STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: *Resource Recovery Facility* [ ] New[1] [X] Existing[1]

APPLICATION TYPE: [ ] Construction [ ] Operation [X] Modification

COMPANY NAME: *Dade County* COUNTY: *Dade*

Identify the specific emission point source(s) addressed in this application (i.e., Lime Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired) *Units 1, 2, 3, and 4*

SOURCE LOCATION: Street *6990 NW 97th Avenue* City *Miami*

UTM: East *17: 564.3 km* North *2857.4 km*

Latitude *25* ° *50* ' *06* "N Longitude *80* ° *21* ' *30* "W

APPLICANT NAME AND TITLE: *Ben Guilford II, Director, Department of Solid Waste Management*

APPLICANT ADDRESS: *8675 NW 53rd Street, Suite 201, Miami, FL 33166*

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of *Dade County*

I certify that the statements made in this application for a *construction* permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

*Attach letter of authorization

Signed: T. Guilford for B. Guilford

Ben Guilford II, Director,
Name and Title (Please Type)

Date: *8-17-93* Telephone No. *(305) 594-1670*

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)
This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgement, that

[1]See Florida Administration Code Rule 17-2.100(57) and (104)

NOTARIZATION:

Subscribed and Sworn to Before me at Dade County in the State of Florida this 18th day og August, 199

NOTARY PUBLIC STATE OF FLORIDA
MY COMMISSION EXP. AUG.23,1994

pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signed David A. Buff

David A. Buff
Name (Please Type)

KBN Engineering and Applied Sciences, Inc.
Company Name (Please Type)

1034 N.W. 57th St., Gainesville, FL 32605
Mailing Address (Please Type)

Florida Registration No. 19011 Date: 8/11/93 Telephone No. (904) 331-9000

SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

Refer to Sections 1.0 and 2.0 of this report.

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction January 1993 Completion of Construction July 1996

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

Spray dryer/fabric filter system; mercury control system: $25,000,000 (total four units)

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

Site Certification No. PA 77-08, Issued January 9, 1978

on Stack Geometry and Flow Characteristics (Provide data for each stack): *

Height: 250 ft. Stack Diameter: 8.50 ft.

as Flow Rate: 177,200 ACFM 109,054 DSCFM Gas Exit Temperature: 270 °F.

Water Vapor Content: 14.9 % Velocity: 52 FPS

*Note: Data is for each unit.

SECTION IV: INCINERATOR INFORMATION

Type of Waste	Type 0 (Plastics)	Type II (Rubbish)	Type III (Refuse)	Type IV (Garbage)	Type IV (Pathological)	Type V (Liq. & Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated			54,000 each unit				
Uncontrolled (lbs/hr)							

Description of Waste Refuse derived fuel

Total Weight Incinerated (lbs/hr) 54,000 each Design Capacity (lbs/hr) 54,000 (each)

Approximate Number of Hours of Operation per day 24 day/wk 7 wks/yr. 52

Manufacturer Zurn Boiler

Date Constructed 1982 Model No. Zurn

	Volume $(ft)^3$	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber	16,590	280.8 MM	RDF	280.8 MM	2,300
Secondary Chamber					

Stack Height: 250 ft. Stack Diameter: 8.5 Stack Temp. 270

Gas Flow Rate: 177,200 ACFM 109,054 DSCFM* Velocity: 52 FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control devices: [ ] Cyclone [ ] Wet Scrubber [ ] Afterburner

[X] Other (specify) spray dryer/fabric filter with Hg removal

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

Source Type: Air Pollution [X] Incinerator [ ]

Type application: [ ] Operation [X] Construction

Source Status: [X] New [ ] Existing [ ] Modification

Company Name: Resource Recovery (Dade County), Inc. County: Dade

Source Identification: Stack No. 1 - Pulp Boilers No.'s 1 & 2

Source Location: Street: N.W. 58 St. City: Miami

UTM: East 564.3 North 2857.4

Appl. Name and Title: Dean H. Kohlhepp, P.E.

Appl. Address: 800 Douglas Entrance Coral Gables, Florida 33134

STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

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Dean H. Kohlhepp - Chief Engineer

Signature of the Owner or Authorized Representative and Title

Date: MARCH 16, 1977 Telephone No.: (305) 448-1064

*Attach a letter of authorization. If applicant is a corporation, a Certificate of Good Standing must be submitted with application. This may be obtained for a $5.00 charge from the Secretary of State, Bureau of Corporate Records, Tallahassee, Florida 32304.

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA

This is to certify that the engineering features of this pollution control project have been ~~designed~~/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulation of the Department. It is also agreed that the undersigned will furnish the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signature: Kennard F. Kosky Mailing Address: P.O. Box 13454 University Station

Name: Kennard F. Kosky Gainesville, Florida 32604
(Please Type)

Company Name: Environmental Science & Engineering, Inc. Telephone No.: (904) 372-3318

Florida Registration Number: 14996 Date: 3/16/77

(Affix Seal)

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

Source Type: Air Pollution [XX] Incinerator [ ]

Type application: [ ] Operation [XX] Construction

Source Status: [XX] New [ ] Existing [ ] Modification

Company Name: Resource Recovery (Dade County), Inc. County: Dade

Source Identification: Stack No. 2 - Pulp Boilers No.'s 3 & 4

Source Location: Street: N.W. 58 St. City: Miami

UTM: East 564.3 North 2857.4

Appl. Name and Title: Dean H. Kohlhepp, P.E.

Appl. Address: 800 Douglas Entrance Coral Gables, Florida 33134

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Company Name: Environmental Science & Engineering, Inc. Telephone No.: (904) 372-3318

Florida Registration Number: 14996 Date: 3/16/77

(Affix Seal)

DADE COUNTY RESOURCE

RECOVERY PLANT

GENERAL DESCRIPTION OF BUILDINGS

Buildings will consist of steel framed components providing required clear spans for the efficient function of the facility. The facade of the structures will be clad with prefabricated modular units capable of providing a pleasing aesthetic effect.

Roofing systems will be constructed of components that will insulate the roof deck, span the structural elements, and provide a complete weathertight membrane. Concrete floor surfaces will be sealed and hardened to permit proper maintenance and function in each space.

Plant Offices and Employee Facilities areas shall be constructed of finished materials and systems. Interior environmental conditions will conform to adequate comfort levels and applicable codes and regulations.

The entire facility will be in accordance with requirements of local, state and federal codes and regulations governing construction and safety standards.

DADE COUNTY RESOURCE

RECOVERY PLANT

BUILDING AREA ANALYSIS

BUILDING	SPACE	SQUARE FEET	TOTAL SQUARE FEET
No. 1	Plant Office/ Employee Facilities	12,444	12,444
No. 2	Unloading	35,376	
No. 2	Pit	32,562	
No. 2	Pulpers/ Shredders	20,000	
No. 2	Mobile Equipment Shop	1,800	
No. 2	Hydradensers/ Pressers/ Metal & Glass Separation/ Maintenance Shop and Storage	38,352	
No. 2	Plant Control Rooms	3,075	131,165
No. 3	Prepared Fuel Storage	28,782	28,782
No. 4	Turbo Generators	19,104	
No. 4	Florida Power & Light Facilities	3,040	22,144
TOTAL SQUARE FEET			194,535

PROCESS DESCRIPTION

(a) Method of Operation

The plant is designed to receive and process both municipal refuse and trash; the former consisting mostly of residential and commercial refuse normally collected by packer trucks and the latter consisting of bulky and yard wastes. Municipal refuse will be processed directly to the Hydrapulper section as described in "A" below. Bulky and yard waste are processed first thru the shredders as described in "B". A separate pathological waste processing plant is described in "F".

A. REFUSE

1. Raw Waste Handling

Two 60 ton capacity, 10 ft. x 60 ft. platform, electronic truck scales will be provided to weigh the incoming waste trucks. A pre-punched card for each truck will be stored in the scale house. The card will have truck number, district or other source, tare weight, and other pertinent information.

Upon arrival at the scale, one of two scalemen will remove the truck's card from a rack, insert it into the scale mechanism, and press the weigh button. In just a few seconds the truck will be weighed and a ticket will be printed showing truck number, source, time, gross tare and net weight, and date and time. This ticket will be given to the driver. Simultaneously, the same information will be printed on a ledger in the office. The equipment will be suitable for producing punched tape, punched cards, or other hard copy data processing.

The plant will be provided with the most modern concepts in raw waste handling. The tipping floor will be 87-1/2 ft. wide, arranged with nineteen tipping positions.

Storage capacity for raw waste will be 12,650 tons, plus storage for prepared fuel from 9,000 tons, for a total storage capacity of five days receipts.

The waste will be dumped from the packer and transfer trucks into a relatively shallow pit. Heavy tractors are driven over the waste to compress and macerate the waste. This size reduction function provides a material that is readily handled on coveyors. This concept is now being used in many solid waste handling facilities.

Three tractors, equipped with large, solid waste bulldozer blades, move the macerated waste either directly into the conveyor hoppers or into storage pile.

During receiving hours of the day, two tractors will be employed to move the waste both into the conveyor hoppers and into storage. During non-receiving hours, one tractor will move the waste from the day's storage pile into the conveyor hoppers serving Hydrapulpers. The third tractor is a reserve unit.

Four parallel, 84 inch heavy duty apron conveyors, will move the waste from the hoppers into the Hydrapulpers.

The conveying system will be of the two section type to control waste feed. The first, horizontal section located beneath the feed hoppers will be heavy duty, cleated steel conveyors. The conveyor drives will be controlled by load sensors from the Hydrapulpers. Adjustable dams near the discharge will provide uniform depth of material at the discharge point.

The second, inclined sections will be similar to the first section except that they will operate at constant speed, approximately three times the speed of the first sections. The two sections provide uniform flow of waste into process.

2. Pulping

Four parallel lines of wet processing equipment will be installed, each rated at 33-1/3 ton per hour. Each line will consist of a Hydrapulper, Junk Remover, dump pump, and two liquid cyclone separators.

Each pulper will be a 20 ft. diameter Model SW (solid waste) Hydrapulper, powered by a 1200 HP drive. Construction will be of reinforced concrete, with steel lining. Replaceable wear plates will be provided in those areas subject to abrasion. There will be hoods for each pulper.

Beneath the rotor there is an extractor plate, or screen, which has one inch diameter holes in it. When the waste has been pulped or ground to a size sufficiently small to pass through the one inch diameter openings, it is pumped to liquid cyclone as a water slurry for further processing.

Oversize waste, such as tin cans, metal, large pieces of rubber, stones, etc., are not readily broken down into small sizes. These are ejected out of the pulper through a slot located near the bottom of the Hydrapulper tub.

The slot is connected to a specially designed bucket elevator called a Junk Remover by means of an inclined chute. Recycled water is introduced into the bottom of the Junk Remover and

flows back into the pulper via this chute. Thus, only those pieces which are sufficiently heavy to sink against a counter current flow of water are removed out of the system by the Junker. The lighter objects are washed back into the pulper for further grinding and pulping.

3. Organic Recovery

The accepted slurry from the Hydrapulper screen plate is pumped to the centrifugal separators, or liquid cyclones, where the lighter organic combustible fraction is separated from the heavy inorganic fraction. The cyclones are elastomer/ceramic lined, of the type used in the mineral processing industry, and are extremely wear resistant. The slurry is intorduced tangentially near the top of the inverted cone. It flows in a helical path downward toward the small section or apex, developing a very high centrifugal force. This causes the heavy particles or inorganics to be thrown against the inner surface of the cone in a downward spiral, ejecting through the bottom opening. At this point the heavies are elutriated with white water to wash out and retrieve most of the organics entrapped with them near the bottom of the cone, forming a vortex and flowing upward and out the top center of the cone to the surge chest. Separation of the organic fraction from the inorganic fraction is now almost complete. The inorganics which were rejected at the bottom of the cone contain some residual combustibles. A spiral classifier is provided for each pair of cyclones to remove these and transfer them to the surge chest.

4. Ferrous Metal Recovery

The material that is removed by the Junk Remover is approximately 50% magnetic ferrous metals, mostly tin cans, while the other half consists of principally large pieces of non-ferrous metal, large chunks of glass, some wood, and large pieces of rubber.

These materials are conveyed at high speed past a 48" diameter by 60" wide ferrous, rotating, electro magnetic drum. Magnetic materials are attracted to the drum and separated into a ferrous metal hopper.

The non-magnetic fraction drops into the non-ferrous hopper and is then passed over a grizzly screen. Large stones and other large objects are removed by a 12' x 36" grizzly and become part of the non-recoverable residue from the system. The smaller items, principally non-ferrous metals and large pieces of glass are conveyed back into the system for regrinding in the Hydrapulper.

5. Aluminum and Other Non-Ferrous Recovery

The reject stream from the liquid cyclones, part 3, having been first screened through the 1" dia. holes of the extractor plate in the Hydrapulper contains the glass, aluminum and other inorganic materials such as buttons, stone, pieces of broken china, etc. Since this glass and aluminum fraction is contaminated with other materials, a series of separating operations are required to yield a product of commercially acceptable purity.

The first step is to wash and screen the material. The oversized particles are returned to process, the fines are dewatered and conveyed to refuse.

The next step is to separate the plastics and other lighter materials from the heavier metals and glass. This is accomplished in a heavy media separator, which is standard equipment in the mining and ore dressing industries. The light materials float to the top and are then skimmed off and conveyed to fuel storage. The material is dried, and sized into plus and minus one-half inch particle size on screens.

A magnet removes residual ferrous metals that were not removed by a magnet located at the very beginning of the process.

Aluminum foil and light sheet aluminum such as can and tray stock is separated from the balance on an air aspirated shaking table. Because of its shape and specific gravity, the sheet aluminum rises to the top of the material stream, and is scalped off. This valuable aluminum product can be recycled directly back into the manufacturer of new aluminum foil and sheet.

The next step is to separate the electrical non-conductors from conductors on a high tension electro-static separator. This separator consists of a metallic drum which is grounded electrically and subjected to a flow of electrons from a high voltage electrode located just a few inches away. Materials which are poor conductors, such as, glass, acquire an electrical charge. The conductors such as the metals and crystalline stones lose their electrical charge immediately. The non-charged particles fall off the rotating drum immediately into one hopper, the charged particles cling to the drum and fall of the bottom of it into the glass hopper.

These conductors consist of non-ferrous metals which are copper, brass, chunky aluminum, and lead and zinc alloys mixed with non-metallic, poor conductors. The metallic values are

recovered by running the mixture through a crusher which reduces the non-metallics to a powder, but only flattens out the metallic particles.

The two are then separated by screening. Although low in quantity, this mixture of non-ferrous metals has a relatively high unit value in the secondary metals market.

6. Glass Recovery

The remaining stream from the high tension electrostatic separator, the non-conductors, consists of mostly mixed glass and ceramic particles. This first passes through an optical transparency sorter which removes the undesirable ceramic and any non-transparent material. The final color sorting of the mixed glass into clear, amber, and green fractions is accomplished by the optical color sorter.

B. Trash

1. Handling

Trash--the bulky waste items, yard waste, etc. that is delivered separately from the packer truck waste, and will be handled at one end of the receiving and storage building.

A tractor will feed two lines of conveyors, as described above under Pulping.

2. Shredders

Two heavy duty shredders will be installed in parallel. Each will have a capacity of 40 tons per hour on bulky waste items.

The large, bulky items will be conveyed into the shredders, where the action of the high speed hammers will reduce them to particles 6 inches and smaller.

The shredded material will be discharged onto vibratory pan feeders, from which it will be conveyed to the ferrous metal recovery module.

3. Ferrous Metal Recovery

The ferrous metals are recovered from the shredded trash by magnetic separation. Because shredded trash contains a high percentage of materials other than iron and steel, two stages of separation are required in order to produce a high quality scrap.

The first magnet removes the magnetizeable material together with some organics that cling to it. The second magnet then makes a clean separation.

The clean ferrous metal is then conveyed to a live bottom storage bin with about two hours surge capacity. From the bin it is fed into a baler from which it emerges as tight bales weighing 450-500 lbs. each.

The magnets will be of the rotating drum type, with both permanent and electro magnetic fields, 48" diameter by 48" face.

The baler will be 16" x 20" x 20", hydraulically operated.

4. Combustibles

The material remaining after the magnetic separation is mostly combustible. However, the average size of the particles is too large for efficient combustion. In addition, the moisture content is highly variable.

To properly prepare the combustible portion of the shredded trash, it will be conveyed back to the raw waste storage pit, and then fed into the Hydrapulpers along with the packer truck waste.

C. Fuel Preparation and Handling

The slurry is piped into a large surge tank where it is thoroughly blended. The slurry is pumped to the two-stage dewatering press apparatus.

At the first stage screw thickeners, the solids content of the slurry is raised from 3% to approximately 15%. The water then is recirculated from

the thickeners back to the white water storage tank where it is recycled into the process.

At the second stage, cone presses, the solids content is raised to approximately 50%. The water is expressed from the presses at a very low suspended solids content, and is pumped to the white water tank. This low solids content water is used for washing the inorganics from the liquid cyclones and other areas where clean quality water is required.

The fuel is conveyed pneumatically from the presses through parallel systems directly to the boiler live-bottom metering bins. When the fuel production exceeds boiler requirements, excess is returned to the fuel storage shuttle conveyor. When boiler requirements exceed fuel produced, fuel is fed from fuel storage by separate pneumatic system. Since the pulping and materials recovery portion of the plant is designed to operate approximately six days a week, while the energy recovery portion is designed to run seven days, substantial fuel storage capacity is provided--equivalent to 3 full days of production.

The inventory of fuel will be worked on a first-in, first-out basis. The fuel will be distributed in one end of the storage pile by means of a shuttle conveyor while it is being reclaimed from the other.

D. Steam Generation

Boilers with a combined nominal capacity of 700,000 lbs. steam per hour will be provided. These will be standard, two drum Stirling water wall boilers equipped with integral superheaters, economizers and air heaters.

Boilers?
700,000 ÷ 4 = 175,000

The boiler furnaces will be of the high volume type employed in the pulp and paper industry for recovering the heat value from wet bark.

Each boiler will be equipped with two stages of particulate gas cleaning equipment. The first stage will be mechanical dust collectors which will remove the large particles from the gas stream and reinject them into the furnace to burn unburned carbon. The second stage particulate cleaning equipment will be electro-static precipitators. These will remove the fine particles to comply with the current applicable air emission standards.

The boilers will be designed tooperate with reclaimed organics from solid waste as their sole fuel. However, the boilers will be equipped with auxiliary oil burners. These burners will be used for start-up, and have the potential of supplying maximum steam generation during any period when solid waste receipts may be low, but the demand for electricity high.

The solid waste fuel will be burned on an air swept spreader stoker. The fuel, controlled by variable speed live bottom bins, is picked up by an air blast and blown into the furnace. Approximately one-third of the fuel is burned in suspension, while the other two-thirds is burned on the travelling grate of the stoker. This type of stoker has proven to be very efficient in burning wet bark in pulp mills, and fuel from Franklin.

Auxiliaries to be provided include feedwater pumps for each boiler plus an installed spare, two stage feedwater heating, deaerator, demineralizer for feedwater make-up, and an ash disposal system. The ash storage silo will have a capacity adequate for two days operation at full capacity.

E. Electric Power Generation

A turbo generator module, complete with transmission facilities, will be provided for the account of the Florida Power & Light Company.

Two 35 megawatt, 44 MVA, hydrogen cooled turbo generator sets will be provided. The turbines will be supplied with steam at 600 psig, 750°F. at the throttle. The turbines will be condensing, with extraction at 178, 32 and 10 psig to provide low pressure steam for the boiler room auxiliaries. Each turbine will have a water cooled condenser. Each condenser will have a condensate pump, and a third standby condensate pump will be installed.

Electricity will be generated at 13,800 volts.

Included for the Florida Power & Light account will be the necessary 13.8 Kv bus and structures, 13.8 Kv circuit breakers, 13.8/240 Kv step up transformer, and transmission line to the Florida Power & Light 240 Kv distribution line.

Also included will be the necessary instruments and control panels. A 25 ton bridge crane will also be provided.

Water cooled condensers will be provided for the turbines, this will be a closed circuit system. The cooling water will be circulated from the condensers to cooling towers and back to the condensers. Blowdown from the cooling tower will be used as make-up water in the processing part of the plant.

The cooling tower will be a 5 cell mechanical draft crossflow unit. Three 35,000 GPM circulating pumps, which includes a spare, will be provided.

F. Pathological Waste

A pathological incinerator will be provided to handle dead animals and other pathological waste.

The unit proposed is rated at 4000 lbs. per day on pathological waste, and is capable of disposing of small animal carcasses, up to125 pounds per carcass. Such animals shall be incinerated within 8 hours of delivery.

The unit will be installed on a 16 ft. x 24 ft. concrete slab and refrigerated storage will be provided to prevent release of decay and obnoxious odors.

G. Landfill Operation

The landfill will be operated in accordance with Florida Department of Environmental Regulation requirements.

The residues from the process consists of approximately 167 tons per day of fine-grained ash with a density of 60 pounds per cubic foot and 144 tons per day of a fine-grained mixture of sand, glass and various minerals with a density of 80 pounds per cubic foot. (Dry Basis)

The ash has a potential use as road base material and will probably be sold rather than landfilled. The mixture of sand, glass and minerals referred to as glass plant fines is virtually free of organic material and nearly non-compressible. It has been tested as a filler for asphalt and found highly satisfactory. This material will be sold for use as asphalt filler of fill material.

Provisions are being made to landfill both of these materials as their market-development could take some time.

The landfill site will be graded in a manner that

will allow the storm water runoff from the working face, which will never exceed 10 acres in size, to drain into a holding pond.

Demolition material and other unprocessable material will be deposited directly on the land-fill site at the base of the working face. Ash will from the next layer and the glass plant fines will be placed on top of the ash to a total height of 10 feet. A final cover of two feet of soil will be placed on the completed lift, graded and seeded. The grading will be such that the storm water runoff will be in the opposite direction from the runoff at the working face and this water will not be polluted. Grading will be such that a minimum of water will perculate thru the completed fill.

(b) Type and volume of materials to be processed.

Input - Municipal solid waste including white goods and trash

936,000 tons/year

(c) Population and Area Serviced

Dade County (Partial)
1,000,000 population

(d) Employee Facilities Dwg. DP-1104

(e) Residual wastes will be disposed to an adjoining landfill as described on pages 3 thru 6.

(f) Recovered Materials

Ferrous metal	65520	Dwg. DPF-101
Aluminum	7020	Dwg. DPF-101
Non-Ferrous Metals	4680	Dwg. DPF-101
Glass	37400	Dwg. DPF-101

Sell under contract

Energy 442,000,000 KWH/year

Sell to Florida Power and Light Co.

(g) Process Water

There will be no process liquid effluent.

(h) No auxiliary fuel will be used except at start-up of boilers from cold start. No. 2 fuel oil

(i) Schedule of operations
Plant will receive solid waste Monday thru Saturday 7A.M. - 6P.M.

(j) Site Management
Entire plant and site will be managed by Resource Recovery (Dade Co.) Inc., a wholly owned subsiduary of The Parsons & Whitemore Inc.

(k) General Maintenance Procedures will be established at the time plant operating manuals are prepared.

H. Emergency Procedures

(a) In case of complete resource recovery plant emergency shut-down, all solid waste will be stored in the plant receiving pits until processing can be resumed.

(b) Plant will have sufficient built-in redundancy, i.e., that is:
4 Hydrapulper lines
16 Dewatering lines
2 Boilers
2 Turbo Generators

so that the situation in H (a) would be extreme and of short duration.

Volume Reduction Plant Attachments

		Exhibit
1.	Maps	
	(a) Location map	A
	(b) Aerial Photograph	B
2.	Drawings	
	(a) Property Line	C
	(b) Land Use	B
	(c) Process Flow	Dwg DPF-101
	(d) Location of Existing and proposed utilities	Dwg DP-1101
	(e) Access routes, approach roads and on-site roads	Dwg DP-1102
3.	Process Description	
	(a) Method of operation	Page 20 thru 34

Refer to
Aretha Lee's
memo of
Oct 7, 1999
Re: "When
Zurn bailers
came on
line . . "

and
Reliance National's letter
of October 6, 1999 :
" The four boilers, built by Zurn
Industries in 1985 . . . "