

WATER ENVIRONMENT FEDERATION

OUTSTANDING SERVICE AWARD

...recognizing individuals who have made outstanding contributions to the water environment profession and to the Federation and its Member Associations.

Paul A. Roach, P.E.

Paul A. Roach has over 37 years experience in the water and wastewater industry, solid waste, transit and airport, and bioterrorism projects, including plant operations and management, project and program management for almost \$400 million in facilities upgrades and expansion, and construction management of those.

Mr. Roach graduated in 1970 with a Bachelors Degree in Civil Engineering from Southern Methodist University and immediately went to work for the City of Dallas Water Utilities (DWU). While working for DWU, he earned a Masters Degree in Environmental Science in 1977 from the University of Texas at Dallas.

By 1976, he was Assistant Manager of the DWU Central Wastewater Treatment Plant, responsible for the treatment of approximately 150 MGD of wastewater flows for the utility. He became Manager of both the Central Plant and the DWU Southside WWTP in 1978, the first and youngest person in Dallas to manage both treatment facilities simultaneously. He assumed management of the Southside Plant in 1980. In 1981, he moved over to Project Management in the DWU to oversee nearly \$150 million in expansion and upgrades to the Central WWTP. In 1992, he became Program Manager of the Wastewater Facilities Capital Improvements (FCI) Program, responsible for construction projects totaling almost \$400 million. He retired from DWU in 1997, but returned as a contractor to the FCI program until 1999.



Joining the Dallas engineering firm of Chiang, Patel & Yerby, Inc. as a Senior Project Manager in January of 2000 and moving up to Associate in 2004, Mr. Roach has worked on projects for Dallas Area Rapid Transit, Dallas/Fort Worth Airport, City of Dallas Sanitation Services Department, and Collin County. Currently, he is Construction Services Manager, responsible for overseeing approximately \$150 million in improvements at both the DWU Bachman and East Side Water Treatment Plants.

Mr. Roach has been an active member of the Water Environment Federation (WEF) and WEAT for almost 30 years, serving in a variety of capacities for the organizations. He served as a Director representing WEAT on the WEF Board of Directors and on the WEF Executive Committee. He also served on several other committees, including the Public Education Committee, the Long Range Planning Committee, and Professional Development Committee (Chair).

For WEAT, he served on the steering committee to form the North Texas Section and served as its President in the late 1980's. He also served on several committees including Public Education (Chair), Nomination, Long Range Planning, Program, Ethics Education, and three Local Arrangements Committees for national WEFTEC conferences. He is the current President of WEAT, through the end of Texas Water 2007.

Mr. Roach has received numerous awards through the years, including the WEF Arthur Sidney Bedell Award for Outstanding Service to the Member Association, the WEF Public Education Award, and membership in the Select Society of Sanitary Sludge Shovelers (the 5-S Society). He is also a member of the American Water Works Association and has authored a number of technical papers and presentations.

WATER ENVIRONMENT ASSOCIATION OF TEXAS

PILLARS OF THE PROFESSION AWARD

...honoring an individual who has demonstrated meaningful and substantial contributions toward the improvement of the water environment via a distinguished career in the wastewater or water quality industry. The honoree shall be a person of proven preeminence in the water environment profession whose career has positively impacted the success and growth of these fields within the State of Texas.

Danny F. Vance



Danny F. Vance earned a B.B.A. and an M.B.A. at Sam Houston State University. After serving with the United States Army in Europe, he joined the Trinity River Authority in 1970 where he has held several responsible management positions for over 35 years. Originally an Administrative Assistant to the Regional Manager of the Southern Region, he has since served TRA as General Services Manager; Assistant Regional Manager, Northern Region; Administrative Services Manager; and Regional Manager, Northern Region. During this time, he has been instrumental in creating and directing programs which have produced major improvements to water quality in the Trinity River and has influenced other river authorities and agencies in Texas to emulate the programs which have made the TRA successful in regional water management activities. The longest tenured General Manager of any major river authority in Texas, he has directed the program of water quality, water development, and water reuse as General Manager of the Trinity River Authority since 1979. Directing the creation and/or expansion of five regional wastewater systems in the upper Trinity basin

serving over 40 cities and governmental entities with a service population of over 1.4 million, he has led the Authority's growth to become the largest wholesale provider of wastewater services in Texas, drastically improving the quality of water within the Trinity River. He has directed the development and expansion of a regional water supply system serving five cities in Tarrant County with a present population of over 180,000 as well as the development of the largest urban reuse project in Texas in 1984 with facilities providing reclaimed water to the lakes and canal system in the upscale Las Colinas development in Irving, Texas. He has also directed the development and operation of several rural and small municipal water supply systems in the mid-Trinity basin, providing regionally oriented wholesale services to parties which would have otherwise found it difficult to provide for their own individual needs. He has met the many challenges such as persistent drought conditions, increased demands for services, controversial water resources legislation impacting the Authority, and most recently, damage to the Lake Livingston Dam by Hurricane Rita. Under his leadership, the Authority's wastewater systems have received many state and national awards recognizing their commitment to quality service and protection of the environment.

Mr. Vance is well-known in legislative circles and has been called upon numerous times to give testimony on issues that are important to the water and wastewater industry. He is frequently asked for input concerning environmental matters that support the objectives of WEAT and other water environment organizations. He has served on many Legislative task forces guiding state legislation on water resources and water quality issues. He currently serves on two of the sixteen Regional Planning Groups designated by the Texas State Legislature to prepare water plans for Texas through the year 2060 - the Region C Water Planning Group (Dallas, Tarrant, and 14 other counties) and the Region H Water Planning Group (Harris, Galveston, and 13 other counties). He also provides leadership in the reuse of wastewater by serving as President of the Texas Section of the WaterReuse Association. He has provided leadership in policy and legislative direction on a statewide basis through his activities in the Texas Water Conservation Association, an organization dedicated to improving water resource management. He is a current Board Member on the Association's Board of

Directors and has served the Association as President and member of the Executive Committee as well as several other committees.

Mr. Vance's other professional activities include participation in the National Association of Clean Water Agencies and membership in the government Finance Officers Association. He is the longest tenured agency representative on the Upper Trinity Water Quality Compact, a cooperative group promoting environmental improvements in the Trinity River basin. He has also been instrumental in supporting the mission and objectives of WEF and WEAT. He has promoted professional development among TRA management and staff through encouragement of their support and active participation in WEF, WEAT, and other water resource organizations. Representatives from the Authority have been very active within these organizations by serving in key officer roles and participating in numerous WEAT committees. Mr. Vance is personally supportive of the Authority's Operations Challenge Team. The TRA CReWSers team has won national competitions for two years in a row which has profited not only the Authority but also the reputation of the Texas wastewater industry across the county.

Mr. Vance served as President of the Board of Directors on the Sam Houston State University Alumni Association and served on the Association's Executive Council. He has also served the University's Board of Directors of the Sam Houston State University Development Foundation; served on the Advisory Board for the College of Business Administration at the University; and has been recognized as a distinguished Alumnus of the College of Business Administration, Sam Houston State University.

WATER ENVIRONMENT ASSOCIATION OF TEXAS

EXEMPLARY EMPLOYER AWARD

...recognizing a Texas employer who has exhibited company-wide support of and involvement in WEAT and WEF activities, has rendered financial assistance toward employee memberships in WEAT and WEF, has encouraged employee participation in WEAT and WEF activities, and has encouraged technical and professional growth among its employees through participation in WEAT and WEF meetings, seminars, conferences, and publications.

Freese and Nichols, Inc.

With over a century of engineering, architectural and environmental design experience, Freese and Nichols has literally shaped the landscape of the southwestern United States. Freese and Nichols teams have worked on designs for more than 100 water and wastewater treatment plants and 150 reservoirs and dams across Texas. Today, Freese and Nichols boasts expertise in water/wastewater treatment, water/sewer engineering, storm water management, water resources planning, site civil planning, aviation, transportation, and design and program/construction management. The firm has major offices in Austin, Dallas, Fort Worth, Houston, and San Antonio. Freese and Nichols' mission - *"Innovative Approaches...Practical Results...Outstanding Service"*.



The firm was founded in 1894 by Major John B. Hawley, the state's first independent engineer specializing in water and sewer work. Believing that continuing education was essential for a professional engineer, Major Hawley encouraged staff members to pursue their education and offered financial assistance for those employees who did so. Freese and Nichols remains faithful to Major Hawley's philosophy.

Freese and Nichols encourages employees in technical and professional growth through formal company programs. The Career Ladder and Individual Development Plan assist employees in determining career goals. At the beginning of an employee's annual review cycle, the manager and employee work together to set the employee's performance goals for both short term (one year) and long term (3-5 year) career objectives. Together, the employee and manager review the Freese and Nichols Career Ladder which shows the career steps for different career tracks, and the manager assesses the employee's potential. Junior employees may take the Career Assessment to help determine interests in various areas and are assigned to a full range of projects during their first two years to help them better understand their career choices. Based on the results of these discussions and assessments, the manager and employee establish goals for individual development and complete the employee's Individual Development Plan which includes training for the employee in the next year both through outside courses or seminars and the Freese and Nichols University. Established in 2000, Freese and Nichols University offers a formal continuing education program to the firm's employees. Two full-time staff members - a professional development coordinator and a professional development specialist - oversee the development and delivery of high-quality seminars taught by experts in various subject areas, most of whom have advanced degrees including PhD's. Currently over 30 different subjects are offered through Freese and Nichols University. For all P.E. license renewals, the State of Texas requires continuing education consisting of 15 Professional Development Hours (PDH) per year with at least one PDH in the area of professional ethics. Freese and Nichols University Seminars meet this requirement. Each hour of a seminar counts as one PDH. Upon completion of a seminar, each participant receives a certificate as proof and documentation toward satisfying State license renewal requirements. This award-winning internal program has been so successful that it has been expanded to include Freese and Nichols clients.

In keeping with the principles of continuing education and professional growth among its employees, Freese and Nichols has a long-standing commitment to both the Water Environment Federation and the Water Environment Association of Texas. Freese and Nichols has a company policy of encouraging all employees to join WEAT and WEF and pays full dues for WEAT officers and half-dues for members. In some cases,

members' dues are paid in full by the company at the discretion of their group leaders. Twenty-five of the firm's employees are members of the organizations, including the president, president emeritus, chairman emeritus, and every engineer in the Dallas Water/Wastewater Group. Ten of the members are Young Professionals in the under-35 age group. Membership is facilitated with flexible scheduling policies to enable employees to participate in volunteer activities such as committee meetings during working hours upon approval by their supervisors, with time generally charged to the company. Participation in WEAT activities is also supported by complimentary use of company resources such as teleconferencing, video-conferencing, meeting rooms, and print shop as available. For example, Freese and Nichols hosted a Web cast for the WEF program *Novel MBR Technologies for Industrial Wastewater Treatment and Reuse* in May 2006. Employees are encouraged to share information by submitting technical presentations and papers to local, statewide, and national WEAT and WEF forums, and the company allows those employees to use company time for preparation. In developing their papers, employees may take full advantage of all company resources such as the library, computer network, print shop, graphics support, and editorial advice and review. The company underwrites expenses, including meals, travel, accommodations, and registration fees for employees attending WEAT and WEF events that feature technical presentations, papers, and posters by Freese and Nichols employees. To further encourage employee participation in WEAT and WEF printed technical papers and oral presentations, Freese and Nichols sponsors two company-wide awards annually for which only employees who make presentations at WEAT are eligible. Each of the two awards includes a plaque and a cash award of \$1,000. In addition, Freese and Nichols honors one company employee annually with the Robert L. Nichols Award in recognition of contributions to his or her profession. The employee receives both a plaque and a stipend of \$1,000. As witness to the Freese and Nichols emphasis on WEAT activities, the Robert L. Nichols Award criteria specifically mention WEAT participation as an example of professional contribution.

Freese and Nichols has contributed to the leadership of WEF and WEAT. The president emeritus, Robert Nichols, served WEAT as 1962-1963 President and served WEF as 1978-1979 Director. One of the current principals of the firm, Ray Longoria, served on the WEAT Board of Directors as Secretary, Vice-president, President-elect, and 2003-2004 President. Engineer David Jackson currently serves on the WEAT Board of Directors as Parliamentarian. Engineer Trooper Smith co-chairs the WEAT Young Professional Section. The local North Texas Section of WEAT has also benefited in its leadership through Freese and Nichols participation with both David Jackson and Ray Longoria having served as Past-presidents and Tina Hanson serving as the current Secretary. In addition, employees Trooper Smith, David Sloan, and Leonard Ripley have contributed their time and knowledge to NTS as program speakers during regularly scheduled NTS meetings. Freese and Nichols employees have served WEAT and the North Texas Section of WEAT in numerous other capacities as officers, committee members, moderators, specialty conference planners, seminar leaders, Science Fair judges, WEAT magazine contributors, and Stockholm Junior Water Prize leaders.

Freese and Nichols is a proud supporter of the annual WEFTEC conference as well as Texas Water™ and has exhibited at the five most recent Texas Water™ expos. Employee attendance at both conferences is encouraged, and related expenses are underwritten by the firm. Sixteen Freese and Nichols employees attended WEFTEC 2005 in Washington, D.C. , and twenty-two attended WEFTEC 2006 in Dallas. Employees have participated in the conferences as technical presenters, volunteer judges at Operations Challenge competitions, room moderators for sessions, and volunteers for general meeting support with the Local Host Committees. Six Freese and Nichols employees made technical presentations at WEFTEC 2006.

As a final example of the Freese and Nichols commitment to WEAT, the firm is a frequent sponsor of the North Texas Section WEAT dinner meetings, an event sponsor at Texas Water 2007 in Fort Worth, the recurring sponsor of the Operations Challenge Process Event at each Texas Water, and a continuous advertiser in the Texas WE&T magazine.

WATER ENVIRONMENT FEDERATION

WILLIAM D. HATFIELD AWARD

...recognizing operators of wastewater treatment plants for outstanding performance and professionalism.

EDMUND R. MACH

Edmund R. Mach began his career at the Trinity River Authority's Ten Mile Creek Regional Wastewater System (TMCRRS) in 1979 as a Maintenance Mechanic. He was promoted to Operator I in 1980, to Operator II in 1981, Senior Operator in 1982, Chief Operator in 1985, Operations & Maintenance Chief in 1993, and Project Manager in 1997. He has held Class "A" Wastewater Certification since 1989. He has contributed unselfishly with his excellent technical and managerial skills over his 28 years of service with the TMCRRS.



The TMCRRS is a 24 MGD activated sludge treatment plant on a 100-acre plant site near Ferris, Texas. Annual average flow is 16.788 MGD. The System includes 50 miles of major interceptors and trunk lines extending approximately 33 miles from the plant site, one lift station, eight metering stations, a laboratory, three biosolids disposal monofill cells, and an effluent reuse project of 1.0 MGD. On-site surface disposal units for drying sludge occupy approximately 30 acres of land. The TMCRRS serves the five customer cities of Duncanville, DeSoto, Lancaster, Cedar Hill, and Ferris.

In his current position, Mr. Mach is responsible for the preparation and control of the project's annual operation and maintenance budget and \$10.9 million debt. He has a clear understanding of the budgetary and staffing requirements needed to effectively operate and maintain the permitted wastewater facility. He directly supervises a staff of 19 employees including hiring, scheduling, and performance evaluation and assists in cross training staff to provide workforce flexibility to accommodate changes in work practices. He maintains a close working relationship with operations and maintenance personnel, motivating them to perform at maximum ability. He is responsible for and has an in-depth knowledge of the project's operational and maintenance processes. He works closely with consulting engineers and contractor operators in capital improvement efforts and has participated in an erosion study of the TMC interceptor system with Alan Plummer Associates. He has assisted in several coordinated design and construction activities at the plant site and its collection system and has coordinated with TRA management and consultants on all major rehabilitation-related projects or evaluations.

Mr. Mach is committed to a safe working environment and schedules adjustments coordinated through subordinates for a successful and well regarded safety program. Under his direction, TMCRRS has been recognized with the Texas Safety Association's Award of Merit in 1998 and 2003, as well as the Award of Achievement in 2001 in recognition of outstanding service and worthy accomplishments in accident prevention contributing to a safer Texas.

Mr. Mach has demonstrated his commitment to education and professional knowledge by earning an Associate in Applied Science Degree at Navarro College in 1991 and is currently completing requirements for a Bachelor of Science in Business Administration. He has further expanded his technical knowledge through training in several courses approved by the Texas Commission on Environmental Quality including: Wastewater Laboratories, Utilities Management, Vulnerability SCLF Assessment Training Tool, Rules and Regulations of Management, Utilities Safety, Hazardous Waste Operations & Emergency Response Training, and the Pipeline Assessment Certification Program.

Under his management of TMCRWS, the project has received recognition for excellence on several occasions including: the AMSA Silver Award (1994, 1995, and 2001) for recognition of significant level of national pollutant discharge elimination system permit; the AMSA Gold Award (1995, 1996, 1997, 1998, 1999, 2000, 2002, 2003) for recognition of complete and consistent national pollutant discharge elimination system permit compliance; and Peak Performance Award (2004 and 2005) by the National Association of Clean Water Agency.

WATER ENVIRONMENT ASSOCIATION OF TEXAS

OUTSTANDING MUNICIPAL OPERATOR OF THE YEAR

...presented to a municipal wastewater treatment plant operator in the State of Texas who has demonstrated outstanding professionalism at his/her facility and has performed his/her duties tirelessly and with dedication to the betterment of the water environment.

Steve Price



Steve Price has worked with the management staff at the Trinity River Authority Central Regional Wastewater System (TRA CRWS) for over 24 years. His career with TRA began in 1982 as an Operator Trainee in the solids Handling Division at CRWS. Within thirty days of beginning his employment, he had obtained his “D” Wastewater License. In that same year, he was promoted to Operator 1 and has continued this trend of steady promotions to his present position as Chief Operator in the Liquids Operations Division. He is the longest tenured Chief Operator in Liquids Operations and directly oversees the treatment of wastewater discharged from CRWS. In 2000, his knowledge and skills acquired at TRA and his one thousand-plus certification hours led to his attaining the “A” Wastewater License.

Mr. Price’s role at CRWS has been critical in the daily production of the high quality of effluent water discharged into the Trinity River. He has worked in most areas of the facility, specializing in Solids and Liquids Operations. During the past 13 years, he has been a key player in assisting management in developing the 162 MGD CRWS into one of the premier wastewater treatment plants in the nation. Since 1993, the facility has produced over 62 billion gallons of water treated to a level that has produced 99.5 percent reduction of Total Suspended Solids, Biological Oxygen Demand, and Ammonia Nitrogen. Since 1993, CRWS has achieved thirteen Gold AMSA Awards and two Platinum Awards for no permit violations.

During his twenty-four year tenure, Steve Price has been a part of numerous changes to the entire CRWS facility. He has been an intricate part in the development of the Employee Safety Program and the Emergency Response Team. He has served on the Employee Safety Committee numerous times and has received First Responder and Incident Commander Training, as well. He currently serves as Operations Officer and Initial Incident Commander during plant training exercises for emergencies. He is responsible for emergency response training on shift and has demonstrated his knowledge and talents by volunteering as an instructor for the past five years at the North Central Texas Regional School’s Utility Safety Course.

Mr. Price is one of the two original founding members remaining of the TRA award-winning and current back-to-back National Operations Challenge champion team, the TRA CRWSers. When the team was formed in 1995, he was highly recruited to be a key member of the team due to his background knowledge in Process Operations and his ability to research and find innovative ways to perform his job as Chief Operator. He is a fierce competitor and is the foundation on which the team was built. The TRA CRWSers Team has represented WEAT as the State Champion for nine consecutive years and has placed either second or third overall in Division I for five years prior to their back-to-back Divisional Championship in 2005/2006. During the last two years, Mr. Price and his teammates have been instrumental in re-establishing the WEAT Operational Challenge Program in the state by extending the team’s assistance to other competing teams. For example, he and his team spent one day prior to the WEFTEC 2006 Operations Challenge event assisting the international team from Argentina in preparation for the national challenge events.

In addition to his many professional duties, Mr. Price continues to be a major driving force at CRWS by participating in countless tours for schools and other professional groups who have visited the facility over the years.

WATER ENVIRONMENT ASSOCIATION OF TEXAS

MUNICIPAL WASTEWATER TREATMENT PLANT OF THE YEAR Category 2 (1-15 MGD)

...presented to a municipal wastewater treatment plant in Texas that has consistently exhibited outstanding performance of daily activities beyond the normal call of duty.

Denton Creek Regional Wastewater System Trinity River Authority of Texas



The Trinity River Authority's Denton Creek Regional Wastewater System (TRA DCRWS) is located on a 48-acre tract of land north of Roanoke, Texas. The DCRWS began treating wastewater in 1990 and is currently capable of serving a population of 50,000 people through system components including 25 miles of interceptor pipelines, varying between 15 and 36 inches in diameter, with three major interceptors and a treatment plant capacity of 5 million gallons per day. Providing advanced secondary and tertiary treatment of wastewater, the plant uses three separate activated sludge single-stage nitrification processes followed by effluent filtration and

ultraviolet disinfection. The facility was one of the original facilities in 1990 to use high intensity ultraviolet light instead of chemicals to disinfect wastewater flows. Waste activated sludge from secondary treatment is pumped to two sludge holding tanks for storage, aerobic digestion, and thickening through decanting. The concentrated sludge is pumped from the sludge holding tank to a belt press that squeezes the majority of the water from the sludge which is then stored on a concrete pad for final disposal at a municipal landfill. DCRWS has a total of six Texas Commission on Environmental Quality (TCEQ)-licensed operators on staff: one "A"; two "B"; two "C"; and one "D".

The regional DCRWS system serves Fort Worth, Haslet, Roanoke, Southlake, the Circle T MUD Nos. 1 and 3, Keller, Northlake, Flower Mound, Westlake, and Marshall Creek. The facility receives flows from customer cities with a current average influent flow of 3.431 MGD. Sixty percent of the flow is produced by industrial sources, and 40 percent is municipal wastewater with average daily loadings of 187 BOD, 250 TSS, and 32 mg/l ammonia. Historically, the plant reduces the influent pollutants by more than 99 percent, producing an exceptionally clean and polished effluent that is significantly below limits established by the TCEQ. Included in the service area for the City of Fort Worth are the Intermodal Industrial Facility serving Alliance Airport and the Texas Motor Speedway hosting 2-3 race events per year. Each of the Speedway events spikes the population served by DCRWS by more than 200,000 people with ammonia loadings over 100 mg/l. In 2005, DCRWS partnered with the City of Fort Worth, Texas Motor Speedway, and Alan Plummer Associates to address the uncommonly high ammonia loadings coupled with the dramatic increase in influent the system experiences during NASCAR events held at the Speedway. A strategic plan was devised that resulted in a reduction of ammonia loadings received at the plant from 1,969 pounds in 1997 to 557 pounds in 2005 and to 498 pounds in 2006. Concurrently, the plant's service area is experiencing explosive industrial, commercial, and population growth which is expected to continue. DCRWS has responded to this nonstop growth in the system's service area with continuous expansion of the system's collection system and the plant's treatment capacity. Plans for the next 11.5 MGD expansion are already underway. Final capacity in 2030 is expected to be 30 MGD.

The DCRWS facility's excellent history of compliance with its National Pollution Discharge Elimination System permit is illustrated by awards garnered by the facility from the National Association of Clean Water Agencies (NACWA), formerly AMSA. NACWA honors those agencies achieving 100 percent permit compliance with a Gold Award and those with fewer than five excursions with a Silver Award. Since 1997,

DCRWS has received five Gold Awards and four Silver Awards. DCRWS experienced only two permit excursions in 2004, both due to a rain event dropping more than twelve inches of rain in a single 24-hour period. The plant has experienced only one two-hour peak flow violation with exceeded ammonia limits, but that was when the plant was within six months of completing a 5 MGD expansion that would have handled the flows easily.

DCRWS maintains an excellent safety record with only one lost time related incident in the past seven years. With a limited staff of six Operation & Maintenance employees, the operators at DCRWS work alone much of the time and realize they must rely on themselves to create and maintain a safe work environment. As a result, personal safety is a priority with a tendency to err on the side of caution. To promote safety awareness, to impact behavior, and to promote compliance with safety practices as outlined in the TRA Employee Safety Manual, employees at DCRWS participate in a multi-faceted safety training program from the first day of employment. That training continues throughout the duration of the employee's tenure.

Employees receive an intense three-week orientation that includes all aspects of operating and maintaining a wastewater treatment facility. Employees receive on-going monthly training on various safety topics provided by a Bowen Miclette and Britt loss prevention specialist. In addition, each employee receives individual monthly training, as needed, through a series of videos and pamphlets. An employee Safety Committee, comprised of DCRWS staff and the Project Manager, meets quarterly to address safety related issues. Monthly plant safety inspections are carried out by members of the Committee on a rotating schedule, and reports of potentially unsafe conditions are submitted to project supervision and management for improvements. Limited staff size at DCRWS and the absence of hazardous chemicals preclude the necessity of an established Emergency Response Team at the plant; however, DCRWS Management has met with the Denton County Local Emergency Management Team to discuss possible hazards and potential emergencies that might occur at the facility. Both the Denton County Local Emergency Team and the Roanoke Fire Department have been provided with a map of the plant. The Fire Department performs periodic inspections of the facility. Finally, the Denton County Sheriff Department makes rounds through the facility after hours to serve as a deterrent to mischievous, criminal, or terrorist activities. In recognition of its successful safety program, DCRWS has received eight safety awards.

As a reflection on the DCRWS pursuit of excellence, the plant was chosen by the Water Environment Federation to be one of the Facility Tours at WEFTEC 2006.

WATER ENVIRONMENT ASSOCIATION OF TEXAS

MUNICIPAL WASTEWATER TREATMENT PLANT OF THE YEAR Category 3 (>15 MGD)

...presented to a municipal wastewater treatment plant in Texas that has consistently exhibited outstanding performance of daily activities beyond the normal call of duty.

Southside Wastewater Treatment Plant Dallas Water Utilities

The Southside Wastewater Treatment Plant (SWWTP) serves the City of Dallas as one of the two treatment plants in the City of Dallas wastewater system. With a collection system of more than 4,000 miles of pipes, the system provides services to about 1.25 million customers from the City of Dallas and eleven customer cities and boasts a combined peak flow treatment capacity of over 450 million gallons of wastewater per day. The SWWTP provides wastewater treatment for the eastern portions of the City, but diversion points in the wastewater collection system allow additional flow to be routed to the plant as needed. The SWWTP treatment processes remove over 99% of pollutants from the influent raw wastewater before discharging treated effluent into the Trinity River at a single point of discharge.



Located on approximately 2,800 acres in the floodplain of the Trinity River, the SWWTP is responsible for processing and disposing all of the solids for the City of Dallas including those produced at the plant's sister facility, Dallas's Central Wastewater Treatment Plant. An extensive levee system protects the plant site and several thousand acres of adjoining private property from flooding. The facility is surrounded by a 500-foot buffer zone with a multi-functional linear lake system that is a popular spot for picnicking and fishing. In addition to its park-like beauty, the linear lake system provides storm water storage and conveyance for the adjacent neighborhoods and a high quality wildlife habitat for a diverse population of local and migratory species. Southside has dedicated over 1,000 acres for wildlife habitat and is designated an Audubon facility.

Between the buffer zone and the actual plant site, a slurry wall of bentonite clay has been constructed from the ground surface down to and imbedded into the impervious Taylor Marl formation as protection of groundwater outside the plant boundary. The slurry wall is part of the Southside's state approved leachate collection system which includes twenty-nine groundwater monitoring wells. Although the quality of the plant's storm water is good, all the storm water is collected and fully treated through the wastewater treatment processes prior to discharge. The slurry wall was constructed so that on-site solids disposal facilities could be developed while ensuring state-of-the-art protection of the environment. SWWTP has two types of surface disposal units for solids: a 220-acre solids-only Monofill and approximately 1,100 acres of developed dedicated land disposal fields. The Monofill is surrounded by a second, additional slurry wall to segregate it

from the remaining plant site. Twelve groundwater monitoring wells and four piezometers have been installed surrounding the Monofill to ensure prompt identification if breaches should occur in the slurry wall. Methane gas detectors are also installed at locations surrounding the Monofill for detection of methane gas and for safety purposes. Due to these extensive measures, the Texas Commission on Environmental Quality (TCEQ) recognizes the SWWTP Monofill as a fully lined landfill facility with an approved leachate collection system.

The Southside Plant was initially constructed in 1964 to provide oxidation pond treatment for 3 MGD of raw wastewater. The plant has undergone various expansions and modernizations to reach its current rated average annual capacity of 110 MGD. Presently, the plant is comprised of nine trains of advanced activated sludge treatment, a screening and thickening facility to thicken primary and secondary solids, anaerobic digesters for solids stabilization, and a solids dewatering facility with a capacity of 164 dry tons per day in addition to the above described on-site disposal facilities. As examples of its commitment to excellence in wastewater treatment, Southside has recently competed five new anaerobic digesters with the ability to operate two-phase digestion using two of the digesters in acid mode; a new 120 MG concrete lined peak flow basin to store incoming wastewater during rain events for a total storage capability of 158 MG; construction of a new blower building with four single-stage centrifugal blowers to deliver compressed air to the aeration basins; demolition of surface aerators, modifications to aerations basins, and installation of fine bubble diffusers; replacement of the existing Process Control System to provide significant expansion of system capabilities and a plant-wide fiber optic based network; modifications and improvements to the plant's electrical architecture to provide increased flexibility to meet future energy needs; and miscellaneous improvements to the chlorine and sulfur dioxide buildings. The upcoming 2007 Phase IV expansion design will increase plant capacity an additional 30 MGD. Additional improvements scheduled for the coming year include: construction of a new DLD field; construction of three organic media biofilter cells and improvements to the Solids Screening and Thickening Facility; implementation of a plant wide odor control master plan; a new Dewatering Facility; side stream treatment facilities to treat ammonia rich filtrate from the Dewatering Facility before returning it to the head of the plant; and a lease agreement for the construction and operation of an Energy Recovery Facility that will generate electricity using methane gas from the plant's digesters.

All of the liquid and solids flow processing at SWWTP is monitored and at times controlled by several Supervisory Control and Data Acquisition (SCADA) computer systems. The facility uses other computer systems to maximize personnel efficiency including a Document Referencing System to enable quick and efficient access to electronic versions of Operations and Maintenance Manuals, specifications, etc., as well as the Data Stream Computerized Maintenance Management System to keep track of plant equipment maintenance.

Out of the total 116 filled staff positions at Southside, a team of 43 operators fully certified by the TCEQ handle the day to day operations of the plant. Current plant operators' licenses exceed requirements by TCEQ for plants with capacities above 10 MGD. These personnel are extensively trained and fully equipped to perform all maintenance functions. Because of its excellent operation and maintenance strategy, the SWWTP consistently exceeds stringent permit limits and has not recorded a single compliance violation since 1991. The National Association of Clean Water Agencies (formerly AMSA) has awarded SWWTP with a GOLD certificate (one year's operation without a permit violation) for every year since 1991 and has awarded the plant with a PLATINUM certificate (for five continuous years of operating without a permit violation) in 1997 and again in 2002. Southside was among the first plants ever awarded the PLATINUM certificate. The plant was recognized as the Water Environment Association of Texas Wastewater Treatment Plant of the Year in 2002 and was presented with the Environmental Protection Agency's National Award for Outstanding Wastewater Treatment Facility Operations and Maintenance in 2002.

Both the management and the staff of the Southside WWTP demonstrate pride and dedication in performing daily activities relating to the operation and maintenance of the various challenging processes and systems at the plant, without compromise to their health and safety. Despite tremendous process and infrastructure expansion, the facility reported only 4.1 lost-time accidents per 100 facility employees in 2004-2005 and only 3 lost-time injuries per 100 facility employees in 2005-2006. SWWTP has a unique safety program that requires a special commitment and accountability for every staff member, from managerial to employee level.

Each individual is responsible for creating and preserving a safe environment by participating fully in the development and implementation of various safety programs, attending safety meetings and training, conducting safety audits, and taking a “safety-first” attitude off the plant. Operations and Maintenance employees work at specific assigned locations and as part of their duties must periodically check the work area for safety hazards using the SWWTP Safety Audit checklist to identify potentially unsafe conditions and initiate the process to rectify the problems. Safety meetings and training play an integral part in the plant’s safety program success. Topics on safety and health issues cover a wide variety of hazards and/or safety procedures such as safe chemical handling, compressed gas use and storage, lock/tag out, fire safety, personal protective equipment, respiratory protection, driver safety, use of gas detectors, chemical contaminants, fall hazards, and electrical safety. Meetings and training may be a combination of lecture, video presentations, and hands-on practice. The plant has a safety section with an on-site safety officer, hazardous material technician emergency response team, and well-documented safety programs that include risk Management Plans, emergency safety plans, and an on-site hazardous response team. The safety section keeps historical records of the type and cause of injuries and accidents. The historical records of operating data and annual reports date back over twenty years.

The Dallas Southside WWTP is an active supporter of both WEF and WEAT activities. For the last two years of the WEAT/WEF Operations Challenge competition, the Dallas Southside WWTP “Aqua-techs” team has placed first in the collections and maintenance events at the state level and first in the safety event at the national level for both years. This last year, the team placed second overall in the national competition for Division II and also received the national award for “Best Team to Watch for 2006”. For the 2006 National WEFTEC Conference in Dallas, the Dallas Water Utilities hosted a plant visit of the Southside WWTP, and plant staff welcomed about 80 conference attendees for the tour.

WATER ENVIRONMENT ASSOCIATION OF TEXAS

RONALD B. SIEGER BIOSOLIDS MANAGEMENT AWARD

...presented to a WEAT member(s), an engineering firm, a specific project, a municipality, or a specific municipal or industrial facility that has made significant accomplishments in the field of biosolids technology and management practices within the boundaries of the State of Texas.

Southside Wastewater Treatment Plant Dallas Water Utilities

The City of Dallas wastewater system serves 1.25 million citizens of Dallas and eleven customer cities, with over 4,000 miles of sewer pipelines covering more than 340 square miles. The two treatment plants in the system, Dallas Southside Wastewater Treatment Plant and Central Wastewater Treatment Plant, have a combined liquid treatment capacity of 310 MGD and produce 220 dry-tons per day of biosolids.

Initially constructed in 1964, Southside WWTP is located on approximately 2,800 acres in the floodplain of the Trinity River and serves the Dallas area south of downtown and the southeastern portion of the city. The plant is well maintained and efficiently operated without compromise to the health and safety of the plant staff, public, and environment. It has not recorded a single compliance violation since 1991 and has won numerous awards including the US Environment Protection Agency's (USEPA) National Award for Outstanding Wastewater Treatment Facility Operations and Maintenance.

Though both Southside WWTP and Central WWTP treat wastewater, Southside is responsible for processing and disposing (solids management) of all solids from both plants, resulting in high filtrate flows that necessitate innovative management. Southside performs one of the largest on-site "cradle-to-grave" processing and management of biosolids in the United States. The processing involves solids thickening in centrifuges and gravity belts, solids stabilization in the only two-phase acid/gas anaerobic digesters in Texas, solids dewatering in belt filter presses, and an innovative ammonia-reduction treatment process for filtrate from the solids dewatering process. The "cradle-to-grave" biosolids management includes the complete disposal of all solids in an environmentally safe manner in on-site biosolids-only landfill (Monofill) and/or Dedicated Land Disposal (DLD) fields. The entire plant site, including the 220-acre Monofill and the 1,100-acre DLD fields, is surrounded by and completely isolated from the immediate environment by bentonite slurry walls and the natural geologic Taylor Marl formation underlying the plant site. In essence, the plant site is in a "bathtub". Since any wastewater solids or storm water that enters the facility ultimately never leaves the facility without full treatment, Southside has no solids loading limits on its solids disposal operation and no stormwater permit is required.

Significant technological improvement has been achieved through the implementation of two-phase, mesophilic, acid/gas anaerobic digestion of process solids. The digestion reduces the odor and bacterial levels in the sludge feed, reduces the amount of solids, and results in Class B stabilized solids. This stabilization method produces increased quantities of methane gas as a byproduct and is the most economic option for stabilization. As a result of full stabilization of all biosolids, no odor complaint has been recorded at the plant since May 2005. Though anaerobic digestion is the most prevalent stabilization technique, these two-phase acid/gas anaerobic digesters are the first in Texas and one of the few in the nation. Two-phase digestion is labeled innovative technology by the USEPA.

Since October 2005, Southside has practiced the innovative treatment of ammonia-rich dewatering filtrate through full-scale pilot testing. This process involves treating the ammonia-rich filtrate in a separate process comprised of aerated tanks utilizing nitrifying bacteria in a process similar to conventional activated sludge nitrification. A significant technology improvement successfully tested and demonstrated at the operational level, this treatment process solves the major obstacle of a single plant processing sludge transferred from multiple treatment plants. No plant of the size of Dallas Southside WWTP, anywhere in the world, has implemented such a full scale piloting of dewatering filtrate.

Public acceptance of plant activities has been achieved through the participation of the City of Dallas in the National Biosolids Partnership and ISO 14001. These organizations provide a framework for the establishment of an Environmental Management System, specific to Biosolids Management, that ensures good housekeeping practices relative to biosolids processing, transport, and disposal. In addition, public acceptance has been gained from the transformation of the 500-foot buffer zone surrounding the plant into a linear lake system for the storage of storm water, as well as for fishing, picnicking, and recreation activities open to the public. Other efforts include the use of the facility as an endangered species research facility, a bird sanctuary open to birding enthusiasts, and facility tours for schools as well as for local, regional, and national organizations. The best indication of public acceptance is the complete cessation, since May 2005, of odor complaints regarding Southside's operation.

All solids management concepts and technologies employed at the Southside WWTP implement recommendations outlined in Southside's Residual Management Master Plan, coauthored in 1985 and updated in 1994 by Ronald B. Sieger.