Curran International
Tubular Heat Transfer Equipment Services

Dear Friends and Clients,

Thank you for taking a moment to read *Curran Events*.

Curran International provides comprehensive solutions to your heat transfer equipment problems. Over the last several years, the Curran Team and its expertise have grown extensively. All of us at Curran International greatly appreciate the trust placed in us every business day. Quarterly, *Curran Events* provides you with updates about new developments and the solutions Curran International brings to your industry.

This issue of *Curran Events* focuses on our services for air cooled heat exchangers, commonly known as fin fans. Our team has developed a dry, closed loop cleaning system that is now used globally as a best practice for pre-NDE and cleaning for service applications. It is as close to a “guaranteed clean” result that never before was available to the industry.

Turnarounds clients have found significant improvements utilizing Curran International in the following areas:

- Achieving tube cleanliness for IRIS, Eddy Current and Near Field inspections
- Clean signal retrieval for faster data acquisition and interpretation
- No water, no containment needed, clean environment cleaning

Using Curran’s cleaning method, all mechanical activities, including inspection, can be performed next to, below and above the Curran crew – enabling other crafts to maintain scheduled turnaround tasks.

No more unplanned “rework” due to inadequate tube cleanliness, as Curran International utilizes high resolution video probe to visually examine tube IDs.

Turnarounds can now move forward with a predictable knowledge of clean tubes and superb data acquisition, providing reliability and operation efficiency for the unit’s next run.

The Curran International team has extended its tube alloy insert business to now include full length repairs for air cooled exchangers. Our expertise at blast cleaning tube IDs makes for an intimate contact between alloy inserts and the existing tube, maximizing heat transfer performance and ease of installation down tube. Using hydraulic expansion method repair inserts are fully expanded. As a part of Curran International’s comprehensive services turnkey cleaning and installation is now available.

As one can see, Curran International continues to innovate and add services that make heat exchangers last longer, run better and do more work.

Yours,

Ed Curran

Ed Curran

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Catch Curran

Meet the Professionals from Curran:

See You Next Week

AFPM
American Fuel & Petrochemical Manufacturers

May 19 – 22
Reliability and Maintenance Conference and Exhibition
The Austin Convention Center
Austin TX

Mark Your Calendar

August 11-13, 2015
Southern Company Generation Technical Conference Tradeshow
Birmingham, AL

November 15-19, 2015
2015 International Water Conference
Hilton Orlando Lake Buena Vista
Lake Buena Vista, Florida

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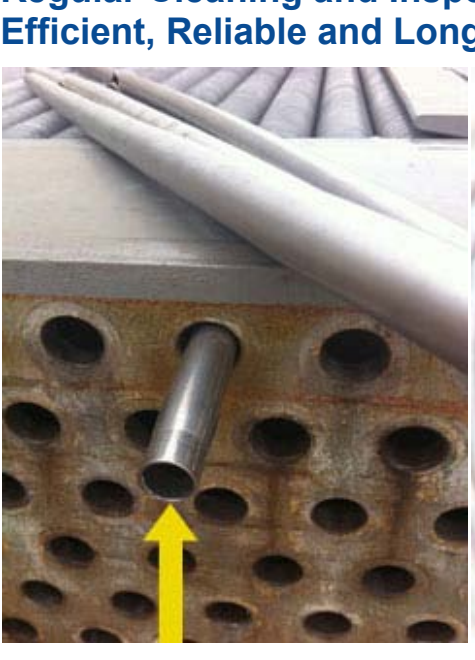
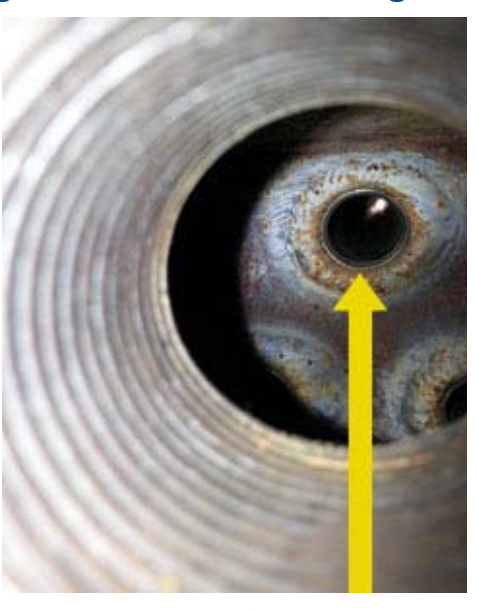
Please visit our website (www.curranintl.com) to download Curran’s updated Service brochure.

Regular Cleaning and Inspections Mean More Efficient, Reliable and Longer Lived Heat Exchangers



Full length liner being installed



Full length liner after installation

Proper cleaning and NDE inspections are cornerstones of any good heat exchanger maintenance program.

Not only does regular cleaning and inspecting mean more efficient and reliable heat exchangers, regular cleaning and inspections also enhances their longevity. Additionally, crucial information obtained when performing routine NDE services can be used to identify potential problem areas and detect detrimental trends within the equipment. This information is invaluable when determining whether or not any preventative or corrective measure are required.

When working with Curran, you benefit from the many years of experience and expertise embodied in Curran’s team of highly skilled professionals. Curran International’s trained professionals are dedicated to helping you develop a comprehensive plan to clean, inspect and, if necessary, repair defective heat exchangers. The plan developed by Curran, with your input, will further enhance the performance and promote the longevity of your tubular heat transfer equipment.

When testing and inspection services indicate a problem may exist within your equipment we, at Curran international, can implement a wide range of preventative or corrective measures. These measures include services that will repair and correct the defective area(s) within your heat exchanger. Options include, but aren’t limited to, tube ID coating, full-length liner installation, up to and including full tube replacement.

Once the root cause of failure has been identified, Curran consults with you to determine the best approach to resolve the problem and restore your heat exchanger to reliable operation. And in doing so, Curran provides you with the peace of mind that your equipment is once again operating reliably and the problem areas have been corrected.

When electing to install full-length liners, Curran’s team of professionals works closely with you to select a liner material best suited to your specific application. When selecting a liner material attention is paid to the operating temperatures and pressures as well as the type of process fluids that the liner will be exposed to. In many cases, a material can be selected that is as good, if not better suited to this particular application than the original parent tube. For the repair of cracks, pits, erosion, corrosion and overall parent tube wall loss, full-length liners are a very good choice. Additionally, tube liners can be used to reinforce weakened tubes and replace tube wall within thin tubes that may have deteriorated internally due to erosion or corrosion.

If you are experiencing problems with your tubular heat transfer equipment and are interested in identifying the root cause(s) of the problem and implementing preventative or corrective measures, please contact David Grimes of Curran 859-462-2745 or dgrimes@curranintl.com

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Dry Grit Blast Tube ID Cleaning for Fin Fan Exchangers Yields Higher Integrity NDE and Thermal Performance

Predictable cleaning results and vacuum containment of blast waste are two advantages that make Curran’s method of dry grit blast tube ID cleaning of fin fan exchangers the preferred practice.

Fin fan exchangers provide cooling and condensing of hydrocarbon products and process fluids at temperatures that exceed the effective limits of cooling water exchangers. Hot vapors and fluids flow though headers into OD finned tubing where it is cooled and condensed. Condensed hydrocarbon products and process fluids at high temperatures subject tube IDs to product scale, oxidized deposits, fouling and underdeposit corrosion

In a refinery, fin fan exchangers are located at an elevated level. It is not uncommon for some exchangers to be higher than 40’ above grade. Access to tubes is from a catwalk in front of the headers at both sides of the exchanger. Constructing containments on catwalks for traditional methods of hydroblast cleaning is imperfect, often requiring that the areas below the fans be barricaded to protect other workers from potential containment leaks. Rendering tubes clean for IRIS inspection using 10K and 20K hydrolancing rigs has met with mixed success.

Curran’s dry grit blast method scours tube IDs to “near white metal” clean for all forms of NDE inspection. The fully contained tube-end-to-tube-end blast system eliminates the need for cumbersome containment installations on narrow catwalks.

Tubes cleaning times range unit to unit, but cleanliness and QC are verified using a borescope before tubes are signed off as complete and ready for NDE inspection.

Here are a few of the significant benefits to grit blast tube cleaning:

- Dry grit blasting is predictable, eliminating rework and costly remobilization of NDE resources.
- Cleaner tubes yield higher integrity NDE and restore exchanger thermal performance.
- Curran’s fully contained system minimizes additional containment and clean-up tasks when performing unit maintenance.

Curran’s method uses proprietary nozzles that are fitted to tube ID and “bridging” the headers. Dry grit is propelled down tube at high volume and velocity creating a turbulent flow that scours away deposits and scale.

The Curran method does not require tube lancing, so all work can be performed from existing catwalks. Blast waste is contained through the “exiting header” and collected in a containment bin situated at grade, below the fin fan.

Curran originated this field service nearly 20 years ago and by now has safely performed millions of manhours of work at refinery locations across the globe.

To learn more contact Ed Deely, edeely@curranintl.com, 281.339.9993.

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