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CONSULTANT'S UPDATE

ISSUE 11

JANUARY — MARCH 2004

CHANGES TO DEP RULES MEAN IMPORTANT CHANGES FOR FLORIDA UTILITIES

By Paul A. Bizier, PE, DEE



The Florida Department of Environmental Protection has been busy this past year revising rules which govern both public water systems and wastewater collection systems. The revisions to Chapter 62-555, which governs public water systems, were effective August 28, 2003, and are covered in this article. Revisions to Chapter 62-604, which governs wastewater collection system systems, were effective November 2003, and will be reviewed in a subsequent article.

The revisions to Chapter 62-555 will impact all public water systems, with the most significant impacts occurring to those systems with more than 350 customers, or more than 150 service connections. While some of the rule revisions codify what has been routine practice in the past, many of the revisions impose new requirements on the public water systems. Following are some highlights from the new rules.

Protection from Sanitary Hazards: For all new wells permitted after August 2003, the well owner must demonstrate ownership or control of all land within 100 feet of the well-head. Control can consist of easements, lease agreements, or deed restrictions, or for municipalities, appropriate ordinances limiting the use of the land.

Revisions to Separation Requirements: The FDEP has relaxed many of the separation requirements for installation of water mains. In addition, the requirements for installations where separation can not be maintained have

been made explicit, simplifying the design and approval process. It should be noted that many publicly-owned utilities have chosen to remain with the old separation requirements, and will not accept designs based on the new regulations.

Corrosion Control: Several communities throughout central Florida have had issues with copper corrosion in their distribution systems. This is due to the interaction between sulfides in the ground water and the chlorine used for disinfection. In the revised rule, the FDEP has essentially eliminated the use of chlorine to remove hydrogen sulfide. For wells which are either new or altered after August 2003, if the total sulfide level in the well water exceeds 0.3 mg/L, some form of aeration treatment is required. Depending upon the sulfide concentration and the pH, the treatment may be conventional cascade aeration, forced draft aeration, or packed tower aeration. In each case, pH adjustment may be required prior to aeration.

Coating Requirements: The rules have been revised to essentially require that the interior of any newly installed concrete structure must be coated with a coating complying with NSF Standard 61. Otherwise, the engineer must certify that ALL materials used in formulating the concrete (aggregate, admixtures, curing compounds, etc.) comply with NSF Standard 61.

Construction Details: There are many small changes in the requirements for construction of public water systems.

Alarm Requirements: The FDEP has added significant language throughout the new rule

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EOH NEWS



New IEQ Guidelines Released - Dec '03

♦ *II CRC S250 Standard and Reference Guide for Professional Mold Remediation*

Asbestos: "Second Wind" Brings Contaminant Back into Public Eye

Mold Analysis Technology - New PCR Panels

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HEALTH AND SAFETY THOUGHTS FOR THE NEW YEAR

By Mona J. Bird, MSEH



As we embark upon a New Year, we begin to reflect upon our goals and accomplishments of last year. Not only do we reflect upon last year's successes and failures, but we also begin to set goals for the upcoming year in both our personal and professional lives. Most of us have "resolutions" that we make each year but never accomplish. It is important to set realistic goals that can be accomplished by you and/or your staff. The best way to meet these goals during the upcoming year is to make a checklist and set a deadline for accomplishing each item. Health and Safety professionals often have a long list of items each year, but here are a few items that may have been overlooked in the past or items that may be a forthcoming issue for your workplace during the New Year. So, as you approach the New Year, take time to evaluate the following programs in your workplace to determine if your employees are anticipating a safe New Year! Below is a checklist of items to think about. Of course, there may be other Occupational Safety and Health Administration (OSHA) programs you may need to add, but this list will give you a start.

- Chemical Hazard Communication (1910.1000)
 - Have we identified and listed the hazardous chemicals in the workplace?
 - Have we obtained the Material Safety Data Sheets (MSDS) and labels for all hazardous chemicals?
 - Have we developed and implemented a written hazard communication program?
 - Have we communicated the hazard information to our employees through labels, MSDS's and through a formal training program? (Companies often overlook the importance of maintaining a chemical inventory and often fail to maintain the MSDS.)
- Noise Exposure (1910.95)
 - Are your employees in a hearing conservation program? (Employees exposed to an 8-hour Time-Weighted Average of 85 dBA or greater should be included in a HCP.)
 - Are you providing noise exposure monitoring? (Noise monitoring should be conducted each time a change in process occurs or when new equipment or other significant changes occur.)
 - Do you provide audiometric testing? (Audiometric testing should be provided to all employees in a hearing conservation program.)
 - Do you **provide** hearing protection for employees in a hearing conservation program and do you **require** employees exposed to noise levels of 90 dBA and greater to wear hearing protection?
 - Are the employees in a hearing conservation program trained each year?
- Confined Spaces (1910.146)
 - Does your facility have confined spaces that require a permit for entry?
 - Does the space contain or does it have the potential to contain a hazardous atmosphere?
 - Does the space contain material that has the potential for engulfing an entrant?
 - Is the internal configuration such that it might cause an entrant to be trapped or asphyxiated by inwardly converging walls or by a floor that slopes downward and tapers to a smaller cross section?
 - Are there any other serious safety or health hazards that are recognized or anticipated in the space?
 - Have the employees exposed to the permit-required confined space been informed of its existence and the dangers it poses? (Ex. Danger signs)
 - Do you have a permit system? Has a written permit space program been developed and implemented for the employees that are required to enter the space?

___Have the employees been trained and educated on the proper procedures, hazards, and emergency response associated with confined spaces?

- Personal Protective Equipment

___Are you providing your employees with adequate eye and face protection (including the proper filter lenses for protection against radiant energy) that is reasonably comfortable, durable, capable of being disinfected, easily kept clean and that fits snugly without impairing movement or vision?

___Do you need to provide respiratory protection to your employees? (Personal air monitoring can be conducted to determine if employees should or should not be required to wear respiratory protection.)

___If you require the use of a respirator, do you also have the written operating procedures for its use and care?

___Have you properly selected the respirator? (This should be based on the hazards and the work environment.)

___Have your employees been trained on the use of a respirator and do you conduct annual respirator fit tests?

___Have your employees been trained in the proper cleaning, disinfecting, storage and maintenance of a respirator?

___Have you performed a proper surveillance of the work area conditions to appropriately identify the contaminant, nature of the hazard, and the concentration at the breathing zone?

___Are you using approved respirators, requiring medical examinations, and is the respirator program being inspected and evaluated to determine the effectiveness of the program?

Evaluate the above checklist to determine if you need to reevaluate the Health and Safety Programs at your workplace.

Other issues that you may also need to think about: Occupational Head Protection (1910.135), Foot protection (1910.136), Electrical Protective Device (1910.137), Hand protection (1910.138), walking and working surfaces (1910.22). For information on these and other OSHA standards and guidelines, you can easily access the standards on the OSHA website at www.osha.gov or contact Chastain-Skillman, Inc.'s EOH Department at (813) 621-9229.

Mona Bird is an Industrial Hygienist in the Environmental & Occupational Health (EOH) Department of Chastain -Skillman, Inc.'s Atlanta Office. She earned her bachelor and masters degrees in Environmental Health Science from the University of Georgia. She can be reached at (770) 980-9880 or mbird@chastainskillman.com.

MICHAEL R. LEFFLER, DEE

SENIOR CONSULTANT



Chastain-Skillman, Inc. is pleased to announce that Mike Leffler has joined our staff. Mike will serve in the capacity of Senior Consultant and brings 32 years of experience to our Environmental group. Mike earned his M.S. Chemical Engineering, 1977, Cleveland State University, Ohio, and his B.S. Engineering (Environmental), 1972, Purdue University, West Lafayette, Indiana.

His specialty areas of service for Chastain-Skillman, Inc. will include planning, design, and construction administration of water and wastewater engineering projects. He will also perform design system modifications, project management, staff scheduling, and quality control of public and private projects. His most recent experience includes design of an 83-mgd primary treatment facility to expand the wet weather capacity of a municipal wastewater treatment plant from 45 mgd to 128 mgd and design of a 5.6 mgd wastewater pumping station and force main.

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mandating specific alarms for water plants. Alarms are required for loss of nitrate/nitrite treatment capacity (where required), loss of chlorination, high chlorine residual (some hypochlorite facilities), loss of power, and chlorine leaks (for facilities using gas cylinders). In each case, the alarms must be both audible and visual. The alarms must also be telemetered to either a location which is continuously staffed, or must operate an automatic telephone dialing or paging device.

Odor Control: New treatment facilities must demonstrate that they do not have an adverse odor impact.

Chlorination Equipment: Chlorine, whether as hypochlorite or gas, must be fed into the drinking water proportional to flow. In some cases, FDEP may require automatic flow proportioning control, automatic residual control, or even compound-loop control, adding greatly to the complexity of the system. In addition, all gas chlorination facilities are now required to provide a self-contained breathing apparatus (SCBA) on-site, except under certain circumstances.

Standby Power: By December 31, 2005, all systems serving 350 or more persons, or 150 or more service connections, must provide standby power sufficient to provide average daily demand. The generator must be located on-site, except under certain conditions. In most cases, the emergency power system must have auto transfer capabilities.

Finished Water Storage Capacity: The rule imposes significant requirements for finished water storage. The most general requirement is for finished water storage capacity (excluding fire storage) equal to 25% of the system's maximum day water demand. However, this can be relaxed if the water system's source, treatment, and finished water pumping facilities, together with the useful storage capacity, will meet the system's peak-hour water demand for at least four (4) consecutive hours. For small water plants permitted after August 2003, hydropneumatic tanks must have sufficient effective volume to meet the peak instantaneous water demand for at least 20 minutes.

Capacity Analysis Reports: Water systems will now be required to prepare Capacity Analysis Reports (CAR) similar to those required for wastewater plants. The initial CAR is due within six months after the month in which the total maximum-day quantity of finished water produced by the treatment plant (s) first exceeds 75% of the total permitted maximum-day capacity of the system, or by August 28, 2004, whichever occurs later. Depending upon the results of the initial CAR, additional reports may be required every year, or every five years. In

addition, depending on the results of the CAR, new plant construction may be required under a schedule contained in the rule.

Operations and Maintenance Requirements: The rule contains specific O&M requirements for water utilities. These include routine operation of all distribution system valves; monthly operation, under load, of all auxiliary power supplies; annual inspection of all storage tanks; cleaning and inspection of coating integrity for all storage tanks once every five years; and quarterly flushing of all dead-end water mains.

Security: There are several requirements that have been added regarding security and notification. These are already being enforced by FDEP, and public utilities should review the rule and ensure that emergency response plans reflect specific notification requirements for occurrence of any abnormal color, odor, or taste; failure to comply with disinfection requirements; breakdown of equipment; water main breaks; and removal of equipment from service for maintenance.

Record-keeping: New requirements include documentation that isolation valves are being exercised and that dead-end mains are being flushed. Also, all systems are required to have an up-to-date map of their water distribution system completed by 12/31/2005. Finally, written emergency preparedness/response plans are required by December 31, 2004.

Permitting Requirements: DEP has relaxed permitting requirements for very small system expansions. For example, water main replacement or relocation for utilities can be accomplished with written notification to the DEP or Health Department. For small scale extensions, with a value less than \$10,000, public agency officials can submit a General Permit application without a professional engineer's seal. However, when the "Application for Specific Permit" is utilized, as in a phased project, there is a new requirement for a "Preliminary Design Report". The information required to complete this report is quite extensive, and is similar to requirements presently in place for wastewater treatment plants.

We suggest that persons involved with public water systems go to the DEP web site (www.dep.state.fl.us) and review the rules in detail. Chastain-Skillman has extensive experience in each of these areas, and stands ready to help you meet these new requirements.

Paul Bizier is a Principal/Director of Environmental Engineering for Chastain-Skillman's Environmental Engineering Department. He earned a Masters Degree in 1997 from Georgia Tech. He can be reached at (863) 646-1402 or pbizier@chastainskillman.com.

RIGHTS-OF-WAY: IT'S ALL ABOUT MAINTENANCE

By John Richard Noland, PSM



There have been many means for a state, county, or municipality to hold title to the rights-of-way for the roads we drive each day. Some are records of conveyances, dedications, or maintenance, the latter by way of Chapter 95.361, Florida Statutes. This statute had generally stated that the road had to be: (1) constructed and maintained/repared continuously for a period of 4 years by the state, county or municipality; and (2) that a map showing the lands has been filed in the office of the Clerk of the Circuit Court of the county where the road is located. Then the state, county, or municipality, has all right, title, easement, and appurtenances in and to the road.

Apparently there have been some problems proving who constructed some of the roads being maintained. Some of the maintained rights-of-way have been chal-

lenged on the basis of construction. The statute states that both construction and maintenance were needed to acquire the "maintained right-of-way".

This past year there were two subsections added to Chapter 95.361 of the Florida Statutes. The first addition (new subsection 2) gives the state, counties or municipalities all rights, title, easement, and appurtenances in and to the road if they have maintained/repared the road for the period of the immediate past 7 years, and (new subsection 3) a map is filed in the office of the Clerk of the Circuit Court (whether or not they constructed the road, and whether or not the road has been formerly established as a public highway).

The second addition (new subsection 4) to the statute states "any person, firm, corporation, or entity having or claiming any interest in and to any of the property affected by subsection 2, shall have and is hereby allowed a period of 1 year after the effective date of this subsection, or a period of 7 years after the initial date of

regular maintenance or repair of the road, whichever period is greater, to file a claim in equity or with a court of law against the particular governing authority assuming jurisdiction over such property to cause a cessation of the maintenance and occupation of the property. Such timely filed and adjudicated claim shall prevent the dedication of the road to the public pursuant to subsection 2".

With the change in the statute the state, county, or municipality has the means to acquire title to the road they have been maintaining for 7 years without proving that they constructed the road. It also provides means for an individual to challenge the same. Seems fair.

The Florida Statutes can be viewed at <http://www.flsenate.gov/statutes/>

John Richard Noland, P.S.M. is a Project Manager for Chastain Skillman's Lakeland office with 15 years of surveying experience. He can be reached at (863) 646-1402 or RNoland@chastainskillman.com

EXPEDITED SITE ASSESSMENT

By James D. Stump, PG



An expedited site assessment is generally described as a process by which rapid characterization of a site is conducted in order to make timely and cost effective corrective action decisions. Expedited site assessments typically use rapid data collection techniques, such as direct push soil and ground-water sampling and mobile laboratory analysis, to obtain information about a site. This data is integrated into a dynamic work plan strategy. The work plan strategies in expedited site assessments are adjusted in response to data generated while the field crew is still on-site.

Expedited site assessments can be utilized for various size projects from smaller scale real estate transactions to larger scale assessment/remediation/monitoring activities at known impacted sites. The site-specific objectives of expedited site assessments can include a determination of the existence of contamination; an investigation or assessment of suspected contamination; or an evaluation of known contamination.

A comparison of conventional site assessments to expedited site assessments identifies the following differences:

The work plan for conventional site assessments is typically rigid with a well-defined number of data sampling points and locations. An expedited site assess-

ment utilizes a dynamic work plan which is flexible and continually refined through interpretation of field-generated data.

The conventional site assessment is directed from the office by senior-level staff and field staff generally consists of junior-level personnel. An expedited site assessment is directed by senior-level staff in the field who are authorized to make sampling/analytical decisions and revise the work plan accordingly.

The conventional site assessment tends to be time consuming with total costs relatively high due to multiple mobilizations and often times several phases of report submittals, while an expedited site as-

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EXPEDITED SITE ASSESSMENT

assessment usually completes site characterization in fewer mobilizations with a reduction in the administrative costs of writing and reviewing multiple reports.

Expedited site assessments have become more commonly used and accepted by regulatory personnel and lending institutions over the last 5-10 years. Although they are not appropriate for all sites, ex-

pedited site assessments are often times preferable to conventional site assessments because of a decreased time frame for interpretation/reporting of data acquisition/results and, in many cases, a cost savings when compared to conventional site assessment activities.

James D. (Duff) Stump is a Senior Project Manager in Chastain-Skillman's Lakeland

Office. His work focuses on environmental site rehabilitation and geologic/hydrogeologic reports. Duff received a Bachelor of Science Degree in Geology from Eastern Illinois University in 1981 and a Master of Science Degree in Geology from the University of South Florida in 1984. He can be reached at 863-646-1402 or jstump@chastainskillman.com.

CERTIFIED BIOLOGICAL SAFETY PROFESSIONAL

Bruce Kelly, Senior Industrial Hygienist, in our Longwood office, recently earned the designation of Certified Biological Safety Professional (CBSP) from the American Biological Safety Association (ABSA).

A CBSP is a biological safety professional who has in-depth knowledge and experience with the principles of epidemiology, disease transmission patterns, risk-assessment and hazard identification, program development and management, disinfection, decontamination and sterilization, disease prevention and aerobiology and environmental control, as they relate to hazardous biological agents.

To be considered for certification, one must meet the minimum qualifications of a bachelor's degree in microbiology or biology and at least seven years of pertinent experience. In addition, one must meet the requirements of the National Registry of Microbiologists (NRM), a unit of the American Society for Microbiology, for becoming a Specialist Microbiologist in Biosafety which includes a written certification examination.

The field of biological safety promotes safe practices, procedures, and proper use of containment equipment and facilities for the management of infectious materials. The concept of **Biological Safety** (or biosafety) has paralleled the develop-

ment of the science of microbiology. Advancements in the manipulation and propagation of microorganisms required the parallel development of containment principles as well as facility design and practices/procedures to prevent occupational infections and/or release of the organisms to the environment.

While the ABSA has been in existence as a professional society since 1984, the formalized field of biosafety actually has its origins in the 1950's as a necessary component of the military's biological warfare programs. Representatives from the United States Army's Camp Detrick (now Ft. Detrick) participated in the first Biological Safety Conference in Frederick, Maryland, in 1955. The purpose of the conference was to share knowledge and experiences regarding biosafety and other safety issues that were common to the operations at the three principal biological warfare (BW) laboratories of the U.S. Army.

Until recently, biosafety has been a relatively specialized field focused primarily on biological containment laboratories and laboratory workers. Unfortunately, due to the events of September 11, 2001, and the subsequent Anthrax incidents, the field of biosafety has been brought to the forefront as an important component in public safety and health.

Bruce Kelly, a graduate of Mount Saint Mary's College, served as a biosafety officer in the Airborne Disease Division at the US Army Medical Research Institute of Infectious Disease at Ft. Detrick and in an Environmental Microbiological Research Laboratory at Johns Hopkins University. Bruce is board certified in the practice of industrial hygiene and safety by both the American Board of Industrial Hygiene and the Board of Certified Safety Professionals. Along with these certifications, he holds a Level III certification in Homeland Security from the American College of Forensic Examiners International.

THE DUE DILIGENCE PROCESS IN LAND TRANSACTIONS

The term “due diligence” in land transactions refers to the careful investigation of issues prior to the completion of the transaction. That term is very familiar to those involved in such transactions and the subsequent development of that parcel of land. There are, however, increasing subtleties and areas of the due diligence process that must be pursued very carefully and systematically. Without going into all of the specific recommended items of a due diligence investigation, or discussing the collaborative process needed for the best result, it might be helpful to highlight a key problem of the process.

Generally, the enemy of appropriate due diligence is time. There is rarely a problem of inadequate funding for the process as most potential buyers are glad to budget adequately for sufficient and competent advice. But often the process is so compressed that items are overlooked, misunderstood or assumptions made in the interest of time.

A good example of the problem of time constraints occurred when a buyer asked Chastain-Skillman – will the earthwork on the site balance? The buyer was trying to determine if additional soils material (i.e. “dirt”) would need to be imported to make the site usable. Chastain-Skillman was only given one day to make that determination and responded that the site would not balance. The buyer sought a second opinion from another engineering firm. That firm indicated the site would balance, was assigned the design contract, and had to deal with the fact that later the site needed \$1M in imported fill dirt. Had that engineering firm had sufficient time during the due diligence process, it would

not have made the mistake in estimating the earthwork.

Time constraints can also prevent people from traveling to pursue issues on a face-to-face basis. Chastain-Skillman was asked to provide design services for a developer from out-of-state who had recently purchased a site in Polk County. Unfortunately they had purchased a site in the Green Swamp Area of Critical State Concern without even knowing it. The attorney handling the process practiced in Orlando and did not have the time to meet with Polk County planning staff to pursue all possible issues. As a result of the special rules, the site could not be used for the intended project and the developer had to purchase yet another site.

Another time problem is the lack of time to evaluate the meaning of a geotechnical (i.e. soils investigation) report. Most buyers know they need such a study but often do not allow sufficient time thereafter to evaluate their intended use, and the possible associated costs, against that report. Frequently there should be time allowed for a preliminary design or additional soil borings but, in the interest of time, assumptions often replace the necessary detail work.

Time problems with due diligence can also occur at the end of the process because due diligence is a “snapshot in time”. Transactions need to be completed and improvement projects pursued in a timely fashion, or many conclusions may go stale as conditions change. Here in Florida that problem generally arises due to concurrency evaluations. Concurrency is the principle by which certain infrastructure items must have the capacity to accept

new impacts concurrent with the new development. Concurrency problems have recently occurred with the water supply but can most easily occur due to traffic congestion. A segment of road may be determined to have sufficient capacity to handle traffic from the proposed land development project but if that project is delayed, even for as little as one year, the situation may change to prevent that project from proceeding.

While so far it has been rare for a project in Polk County to be stopped due to traffic capacity, it has happened. The initial Cracker Barrel site in Lakeland was denied due to traffic capacity. After that occurred, a potential out-parcel at a shopping center near a critical intersection was also denied based on traffic capacity. The problem will only get worse, so land purchasers must carefully assess the situation if they don't intend to move promptly to put the property to its ultimate intended use.

Many more examples of the time problem could be provided but, in conclusion, despite the fact the due diligence process can be complex and may involve professionals from several disciplines, land purchasers are urged to contribute one key item they control and that is--adequate time for a solid and thorough due diligence analysis.

Ken Campbell graduated magna cum laude from Michigan State University with a degree in civil engineering. He has been a registered engineer in Florida for 28 years, and is a Principal/Department Head of Chastain Skillman's Civil Engineering Department. He can be reached at (863) 646-1402 or kcampbell@chastainskillman.com.



JULIA RAHMAN, EI
PROJECT ENGINEER

Chastain-Skillman, Inc. is pleased to announce that Ms. Julia L. Rahman, EI, has joined the firm's Lakeland office and will be working as a project engineer with the environmental group. Ms. Rahman received her Masters degree in Civil and Environmental Engineering from Utah State University.

This newsletter is provided solely for informational purposes and presents only highly condensed summaries relating to the topics presented. Therefore, it should not be relied upon as a complete record for purposes of regulatory compliance, nor is it intended to furnish advice adequate to any particular circumstances. For additional information on any of the topics in this newsletter, please contact the author, or Allan Duham, (863) 646-1402, or e-mail us.

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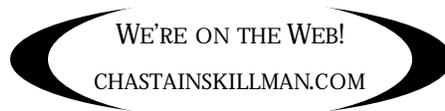
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