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REFERENCE

GCA

Gulf Coast Waste Disposal Authority

Annual Report

2002

It is the mission of Gulf Coast Waste Disposal Authority to protect the waters of the State of Texas through regional waste management practices which are environmentally sound and economically feasible.



Chairman of the Board

The year 2002 brought Gulf Coast Waste Disposal Authority its second Platinum Award from the Association of Metropolitan Sewerage Agencies. The 40-Acre Facility in Texas City scored the award by completing five years of perfect compliance with its operating permits. Those permits are issued by the U.S. Environmental Protection Agency and the Texas Commission on Environmental Quality, formerly the Texas Natural Resource Conservation Commission.

In July of 2002 the Board approved a staff-recommended five percent reduction in the rate schedule for industrial wastewater treatment at the Bayport Facility. This Facility treats wastewater for industries in the Bayport Industrial District and for two municipalities. The reduction in the rate schedule was made possible by cost cutting measures instituted by Facility management.

Low interest rates during 2002 created an opportunity to restructure the Bayport balance sheet. In August the Authority issued \$5 million in new debt and \$19 million in refunding bonds for a total of \$24 million. The refunding proceeds were used to defease (pay off) higher interest bonds on the Bayport Bond Series 1996 for a favorable overall rate of savings. New proceeds will be used for capital improvement projects at the Bayport Facility.

The Board also authorized General Manager Charles Ganze to approach the Coastal Industrial Water Authority (CIWA) and the City of Houston with a proposal to reuse water from wastewater treatment plants along the Houston Ship Channel. This water would be reclaimed and treated for use by industry, significantly reducing the water required from the San Jacinto River. We will continue to work with CIWA and Houston to further refine this project and to determine its feasibility. The concept was brought to GCWDA by Kellogg Brown & Root Engineering.

I'm also pleased to report that GCA's Finance Staff received special recognition for achieving compliance with new rules issued by the Government Finance Officers Association of the United States and Canada. This makes us one of the first in the country to adapt to the new system of annual reporting.



A handwritten signature in black ink, appearing to read "J.M. Schultz". The signature is stylized and written in a cursive-like font.

J.M. "Mark" Schultz
Chairman of the Board

General Manager

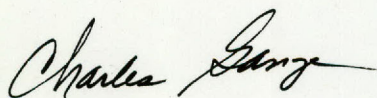
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The past year at Gulf Coast Waste Disposal Authority may well be called the "Year of Air." Air regulations have dominated our discussions, our planning, our permit applications and our dreams . . . or maybe our nightmares. Most readers of this report are well aware that the Greater Houston Area has been given the very difficult assignment of meeting federal clean air rules by 2007. This region is not currently in compliance, and is referred to in regulatory language as a "non-attainment" area. All but one of our operations is in this non-attainment area.

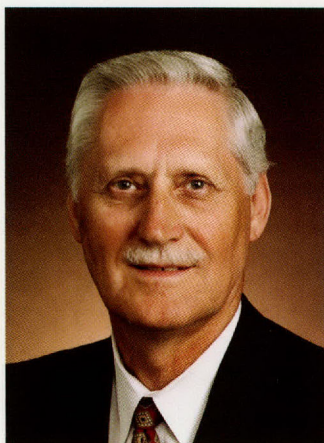
Actually, the emissions from our treatment plants are relatively minor when compared to industries that generate the wastewater that we treat, but we are covered by a number of air regulations. As a result, our Facility Managers and technical advisors have been working overtime trying to determine the most efficient, cost-effective methods to bring our operating locations into compliance. As this message is written, we don't have all the answers. Compliance could require putting lids on some treatment tanks, or adding pure oxygen to boost our treatment efficiency or collecting certain compounds before they can escape into the air. Ask me again in a year, or maybe two years.

I'll promise you this. In cooperation with the industries whose water we treat, we will meet the rules and we will qualify for operating permits. This new challenge in the area of clean air is just another part of our overall commitment to effective environmental management. Wastewater treatment has been our specialty for more than 30 years. We are proud of our reputation for effective treatment and for innovative solutions. The effort to help this region meet clean air goals will call on the same talented people, both staff and consultants, who made regional industrial wastewater treatment a reality.

The call for cleaner air will also be answered.



Charles Ganze
General Manager



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Bayport

The Bayport Facility serves 57 largely industrial customers in and around the Bayport Industrial Complex. Most of the dischargers produce chemicals used in the manufacturing of thousands of other products. Bayport Facility is the single most complex example of GCWDA's commitment to the regional treatment of wastewater.

Management for Bayport recently identified more than 20 on-going projects at the complex. These range from issuing revised affluent permits to methods of meeting air regulations to enhanced systems for handling solids generated in the wastewater treatment process. An affluent permit is a control document issued to entities which discharge wastewater to the Bayport Facility. It outlines the conditions which must be met by the discharger in order to protect the integrity of the treatment process. An average of 12 million gallons per day flows through the activated sludge process at the plant. With 57 customers, operators keep a close eye on variability and compatibility of the incoming flows.

Part of current planning centers on additional facilities to enhance the plant's ability to deal with spike (sudden) load changes in the wastestreams and to fine tune methods to keep the plant operating within more stringent air regulations. Planning began in 2002 for a liquid oxygen injection system and additional treatment tankage. Construction on the oxygen project will begin in 2003.

Central Laboratory shares the 113 acre site with the Bayport Facility.



The Bayport Facility uses a complex combination of aerated tanks, basins and ponds. Water enters the plant both by an open channel (clean stream) and by pipeline.



Campbell Bayou

The gates opened in late 1979 at Campbell Bayou Facility (CBF). Located just off Loop 197 in Texas City, GCA's only landfill accepts non-hazardous solid waste from contracted industrial participants. Those industries are Union Carbide Corp., a subsidiary of Dow Chemical Company U.S.A.; Sterling Chemical Co.; Marathon-Ashland Petroleum L.L.D., and Solutia Inc.

CBF sits on some 200 acres of land with only 30 acres currently developed. Staffing and management is shared between CBF and the 40-Acre Facility, about one mile away. During the last two years, a significant capital project added about 90,000 cubic yards of disposal capacity at the site, extending its projected life by 10 years.

Disposal cells are constructed with a 15 foot high perimeter levee which incorporates a three foot compacted clay liner and a high density polyethylene synthetic liner. The perimeter levee is designed to withstand tidal surges from Gulf Coast storms. Any rainfall that enters the disposal area is collected for further treatment at the nearby 40-Acre Facility. Monitoring wells ring the operation and are tested on a regular basis to insure the continued integrity of the long-term operation.



Upper left: Truck weighs in before discharging into the disposal cell.

Center and lower: Operator distributes and packs debris.

40-Acre

The 40-Acre Facility in Texas City, Texas, is the second GCA location to earn the coveted Platinum Award for Operating Excellence. The Award is granted by the Association of Metropolitan Sewerage Agencies (AMSA) and recognizes five consecutive years of perfect compliance with operating permits. The first GCA plant to achieve the Platinum Award in 2001 was the Blackhawk Regional Wastewater Treatment Facility located in Friendswood, Texas.

In operation since 1974, 40-Acre provides joint treatment for the wastewater streams from Union Carbide Corporation (a subsidiary of the Dow Chemical Company U.S.A) and Sterling Chemicals, Inc. A small stream of storm water and non-hazardous leachate is also received from GCA's Campbell Bayou Facility (CBF). CBF handles industrial solid waste. In past years, 40-Acre received treated storm water runoff from the Superfund Site known as MOTCO. Since July 2000, both 40-Acre and CBF have operated under a single manager.

The original customers for 40-Acre were Union Carbide and Monsanto Company. Carbide was acquired by Dow and the Monsanto Texas City Plant became Sterling Chemicals. At its startup the plant was considered quite innovative. Combining industrial wastewater streams for treatment in a regional facility was not universally accepted as a good idea. The long-term performance of the 40-Acre Facility has proved that such a concept is both efficient and cost-effective.

The 40-Acre Facility operates as an aerated lagoon system and actually covers 165 acres. Wastewater enters the lagoons where it is sprayed by surface aerators to provide oxygen. Microorganisms, in the presence of dissolved organic material and oxygen, convert the organics to carbon dioxide, water and more microorganisms. The plant has the advantage of an extensive series of treatment units which provide long holding times. Water stays in the process for up to 30 days. This holding time allows operators to make special processing moves within the system as required.

The 40-Acre Facility is located south of Texas City on Loop 197, adjacent to a heavily industrialized area. Views across the aerated lagoons are (top) to the north and (bottom) back west toward the control building.





Blackhawk

If you're looking for a prize-winning regional sewage treatment plant, look no further than GCA's Blackhawk Regional Wastewater Treatment Plant located on West Bay Area Boulevard in Friendswood, Texas. Jointly permitted to Gulf Coast Authority and the City of Friendswood, the facility receives municipal wastewater from Friendswood, Harris County Municipal Utility District No. 55, Baybrook Municipal Utility District No. 1 and the City of Houston (Baybrook Mall area).

These participants in the plant have an average dry weather flow of five million gallons per day. The treatment system begins with screening and grinding and continues with activated sludge extended aeration, clarification, high-rate mixed media sand filtration and ultraviolet light disinfection. The sparkling clear treated wastewater is discharged to Clear Creek.

Over the past 14 years, Blackhawk has received 10 Association of Metropolitan Sewerage Agency (AMSA) Gold Awards, four AMSA Silver Awards and one of the first AMSA Platinum Awards. Gold signifies one calendar year with no permit violations, silver means five or fewer violations and platinum equals five consecutive years with perfect compliance. The GCWDA Board of Directors and the Blackhawk Participant Committee approved work toward the end of 2002 to improve roads and to upgrade electrical systems at Blackhawk. The improvement project will be completed in 2003.

Top left: One of two Blackhawk clarifiers. Right top: Operators make adjustments to a belt press used to process solids. Middle and lower: Blackhawk treatment basins use both surface and bubble type aeration.

Odessa

Odessa South Regional Wastewater Treatment Facility (GCA-Odessa) began operations in 1997 as a cooperative venture involving the City of Odessa, Huntsman Polymers Corp. and Gulf Coast Waste Disposal Authority. Current industrial participants are Odessa Ector Power Partners and Huntsman. Orrex Plastics is another industrial user. The City of Odessa contributes flow to the plant and a newly instituted service allows sanitary disposal haulers in the Permian Basin region to deliver waste by truck.

GCA-Odessa uses an activated sludge treatment process with five aeration basins and two clarifiers to achieve compliance with strict discharge permit requirements. The Facility is designed to treat 5.6 million gallons of wastewater per day. Actual average flow is some 3.2 mgd.

Another of GCA's award-winning facilities, Odessa South received an AMSA Silver Award for operating excellence in 2001 and has qualified for a Gold Award in 2002. AMSA is the Association of Metropolitan Sewerage Agencies.

Also in 2002, GCA Odessa joined the Clean Texas campaign. Clean Texas creates partnerships between business and government to reward environmental performance and to create a healthier, cleaner and more sustainable Texas.

The Odessa South Facility is the newest operation in the GCWDA family and the farthest from the Houston area headquarters. It's also one of the wettest and greenest places in the region.



Central Lab

Central Laboratory is, for the most part, an internal service. It provides analytical support to GCA's operating facilities. Some laboratory services are also provided to customers outside the Authority. The newest of these is a compost testing program designed to meet requirements set out by the U.S. Composting Council (USCC).

Composted products which meet the USCC quality criteria will be allowed to carry the label, "U.S. Composting Council - Seal of Testing Assurance (STA)". Central Lab participates in the Compost Analysis Proficiency Program and currently, is the only laboratory in the State to be certified for compost analysis.

Central Laboratory has recently upgraded its building. This has allowed for a more efficient use of both personnel and space. The addition of compost testing was also facilitated by the increase in floor space and general upgrade of facilities. Indeed, Central Laboratory will continue to seek out new areas of involvement.

Whether the testing is for outside customers or for GCA facilities, all incoming samples are logged into a Laboratory Information Management System (LIMS). The progress of the samples is traceable throughout the Laboratory. Most laboratory instruments are linked to computers with data directly exported to LIMS. Checks and balances are in place throughout the process.

About 32 highly specialized chemists, technicians, computer support and administrative staff members make up the Central Lab team.

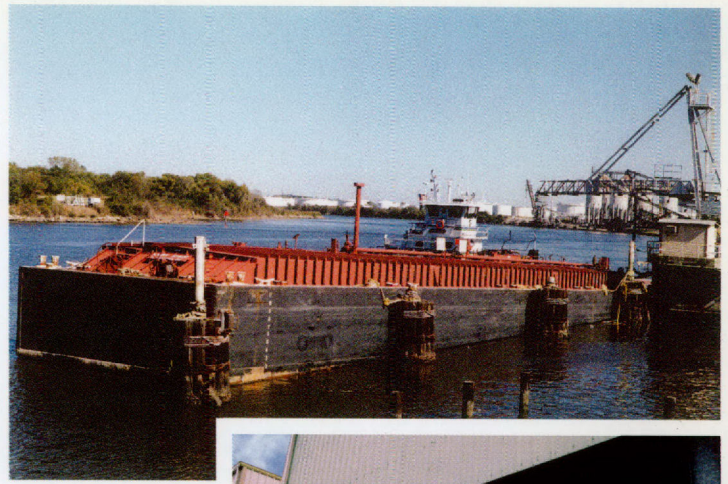


Central Lab roughly doubled its floor space allowing all activities to be housed in a single complex and enhancing the efficiency of overall operations.



Washburn Tunnel

Washburn Tunnel Facility (WTF), located on the Houston Ship Channel in Pasadena, Texas, was the first facility in the United States to mix industrial wastewater streams from different industries for treatment in a single process. Permitted to treat 54.7 million gallons of water per day, WTF uses an activated sludge treatment process and receives both industrial and municipal wastestreams via pipeline, barge and truck. Facility operators closely monitor the wastewater at various stages throughout the treatment process.



In 2002, WTF began the challenging task of complying with federal Clean Air Regulations. The first project replaced a direct contact cooling tower with a new system based on supplemental oxygen. The second project, which began in '02 with permit work and hydraulics planning, is a Hydrogen Sulfide Control Project which will segregate streams with volatile organic emissions and hydrogen sulfide from other incoming streams. This segregation of the waste streams will result in reduced overall emissions from the Facility as well as more cost-effective solids handling at WTF. Also begun in 2002 was the process to achieve a federal permit under Clean Air Regulations. This permit is expected to be issued sometime in 2003.



The Houston Ship Channel and the Greater Houston area faced a real environmental challenge in the '60s and early '70s. WTF was, and is, part of the solution.



Vince Bayou

At first glance, the Vince Bayou Receiving Station (VBRS) is not very impressive. All there is to see is a small office, some holding tanks and a few pumps. But, to the customers that haul in some one million gallons of wastewater per month, VBRS is a key business partner. Located on North Richey Street in Pasadena, Texas, VBRS is owned and operated by GCWDA. Since 1985 it has provided a dependable collection and disposal station for companies in the business of providing portable toilet facilities in the Houston metropolitan area.

Additional capacity was added to VBRS in 1995 and enabled the receiving station to accept non-hazardous industrial wastewater and non-industrial, non-hazardous (commercial) wastewater. And, in 1997, GCA answered demand for disposal capacity in another part of the industry by accepting septic tank waste.

As of December 2002, 38 companies providing portable toilet facilities and 21 septic tank services were discharging to VBRS, along with five industrial companies and six non-industrial companies located in the Greater Houston area. Wastewater received at the station is delivered by pipeline to GCA's Washburn Tunnel Facility for treatment.

In addition to receiving wastewater by pipeline, WTF also receives water by barge and, utilizing the Vince Bayou Receiving Station (bottom photo), by truck.



Board of Directors

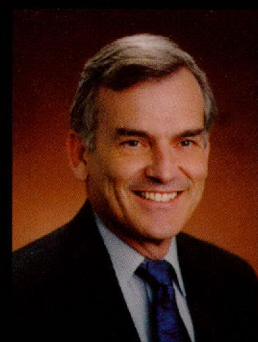
GCA's nine-member Board of Directors is appointed from Harris, Galveston and Chambers Counties. In each County, the Commissioners Court appoints a member and the Mayors of the County appoint a member. The Governor also selects one member from each of the three Counties.



J.M. "Mark" Schultz
Chairman of the Board,
Chambers County



Rita E. Standridge
Vice Chair,
Chambers County



Sam Dell'Olio
Secretary,
Galveston County



Franklin D.R. Jones, Jr.
Treasurer,
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Member,
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Galveston County



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