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PUBLISHED AS AN INFORMATIONAL SERVICE TO OWNERS AND ENGINEERS OF STEEL WATER STORAGE TANKS BY TANK INDUSTRY CONSULTANTS, INC., 5010 W 15TH ST., SPEEDWAY, IN 46224, E. CRONE KNOY, PE, PRES.

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### EDITOR'S CORNER

You will notice that I keep making the time between issues of TANK TALK a little longer. What you don't notice, is that it keeps being more past midnight when I finally sit down and pound it out. I enjoy doing it, but it's one of those things I put off until we are out of work -- and we never seem to be out of work.

You may also notice that since July 1982 we have been TANK INDUSTRY CONSULTANTS, INC. The operation has not really changed. It has been done to assure a long range continuity for the business. My beloved constant companion, wife, and payer of the bills, Cindy, is the Secretary-Treasurer. Number one son Ed, whose birth announcement bore a picture of a water tower, is Vice President. With one more year to go at Duke University studying "Tank Engineering", I anxiously await his full time employment. While there, he has been honored by being named a J. A. Jones Scholar and a member of Tau Beta Pi.

The addition of Ken Baty to our staff, who like Joe Norvell was a water tower paint and repair crew foreman for many years, gives us a wealth of practical experience to share with our clients. As always -- thanks for your confidence. We enjoy serving the water industry in this way more than any thing we have ever done before.

### TALKING ABOUT TANKS

It was -4 degrees Fahrenheit in Milwaukee last March when I talked about frozen water tanks at the 1982 AWWA Distribution System Symposium. It was quite a bit warmer last June as I addressed the Pennsylvania Section of AWWA concerning this chilling subject.

In December 1982, we had the privilege of talking about tanks and had a booth at the National Convention of the National Rural Water Association in Orlando. Now there is an enthusias-

tic group! Their next National Convention in Little Rock promises to be even better.

I particularly enjoy the rural water association workshops, such as the one Indiana Water Association had at Gosport in January. April will find me talking about tanks at the IWA annual conference in Columbus.

We will have a display at the Indiana Section AWWA in February, where I will give a short commercial on Tank Maintenance Engineering.

Those of you who don't want to gamble on the acquisition or maintenance of your steel water tanks -- go to Las Vegas. On June 5 an AWWA Conference Seminar on will be presented on Steel Water Storage Tanks: What Engineers and Utilities Need to Know. I will be moderating a panel of experts who have almost 200 years experience in steel tanks. Those participating will be:

Jimmy Williams, Jordan Jones & Goulding-  
SELECTING AND SIZING TANKS  
Bob Borst, Fisher Tank Company-  
UNUSUAL AND AWARD WINNING TANKS  
David Cull, Universal Tank & Iron Works  
SPECIFYING AWWA STEEL WATER TANKS  
John Buzek, AEC Engineers & Designers  
DESIGN CONSIDERATIONS FOR TANKS  
Crone Knoy, Tank Industry Consultants, Inc.  
INSPECTING NEW TANK CONSTRUCTION  
Don Reichle, Don S. Reichle & Associates  
IS YOUR WATER TANK SICK?  
Don Campbell, Sterling Div.-Reichhold Chem.  
SELECTING, APPLYING AND INSPECTING  
PAINT SYSTEMS  
Jim Bushman, Harco Corporation  
CATHODIC PROTECTION  
Ken Christiansen, Trico Industries, Inc.  
BOLTED TANKS

Any of you interested in attending this seminar should refer to your 1983 AWWA Conference Bulletin or write:

Conference Registration  
American Water Works Association  
6666 W. Quincy Ave.  
Denver, CO 80235

### ULTRASONIC THICKNESS MEASURING EQUIPMENT

Over a year ago, we purchased our own Krautkramer-Branson Portable Digital Ultrasonic Wall Thickness Gauge. With this gauge the thickness of steel and aluminum can be determined with an accuracy of +/-0.005 inches by merely placing the probe on one side of the material. Wall thicknesses of 0.05" to 12" can be measured to monitor corrosion for structural or product contamination reasons.

Purchased originally to be used on only special jobs, this gauge has become a tool used on most inspections of existing tanks -- particularly the older ones. It is not a perfect tool which tells of all problems, but must be used in combination with pit depth measurement, surface contour observations, and sound judgement. Using the remaining thickness in engineering calculations enables us to determine the load carrying capabilities of the various members of the tank.

### CLEANING UP THE QUESTIONS ABOUT SANDBLASTING

In TANK TALK number 2, I attempted to explain sandblasting. Within a few weeks, I discovered that I did not explain it quite well enough. SSPC-SP 6, Commercial Blast Cleaning, does require the removal of all paint, and the "two-thirds of all visible rust, mill scale, paint and other foreign matter from each square inch of surface" refers to the amount of stain left on or in the steel due to those items.

Quoting the Steel Structures Painting Council Surface Preparation No. 6 in the November 1982 edition of SYSTEMS AND SPECIFICATIONS - STEEL STRUCTURES PAINTING MANUAL - VOLUME 2

"Commercial blast cleaning is a method of preparing steel surfaces which, when viewed without magnification, shall be free of all visible oil, grease, dirt, dust, mill scale, rust, and paint. Generally evenly dispersed very light shadows, streaks, and discolorations caused by stains of rust, stains of mill scale, and stains of previously applied paint may remain on no more than 33% of the

surface" (each square inch). "Slight residues of rust and paint may also be left in the craters of pits if the original surface is pitted."

SSPC also has visible standards which may be used to compare the surface preparation cleanliness when disputes arise. To purchase any of these items, write:

Steel Structures Painting Council  
4400 Fifth Avenue  
Pittsburgh, PA 15213

Generally, SSPC-SP6 will be specified for cleaning exterior tank surfaces when the environment is not severe.

SSPC-SP10 "Near White Blast Cleaning" is usually reserved for preparing the water container interior surfaces.

Frequently, specifiers say to use SSPC-SP7 "Brush-Off Blast Cleaning" over the entire tank exterior. When this is done, only part of the paint is removed, but usually some of the paint is removed down to the steel, necessitating the priming of the total surface. This specification must be used judiciously.

Many times, on the tank exterior, so many coats of paint have been applied that one more coat will cause the paint to fail instead of improving the protection of the steel. It is good to have a complete history of the tank painting. If this is not available, the various coats applied in the past can usually be ascertained by the use of a "Tooke" gauge. Old oil, alkyd, or acrylic paints over 12 mils thick must be evaluated carefully to determine if more paint can be added.

Answering the WINTER KILL article in TT-2.- The accumulation of too much paint, old unsandblasted substrates, underlying coats of aluminum paint, all combined with the rapid changes of temperature during the winter of 81-82 popped the paint off of tank surfaces. Those surfaces facing south and not in contact with water seemed to suffer most.

As you can see -- there is no text book answer to selecting paint systems.