

TankTalk

Successful West Mifflin Tank Rehabilitation Project

Lead abatement on the 7,268,000 gallon ground storage tank in West Mifflin, Pennsylvania provided a variety of challenges to the specifier, owner, and contractor. Not only was the tank located within close proximity of several residences with swimming pools and within approximately 4,500 feet of an airport runway, but the tank was also in Allegheny County, Pennsylvania—one of the strictest areas for environmental regulations in the United States. This high-profile project was observed by the Allegheny County Bureau of Environmental Quality, OSHA, and the University of Pittsburgh.

Based on the findings of a prebid evaluation performed by TANK INDUSTRY CONSULTANTS in the fall of 1993, the Pennsylvania-American Water Company determined that the tank was in need of exterior and interior re-

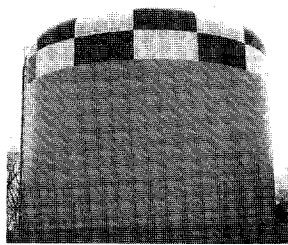
painting and rehabilitation. The potential difficulties of the project were addressed immediately. Project specifications prepared by

TIC® incorporated the requirements of all applicable regulatory agencies. Some environmental safeguards included in the specs were:

- a minimum of 4 ambient air monitors, monitoring at all times during blasting operations,
- extensive reporting of all monitoring data at scheduled intervals,
- blasting limited to 7 am to 7 pm,
- 100% containment of the structure utilizing non-porous tarps that would prevent visible material or dust from escaping the containment,
- air moving equipment capable of creating a reduced pressure within the containment enclosure.

Through the cooperative efforts of the tank owner, contractor, and TIC's on-site observation technician and engineering staff, the project was completed with minimal disruption of neighborhood activities and with no health risks to residents or others within the community. The First Anniversary evaluation revealed that the coatings, as applied, should fulfill their expected useful service life with only minor touch-ups required on the interior.

Thanks to our friends at the Pennsylvania-American Water Company for allowing us to share this case study with our readers.



Tank Talk Gets a Face Lift

After 24 issues, we're proud to introduce a new and remodeled Tank Talk. We plan to continue offering tank owners, engineers, and operations and maintenance personnel the same quality of information—just in a new, easier-to-read format. We may even jazz it up a bit with photos and some graphics.

It's important to us that we offer our readers the types of information that they need and want. So if you have a topic that you'd like to see discussed in Tank Talk, or even a question you'd like to have answered or a problem you'd like help in solving, drop us a line or call. We always enjoy hearing from our readers.

But don't worry. Even though the format and appearance have changed, we intend to continue to publish the Tank Talk our readers tell us they've enjoyed reading.

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Chairman's Corner

By E. Crone Knoy, P.E., CEO

Values. I remember when as a project engineer for a large tank fabricating company I was checking drawings of tanks, some of the draftsmen (now called "drafts-persons") made their "V"'s to look like "U"'s. This would result in the word *valve* looking like *value*.

I sometimes think back and wonder if there is a reason for the confusion between *valves* and *values*. Perhaps we as human beings have a series of valves in our heads that turn on and off the set of values we are living by at any given moment. Hopefully, as we "mature" and improve our social skills, we convert the manually operated valves into automatic ones, and these values become our governing principles from which we don't deviate.

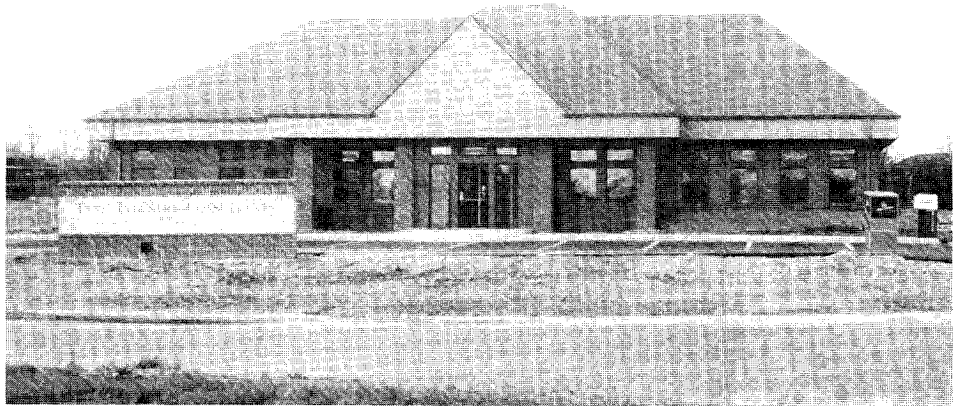
The values I am talking about are the principles by which we conduct our daily personal and business lives. The principles by which I personally hope to abide are spelled out very succinctly by Stephen Covey in his best-selling book *The 7 Habits of Highly Effective People*. Briefly summarized, these principles are:

- Fairness
- Integrity and Honesty
- Human Dignity
- Service
- Quality or Excellence
- Growth and Change

It is by these principles that we strive to conduct ourselves at TIC®. How we are perceived by our industry, our clients, our friends, and our co-workers is always of concern to me. I'll always remember a custom tee shirt given to me almost 20 years ago. It said...

NobOdy's Perfect.

But we'd sure like to be! Let us know how we're doing.

TIC - New Headquarters Office

Our long-awaited move to our new Headquarters Office finally happened! In December, the TIC Headquarter's staff (with the help of a commercial mover) moved bag and baggage to our new office in the Airport Technology Center complex on the westside of Indianapolis. It took a few weeks to unpack and settle in, but by now, we've *almost* forgotten what it was like to "make do" with our old "traditional" office space instead of working in this beautiful new facility, specifically designed for our unique business.

The layout of offices in the new building promotes networking of engineering, administration, and support staff members. Our previous "patchwork quilt" of offices was a necessary result of TIC's growth. But the design of the new office assures clients that when TIC is on the job, they get the benefit of the combined talents and expertise of *all* of our staff members.

Another special feature of our new office is our expansive file room where we can house files on the projects we have been involved with in the past 17 years. The limited space available in our former office meant that older files had to be stored off premises, and they were always a hassle to retrieve when needed. It will no doubt take several more months to get all of our files in place, but the specially designed file storage facilities in the new office are geared to handle all this, and more.

Besides the traditional office space, our new office includes a 1,500 square foot storage and staging facility for field safety and evaluation equipment. TIC's crews of field technicians especially like being able to load and unload their equipment inside—out of the temperamental Indiana weather.

When we moved, several "behind the scenes" changes took place as well. The move presented the perfect opportunity to upgrade much of our computer equipment and enhance our computer network and communications capabilities. When you call into our office now, you'll have the opportunity to leave a voice message if the person you are calling is not immediately available.

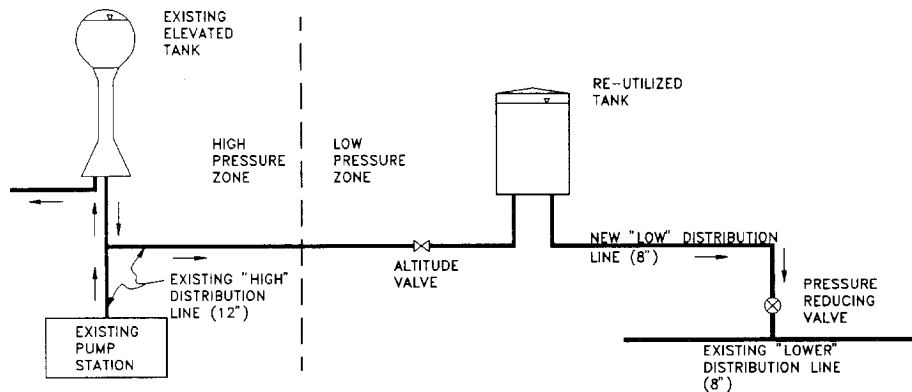
Oh, by the way, our new address is **7740 West New York Street**
Indianapolis, Indiana 46214
 our new phone number is **317/271-3100**
 and our new fax number is **317/271-3300**

Stop by and see us if you're in the neighborhood! We'd love to have you visit!

P.S. Have you moved? Please help us update our database by providing us with your new address. Thanks!

Town Finds New Use for Old Water Tank

by: Randy Formica
Town Engineer, Town of Blacksburg, VA



The Town of Blacksburg, Virginia's water system is separated into two pressure zones—a high pressure zone and a low pressure zone. A 1,000,000 gallon ground storage tank, known as the *Alleghany Water Tank* was originally built on a mountain to serve the high pressure zone. As development progressed within the Town and people moved higher up the mountain, it was found that this tank was too low in elevation to adequately serve the high pressure zone. To solve the pressure problems the Town then built an elevated tank to provide the necessary pressures within the high pressure zone. Subsequently, the *Alleghany Tank* was taken out of service because it could no longer serve the high pressure zone. The *Alleghany Tank* was abandoned, but it was not dismantled.

Approximately 10 years later an engineering study indicated that the Town needed additional water storage capabilities. An engineering study was performed to determine the feasibility of placing the *Alleghany Tank* back into service by using it on the low pressure zone. It was determined that with some modifications, the *Alleghany tank* could be filled from the high pressure zone and then could gravity feed to the low pressure zone.

TANK INDUSTRY CONSULTANTS evaluated the condition of the *Alleghany Tank* and prepared specifications for the complete repainting of the tank, including lead paint abatement

contingencies and sanitary and safety upgrades. Included in the specifications were the necessary modification to provide a new outlet pipe, a new altitude valve, and new gate valves in the valve vault. Through the piping modification in the valve vault, the *Alleghany Tank* would fill from the high pressure zone. When the tank level reaches overflow, the altitude valve would close. The altitude valve provides approximately 8 feet of fluctuation in the tank.

The Town of Blacksburg's Department of Public Works personnel installed the piping necessary to connect the newly refurbished *Alleghany Tank* to the low pressure zone. Due to the elevation of the *Alleghany tank* in com-

parison to the low pressure zone, a pressure reducing valve was included in this piping to prevent excessive pressure in the lower parts of the valley.

With a little ingenuity, the Town of Blacksburg was able to rehabilitate an old unused tank and add an additional 1,000,000 gallons of storage to the system without all of the costs and complexities associated with building a new water tank.

Editor's Note: A special thanks to Randy Formica for his contribution to this issue of Tank Talk. If any of our other readers have tank-related problems or solutions they'd like to see discussed, please contact us.

Tank Maintenance and Operation Tips

Summer presents some special "challenges" for water tank owners and operators. Warm summer nights can translate into increased tank site vandalism. But with a few, fairly simple precautionary measures, you can help limit your liability while decreasing vandals access to your tank.

- If your tank site is not fenced, install fencing.
- Check all site fencing for damage.
- Make sure all gates are locked at all times when personnel are not on the site.
- Install vandal deterrents on all ladders which terminate near grade. (Don't forget to consider what "near grade" can mean to vandals willing to stand on top of cars and trucks to access the ladder.)
- Make sure all vandal deterrents are locked.
- On lattice legged tanks, vandal deterrents may be required to prevent vandals from climbing the legs of the tank.
- Make sure all manhole covers are locked and vent screens are properly secured.

Also, don't forget about keeping the water in your tanks fluctuating to improve water quality. In hot weather, particularly if pumping sequence keeps altitude valves closed, water can become stale and lose disinfectant residual.

Industry Update

A number of industry standards are in the process of either being revised or approved. Many of these standards will greatly impact the water storage industry. In addition, several industry-related organizations are working together to publish joint standards and manuals, and to implement training programs to better serve the entire industry. The following is a brief update on some of these activities:

AWWA D100 - The Committee is putting the finishing touches on the wording concerning conical and double-curved members in compression. Hopefully the revised standard will be out in 1996.

AWWA D102 - Recently balloted by the Steel Tank Standards Committee, the AWWA D102 revision is nearing consensus, but likely will not become accepted until 1997.

AWWA D104 - Cathodic Protection. Balloting completed. Minor possible changes.

AWWA D-XXX - Committee for Standard for Composite (Elevated) Tanks for Water Storage has been directed by the Standards Council to have a draft prepared by November of 1996. Committee members should have a draft to review prior to the June '96 AWWA Annual Conference and Exposition in Toronto.

AWWA Tank Manual - Balloting nearly complete. Some minor updates will be required. Photos and charts must be submitted prior to publishing. Early 1997 publication predicted.

SSPC - SSPC PA-2 "Measurement of Dry Coating Thickness with Magnetic Gages" was recently approved by the Board of Governors. SSPC continues to link with other technical organizations to minimize duplication of efforts and to bring the best surface preparation and coating practices into use.

SSPC & NACE Joint Standards - Nearing consensus are Standards on Surface Preparation of Concrete, and SP12 which deals with surface preparation by water jetting.

Tank Maintenance and Seismic Upgrade Seminars

In August, TANK INDUSTRY CONSULTANTS will offer three one-day seminars in California. This seminar will address the maintenance of water tanks, and will offer special information on the seismic concerns encountered in California, plus alert attendees to the changes that are anticipated in the new AWWA D100 Standard. The seminars will be held on the following dates:

Monday, August 19
Hyatt Sainte Claire
San Jose, California

Wednesday, August 21
Warner Center Marriott
Woodland Hills (Los Angeles), California

Friday, August 23
San Diego Marriott Mission Valley
San Diego, California

The cost for the one-day seminar will be \$150 which will include all seminar materials, morning and afternoon refreshments, and a luncheon. For more information or to register, contact TIC's Seminar Coordinator, Linda Reed, at 1-800-TANK SEM.

Tank Talk

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TIC® Opens New Dallas Office

To provide more centralized service to our client base in the south central United States, TIC is moving its regional office to Dallas, Texas. The new office is located in the heart of the Metroplex in the Las Colinas area. Our new address, phone and fax numbers are:

320 Decker Drive, Suite 100
Irving, Texas 75062
214/719-2507 - phone
214/719-2597 - fax

Jeff Marlett, P.E., a NACE Certified Coatings Inspector who has been on the engineering staff at TIC for more than 6 years, will serve as Regional Manager for the new office. Clients in the south central U.S. should begin hearing from Jeff in the near future—as soon as he has settled into the new office. In the meantime, if you have questions or need help with your water storage facilities, contact Jeff at the new Dallas phone number.