

GPASA selects ARRO

The Greater Pottsville Area Sewer Authority has selected ARRO to provide construction management services for the Authority's capital improvement program.

With a new theme "Building for tomorrow with a focus on the safety and health of the public," the capital improvement program is a continuation of the Authority's plan to undertake \$40 million of improvements to its collection, conveyance, and treatment facilities over the next 20 months. These improvements are part of the Authority's commitment to correct deficiencies and problems with the systems through the implementation of cost-effective, technologically sound strategies to address current and future wastewater treatment, water pollution control, and regulatory requirements. The Authority has received PENNVEST funding for the proposed improvements.

The Greater Pottsville Area Sewer Authority was incorporated in 1970 by the City of Pottsville, the Borough of Palo Alto, and the Borough of Port Carbon. The Authority provides public sewer service to a number of municipalities, namely the City of Pottsville, and the Boroughs of Port Carbon, Palo Alto, Mechanicsville, Mount Carbon, and portions of the Townships of Norwegian, North Manheim, and East Norwegian. The Authority is committed to pursuing environmental policies and programs that are in the best interest of the local community and enhance the quality of life for all citizens.

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- *Engineering*
 - *Consulting*
 - *Operations*

ARRO

Dynamics

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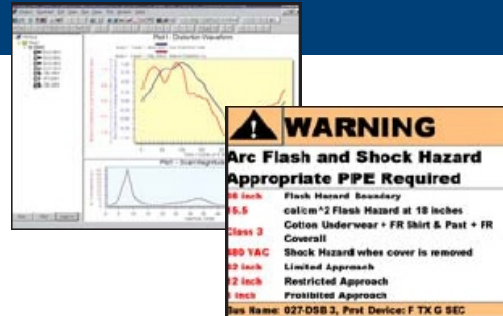
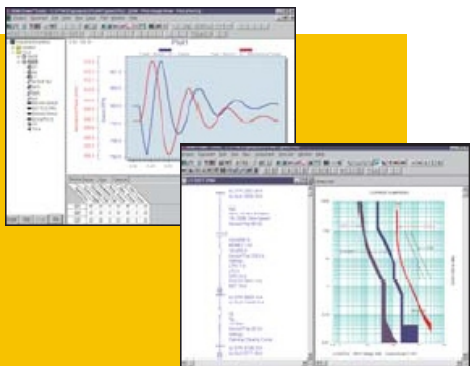
Permit & Code Enforcement

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Power System analysis and coordination

ARRO provides power system analysis and coordination studies using SKM Power Tools® Electrical Engineering Software. This software offers an integrated set of modules for design and analysis of three-phase power systems.

Power systems can be studied in two phases. The first phase provides single-line diagram, load flow, fault analysis, and voltage drop information. This information is important in understanding how the electrical system is performing now and if it is prepared to handle future loads. The second phase can take the information from the load study and use it to generate graphical curves. These curves reflect the fault tolerance capabilities of the system components, and allow manipulation of the protective devices. This manipulation is done so that the protective devices are coordinated to trip before damage can occur to the system components they are meant to protect. A coordination study cannot be done without having done a load study. Protective device coordination is an essential element to a complete and functional power distribution system. The national electric code (NEC) does not mandate an orderly shutdown of an electrical system, but where safety to personnel and equipment must be maximized, the NEC recommends coordinated short-circuit protection or monitoring systems.



If your electrical facility is critical to maintaining process where time is money, or where disruption of service could pose personnel safety issues, then perhaps protective device coordination is of extreme importance.

The main reason for device coordination is to isolate fault conditions to the most immediate upstream protective device. This prevents the fault from disabling the operation of the remainder of the facility. Another reason is to simplify locating the fault condition(s). When a protective device trips, the first question should be "What caused the protective device to trip?" Locating a fault on a shutdown branch circuit is much easier to find than locating the fault when a main protective device takes out the facility because of a minor fault in a branch circuit. When evaluating an existing power system, the same procedures are used as if designing a new system. The only difference is that all the components are known in the existing system.

Systems that might benefit from this type of study include wastewater or water plants larger than a few MGD capacity, or facilities that have several layers of electrical switchboards, switchgear, distribution transformers, or motor control centers.

For further information please contact Randall Sweitzer, P.E. at ARRO Consulting, Inc.

For questions or comments, please contact us at info@thearrogroup.com.

this'n that



AES Presentation

Brian Hagy of ARRO Environmental Services (AES) was the guest speaker at the quarterly meeting of the Master Brewers of the Americas Association (MBAA) held at Stoudt's Brewery in Adamstown, PA on March 18, 2005. During his presentation, Brian focused on providing technical advice about wastewater treatment technologies available to the brewing industry. Approximately 30 master brewers from Pennsylvania and surrounding states attended the presentation. Brian's presentation featured a question and answer session where he responded to many questions on how the brewing industry can meet industrial pretreatment standards required by the local publicly owned treatment works (POTW).

Employee of the Year

ARRO is pleased to announce that it again will sponsor the Employee of the Year award organized by the Pennsylvania Municipal Authority Association (PMAA). This award acknowledges an individual's contribution to community service as well as service to PMAA. The awardee will receive a personalized plaque and a \$750 monetary award to an institute of higher learning or non-profit organization. Nomination for the "Authority Employee of the Year" may be made by any active PMAA member. In order to nominate a candidate, a letter of not more than 100 words must be sent by the nominator 30 days prior to PMAA's Annual Convention, slated to be held September 11-14, 2005 in Hershey, PA. For more information contact Maxi Cotto at 717-560-6061.

Wing Eating Contest

On Thursday, March 24, Dan Guers, Akron Borough Manager, and Jeff Bologna, hydrogeologist for ARRO, went head-to-head in a "hot wings eating contest." Since both contestants are legendary in their respective hot wing-eating circles, there was much anticipation associated with the competition. The rules were simple: both Dan and Jeff were to prepare a dozen wings, six for themselves to eat, and six for their opponent. The person who could eat all twelve

wings would be the winner. After about 10 minutes of intense labor, both men were able to consume all 12 wings. The monumental event ended with a handshake and nod of mutual respect between the contestants, and applause from the audience. The two legends remained undefeated, and speculation regarding a potential rematch began to circulate around ARRO's Lancaster office.

Brain Exercises

The vodka and tomato juice drink, Bloody Mary, was also the nickname of which famous Mary?

- Mary Poppins
- Mary I, Queen of England
- Mary Shelly
- Mary Ann Evans (aka George Eliot)

What percentage of body weight does blood make up in humans?

- 20%
- 15%
- 40%
- 5%

The Aozou Strip is claimed by what two countries?

- Libya & Egypt
- Egypt & Greece
- Libya & Chad
- Israel & Jordan

Which is NOT one of the Great Lakes?

- Huron
- Mead
- Superior
- Erie

$\frac{1}{3}$ divided by $\frac{2}{7}$, is what?

- $1\frac{6}{7}$
- $\frac{2}{21}$
- $\frac{1}{7}$
- $1\frac{1}{6}$

How many players are allowed on the football field for a single team at any point in time?

- 11
- 12
- 10
- 9

The first person to e-mail the correct answers to info@thearrogroup.com will win a prize. ARRO employees are not eligible.

The correct answers to the last Issue's "How Smart Are You" were "Yes, 1, 12, 6, No, 70, 2, 60, 9, 0, 12" and the winner was James Hornafius from the Mount Joy Borough Authority.

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ARRO provides advice, design, project management, consulting, and operations services for a wide range of infrastructure including water, wastewater, and transportation systems.

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Permit & Code Enforcement

In an effort to assist our municipal clients with the ever-changing world of zoning, permits, and building code inspections, ARRO has developed a software package that quickly and efficiently tracks permits, inspections, and other code enforcement activities from beginning to end. Unlike many similar products currently available on the market, ARRO's system is based on Microsoft Access, an industry-standard application found on virtually all business PCs. This alleviates the need for purchasing proprietary software, which can only be modified by the software creators, as well as the training associated with learning a new software application. Most competing software packages on the market today require the user to adapt to predefined or canned procedures. ARRO's system contains customized forms and procedures based upon the municipality's existing paperwork and workflow. Since the software is not proprietary, users that are proficient in Access can make modifications to the system to accommodate their needs without the obligation of added costs of maintenance agreements or technical support.

From the initial submission of an application, through the review and inspection process, permit issuance, all the

approvals and the issuance of a Certificate of Occupancy, ARRO's system is designed to allow even a novice user to easily retrieve information on the status of an application, therefore expediting the answer to the age-old question: "Where's my permit?" In addition to permit tracking, ARRO's system allows one-click production of approval/denial letters, duplicate forms, inspection documents, permits, and reports such as weekly, monthly, or annual permitting reports, once again modeled after documentation currently in use by the municipality. Because ARRO's system shares the same database platform as ESRI's ArcView GIS (Geographic Information System), it is possible to further enhance the system's functionality by using the permitting information within the GIS environment to achieve such results as map production, graphical representation of queries, or permit trend analysis, just to name a few.

For more information, or to schedule a demonstration of the system, please contact Freddy Lutz, or Brian Higgins at (717) 569-7021.