



**Internal Audit Committee
of
Brevard County, Florida**

Internal Audit Review of

Landfill Operations

**Prepared By:
Internal Auditors of Brevard County
October 17, 2003**

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October 17, 2003

The Audit Committee of
Brevard County, Florida
Viera, Florida 32940-6699

Pursuant to the provisions of Section 125.01(1)(s), Florida Statutes, and the approved 2002/2003 internal audit plan, we hereby submit our internal audit report covering Landfill Operations. We will be presenting this report to the Audit committee at the next scheduled meeting on November 13, 2003.

Our report is organized in the following sections:

Background	This provides an overview of Landfill Operations.
Objectives and Approach	The internal audit objectives and focus are expanded upon in this section as well as a review of the various phases of our approach.
Issues and Recommended Actions	This section gives a description of the issues as well as the impact and recommended actions.

We would like to thank the Solid Waste Management Department and all those involved in assisting the Internal Auditors regarding this report on Landfill Operations.

Respectfully Submitted,

INTERNAL AUDITORS

Background

Background

Responsibilities

The Solid Waste Management Department is responsible for the disposal of solid waste (garbage and yard waste) that is generated from households and commercial businesses in Brevard County. The Solid Waste Operations Division manages the two landfills and transfer stations. The Division operates the Cocoa, Sarno and Titusville sites.

Central Disposal Facility

The Central Disposal Facility (CDF) is located on Adamson Road in Cocoa. The property was first used for solid waste disposal in the 1960's. Since then the County has continued to make improvements operationally and environmentally. For example, the 192-acre permitted landfill area is lined by a clay slurry wall, groundwater monitoring wells have been installed, and a methane gas collection and flare system is in place.

The site originally consisted of 285 acres. CDF now totals 957 acres. Portions of the landfill have been closed by capping it with a liner, a total of three feet of cover dirt, and sod. The County estimates it will have enough landfill permitted capacity to handle its disposal needs until 2014.

CDF is a Class I landfill. Class I landfills are those which receive an average of 20 tons or more of Class I waste per day. Class I waste means solid waste which is not hazardous waste, and which is not prohibited from disposal in a lined landfill under Rule 62.701.300, F.A.C.

Garbage trucks and transfer trailers deposit their waste onto the "working face" of the landfill. Heavy equipment then levels and compacts the garbage. At the end of each day, the garbage is covered with material to reduce odors and keep birds and animals from feeding on the garbage.

In addition to the landfill area itself, there are many other areas within the landfill which emphasize waste reduction and environmental protection.

- ❑ **Scalehouse:** The Scalehouse is where vehicles bringing in solid waste are weighed. The scale is located beneath the road. The scalehouse attendant categorizes the type of solid waste in the vehicle and directs it to the appropriate area of the landfill.
- ❑ **Wall Area:** Brevard County residents may bring their solid waste to the Central Disposal Facility if they desire and are directed to the Wall Area. Residents are asked to back their vehicles up to the ledge to unload their waste. A front-end loader is used to push the debris into a transport truck below the wall. When the trailer is full, the waste is hauled to the landfill for disposal.
- ❑ **Tire Transfer Site:** State law prohibits burying whole tires, so they go directly to the Tire Pile Area. They are also pulled from the waste stream if they have been disposed of with other waste. The tires are then transported to an Auburndale, FL, facility where they are shredded and used as a fuel source.
- ❑ **Metal Pile:** Metals, such as steel and "white goods" (stoves, refrigerators, etc.) are separated from the waste stream and stored at the metal pile site, picked up by a metal recycler and recycled into new products.
- ❑ **Yard Waste Mulching Area:** Yard waste is banned from being disposed of in Florida landfills. Brevard County has a contractor who uses a tub grinder to mulch it. The mulch is then used for landfill cover.
- ❑ **Methane Gas System:** Anaerobic bacteria break down the garbage in the landfill which produces methane gas. Although odorless and colorless, the gas can be explosive. Therefore, the gas is removed through wells placed in the landfill and extracted through a system of pipes, to the flare station where it is burned off.

Background (continued)

Central Disposal Facility, continued

- ❑ Leachate Tank: Rainwater seeps through the landfill and creates a liquid known as leachate. Computer-controlled wells around the perimeter of the landfill automatically pump the leachate into the tank. The leachate is stored in this tank and then pumped to the South Central Mainland Wastewater Treatment Facility in Viera. After the leachate is treated, it is used as reclaimed water in some residential and commercial areas for irrigation.
- ❑ Household Hazardous Waste Collection Center: The Collection Center provides for safe disposal of household hazardous materials. Items such as lawn and pool chemicals, automotive products and paint products are brought to the center where they are disposed of properly or recycled.

Sarno Transfer Station

The Sarno transfer station and landfill is located on Sarno Road in Melbourne. The Sarno landfill is a Class III landfill. Class III landfills are those which receive only Class III waste. Class III waste means yard trash, construction and demolition debris, processed tires, asbestos, carpet, cardboard, paper, glass, plastic, furniture other than appliances, or other materials approved by the Department that are not expected to produce leachate. Class III landfills shall not accept putrescible household items. Putrescible waste means solid waste which contains organic matter capable of being decomposed by microorganisms and of such a character and proportion as to be capable of attracting or providing food for birds. The term does not include uncontaminated yard trash or clean wood.

The Sarno transfer station utilizes technology which has been in place since 1976. Garbage trucks deposited their trash into a pit and it is then pushed into a transfer trailer to be transported and deposited at CDF.

In addition to the transfer station and landfill, Sarno also has areas similar to those at CDF which emphasize waste reduction and environmental protection.

- ❑ Scalehouse
- ❑ Metal Pile
- ❑ Tire Collection
- ❑ Yard Waste Mulching Area
- ❑ Household Hazardous Waste Collection Center.

Construction has started on the new Sarno Road Transfer Station. This new station will increase the capacity to 1,200 tons per day, thus doubling the capacity. It is expected to be completed and open for public use by early 2004.

Titusville Transfer Station

The Titusville transfer station is located on South Street in Titusville. This transfer station operates the same as the Sarno transfer station.

The Mockingbird Facility is also located in Titusville. The Mockingbird Facility is a collection center for household hazardous waste as well as yard waste.

Background (continued)

Recycling Program

The Solid Waste Management Act of 1988 requires counties to develop and implement recycling programs within their jurisdictions to return valuable materials to productive use, to conserve energy and natural resources, and to protect capacity at solid waste management facilities. On June 20, 1989, the Brevard County Board of County Commissioners approved the Brevard County Recycling Plan.

Residents in the unincorporated areas of Brevard County have once a week collection of recyclable materials. The County has a contract with Waste Management Inc. to collect newspapers, aluminum cans, glass bottles and jars, and plastic bottles.

Sharps Program

This program offers the safe disposal of needles generated by people who inject medication at home. Disposing of sharps (including needles and lancets) in the trash or sewer is prohibited by law. The program is available at no additional cost to the participant. Sharps containers are required and available from collection sites and pharmacies throughout Brevard County for use in the program. When a participant brings in a full sharps container to a collection site, a new empty container will be provided for each container disposed of.

Staffing

Key personnel involved in Solid Waste Management – Landfill Operations are as follows:

Name	Title
Euripides Rodriguez	Director
Alicia Khan	Finance Manager
Steve Nataline	Manager Operations Division
Richard Dees	Superintendent
Roger Turnbaugh	Superintendent
Deborah Lugar	Environmental Section Supervisor
Pamela Shoemaker	Recycling Coordinator

Objectives and Approach

Objectives and Approach

Objectives

The internal audit objectives in Landfill Operations include the following:

<input type="checkbox"/>	Determine that an operation plan has been written in accordance with DEP Regulations (Chapter 62-701.500).
<input type="checkbox"/>	Verify that a load-checking program has been implemented in accordance with DEP Chapter 62-701.
<input type="checkbox"/>	Determine whether procedures for landfill cover are in compliance with DEP Regulations (Chapter 62-701).
<input type="checkbox"/>	Determine whether an escrow account has been established in accordance with DEP Regulations (Chapter 62-701.630) and Florida Statute 403.7125.
<input type="checkbox"/>	Determine whether a recycling program has been established in accordance with Florida Statute 403.706.
<input type="checkbox"/>	Determine if invoices are processed and paid in accordance with County policies.
<input type="checkbox"/>	Identify and assess effectiveness of accounting and administrative controls over timekeeping and payroll related processing.
<input type="checkbox"/>	Identify and ensure that procedures for monitoring and preventing stormwater pollutants are in compliance with DEP Regulations (Chapter 60-757).

Approach

Our audit approach consisted of four phases:

Understanding and Documentation of Process

During phase one, we held an entrance conference with Euripides Rodriguez, Director, Alicia Khan, Finance Manager, Steve Nataline, Operations Division Manager, and Richard Dees, Superintendent, to discuss the scope and objectives of the audit work, obtain preliminary data, and establish working arrangements. We then met with other employees of the Department and documented their role in the process.

Population and Sample Determination

We judgmentally selected a sample of both operating and capital expenditures for the period from October 1, 2002 through September 30, 2003. We also selected a sample of employees in order to test training requirements and payroll processes. In addition, we selected a judgmental sample of random load-check inspections that had been performed during the previous three years.

Detailed Testing

The purpose of this phase was development of applicable tests based on our understanding of the process. Our procedures included observation and inquiry, walk-throughs, and testing of individual transactions. Our testing included, but was not limited to, reviewing purchase order processing methods, invoice approval and documentation, compliance with the county's internal procedures as well as with DEP Regulations and Florida Statutes.

Reporting

During this phase, we summarized our findings related to Landfill Operations, based on our detailed testing, into a report format.

Issues and Recommended Actions

Issue # 1	Load-check Program
	<p>Per Chapter 62-701.500(6) of Department of Environmental Protection (DEP) regulations, Class I landfills are required to implement a load-checking program to detect and discourage attempts to dispose of unauthorized wastes at the landfill. The landfill operator is to examine at least three random loads of solid waste each week. If the landfill operates a transfer station, this inspection may be carried out at that transfer station before delivery of the waste to the landfill. Inspections must be appropriately documented. Inspection records must be maintained for a period of three years.</p> <p>Our review of landfill operations indicated that the load-check program is not consistently performed in accordance with DEP regulations.</p> <p>At CDF, there is a process to inspect three random vehicles per week. The Superintendent predetermines the specific load numbers to be selected for the week. We randomly selected 20 of the predetermined load inspections (over the previous 3 years) for testing purposes. Of the 20 selections, three did not have the completed inspection forms on file.</p> <p>Of the remaining 17 loads that had completed inspection forms, 10 were missing certain required information such as driver's license number (6), time of inspection (2) and source of waste (2).</p> <p>At CDF, only commercial carriers are subject to the random load inspection. Incoming loads from the Titusville and Sarno Road transfer stations are not subject to the random load inspection. Further, incoming loads are not subject to an inspection as they enter each of the transfer stations.</p> <p>In addition, the CDF Operational Plan indicates that all random load inspections must be performed by a Supervisor. Of the 20 loads selected for testing purposes, only two of the inspections were performed by Supervisors. The remaining inspections were all performed by Heavy Equipment Operators.</p> <p>Impact</p> <p>The load-check program is not being performed in compliance with either DEP regulations or the CDF Operational Plan. Such non-compliance could result in DEP penalties.</p> <p>None of the waste entering the transfer stations in Titusville and at the Sarno Road facility is subject to the load-check program, which increases the likelihood of unauthorized waste being deposited into the landfill.</p> <p>Recommended Action</p> <p>We recommend that either the Supervisors begin performing all inspections (to be in compliance with the Operational Plan), or that wording of the Operational Plan be edited to allow for trained Heavy Equipment Operators to perform the inspections.</p>

<i>Issue # 1</i>	<i>Load-check Program (continued)</i>
	<p data-bbox="544 289 1068 325"><i>Recommended Action (continued)</i></p> <p data-bbox="544 363 1372 573">We recommend that a policy be created for the Superintendent to perform a weekly review of all inspection forms for the week, and that his signature be on each individual inspection form, evidencing the review. The policy should require the Superintendent to sign-off on the monthly summary, indicating performance of the review. This will allow management to identify instances of non-compliance as they occur, so that corrective measures can be taken immediately.</p> <p data-bbox="544 604 1372 758">We recommend that loads coming from each of the transfer stations be subject to the random load inspection already being performed at CDF. An alternative approach would be to perform separate inspections at each transfer station, but selecting this alternative would triple the total number of inspections being performed on a weekly basis.</p>
<i>Management Response and Action Plan</i>	
Response	<p data-bbox="544 856 1372 919">The Manager supervising this operation is being reassigned to other duties better suited to his experience.</p> <p data-bbox="544 951 1372 1161">The Department concurs with the recommendation. Trucks transporting waste from our transfer stations will be included in the random inspection of loads. All Superintendents and Supervisors were instructed on October 27, 2003 to perform the random load inspections and sign off on the completed document on a weekly basis. The Department will develop a Department Policy outlining the steps needed to complete the Load Check Inspections by November 30, 2003.</p>
Time Frame	November 30, 2003 (policy)
Person Responsible	Steve Nataline

Issue # 2	<i>Unauthorized Waste</i>
	<p>As indicated in Florida statute 403.717 and section 1.6.1 of CDF Operational Plan, tires are not allowed to be deposited into a Class I landfill.</p> <p>On a tour of the CDF landfill, we noticed numerous tires (10 to 20) in a small area that looked like it had recently received a thick layer of temporary cover. We brought the tires to the attention of the Superintendent, who immediately radioed a spotter to drive up and clear the area of all tires.</p> <p>During the same tour, we noticed there were two Heavy Equipment Operators and two spotters working on the ground in the active landfill area. However, for the few minutes when the auditors were in the area, both ground spotters were off to the side, near a portable shelter hut, clearly unable to identify unauthorized waste.</p> <p><i>Impact</i></p> <p>Landfill Operations is currently not in compliance with the CDF Operational Plan or Florida statute, which might subject the Department to fines or penalties.</p> <p><i>Recommended Action</i></p> <p>We recommend that management increase efforts to identify and limit unauthorized waste disposal, such as tires. Based on our observations in this one instance, it is impossible to determine either the pervasiveness of the problem or the actual cause. However, we recommend that if two spotters are working at the same time, they be required to take breaks at different times. Further, one employee may be designated at certain times of the day to walk around open and recently closed areas to identify unauthorized waste, such as tires, etc.</p>
	<i>Management Response and Action Plan</i>
Response	<p>The Manager supervising this operation is being reassigned to other duties more suited to his experience. Operators and Floor Handlers have been instructed to walk the working face area and pad several times a day to remove tires from the landfill. The spotters will remove any tires found during the day to a designated area for removal to the tire storage area. In addition to this, Supervisors or Leads will walk the area at the end of the day to verify that no tires are intermingled with the solid waste. Actions were taken with the Waste Management Collection Contract to provide for a separate pickup of tires in the unincorporated area's of the County, which will reduce the number brought to the working face. However, the municipalities are not required to follow the same guidelines. A meeting will be held with all municipalities to encourage them to have a separate tire collection. Supervisors have been instructed to ensure that the working face area is covered during all hours of operation.</p>
Time Frame	October 24, 2003
Person Responsible	Steve Nataline

Issue # 3	NPDES Requirements
	<p>Under FL Statute 403.0885, Landfill Operations must comply with the National Pollutant Discharge Elimination System (NPDES) program. As part of its compliance, the Department is required to prepare and implement a stormwater pollution prevention plan (SWPPP).</p> <p>The NPDES requirements are relatively new. Accordingly, in April 2002, the Department hired an outside consulting/engineering firm, (HDR Engineering) to review the detailed requirements of NPDES and create the SWPPPs for each primary location (CDF and Sarno Rd.). As part of the SWPPP, HDR listed numerous Best Management Practices (BMPs) that each site should follow to maintain and/or exceed compliance.</p> <p>HDR performed its own investigation to determine which BMPs the Department was currently doing, and which needed to be done in the future. As the initial verification was independent, we determined to only test the accuracy of subsequently completed/accomplished items, through observation and inquiry.</p> <p>Of all such recently completed BMPs, we identified one that had not actually been completed:</p> <ul style="list-style-type: none"> ❑ The Department determined that quarterly inspections were in place and being consistently performed at each of the landfill sites. We noted that since the program's inception (April 2002), only 1 quarterly inspection (for quarter ended September 30, 2003) had been fully completed and documented at CDF. At the Sarno Road site, only 2 quarterly inspections (for quarters ended June 30, 2003 and September 30, 2003) had been completed. We conclude this lack of consistency does not support compliance. <p>At the end of annual inspections, each SWPPP is updated. While updated versions of each site's SWPPP are maintained by the Environmental Section Supervisor, we noted that the CDF location had only the original version of the CDF SWPPP on site.</p> <p>Impact</p> <p>The Department's SWPPP's, documents required to be maintained by Florida statute, are currently inaccurate. Further, the most updated version of each SWPPP is not being maintained at each landfill site.</p> <p>Due to the inaccurate SWPPP's, management may be misled into a false sense of compliance with NPDES regulations.</p> <p>Recommended Action</p> <p>We recommend that quarterly inspections be performed and documented at the end of each quarter. Inspections should not be limited only to those that coincide with the annual compliance review. To ensure this recommendation is accomplished, management should analyze the current annual SWPP review system process and make changes as necessary.</p>

Issue # 3	NPDES Requirements (continued)
	<p>Recommended Action (continued)</p> <p>In addition, we recommend that as each SWPPP is updated, the most recent complete version be sent to the respective site. This will ensure that all members of landfill operations management are aware of policies to be followed. This will also help to ensure compliance with NPDES regulations.</p>
	Management Response and Action Plan
Response	<p>Training on reporting requirements was held in July 2003 with team members. A submittal check sheet (for quarterly inspections) was designed during the annual compliance review in July 2003. At the time of the 2003 annual compliance review, all areas had submitted their last quarterly inspection forms and were in compliance for that quarter. Going forward, quarterly inspections will be performed by the end of each quarter. If a quarterly inspection form is not received by the last month of the quarter, a reminder will be sent to the team member responsible for that inspection.</p> <p>An existing staff position will be reassigned to maintain compliance with the Department's permit requirements. An updated copy of the Stormwater Pollution Prevention Plan was provided to the CDF and Sarno Operations Staff by September 30, 2003 along with the list of action items for each site. As changes are made to either of the SWPPP's, an updated version will be sent to the appropriate site location.</p>
Time Frame	December 31, 2003
Person Responsible	Debbie Lugar

Issue # 4	<i>Time Entry Process Verification & Authorization</i>
	<p><u>Verification</u></p> <p>We noted that the Solid Waste Management Operations Division does not have a separate person verifying the timesheets entered into the system. Also, the timekeeper, whose responsibility is to accumulate and process timesheets, is not generating the verification report from SAP to proof time entered into the system as required by County policy.</p> <p><u>Post-processing Review</u></p> <p>We noted that the timekeeper is not generating the post payroll verification summary report for supervisors to review as required by County policy.</p> <p><u>Authorization</u></p> <p>Our test work noted an instance where an employee did not sign off on their timesheet. We also noted two instances where the supervisor did not sign off on the employee's timesheet.</p> <p><i>Impact</i></p> <p>Without timely verification of input, intentional or unintentional errors could go undetected for an extended period of time or indefinitely. A timely applied verification process should alleviate or reduce the number of corrective payroll checks issued.</p> <p>Without proper review and approval of time records, time worked and time off could be reported incorrectly, thus resulting in misallocation of payroll funds. In addition, the managers/directors held responsible for the Department, may not be properly monitoring the current payroll expenses.</p> <p><i>Recommended Action</i></p> <p><u>Verification</u></p> <p>Timesheets should be verified by a second person using a standard SAP verification (proofed) report. Verification should be documented and concluded prior to payroll processing.</p> <p><u>Post Processing Review</u></p> <p>We recommend the Solid Waste Management Operations Division follow the County's policies and generate the post payroll verification summary and have the manager review the report and document this review.</p> <p><u>Approval</u></p> <p>We recommend that supervisors review timesheets more carefully to ensure that the proper signatures have been received. We also recommend that the timekeeper review the timesheets for signatures as part of the time entry process.</p>

<i>Issue # 4</i>	<i>Time Entry Process Verification & Authorization (continued)</i>
	<i>Management Response and Action Plan</i>
Response	All Supervisors were instructed on October 22, 2003 to review and approve employee's time sheets prior to turning them in for data entry. Administrative Order AO-16 has been provided to time-entry personnel. Timesheets for Operations will be entered by the timekeeper, verification of the post payroll summary reports by a second employee, with the Operations Manager providing final signature approval.
Time Frame	October 24, 2003
Person Responsible	Steve Nataline