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Speedway, IN 317/244-3221 * Laurel, MD 410/880-4004 * Houston, TX 713/789-0989
Hauppauge, NY 516/864-2507 * Orlando, FL 407/851-5745

CHAIRMAN'S CORNER

By: Crone Knoy

Our Changing Times

We often hear of the rapid changes occurring in technology communications and information management. Most of what is publicized contains words that I can't pronounce and technologies I can't comprehend. Recently, while composing an article concerning the history of steel water tanks and their maintenance for the *Journal of Protective Coatings and Linings*, I realized that objects so apparently simple as steel tanks are also subject to a deluge of information that must be communicated to those responsible for tank construction and maintenance.

Most of you are like me--you receive about a dozen advertisements a week concerning seminars which might pertain to you or the work you are doing. Trade magazines are filled with schedules of educational opportunities. The major thrust of most trade organizations seems to be in educating the members of the industry or the users of the products or processes offered by the industry.

TIC® is proud to have been a part of this educational system since its founding. I personally began speaking at AWWA Section meetings only a few months after starting TIC in October 1979. Since then, members of our firm or I have spoken at literally hundreds of local, state and national meetings of AWWA, SSPC, WEF (WPCF), NACE, AWS, NRWA, and other industry-related organizations. Our participation in formal training programs began in 1983 when I chaired a Water Storage Tank Seminar at the AWWA Annual Conference and Exhibition in Las Vegas. By the winter of 1984-85, TIC started offering seminars in Water Storage Tank Maintenance, soon followed by a New Tank Construction curriculum. In 1985, TIC was contracted by the American Iron and Steel Institute and the Steel Plate Fabricators Association to develop and coordinate a series of seminars concerning steel water storage tanks. These seminars continue to be offered throughout the country 4-5 times a year.

The next industry association to become active in formal education programs was the Steel Structures Painting Council. Again TIC personnel responded by instructing tutorials and speaking at meetings. The primary thrust of SSPC has been in educating those who are involved in the removal of lead-based coatings from structures. Recently I participated in and was granted certification as an instructor for the SSPC "Coating Specifier & Manager Training Course," a week-long curriculum aimed at facility owners who paint or contract for the painting of steel and concrete structures.

TIC is proud to be a part of a Free Enterprise System which responds to the needs of the market place. I am partic-

ularly proud to have a staff of professionals who can lead and participate in this educational process. It makes us feel good about the role we play in this constantly changing, ever-more-regulated world.

Fear Selling

One of the first things I learned when I started in the tank business in 1960 was that tank repair salesmen frequently resorted to what my mentor called "Fear Psychology" selling--that is, they would try to convince the unsophisticated tank owner that the tank would pose a dire hazard to nearby property owners if the tank was not immediately subjected to thousands of dollars worth of welding repairs.

I thought that we had seen an end to that. At TIC we did not believe that sensationalizing the potential dangers of tank maintenance was an ethical way to market our services. In fact, we criticized others for using the podium at industry functions to "feather their nest" or "guild the lily" by instilling fear in the minds of the attendees or proceedings readers.

TIC has recently been criticized for the title of an article that Steve Roetter wrote for the March 1993 issue of AWWA's monthly publication, *Opflow*. When he submitted the article for publication and approved the final draft, it was entitled "Professional Approach Limits Lead Liability." When the article "hit the streets," one of our colleagues pointed out that the headline had been changed to read "Liability Enormous for Lead-Based Paint Removal."

There is apparently a fine line between editorial sensationalism and adequately advising the public of potential risks. We try not to cross it, and hope that all members of our industry will use good judgement in reporting the facts in a way that informs people adequately but does not resort to "Fear Psychology."

Litigation Mitigation

Many consultants advertise that they provide litigation support services. I prefer to say that TIC offers "litigation mitigation" services. We first try to provide the quality of services that will place our client in the position of least risk. That is, we try to assess the scope of the project and advise the client of the potential pitfalls and design the specifications and contract documents to minimize the probability of disputes and misunderstandings. By providing assistance and opinions during negotiations, arbitration, or litigation, we hope to minimize the probability of extensive and expensive litigation. We attempt to look at both sides of the story, and give advice on the strengths and weaknesses of each position. Thus, our client can weigh his position and arrive at an informed decision. We can also assist in negotiations and present creative alternatives to solving the apparent problems.

INSURANCE...Are you adequately protected?

By: Bill Daugherty

Insurance is a very complex issue which is subject to many different types of policies and state laws. Be sure to consult with an attorney and an insurance specialist to determine your specific insurance needs.

When determining what type of insurance your consultant should carry, it is imperative that it be consistent with the type of project the consultant is designing or inspecting. While most tank owners require that their consultant have workers' compensation, automobile, and general liability insurance--professional liability insurance is often overlooked. The following are some very general examples to illustrate a few of the types of insurance policies.

Workers' Compensation: If an employee is injured on the job, workers' compensation pays for associated medical fees and lost wages. The amount of compensation a worker receives can vary significantly depending upon the state where the accident occurred. **EXAMPLE:** Tony tank inspector slips on a tank balcony, hits his head on the handrail and requires 10 stitches. This would be a workers' compensation claim and workers' compensation should pay the medical expenses and Tony's lost wages while he is recovering. (Lost wages are at preset limits for each state.)

Automobile Insurance: Just like your personal auto insurance, your consultant's automobile insurance is designed to provide coverage for auto accidents. **EXAMPLE:** Tony tank inspector accidentally backs into the pump house and damages the building. This would be an automobile insurance claim and the automobile insurance should cover this type of an accident and cover the repair of your pump house, provided the policy's property damage liability limits are high enough.

General Liability Insurance: General liability insurance provides coverage for accidents on the job. **EXAMPLE:** Tony tank inspector is on top of the tank and he accidentally drops a wrench. The wrench hits the Water Company's new truck. General liability insurance should cover the cost to repair the new truck--again subject to property damage liability limits.

Professional Liability Insurance: Professional liability insurance provides coverage for professional negligence, errors, or omissions during the course of providing professional services. **EXAMPLE:** XYZ tank engineering firm designs a new tank and does not require that the tank comply with AWWA Standards. When the new tank is filled, the tank collapses and crushes a neighboring house. This would be a professional liability claim and professional liability insurance should cover the costs to repair the house and rebuild the tank, provided the limits are high enough. Accidents involving (or allegedly involving) professional negligence are specifically excluded from all other insurance policies.

These are fairly simplistic, straight forward examples illustrating what types of accidents different types of insurances cover. Let's now look at a more intricate scenario to see what the insurance carriers would likely cover.

Hometown USA Water Company is removing lead paint from the outside of an elevated tank. The water company

prepared the specifications and required containment of the tank during any and all blasting operations. To monitor the project for compliance with the project documents, the Water Company has hired Tony tank inspector.

The project is way behind schedule. The contractor had all kinds of problems with the containment, and last night the wind caught the containment screening and damaged it beyond repair. There are only about two days of blasting left, and Tony tank inspector tells the contractor that it is okay to blast just these last two days without containment. The neighborhood now has lead paint blown all over it, and the neighborhood association has filed a suit against the Water Company, the painting contractor, and Tony tank inspector.

After a year in the judicial system, the court decides that the neighborhood association is due \$2,000,000 in damages, and that the contractor is 50% liable for not utilizing the containment specified, the Water Company is 10% liable for accepting an inadequate containment system during the review of submittals, and Tony tank inspector is 40% liable for allowing the contractor to blast without the containment in place.

Although the contractor is now bankrupt, if there is no pollution exclusion to his policy, his insurance company pays its \$1,000,000 share of the settlement (which is at the \$1,000,000 limit of the contractor's insurance). This payment would be contingent upon any exclusions in the policy or previous claims which may have lowered the insurance limits. The Water Company also pays its share of the settlement.

Now Tony tank inspector turns to his insurance carrier to pay his \$800,000 share of the settlement. Tony's insurance carrier determines that Tony was negligent in the performance of his professional duties, and therefore Tony's general liability insurance does not cover this incident. As stated earlier, general liability insurance is for accidents which occur on the job site. General liability insurance does NOT cover incidents which arise from preparing inadequate specifications, negligently reviewing shop drawings and submittals, or for negligently performing professional duties during construction phase services.

Thank goodness Tony has professional liability insurance coverage! However, Tony forgot that the reason his premiums were so low was that there are pollution exclusions to his policy that specifically exclude "pollution" as defined by the policy. Tony tank inspector now files bankruptcy and the neighborhood's damages have not been settled. Who do you think will make up the difference?

All insurance policies carry specific exclusions. Owners should be aware of what exclusions may result in inadequate coverages should an accident occur. Our experience as an expert witness in cases involving professional errors or omissions has provided TIC[®] with some insight into how the courts have been awarding cases. It currently appears that there is no contractual language that is sufficient for Owners to pass all potential liability to Contractors or Engineers. The Owner typically has the "deepest pocket," and it appears that the courts will expect the Owner to pay a "fair share" of settlement. Therefore, it is always in the Owner's best interest to make sure the best possible insurance is in place for all parties working with the Owner. This will allow potential settlement costs to be covered at the highest amount possible.

Again, be sure to seek advise from your attorney and an insurance expert...and CYA (Conserve Your Assets).

CHOOSING AN EVALUATION FIRM (or spending a dollar to save a hundred)

By: Jeff Marlett, Orlando, FL

So... it's been a while since you've had your water tank evaluated. Or maybe the coating on the outside of the tank looks pretty bad and you'd like to know if it needs to be repainted. How can you find out exactly what work needs to be done? Chances are good that unless you have a large number of tanks in your water system, it's probably been quite a while since you've had to think about having a tank painted. With today's rapidly changing regulatory restrictions and new technology, you need expert advice. What should you look for when selecting a firm to evaluate the condition of your tank?

Frequently, contracts for tank evaluation are awarded solely on the basis of the lowest bid received. When contemplating your next tank maintenance project remember that the few dollars you save by hiring the lowest bidder to determine the condition of the tank may cost you thousands of dollars in the future. The following are questions to consider when choosing a tank evaluation firm.

Is the evaluation firm capable of analyzing the coatings on the interior and exterior of your tank?

Coating analysis is important for a number of reasons. First of all you need to know if the existing coating contains lead or other heavy metals. Chances are good that if your tank was painted prior to the early 1970's, the paint contains lead or other hazardous materials. Because of the health threat posed by the release of lead particles into the atmosphere and onto surrounding property, removing lead-based paint from structures is expensive and strictly regulated. Information about the amount of lead in the existing coating is essential when trying to determine the best method of removing the existing coating, and preparing for storage and disposal of the debris.

The existing coating should also be analyzed to determine if it would successfully accept a topcoat. If it can be topcoated, you could potentially save many thousands of dollars over the cost of completely removing the existing coating and repainting the tank.

Will the evaluation firm inform you of all safety, sanitary, and operating deficiencies and explain what modifications are needed to bring your tank into compliance with today's standards?

Although your tank was probably designed and constructed according to applicable codes at the time it was erected, industry standards and regulations have changed. Tank owners need to be aware of all safety, sanitary, and operating deficiencies and have an itemized estimate of what it would cost to bring their tanks into compliance with current standards and regulatory requirements.

Can the evaluation firm recognize possible structural deficiencies and perform the engineering analyses required to determine the structural stability of your tank?

The condition of the coating is just one small item to consider when determining the proper maintenance for your tank.

Structural deficiencies can be easily overlooked if the evaluation firm does not have the experience to recognize possible problems and the expertise to evaluate the defects. If potential or suspected structural deficiencies are found, calculations need to be performed to determine the most economic alternatives for repair or replacement.

Will the evaluation report give you the information you need to confidently make decisions about tank rehabilitation?

As a tank owner you need to understand the current condition of your tank, you need recommendations for the proper maintenance and repair of the tank, and you need to know all of the economic factors that will influence your decision-making process including estimated costs for recommended repairs, estimated life of the structure, and what it would cost to replace the tank. All of this information should be provided in the report issued by the evaluation firm. Without this information, you cannot make informed decisions about future maintenance and repair.

Does the evaluation firm have errors and omission insurance to help protect you from liability?

The evaluation report should be certified by a professional engineer. The importance of hiring an evaluation firm with design error and omission insurance is explained elsewhere in this issue of Tank Talk.[®] However, the importance of adequate insurance coverage cannot be overstressed.

The ultimate goal of any tank evaluation should be to provide the tank owner with all of the information needed to make informed, realistic decisions about tank maintenance. Choosing the right tank evaluation firm is the first step in assuring the nearly limitless life of your water storage tank.

EDUCATIONAL OPPORTUNITIES

SSPC Petrochemical Conference, June 2-5, Houston, TX Crone Knoy will be instructing a tutorial on "Developing Engineering Standards and Specifications" and giving a special presentation, "Are Welded Steel Tanks Safe?"

AWWA Annual Conference and Exposition, June 6-10, San Antonio, TX Stop by TIC[®]'s booth #273 at this year's Conference for a complete listing of all tank-related committee meetings.

SSPC National Conference and Exhibition, November 10-13, New Orleans, LA Steve Roetter will serve as Tutorials Co-Chair for the Conference, and Chip Stein will chair a session on "Environmental Compliance on Rehabilitation Projects." Steve will also present a case study on a lead-paint abatement project, and Crone Knoy and Steve will host a session on "Planning and Specifying Lead Abatement."

TIC personnel will also be on hand at a number of other industry-related shows. Watch for our names on the program or look us up in the exhibit hall when you attend AWWA section meetings and other industry conferences.

THE HISTORY OF CONTAINMENT SYSTEMS

The following is an excerpt from a paper presented by Chip Stein of TANK INDUSTRY CONSULTANTS and Dave Cottrell of Eagle Industries of Louisiana at the 1993 SSPC Lead Abatement Conference. For the complete text of the presentation call or write TIC®. Watch for additional containment information in future issues of Tank Talk®.

Initially, containment materials were utilized as fencing barriers to protect neighboring property from the overspray, dust, and debris generated from abrasive blasting and spray painting operations. Early containment materials included drop cloths, burlap panels, or canvas tarps. These materials proved to be either too heavy, too water absorbent, or they deteriorated easily. A lighter weight, light permeable, water resistant material which could be utilized in vertical applications was needed. The material that best met these criteria was a polypropylene mesh material.

Once a quality material was found, adapting this material to vertical applications was the next assignment. In the wind, material used in vertical applications has a tendency to act like a sail. To help decrease the billowing of the containment materials, internal seams with grommets to allow the material to be attached to vertically strung cables were added. These grommets allow the screen to be attached to the structures more easily, and the attachment to cables helps lessen the billowing effect of the containment material. By utilizing the internal seams, shock loading on the perimeter rows of grommeting was minimized, increasing the life expectancy of the containment screens and their capability to properly contain the dust, debris, and paint overspray within the specified parameters of the job site.

The rigging for the early containment on elevated tanks utilized outriggers attached to the balcony, with cables from these outriggers connected to helical augers anchored in the ground. This proved to be an effective framework to support the large screens. By employing the cable system, the wind load was dispersed throughout the tank instead of on the perimeter of the containment screen.

With today's environmentally concerned public and our increased liability and regulatory climate, cleaning debris must be contained regardless of whether it is a hazardous pollutant or simply nuisance dust. Because the removal of lead-based paints on elevated structures required total containment, it became necessary to use solid tarping. With solid tarps, the wind loading on the structure increased, prompting project engineers to require a method of quickly raising and lowering the system in the event that excessive winds developed. This has been accomplished by utilizing a series of outriggers, supporting cables, a single drum, and a deck winch. This more automated method of raising and lowering the containment system has also meant that the system can be lowered at the end of the work day.

Twenty, maybe even fifteen, years ago, who would have predicted that containment screening would be required on nearly all cleaning and painting projects? A better understanding of the health risks involved with the removal of lead-based paints has caused an outcry that has been answered by the development of containment systems that will protect the public from these health risks.

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TANK INDUSTRY CONSULTANTS, INC.
P.O. Box 24359
Speedway, Indiana 46224