister gasification system, process all types of medical waste and I'll specify that autoclaving cannot do that. That's why you have two waste streams going two different directions that are riding on the same highways everybody's riding on every day, and you really don't know what's going on in that truck next to you. And if it says a certain name on the outside, medical waste, more than likely hazardous waste going from one county to the next."

Mr. Cardenas continued, "Ash fallings, between 5-10%. On the input volume, which is drastic reduction and we're doing... on this system, we'll be able to do about 3 tons a day of waste, which is pretty typical for about two hospitals, depending on how many processes of operations they have, or if it's an emergency care type facility. It all depends on what their volume look like, but our system will be able to handle 3 tons a day. And again, it's a proven history. Sorry, going through it fast, but I know you guys are on a real time constraint, so."

Mr. Cardenas continued, "Again, I'm going to retouch on a few things. What we're here to do with you guys today is to just introduce ourselves, our solution and what we're planning on doing. Eventually on the second phase of our program, we're going to be soliciting the City of Santa Fe for a waste contract and do a larger facility. We have several throughout the country which we're under negotiations on, the one that's soon to start construction down in Puerto Rico, which is about a 400 ton a day system. It's a pretty good size. So, I'm going to open it up for questions."

Mr. Shanahan said the BLM has been working the pyrolysis technology for a number of years. He asked if they have been working with anyone in the State on this European pyrolysis.

Mr. Cardenas said, "No, to answer your question, and one of the reasons why is the prototypical type machinery or technology. If it's not proven, it doesn't have like a proven history where communities when they come around and look at it, they say, well it really hasn't been tested, it's hard for us to put equity or any debt platform behind it. But once it's proven, and that's why we always remain technology agnostic with all the systems that we're doing, all of our installations, big and small, if there's a new technology that is proven, even though we have the rights to the U.S. on this one, we will change horses. It's like Tiger Woods' golf course. If there's a pair of golf clubs out there, he's going to use it."

Mr. Shanahan asked if he is looking at scaling-up, noting they are using pyrolysis for force fired mitigation/consumption, municipal solid waste. He asked if anybody is thinking that big.

Mr. Cardenas said, "Yes. Absolutely. Boone doesn't do anything small in his realm. He has a plan, a business plan that is clear and concise and that's what we're set to do."

Ms. Cardenas said, "The plan was to start with the solid waste coming from the Espanola area, because as you know, they lost their landfill. And they've been trucking their waste 100 miles each way, and this has been going on for 5 years or more. The plan was that we build the facility with their waste and we need another 30,000 to 40,000 tons of waste to make up the large facility. We felt like we needed to sort of wait for that until the medical waste problem was resolved, and then we introduce the larger system."

Mr. Cardenas said, "Espanola is coming right through Santa Fe, whether it's on the by-pass or whatever, with 40,000 tons of trash right through ya'll's city every day."

Mr. Lopez said then you are accept all solid waste.

Mr. Cardenas said all waste streams. He said, "Issues that everybody faces in recycling sometimes, we can solve. But similar to Santa Fe, you guys have a lot here. Eventually we wouldn't be looking for all of it, just a diversion point, amount, volume amount that will make our facility work, help the City, help Espanola, help the community, help the Tribe, the whole shot."

Responding to a question from the Committee, Mr. Cardenas said, "The energy output is the syngas. We convert that to a turbine, turn the power, put her on the grid."

A member asked if they are planning a 10 MW plant.

Mr. Cardenas said, "No. Actually, this smaller unit is converting hot air into a feed tank for a boiler set-up. This going to be a demonstration facility that all hospitals can come to say, I can see it, I can feel it, I understand it. It's proven. You guys have been great stewards, you're good business people. You're being good stewards of the land, the whole thing. Then they'll buy out for us for the [inaudible]."

Ms. Cardenas said, "The larger facility will be a 10 MW facility that will operating 24 hours a day."

Mr. Cardenas said, "24/7, based on.."

Mr. Shanahan said 10 MW is more than Espanola's waste.

Mr. Cardenas said, "Yes. There's going to have to be a difference between 40,000 and another 150,000 tons to that, but the system is scalable."

A member said then the pyrolysis machines don't create any fuel, and yours will take virtually any carbon. You won't have to worry about forest waste versus municipal solid waste. Is that...."

Mr. Cardenas said, "We do have sorting. It's automatic sorting in the front if it's steel or something that's not going to go through the system."

A member asked about carbon, plastic, paper.

Mr. Cardenas said, "The more the better."

Ms. Padilla said there is an autoclave facility in Albuquerque, and they've had a lot of problems. She doesn't know who owns it, but it has to be permitted through the Solid Waste Bureau. She asked, with regard to the facility at Ohkay Owengeh, if they will have to go through the permitting process through the EPA as opposed to NMED.

Mr. Cardenas said, "We're exempt from state permitting, but it doesn't mean that we're not going to conform to the rules and fill all the blanks that are necessary."

Ms. Padilla asked if that is the federal EPA.

Mr. Cardenas said, "Correct. Absolutely 100%."

Ms. Padilla said, "And the BIA."

Mr. Cardenas said, "We're not here to try to go around those type of rules. We're just trying to find a timeline that we can be able to live with and everybody can be able to live with, instead of just getting caught up in paperwork."

Ms. Padilla said, "And this is a clarifying question, and I'm with the City of Santa Fe. And you said, it sounded as if the City has committed already to negotiate a solid waste facility..."

Mr. Cardenas said, "But, if I said that, I was meaning we are trying to secure a waste stream."

Ms. Padilla said, "Sure, and I understand you need a source and you mean materials..."

Mr. Cardenas said, "Yes. Absolutely, that's why we're starting on this small facility."

Ms. Padilla said, "I just wanted to make sure that it was clear that that's not something that is being discussed or negotiated at this point. We know about the facility, about as much as you. We've had a meeting a while back, and so we are definitely exploring options and looking at the Solid Waste Management Plan with the Agency and the County, looking at what you all developed before. So, we'll definitely approach the whole thing as part of the Plan."

Mr. Shanahan said the pyrolysis fantasy has been mixing the solid waste with forest waste. The Jemez is under contract for massive amounts of thinning, and asked if they are talking to them about getting that flow in.

Ms. Cardenas said, "We haven't approached them yet."

Mr. Cardenas said, "Yeah, like I said, we just wanted to start..."

Mr. Shanahan said they are going to burn it in the forest.

Mr. Cardenas said, "Hence the reason why we're starting with phase one. Phase one is small, show me the small, show me you guys are good business people, then you're the City. But we know that there has to be a proven track record for us to convince her and the entire nation to say, hey we're good stewards. So that's why we're starting a little bit small yes."

Mr. Stockdale said in his slides, Mr. Cardenas shows several small units on warships and such, which are very contained. He also mentioned a 10 MW system which would be the future of perhaps 200,000 tons a year capacity. He asked if there are any examples of this technology at that scale.

Mr. Cardenas said, "Yes. In the country, one of the technologies we are using for fluid fed gasification comes out of Norcross. There's actually a working facility there. They're doing about 350 tons a day, roughly, I think that's the number. And that's the same technology that we are going to be buying for our Puerto Rico project. These are different in application of size. They do have a Bristol facility that DPS was using for quite some time for test mode for 14 years. And then, our gasification facility out in Alaska, in Barrow, Alaska, for operational history, is still operation. And they have a mobile system we're using for gasification. So to answer your question, yes."

Ms. Cardenas introduced Governor Ron Lovato from Okhay Owengeh Pueblo.

Ms. Pape said she hopes they have every success, because we need more of these systems.

Mr. Cardenas said landfills are getting more expensive to maintain and put in cells. It's good diversion.

Ms. Pape said it is good for renewable energy.

Mr. Cardenas said they want to use what they're creating to make that energy.

A member said, in terms of the entire ecosystem, the worst thing you can do is to burn something up, so this isn't burning, but it is being destroyed.

Mr. Cardenas said it is being converted.

The member asked how much research has been done on the issue of toxins, because what we put in the air today with waste energy is quite disturbing.

Mr. Cardenas said, "You are right. The wrong technology, a non-bankable technology, something that would just go in there and be a 'flash in the pan,' is what has gotten a lot of people in trouble. But before Mr. Pickens got behind anybody, we spent two years and several million looking for the best, proven solutions.

The member asked if there is a website. Mr. Cardenas said yes, it is www.Synergyrenew.com , noting Tom Cardenas is handing out the healthcare facility brochure [exhibit "3"] and then you can go on the website and see our power industry experience, our sites and what we're doing, our business plan and such.

A member's questions here were inaudible.

Mr. Cardenas said, "And we're actually, a diversion of that, our carbon footprint, we're putting in a landfill right now, that diversion of that carbon footprint, on methane, this is getting rid of that. So we're not having the methane problem, even though we've somewhat been able to flare it, or capture it and selling, renewable credits, whatever that whole game is."

Ms. Cardenas said, "There will be residual ash coming from both facilities and that non-toxic residual ash will be recycled into material used for construction, like aggregate for roads. Some cities buy it for berms, you know to put near waterways. You know they're going to be building up berms really around the coast because of the storms. So they will need the ash, so that's even recyclable."

Mr. Cardenas said, "Part of what UNM is getting engaged with us on is to find out what renewable use you have for that ash if there are no steel products in there and that's what we go through in sorting issues."

Ms. Cardenas said, "So the University of New Mexico School of Engineering will be spearheading the first Water Environment Institute, that will be employing the researchers to actually come in and work with us to grow this technology. So it's a fairly serious initiative by the University."

Mr. Cardenas said, "And we're going to flagship the first hospital that engages with us to help us be successful."

A member asked Governor Lovato's interest, asking if it was for job creation.

Governor Lovato said, "Good afternoon, everybody, I'm Ron, just call me Ron. Our interest, we've got an Airport Industrial Park that we're... it's a multi-faceted interest. We of course are concerned with solid waste and what happens to it. We've got a tremendous issue up north, if any of you read the paper, with solid waste. And we're shipping as far down as Rio Rancho right now, the solid waste. So that was our initial interest in this project. And, as we learn more about it, it's all of those things. It's potentially some economic activity other than Los Alamos up north. It fits the bill for this industrial park we've identified, and of course it starts to solve, and it is at least worth exploration and discussion in terms of a solution to a solid waste issue that we've got here in Northern New Mexico. So that kind of sums it all up, and I can just, for clarification purposes, this project is happening under the auspices of Tsay Corporation which is separate from the government of Pueblo. I just wanted to clarify that."

Mr. Hertzog thanked them for their presentation.

B) CITY OF SANTA FE

Cindy Padilla reported as follows:

- Since July 1, 2012 added more than 24 new businesses in the recycling program for the City.
- Partnering with the Santa Fe Watershed Association to partner with them on the Green Lodgers Initiative. The Association received a small grant from EPA to look at lodging facilities in Santa Fe. There will be an application process where hotels, bed and breakfasts can apply and will be trained and certified on how to manage their resources. The program will be launching tomorrow and EPA Region 6 Administrator Ron Curry, will be here.
- We will be receiving 4 additional CNG large trucks, building our fleet in CNG.
- We will be sending out a flyer regarding recycling with the business license renewal.
- Ms. Merrill developed a rate calculator.
- On Monday, Mr. Kippenbrock will be staffing a pilot program for cardboard on Canyon Road, with a roll-off container across from El Farol, and the galleries on Canyon Road have been notified it will be there on Monday, 9:00 a.m. to 11:00 a.m., to see how much cardboard they get, and how often they can do it.
- We are looking to reinstate one of our supervisor positions and create a recycling manager position, who would take over the recycling collections, residential and commercial, as well as the education and outreach program.

Ms. Pape asked what will it take to get this done .

- Ms. Padilla said it needs to be approved by the City Manager, noting the position and budget are in place, it just needs to be reclassified and must go through a process. The Public Utilities Committee supports this approach. Currently it is in the Human Resources Department.

Mr. Lopez asked how and when the City will determine when we are improving on recycling.

- Ms. Padilla said they will get numbers from BuRRT and the landfill in terms of total disposal. They also will be looking at some anomalies which may or may not give us a reflection of improvement.

Ms. Padilla said they are working on an RFP for a Comprehensive Solid Waste Management Plan to get an outside contractor to help us work on implementing the Plan which has a heavy emphasis on recycling and diversion.

Cindy Padilla departed the meeting

C) SANTA FE COUNTY

Olivar Barela said County has two initiatives. One is the Solid Waste Task Force, which has met 5 times, noting John Lopez is a member of the Task Force. He said they spent the last 5 meetings doing a lot of discovery, and did field trips to the transfer stations for the past two meetings, finding out what we are all about, and the logistics and such. He said one thing which came from the Task Force is the Solid Waste Assessment and Management RFP which Mr. Kippenbrock will talk about later in the meeting.

Mr. Barela said the Task Force is charged with looking at the fee structure, and looking at opportunities to do different things with solid waste to be self sufficient as well as to increase recycling. He said there is a lot of information to digest and make a recommendation to the County Commission. He said management is prepared to make proposals, noting there will be 5-6 different scenarios, from doing nothing to doing things which are challenging. He said the Task Force will be holding its recommendation until we get feedback from experts.

D) SANTA FE SOLID WASTE MANAGEMENT AGENCY

A copy of a joint RFP between the City, County and the Agency, for a Solid Waste Management Study is incorporated herewith to these minutes as Exhibit "5."

Joint RFP

Mr. Kippenbrock reviewed the RFP. Please see Exhibit "5." for specifics of this presentation. Proposals are due on December 21, 2012, with evaluation in January 2013, and contract negotiations complete by March 2013.

Mr. Shanahan asked if there is anything in the RFP regarding "thinking outside the box." He said we had a presentation from Mr. Cardenas, his brother and sister. He said people at Pickens wouldn't be interested in municipal solid waste unless he knew he could sell it and make a profit on electricity. He said a lot of people think this is the future of municipal solid waste. He said the City and County paid for a study on a municipally owned electric utility and one would think there would be a nexus between our waste and our desire to produce electricity. The question is whether or not there is any opportunity within the RFP to think bigger than what is in the scope of work.

Mr. Kippenbrock said there is potentially, noting there is 10% for innovation. He said they will bring forward the ideas beyond what we identified in the RFP.

Mr. Shanahan asked if the SWAC will have the opportunity to participate in the process of selecting the contractor, in terms of the final decision.

Mr. Kippenbrock said he can speak with Adam and Cindy, but currently we do not.

Mr. Shanahan said one would hope we could anticipate things beyond business as usual.

Mr. Kippenbrock said it does include having additional members on the evaluation team. He said there are no meetings at this time, but we know it will be himself, Cindy and Adam and it could expand, we don't know yet.

Mr. Shanahan said he doesn't think we're asking for anything unique here.

Ms. Mortimer asked if the proposal allows looking at "pay as you throw," and implications on tipping fees.

Mr. Kippenbrock said everything is on the table and he will bring all comments to the Committee., and he will keep the Committee updated.

Special SWMA Meeting December 13, 2012

Mr. Kippenbrock said there will be a special SWMA meeting on Thursday, December 13, 2012, at 5:00 p.m., in the City Council Chambers, to discuss options for expansion of the landfill, noting the members of this Committee are invited to attend. He said they will have posters and renderings available for the public.

Mr. Kippenbrock said on January 10, 2013, there will be a special public input meeting on this subject at the Nancy Rodriguez Building. He said it is hoped to make a decision by the SWMA meeting of January 24, 2013. He said it is a 1 year to 18 month process, noting there will be another public input meeting at the end of that process.

Responding to Ms. Pape, Mr. Hertzberg said there is no common definition of zero waste. It's not a fixed, firm concept. He said there are very utopian definitions that we don't generate zero waste. He said we really have to look at where the waste is coming from and who makes the decision.

Chair Lopez asked staff to email the members of the Committee with information on the special meeting on December 13, 2012, and the public meeting on January 10, 2013.

Miscellaneous

Mr. Shanahan said this is Mr. Hertzberg's last meeting and he is going to miss him. He said this has been a frustrating process, but he really appreciates his work, and his time and effort over the past two years. He asked Mr. Hertzberg if he is bidding on the RFP.

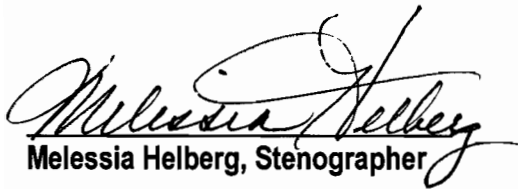
Mr. Hertzberg said no. He said although he won't be here in this capacity, one way or the other he is committed to seeing this through, whatever role they play in the process.

XIII. DATE AND TOPIC FOR SWAC MEETING #10

The next meeting is scheduled tentatively for February 6, 2012, 1:30 p.m. to 4:00 p.m.

XV. ADJOURNMENT

There was no further business to come before the Committee, and the meeting was adjourned at approximately 4:00 p.m.


Melessia Helberg, Stenographer

Randall Kippenbrock, SWMA

MEMORANDUM

To: Solid Waste Advisory Committee (SWAC)
From: Reuse Committee
Date: November 6, 2012
Subject: Discussion with Possible Action on a Reuse Program and Study at BuRRT.

On October 15, 2012, the Reuse Committee (Committee) met to brainstorm and discuss possible reuse options at the Buckman Road Recycling and Transfer Station (BuRRT) and the diversion of reusable items from the Caja del Rio Landfill. The Committee is made up of three SWAC members: Simone Ward, Simon Brackley, and Mary Jane Parks. Other participants in attendance were: Justin Stockdale (NMRC), Jessi Just (NMRC), Mike Smith (SFSWMA), and Lisa Merrill (SFSWMA).

Currently, there is no reuse program at BuRRT. The Santa Fe Solid Waste Management Agency (SFSWMA) encourages reuse by directing customers to local thrift stores through the website, flyers, and word of mouth. During 2011-2012, Nancy Judd conducted a quarterly "reuse study" at BuRRT, the goal of which was to quantify the amount of reusable items that end up on the BuRRT tipping floor. This study was conducted four times throughout the year, one day in summer, fall, winter, and spring. Due to the limited time in which the study was conducted and corresponding lack of data generated, the study was inconclusive in showing the potential for reuse at the BuRRT. The findings of the study were shared with the SWAC on August 1, 2012.

The outcome of the Committee meeting was fruitful and no subsequent meetings are required until further discussion by the SWAC. The overall consensus of the Committee was that something should take place at BuRRT since it is a convenient and readily used handling site for many reusable items. The end market for the reusable items collected at BuRRT also plays a large role. There needs to be a consistent business or non-profit organization that will transport the items from BuRRT unless it is decided to have a reuse area on-site. Such as area, however, has the constraint of liabilities, lack of space and labor, and potential incurred costs. Thus, the Committee favored the idea of having a 3rd party remove the reusable items from BuRRT and sell or donate them at a different location.

The Committee also discussed how having 3rd party involvement could create entrepreneur opportunities within the community. It would also support the local non-profits and thrift stores to which the items would be donated, while reducing the burden and responsibilities of the SFSWMA. The Committee felt that if we are to move forward, then a better understanding of what is in the waste stream at BuRRT is necessary. It was suggested that a month-long study be conducted daily to determine what reusable items are handled at BuRRT. Since Santa Fe is entering the winter months, it was agreed that the study should be conducted in Spring of 2013. The Committee recommended that the study be funded by the City, County, and SFSWMA.

FOUNDATION FOR BUILDING

DEDICATED TO EDUCATION, COMMUNITY SERVICE
AND BUILDING THE AMERICAN DREAM

December 5, 2012

Santa Fe Solid Waste Management Agency
Attn: Randall Kippenbrock
149 Wildlife Way
Santa Fe, NM 87506

Re: Synergy Renewables

Dear Mr. Kippenbrock:

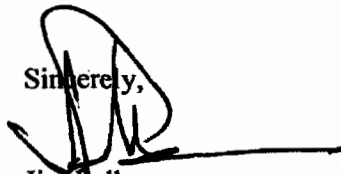
The Foundation for Building (FFB) is a not-for-profit 501(c)(3) corporation formed over ten years ago to accomplish several missions. We have been engaged in national contracts for skilled labor training, rehabbed a number of at-risk homes, and have provided affordable housing in the Roswell area.

Our most recent efforts, however, have focused on developing the **Build Green New Mexico** program which promotes sustainable building practices, primarily in the residential sector of our market. This program is one of only two entities authorized by New Mexico statutes to test and certify green homes in the state. We have also been directly involved in the development of the National Green Building Standards for nearly nine years and are nationally recognized as a leader in sustainable building and living practices.

Over the last year we have purposefully expanded our efforts to include initiatives beyond construction and green living practices, and now are associated with **Synergy Renewables**. We remain independent organizations, but we have worked closely with the Theresa and David Cardenas on their important and innovative technology. More importantly, we anticipate greatly expanding that relationship and their Waste to Energy initiative since we believe it represents a viable and practical way to deal with the growing problem represented by solid waste disposal while at the same time converting that, as a resource, into cost-effective energy. We remain ready and more than willing to help this 21st Century technology move forward, and encourage your organization to do the same.

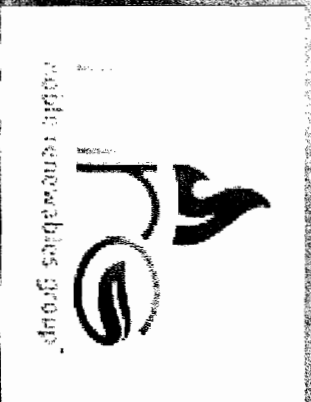
Please contact me if you have any questions at all about our organization or our activities with **Synergy Renewables**.

Sincerely,



Jim Folkman
Executive Director

Encl "2"



Synergy Renewables
Transforming Matters

Hospital Waste Systems

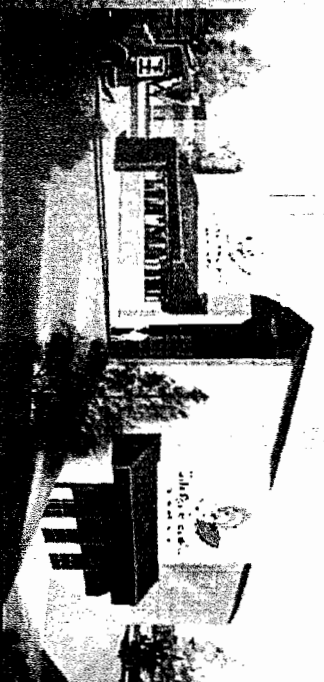
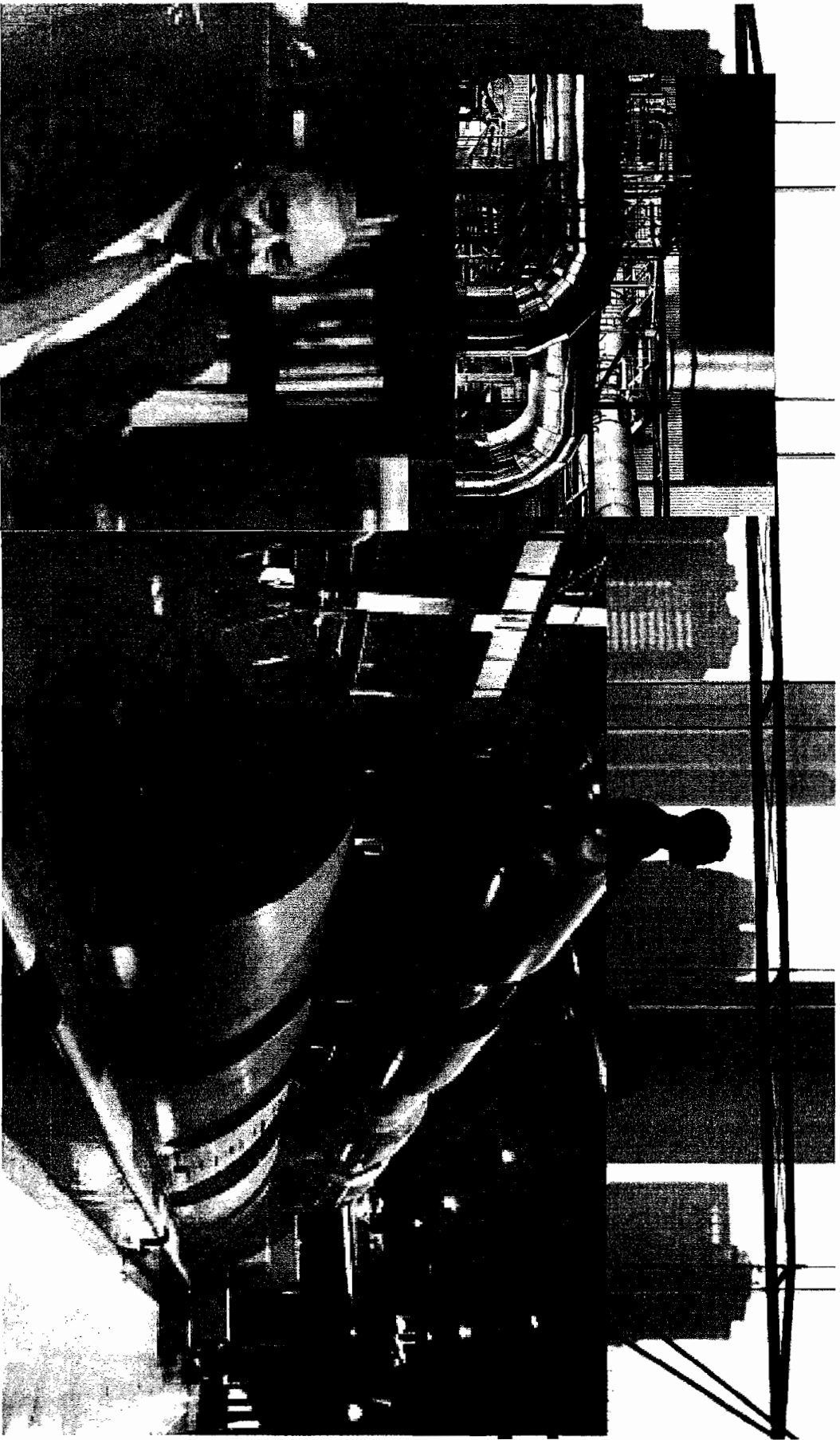
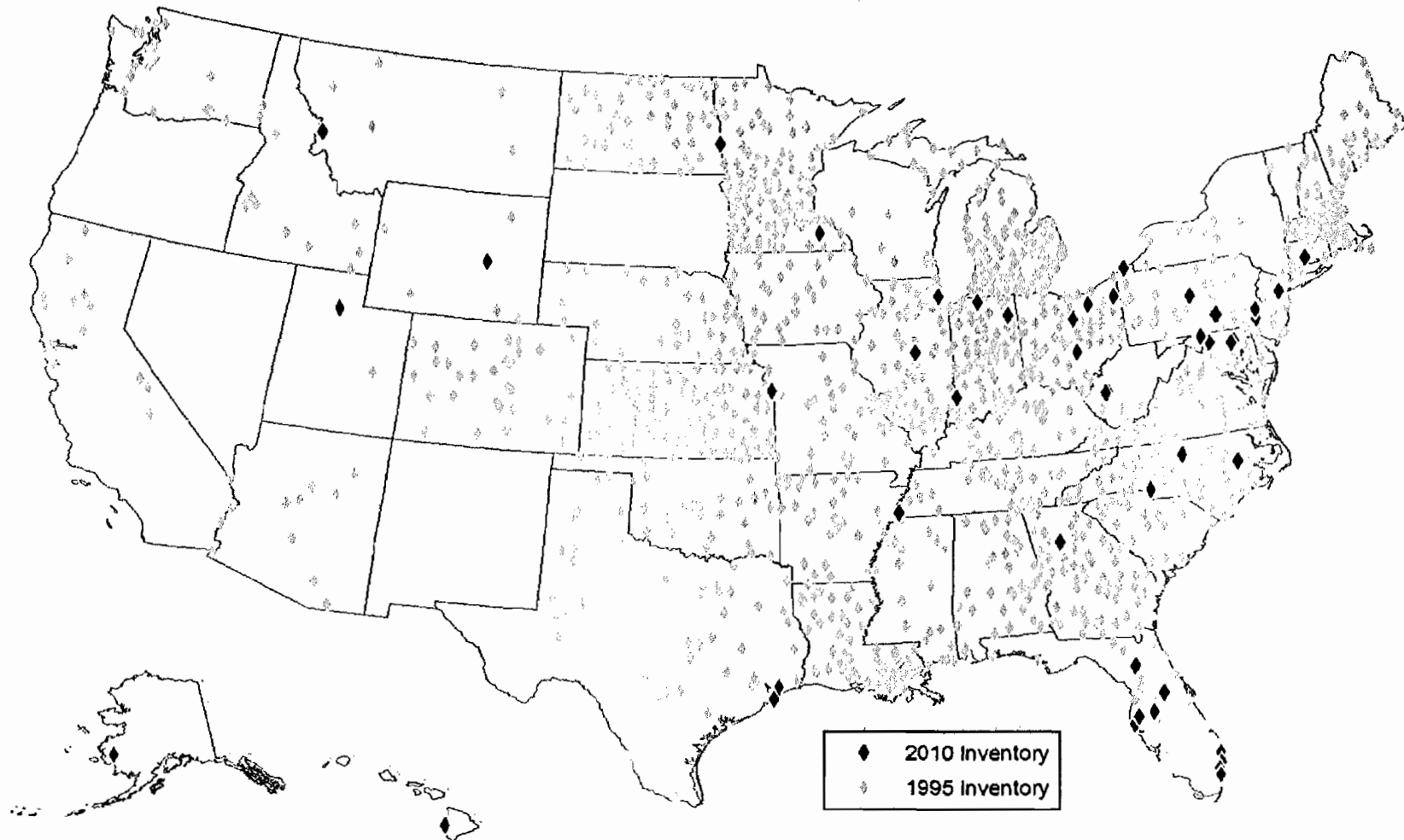


Exhibit "3"

Synergy Renewables



Medical Waste Incinerator Inventory 1995 - 2010

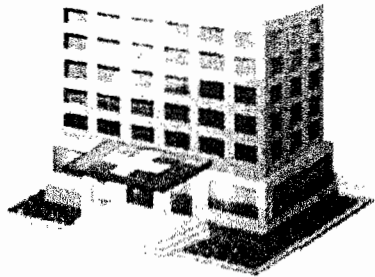


Source: EPA HOSPITAL / MEDICAL / INFECTIOUS WASTE INCINERATORS, 2010

Off-Site Treatment



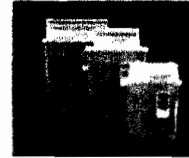
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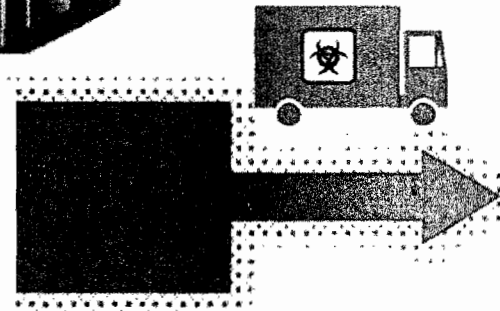
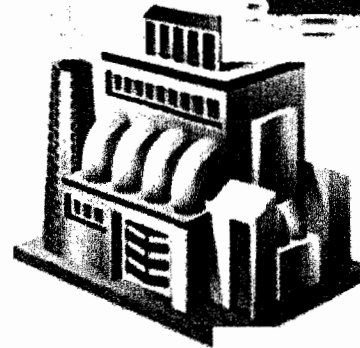
Transporting Untreated Waste

- Internal Impact:

- 1. Boxes / Containers
- Labor to Pack and Load
- Administrative / Compliance Burden



Shreds
land filled



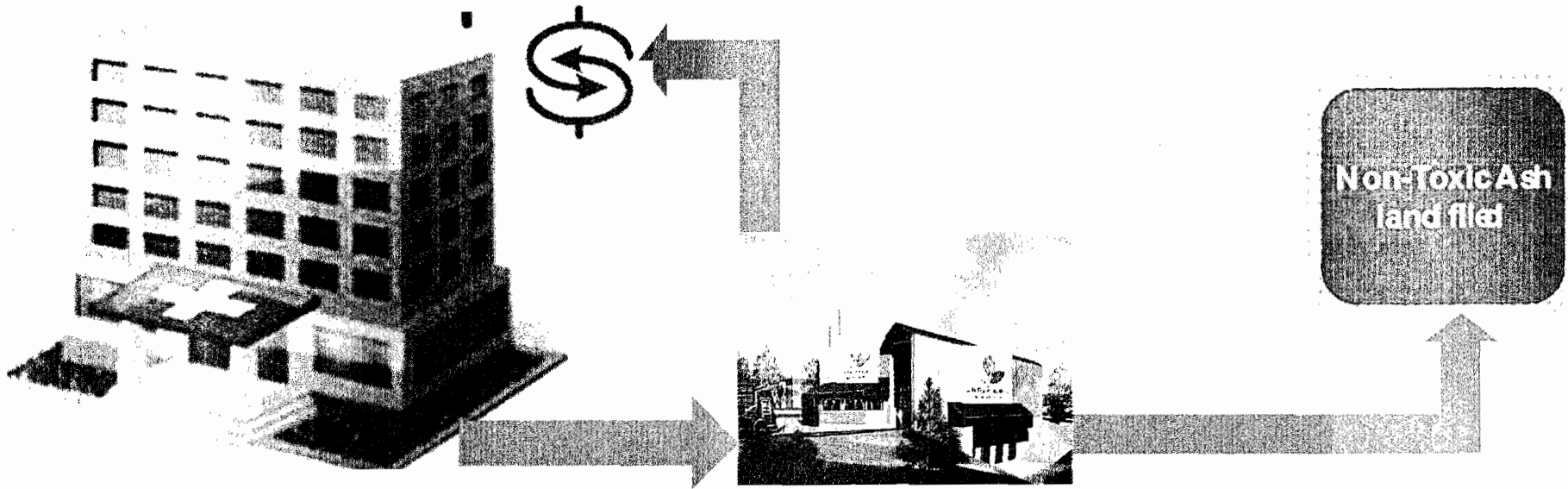
Toxic Ash
land filled

- External Impact:

- 1. Rising Transportation Costs / Fees / Taxes
- High Carbon Footprint
- Multiple Vendors / Campus Traffic



On-Site Treatment



- Internal Impact:

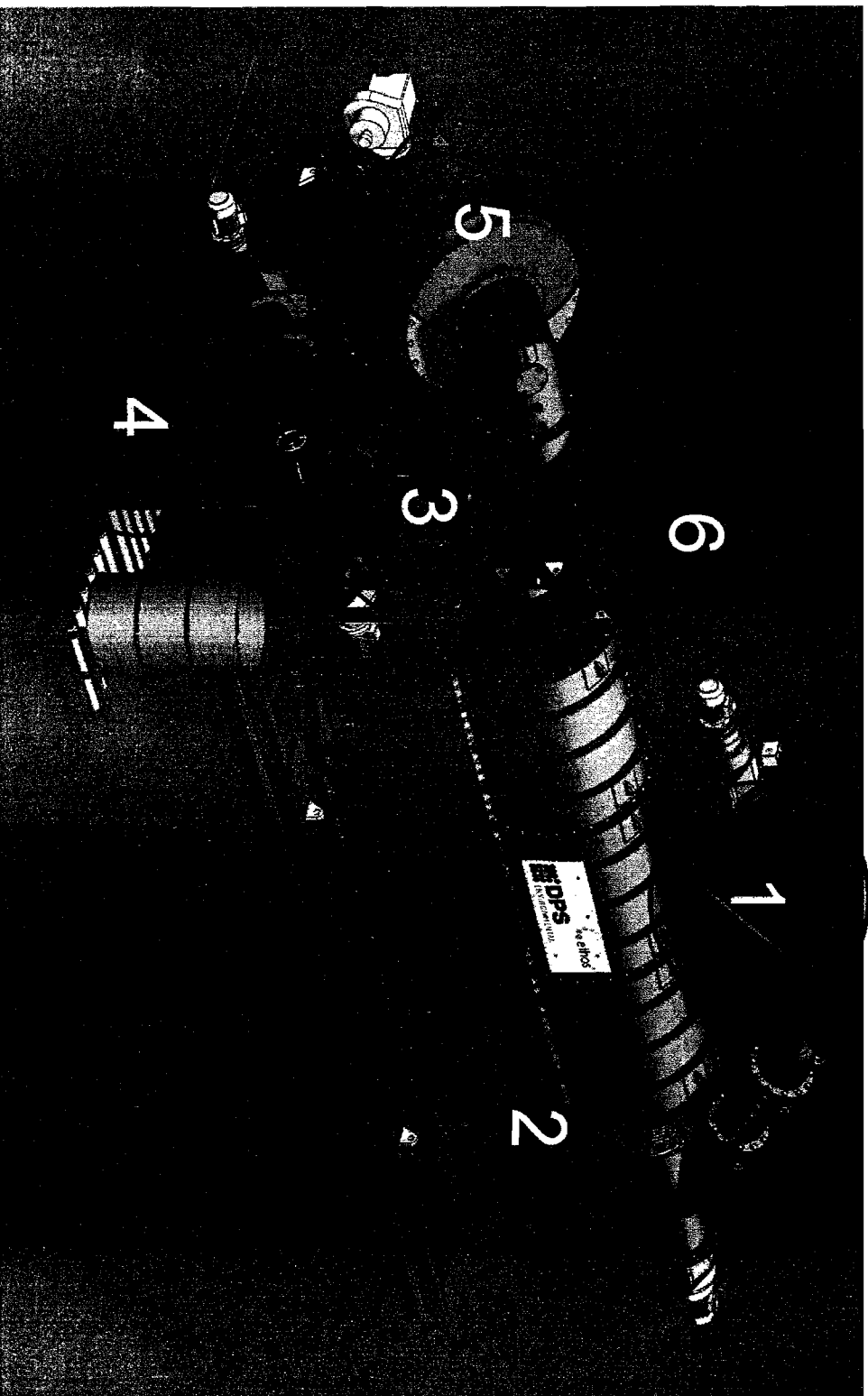
- 1.No Additional Staff or Protocols
- Reduced Labor to Pack / Load
- Reduced Packaging Cost / Requirements
- Renewable Energy Source

- External Impact:

- 15% - 20 % Savings on Costs
- 80 % Reduction in Carbon Footprint

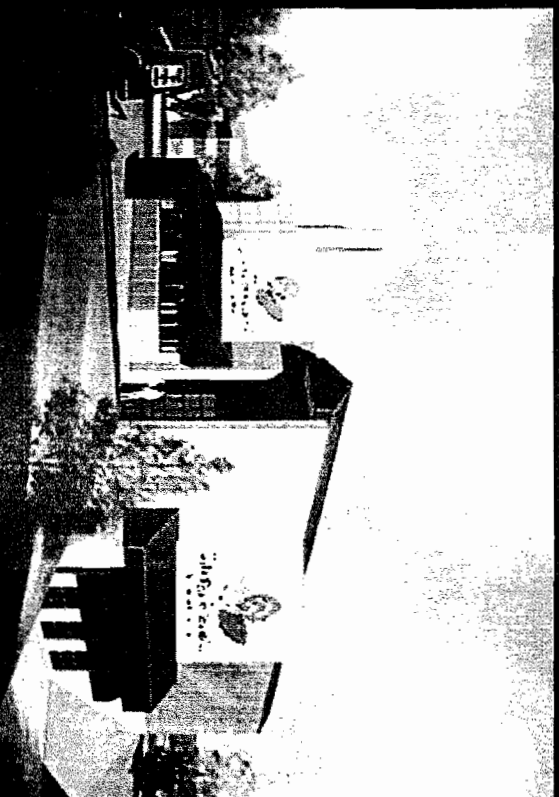


System Process & Technology



The Synergy Solution

Located at Ohkay Owingeh
Pueblo of San Juan, New Mexico



Installations

Case Study #1

- **Avonmouth (Bristol)**

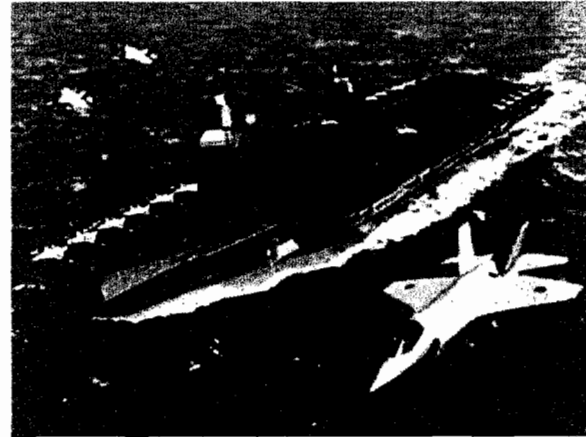
- Commissioned 2001
- First in UK to pre-qualify for Renewable Obligation Certificate (ROCs) and awarded an Integrated Pollution Prevention and Control (IPPC)
- Tested successfully on Municipal Solid Waste (MSW), Refuse Derived Fuel (RDF), tannery waste, abattoir waste, tires, car frag, sewerage and oil sludges.
- Power produced, steam used for adjacent sterilization plant as commercial improvement
- Run commercially on clinical / Pharm. waste since 2001. Treated over 50K tones of clinical wastes.
- Waste Incineration Directive (WID) compliant throughout operational history



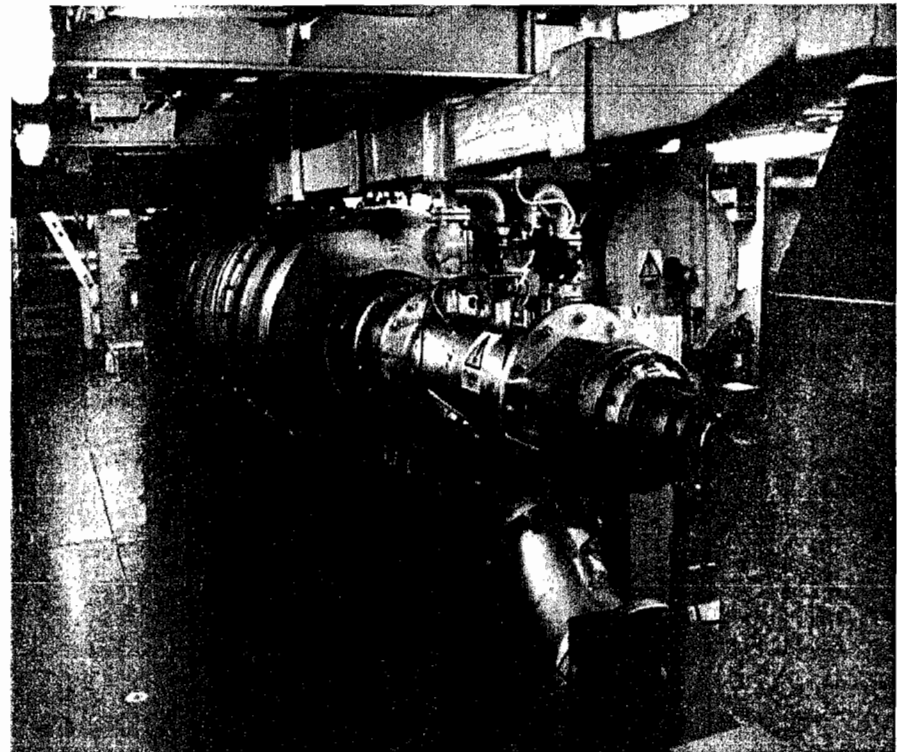
Case Study #2

- **HMS Ocean**

- **Client:** Qinetiq plc on behalf of UK MoD
- **Completion:** March 2008
- **Scope:** ST150 operating on HMS Ocean



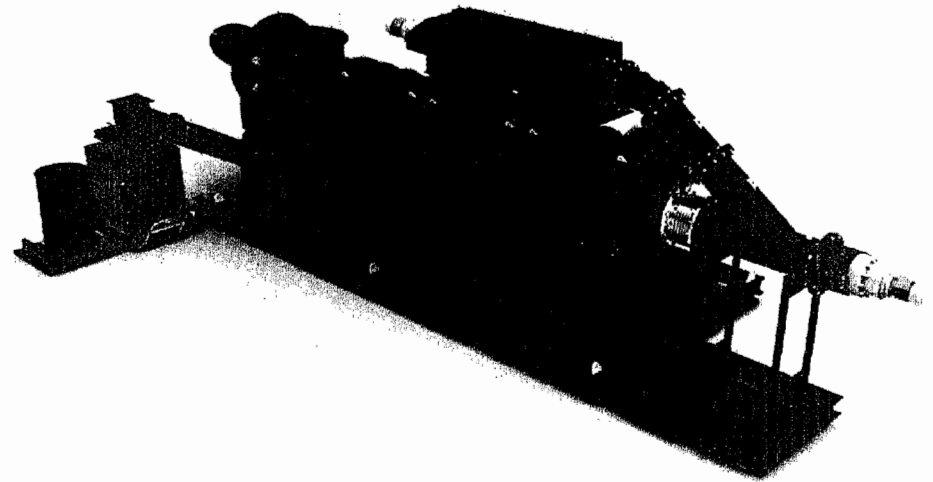
- The The plant is treating over 120-kg of waste per hour generated from over 1000 crew on board ship, throughout the World
- Containment of waste treatment minimizes security risk and optimizes habitation conditions
- Success of project lead to orders for 4 units in December 2008, and great interest from US Army/Navy



Case Study #3

British Royal Navy Ships

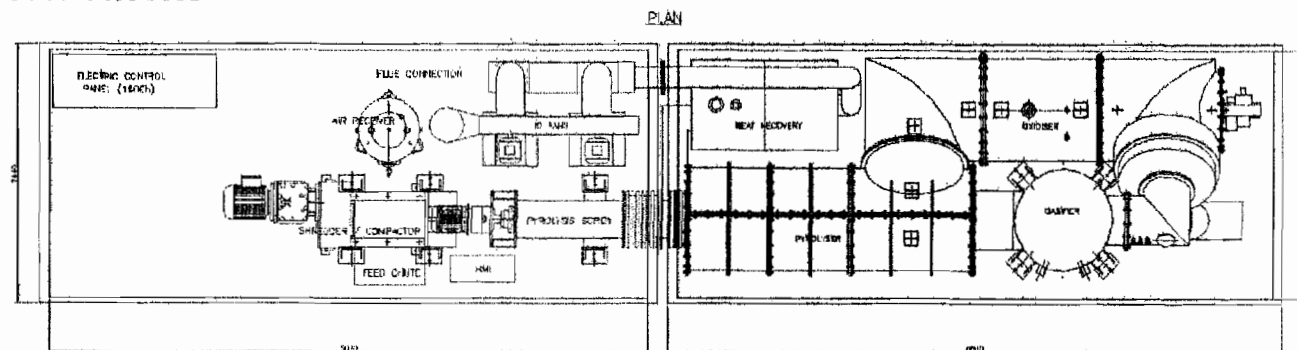
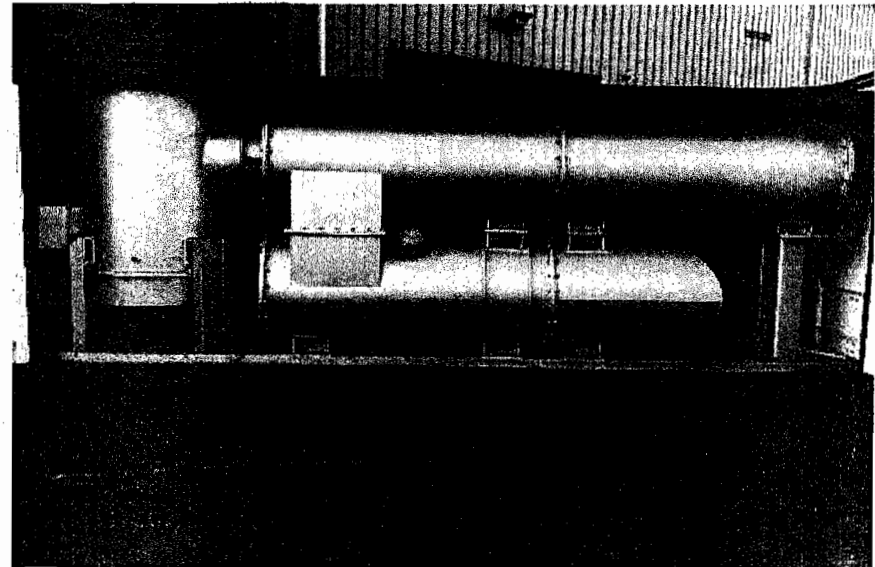
- 4 off skid mounted ST150s for the UK Royal Navy
- Destined for Queen Elizabeth Class Aircraft Carrier
- 1,000tpa mixed waste



Case Study #4

•US Army

- Containerized ST150 for US Army
- 1000tpa mixed waste
- Power Generation - 2 x ISO containers (20x8x8ft) positioned and then bolted together
- Air freight capable
- Minimal Infrastructure required



Main Points

- **NO** out-of-pocket cash requirements
 - Synergy provides all of the capital needed to develop, build, and commission the facility
- **NO** additional Hospital staffing or manpower needed. Synergy owns, staffs and operates the facility
- **Reduced** waste disposal costs, less hauling, and less taxes. All waste is destroyed on site
- **Free** recovery of renewable energy if operated at hospital.
- **Safe** and proven long term solution for waste destruction
- **Availability** of potential carbon reduction incentives



Healthcare Waste to Energy Facility

Transforming Medical Waste into Energy



Synergy Renewables

HEALTHCARE SYSTEMS

What We Offer

Synergy Healthcare Systems offers a Turnkey Waste-to-Energy on site solution capable of achieving total destruction of all matter and harmful pathogens that are inherent in all types of medical waste including red bag, special, bulk, infectious, pathology and pharmaceutical waste. Our onsite destruction facility and technology process is innovative, safe and proven to provide a way for hospitals to eliminate the need for pre-treatment as well as reduce their collection, transportation and disposal costs over the term of the contract. By utilizing a proven technology to destroy and convert hospital waste into clean renewable energy we are positioned to provide quick savings with long term waste and energy solution for hospitals everywhere.

Synergy will provide 100% of the capital necessary to design, build, own and operate our facilities without any required capital from the hospital.

Who We Are

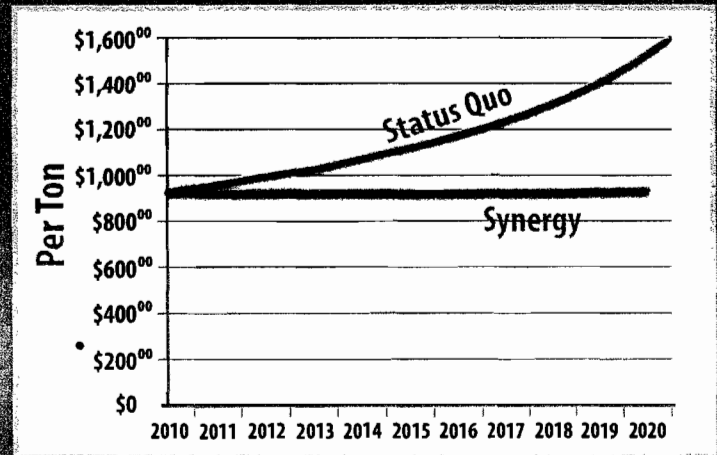
Synergy Healthcare Systems is a joint venture between Synergy Renewables, Noble Renewables and BP Capital. Synergy Renewables is led by Michael Childers and Michael Allen who are recognized leaders in harnessing natural gas resources domestically and abroad. Noble is led by David Cardenas, principal partner of this venture and BP Capital is led by T. Boone Pickens- the preeminent advocate for a comprehensive national energy plan.

Exhibit "4"

Current Hospital Challenges and Facts

Recent healthcare changes have put hospitals under enormous strain to find new ways to cut costs, increase their bottom line and offer better services to its customers. With reduced manpower and time and with increased costs for energy and waste disposal, hospitals need the unique solution Synergy Healthcare Systems offers for all of these ongoing issues.

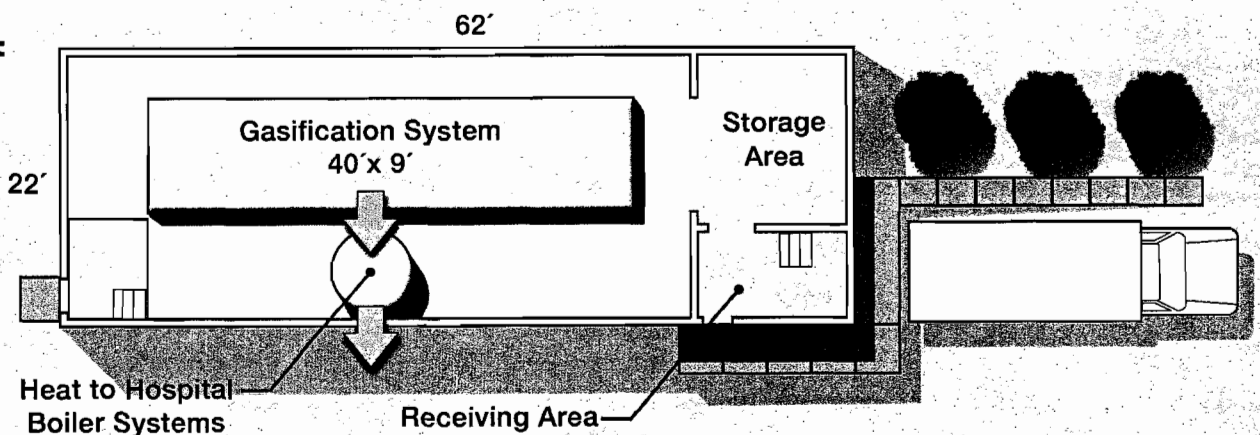
Disposal Costs (US Average Example)



Key Benefits

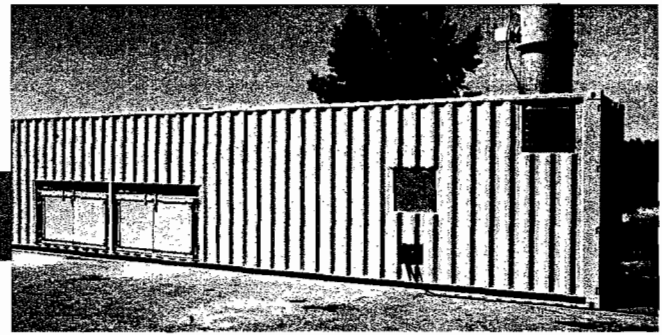
- ➔ No hospital capital outlay required
- ➔ No added hospital staffing or manpower
- ➔ Safe and proven system to process waste on-site
- ➔ Locked in tipping fees for the term of the contract
- ➔ Performance assurances
- ➔ Stabilized waste disposal fees during the term of the contract
- ➔ Reduced and stabilized energy costs with the delivery and use of our Heat Recovery design
- ➔ Savings on collection, handling and transportation and disposal costs
- ➔ Quick implementation
- ➔ EPA and State compliant
- ➔ Enclosed and fully licensed facility

Facility Size:
1,350 sf



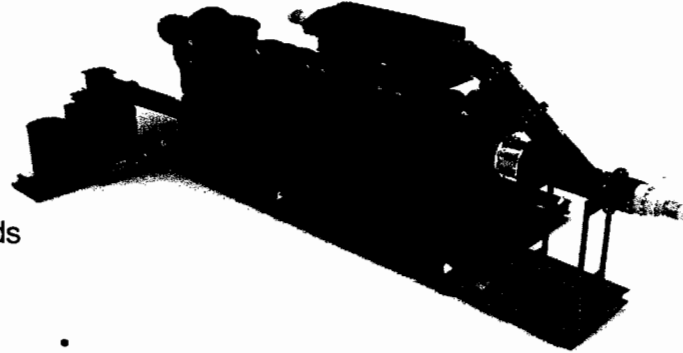
Our Solution

COMPACT FOOTPRINT



Major Technology Points

- The modular design accommodates various waste quantities with seamless expansion capabilities
- No oxygen = no combustion = no incineration
- The process is within an enclosed building
- Clean emissions complying with all EPA and EU standards



The Process

1 **Waste Receiving and Conditioning.** Arriving waste is weighed and directed to an enclosed secure location within the building. Following initial inspections, the waste is processed through a pre-conditioning system where the waste is prepared for gasification.

2 **Pyrolysis and Gasification.** The waste (referred to as feedstock) is then delivered manually to the feed hoppers for storage. The cycle begins with the feedstock being discharged from the feed hoppers into the gasifier where the feedstock is heated in the absence of oxygen. This is where the conversion of the feedstock is transformed into a useful syngas. In other words, our process does not burn waste.

The remaining inert solids of around 5-10 percent are discharged from the base of the gasifiers and conveyed to storage containers for disposal off-site. The inert solids are tested before being hauled off to the landfill.

3 **Renewable Energy (Heat) Generation.** The system produces thermal heat that can be sent to an existing boiler or chiller to offset the use of fossil fuels, or can be converted directly to electricity.

The system can destroy all types of medical waste

- Infectious "Red Bag"
- Sharps
- Chemotherapy Waste
- Pharmaceutical
- Pathological
- Confidential Records



Moving Forward

Step One

Information Needed

- Current disposal methods for collection, pickup points and restrictions
- Breakdown of all waste types including tonnage volumes
- Current tipping/disposal costs
- Current costs for transportation of each waste type
- Current energy costs
- Site layout for hospital boiler/chiller areas

Step Two

Formal Proposal

Once we process the information, Synergy Renewables will identify your total savings on both the disposal and energy costs over the term of our agreement and submit a formal presentation along with an outline of the basic long-term agreements for the tipping fee, energy cost and land.

Step Three

Execute Long-term Agreements and Start Project

Structure long-term agreement for Synergy Renewables to develop, own and operate this facility.



Synergy Renewables

Transforming Matters

14860 Monfort Drive, Suite 102 • Dallas, Texas 75254

972.392.6150 • www.synergyrenew.com

David Cardenas

SCOPE OF SERVICES

The Agency, City and County anticipate the following tasks to be performed by the Contractor for a solid waste assessment and management study of the solid waste operations conducted by the Agency, City and County.

1. AGENCY TASKS

Cost effective options for Agency, City and County – maintain separate operations by the three entities vs. consolidate all or parts of the operations under one jurisdiction.

Cost effective options for Materials Recovery Facility (MRF) – maintain current operation vs. privatization or discontinue the MRF operation and utilize a 3rd party MRF facility. Also, cost effective options to maintain the current list of conventional recycling materials (i.e., ONP 7, SOP, OCC, 1&2 plastics, UBC, and tin) vs. expanding materials to include 1-7 plastics and cereal boxes.

Cost effective options for BuRRT – maintain current operation vs. transfer the BuRRT facility back to City ownership.

Cost effective options for Caja del Rio Landfill – maintain current operation vs. privatization.

Recycling program cost of service analysis – determine the costs incurred by the Agency for various recycling programs at the Buckman Road Recycling and Transfer Station.

Cost effective options for education and outreach program – maintain separate education and outreach programs by the three entities vs. consolidate all or parts of the programs under one jurisdiction.

Cost effective options for the green waste composting operation – maintain current operation vs. public-private partnership.

New program evaluation for food waste composting including the roles and responsibilities by the Agency and City and/or public-private partnership.

Cost effective options for a reuse center.

Evaluate organization structure and staffing requirements.

Evaluate heavy equipment inventory and repair requirements.

Evaluate other factors identified during the Study that affect cost and efficiency of operations.

Rate structure analysis – future rate increases based on final recommendations from the above-mentioned analyses and evaluations.

Exhibit "5"

Provide technical expertise/comments at public meetings.

Provide necessary project management to bring the project to completion.

2. CITY TASKS

Evaluate current programs and service levels at the City's Environmental Services Division.

Analyze organization structure and staffing requirements.

Examine current billing system.

Investigate services for new and existing accounts including adding or terminating service, changing number and size of containers, changing number of pick-ups, etc.

Analyze current solid waste collection operation including the routing, equipment, pay loads, and direct haul.

Examine current recycling collection operation including routing and equipment.

Analyze existing heavy vehicle maintenance and inventory programs.

Review existing dumpsters and containers including sizing, repair, and replacement.

Cost effective options for residential recycling curbside collection program - maintain current collection program vs. automated collection or 3rd party privatization.

Cost effective options for glass recycling program – maintain current curbside collection vs. drop-off centers.

Flow control options – requiring haulers of City-generated solid waste to use disposal and/or recycling facilities within the City via amendments of solid waste ordinance and/or land use code.

Review and develop solid waste languages in the Land Use Code.

Evaluate Keep Santa Fe Beautiful, Sustainable Santa Fe, and special event programs.

Develop waste reduction and recycling targets that are aggressive but reasonably achievable using 5 and 10 year benchmarks.

Evaluate other factors identified during the Study that affect cost and efficiency of operations.

Rate structure analysis – future rate increases based on final recommendations from the above-mentioned analyses and evaluations.

Provide technical expertise/comments at public meetings.

Provide necessary project management to bring the project to completion.

Assist the City with the implementation of final recommendations.

3. COUNTY TASKS

Develop a detailed assessment of the management of the solid waste generated in the unincorporated areas of the Santa Fe County that is not handled by the County's drop-off convenience centers including a solid waste stream characterization of unincorporated area by:

- location/geographic area generated;
- tonnage breakdown by types – residential, commercial, and construction/demolition debris;
- composition of municipal solid waste by existing and potentially recyclable content, reusable/recoverable materials, green waste including yard waste, waste requiring landfilling; and
- seasonal generation variations, if any.

Develop opportunities for the County to more actively manage solid waste in the unincorporated areas of the County including options for franchising of private haulers and with emphasis on the following:

- location increasing County's waste reduction and recycling rate;
- maximizing cost-effective solid waste services for County residents and businesses; and
- identifying possible a funding source(s) for operations.

Develop cost effective options to pursue certain "Specific Initiatives" listed in the 2010 Comprehensive Solid Waste Management Plan that are applicable to the County. Also, identify effective roles and responsibilities for the County and Agency in pursuit of these initiatives.

Determine cost effective options for requiring residential, commercial, and institutional generators to receive collection services for trash and recyclables in the County unincorporated areas.

Develop policy and planning recommendations, including draft ordinances as applicable, that will address the unincorporated County-wide solid waste management system including the County's convenience centers, mandated recycling, and service provided by the private haulers.

Flow control options – requiring haulers of City-generated solid waste to use disposal and/or recycling facilities within the County via amendments of solid waste ordinance and/or land use code. Compile data for the commercial and residential private sector solid waste services including, but not limited to:

- names and contact information of businesses providing solid waste collection and disposal services;
- location and tonnages (landfilled and recycled) of private sector activity; and
- rates for refuse and recycling services, broken out by service areas.

Develop a numerical solid waste Level of Service for the convenience centers with an emphasis on distance/customer travel times.

Cost effective options for convenience centers – maintain current numbers of convenience centers throughout the County vs. consolidation or closure of centers to reduce costs. Also, provide estimated savings and/or operational efficiencies and findings of any impacts to the Level of Service.

Identify the areas in the County that are not being provided curbside refuse and recycling service and determine the correlation with locations of convenience center users.

Cost effective options for green waste management – on-site vs. off-site mulching, chipping, and end uses of materials.

Develop waste reduction and recycling targets that are aggressive but reasonably achievable using five and ten year benchmarks.

Evaluate other factors identified during the Study that affect cost and efficiency of operations.

Rate structure analysis – future rate increases based on final recommendations from the above-mentioned analyses and evaluations.

Provide technical expertise/comments at public meetings.

Provide necessary project management to bring the project to completion.

Assist the County with the implementation of final recommendations.

4. WORK PLAN TASKS

Develop a Work Plan to ensure that all participants on the Study have a clear understanding of:

- Study goals and objectives;
- Scope of work and budget;
- Organization and personnel;
- Study team and individuals;
- Respective responsibilities;
- Study procedures and methodologies;

- Quality control and assurance; and
- Schedule, milestones and deliverables.

5. ADDITIONAL TASKS / SUBMITTALS

Kick-off meeting.

Santa Fe progress meetings.

As-needed meetings with Santa Fe.

Submit draft sections and analyses throughout the Study for review and comment by Santa Fe.

Submit final draft report.

Stakeholder meeting(s).

Public meetings with Santa Fe City Councilors, Santa Fe Board of County Commissioners, and Agency's Joint Powers Board for comments.

Submit final report to Santa Fe. Report format – executive summary with perspectives and recommendations for four major components: Santa Fe system-wide, Agency, City, and County. Recommendations should reflect the various components of the Santa Fe community: social, culture, economic, political, and technological.

Other Required Project Work

- Documents shall be prepared in MS-Word.