



PUBLISHED AS AN INFORMATIONAL SERVICE TO OWNERS AND ENGINEERS OF STEEL WATER STORAGE TANKS BY TANK INDUSTRY CONSULTANTS, INC., 4912 W 16 STREET, SPEEDWAY, IN 46224, E. CRONE KNOY, PE, PRES.

EDITOR'S CORNER

Again, a year has past -- but TANK TALK still survives! So does TANK INDUSTRY CONSULTANTS, INC. As predicted in TT #4, we moved twice in 1984. We are now in the United States Auto Club Building at 4912 W. 16th Street in Speedway. The facilities are marvelous! Not only do we have enough room for our projected five year growth, but we have included in our lease the use of a great conference facility where we conduct our Seminars, Training Sessions, and Industry Association meetings. It is a headquarters beyond my wildest dreams of five years ago when I responded to the call to the Tank Consulting business.

Not only do we have excellent facilities, we also have assembled the finest collection of people to serve you. All five full time inspectors have been water tank paint and repair crew foremen. We have previously mentioned Joe Norvell and Ken Baty. In addition, Larry Dell joined us in 1983. Mike Doolittle and Dan Bickel came aboard in 1984.

All of these field inspection personnel mean one thing -- more paperwork. More paperwork means more office staff and equipment. The three additional computers, two more printers, disk drives -- they are nameless. The names of the "real people" involved in communicating the information we gather to our clients are: Steve Roetter, a Civil Engineering graduate of Rose-Hulman who writes reports, inspects tanks, sells test equipment, coordinates seminars; Valerie Houpt, whose pleasant smile and voice greet you and whose nimble fingers put words on CRT screen and paper; and Penni Snodgrass, whose all around secretarial and public relations experience has proven invaluable in her short time here. She replaced Karen Chittum, who moved to Florida. Ed Knoy is on temporary leave at Rose-Hulman getting his Masters in Civil Engineering, specializing in steel plate construction. Tim Knoy has been assisting inspectors, setting up computer files, handling bulk mailing, and learning the business by being a general "go-fer". David Cull is now a member of the Panel of Construction Arbitrators of the AAA. He has also been appointed to the AWWA Standards Committee for Welded Steel Water Storage Tanks.

TIC SEMINARS

The demand for more unbiased information concerning tanks has led to a heavy commitment to free speaking engagements throughout the country. My eyes were really opened to the need for information when 71 people attended a one day pay seminar in Montana (population 787,000) in February 1984.

This prompted a commitment to produce a quality two-day seminar on maintaining tanks. At the writing of this TT #5, we have completed our first two day session of "What You Should Know About Tank Maintenance". Engineers, inspectors, maintenance contractors, and paint suppliers came from Colorado, Louisiana, Florida, Alabama, Pennsylvania, Ohio, Missouri and Indiana. Some comments received were: "Your people were very knowledgeable and show a good deal of interest in each attendee's personal situation. Also, very hospitable. Excellent seminar. Thank you"; "The seminar as a whole was well presented and offered a friendly relaxed atmosphere. I would recommend this course to tank maintenance people and engineers."

The next two Maintenance Seminars are being offered in Speedway on March 7 & 8, and March 28 & 29. Plans are being made to offer seminars on a regional basis and to special interest groups.

INSPECTION INSTRUMENTS

As a service to our clients and contractors, we are now selling equipment for coating application inspection, steel pit depth measurement equipment, and ultrasonic thickness measurement. Product lines handled are: Elcometer, Bacharach, Pacific Transducer, Electromatic, K-D, Micro-Metrics, Thorpe, National Bureau of Standards, and AWWA Standards. The most popular items are wet and dry film thickness gauges, sling psychrometers, steel temperature gauges, surface profile measurement, holiday detectors and the AWWA Standards. We also can supply any of the more sophisticated equipment manufactured by the companies we represent. Write or call for our catalog.

WASHOUTS

We do not do contracting work -- only inspection, design, and specifications. The closest we do get to contracting is the washing out of tanks in conjunction with the PREBID inspection of tanks. Washing out a tank prior to the inspection adds a bit of insurance, allowing us to see all areas of the steel, rather than just those exposed by sampling techniques. We feel that washing out the tank gives us an additional 10 percent assurance that conditions are being evaluated accurately.

Most tanks should be washed out every two to three years anyway -- some more often. You will be amazed at the literally tons of scale, sludge, old paint, cathodic protection anodes, and other debris that frequently come out of tanks. Some of these materials contain elements which promote the corrosion of steel.

This does add to the inspection costs -- usually \$500 to \$650. The washouts can be done by a contractor at the time of our inspection; we can furnish all labor and equipment; or our personnel can wash the tank using the tank owner's equipment, thereby reducing the cost.

DESIGNING EXTERIOR COATING SYSTEMS

TANK TALK 4 discussed determining when tank exterior surfaces need painting and the qualities desired from the new coating. Now comes the time to get away from generalities and get down to the specifics. The best way to describe the alternatives and the characteristics is by the following table:

| | Epoxy Poly- urethane | Vinyl Acrylic | Vinyl | Epoxy | Silicone Alkyd | Modified Acrylic | Alkyd |
|----------------------|-------------------------|------------------|-------|-------|-------------------|---------------------|-------|
| Ease of Application | P | G | F-G | P | F | G | E |
| Resists Abrasion | E | F | P-F | G | F | F | F |
| Resists Graffiti | E | P | P | P | P | P | P |
| Resists Fading | E | F | P | P | G | F | F |
| Resists Chalking | E | F | P | P | G | F | F |
| Retains Gloss | E | F | P | P | G | F | F |
| Apply over Alkyd | No | No | No | No | Yes | ? | Yes |
| Easy to Top Coat | P | G | G | P-F | F | F | G |
| Dry Fallout | P | G | G | P | P | G | P |
| Corrosion Resistance | G | G | G | E | F | F | F |
| Life | E | G | G | F | F-G | F | F |
| Cost | High | High | High | High | Medium | Low | Low |

P=Poor

F=Fair

G=Good

E=Excellent

MORE FROZEN TANKS

I knew it! The mild winter of 1982-83 was going to get us in big trouble. People were going to forget some of the basics in keeping their tanks from freezing. They relearned this year. When do these tanks freeze? Why of course, most of them froze over the Christmas holidays when:

1. There was no one there to monitor overflows or to hand control the pumps to assure good water turnover.

2. Factories and schools were closed down.

3. At least three tanks I know, were being put into service after being constructed or painted. They were valved off for testing or disinfection purposes.

4. Another case was one where a frost casing had allegedly been improperly installed a few years ago.

Not all tanks have ice in them. Tanks which are used on the system and have warm well water fluctuating in and out of them have a found to have no ice in them at all -- even just a few days after nighttime temperatures were as low as -21°F.

[The above was written for TT # 4 -- March 1984, but was omitted due to lack of space. This winter has been colder, but it seems that we were better prepared. We seem to remember the last winter, but not those of two or three years ago. For a reminder of things to do to minimize cold weather problems of tank operations, write or call for my paper on "Cold Weather Operation of Water Storage Tanks" -- it's free!.]