



Dear Reader:

As 2015 draws to a close, there is much so much to recap and so much to look forward to.



I send my personal gratitude all those at Curran International, who strive every day to take care of Curran's customers and their facilities – worldwide. People like Mike Ferry, who is featured in this issue of Curran Events. As I have said before, employees who are highlighted are representative of all of the Curran Team. Thanks to them Curran has enjoyed a record year!

I also send a sincere *Thank You* to our valued clients, who trust Curran to work in their facilities and to keep their facilities running.

2015 marks the fifth year of Curran 1000T coating, improving carbon steel foul release performance and corrosion resistance. Over that time, Curran 1000T has been applied to hundreds of exchanger bundles in refinery service.

In those five years, we developed derivative products such as Curran 1500, high build, and Curran 1200, sprayable, setting a new standard for high functionality protective coatings at a competitive cost. Curran 500 has gained wide acceptance from industrial applicators as an applicator-friendly epoxy cladding for condenser tube sheets and water boxes.

Looking forward, Curran International is introducing its grit blast cleaning module for easy cleaning of pull and clean exchangers. The *Curran Cleaning Module* integrates fully-contained "dustless" grit blast cleaning at wash slab location in a portable package. When demobilized, no "footprint" of the tube cleaning is *in sight or on site*. Contact Curran to learn about a demo of this innovative system.

At this time of year, on behalf of every one on the Curran International Team, I Wish You and Yours a Merry Christmas and a Happy, Healthy New Year.

Sincerely,

Ed Curran

Ed Curran

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Catch Curran

Meet the Professionals from Curran:

NACE Corrosion 2016

March 6 – 10, 2016
Vancouver Convention Center
Vancouver, British Columbia, Canada



Curran International
(281) 339-9993
www.curranintl.com

Now, Dry Grit Blasting Leaves No Footprint!

The Curran Cleaning Module provides an instant, self-contained solution for dry grit blasting for NDE inspection.

With the fully integrated module, the client can efficiently implement dry grit blasting at the plant wash slab for “pull and clean” exchangers. It’s a modular solution, not requiring added scaffolding and containment, and keeps dry grit waste separated.

Curran Cleaning Module leaves no “footprint” – only cleaned exchanger bundles remain. Curran Cleaning Module is a 40’-long container and requires an area only about 10’ x 60’ to load exchangers and operate.

An innovation of the module is the integration of a 1200 CFM dust vacuum that operates using a pneumatic driven blower motor. The only electrical connection required for the module is 110V AC. Most dust vacuums require a 480V 15-amp connection. A 375 CFM air compressor is connected to a two-inch airline integral to the module, maintaining at least 125 PSI compressed air at the blast nozzle.

“Our development of the air-driven dust collector was a key aspect to making this module easy to install and use,” said Jason Kolman, Field Operations Manager.

When operating, no fugitive dust or blast debris escapes the module. All dry waste is contained and managed to a client disposal receptacle.

Curran custom fabricated the module by converting an insulated container and by plumbing in a vacuum system and compressed air lines. The insulation reduces external noise and provides a worker comfort during any season of the year, rain or shine.

Curran Cleaning Module presents a simplified integration for pull and clean exchanger bundles within the boundaries of an operating unit when complete containment of dust and waste debris is required. It also solves co-habitation challenges when grit blasting tube bundles for NDE must be executed at a hydroblasting wash slab.

Curran is reserving use of the module for 2016.

Please contact Al Barre, General Manager or Ed Deely, Business Development, for a rental rate.

A demonstration of Curran Cleaning Module is being planned in near Garyville, Louisiana on December 16. Ed can provide details and confirm your reservation. Availability is limited.

Just call, (281) 339-9993 email edeely@curranintl.com.



Technician making final installations on Curran Cleaning Module. A grit blast rig, dust vacuum and air cooler are integrated components, minimizing set-up to 110V and air compressor connections once at the exchanger cleaning area.



Curran Cleaning Module facilitates just in time dustless blast cleaning. Curran Cleaning Module is integrated package for dry grit tube cleaning, so no containment or maintenance burden of the client is required.

Hydraulically-Expanded Liners Repair Defective Tubes and Prolong Heat Exchanger Life Expectancy and Curran Moves Quickly!

Hydraulic liners are a reliable method for repairing defective tubes in a heat exchanger rather than merely plugging them. Installing liners can restore defective tubes back to active service and extend the life of other tubes that have indications of pitting, cracks or excessive wall loss, but have not yet failed.

Petrochemical Application:

Late on a Friday evening, Curran was contacted by a petroleum processing facility in the Midwest. The plant had to come down for a forced outage due to excessive tube leaks and was unable to restart until the defective tubes were plugged or repaired.

Due to the number of defects, plugging the leaking tubes was not an option. The number of tubes requiring plugging would mean a drastic reduction of thermal performance of the unit and the loss of tens of thousands of dollars of reduced output and lost revenue a day!

After consultation with the facility's management, Curran International was able to determine the proper insert (i.e., OD, wall thickness, length and material). Following approval to proceed later that same Friday evening, Curran fabricated 1,200 inserts, loaded up the tooling and was onsite the following Monday – two days after the initial phone call.

Once onsite, Curran's crew installed all 1,200 inserts in two days. The plant performed the hydro, that same Wednesday, without incident. The plant was returned active service within five days from the time Curran was first contacted and has been functioning without incident ever since – generating a strong revenue stream.

Curran's performance created a high level of satisfaction, earning Curran the opportunity to perform this same type of repair on two additional questionable process exchangers.



A look at desuperheater tubes sheet, about 400 tubes were found with greater than 70% surface indications. Image shows the some of the tubes marked for liner installation, most affected tubes were near extraction nozzle and impingement plate.

Power Plant Application:

A Midwest-based power plant contracted with Curran to repair tubes in the desuperheater of a FWH. Curran's crew performed NDE of 100 percent of the tubes in the desuperheater as well as an additional 10 percent of the tubes in the balance of the FWH.

After performing the Eddy Current Examination, Curran's crew cut, pulled and removed a tube sample for visual inspection and metallurgical analysis. The tubes were determined to be experiencing OD steam impingement in the area of the steam extraction nozzle.

Following consultation with the plant management, a repair plan was developed and implemented. The plan included installing liners in 400 tubes that had indications of 70 percent or greater impingement in the area of the extraction nozzle and impingement plate. In these 400 tubes, Curran installed four-foot liners that extended from the face of the tube sheet past the desuperheater shroud. Once the liners were installed, the heater was closed, hydro tested and returned to active service. Since the repairs were completed, the unit has been online and performed without issue. The plant has not detected any decline in the performance of the FWH. The plant staff now has time to budget for either a complete retube or replacement of the FWH.

Hydraulic liners can be very useful in providing power, petro-chemical, pulp and paper facilities with a viable method to repair defective tubes rather than plugging or rebuilding the heat exchanger.

Curran can install inlet inserts, full or partial length liners at any location within a parent tube within the heat exchanger(s).

Please contact Dave Grimes 859.462.2745 or dgrimes@curranintl.com to discuss your options and to see how Curran can enhance the reliability of your tubular heat transfer equipment using Curran's hydraulic expansion process.

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How Many of Us Get to Detonate Explosives for a Living?

By the time Mike Ferry calls out, "fire in the hole," a safety perimeter has been established and observers are braced for what's next.

Immediately after, a sound similar to a shotgun blast is heard. A fabricated nickel-plug has been explosively welded to a tube's ID and a failed tube has been sealed so the exchanger can return to service.

At Curran International, Mike Ferry is "chief explosive technician." Mike is charged with plugging high-pressure exchangers. To do this, Mike and his team use explosively welded tube plugs developed for Curran International.

Having spent 16 years as a field tech for heat exchanger and condenser tube repairs, Mike joined Curran in 2013. Although each repair plug is loaded with less than a gram of explosive; the explosive reaction rapidly expands the nickel plug – thus permanently sealing the leaking tube. Explosively welded plugs are typically used for high pressure exchangers, such as boiler feedwater heaters in a critical power generation unit.

While Mike loves his work, he more greatly loves his two daughters, nine-year-old Miranda and Grayson who is three. They are the joys of Mike's life. Spending time with them makes all the travel Mike does on behalf of Curran's clients worth every mile.

Many Curran employees have the opportunity to travel the world and Mike is no exception. Mike has led projects in South American, the Caribbean, the Netherlands, Canada and throughout North America. Keeping a bag packed and space on his passport for the next journey has become a working habit.

Mike has a track record of satisfying emergency call outs. He has the agility to quickly mobilize and use equipment in-situ.

Growing up in southern Indiana made Mike a fan of the Indianapolis Colts and the nearby Cincinnati Reds. Even though Mike now lives in Houston, his loyalty still runs deep for his childhood teams.

Curran is among the few companies in North America providing explosive plug welding. The requirement for this work commonly results from unexpected outages resulting from tube failure.

Mike was hired to lead Curran's tubular field services. In addition to explosive plugging, he oversees tube repair lining installation and retubing. Under Mike's guidance and with his mechanical knowhow, Curran has fabricated high pressure hydraulic pumps that expand alloy tube liners. This key piece of equipment was placed into service in 2015. The Curran hydraulic pump is rated to 15,000 PSI. Since most alloys used for tube repair liners yield at pressures less than 8000 PSI, the Curran hydraulic pump is calibrated to set a plug at the pressure required to satisfy expansion of the repair liner.

The Curran hydraulic pump's modular design and quick-fill capabilities optimize in-situ work on fin fan catwalks, condenser waterboxes and exchangers. Since 2014, Mike and his Curran team have provided turnkey tube cleaning and tube repair liners and ferrule installation for fin fans exchangers, boiler feedwater heaters, shell and tube exchangers and condensers – worldwide.

Mike Ferry best demonstrates his work and commitment through a hands-on approach. Mike brings mechanical knowhow and practical field experience to Curran's customers.

Mike really enjoys the one of the many advantages of Gulf Coast living, as he finds the golf and fishing seasons extended. Mike says these are hobbies he is practicing by playing. Mike won't claim a handicap score, yet. When golfing or fishing, Mike greatly appreciates the quiet of the driving range or the fishing pier.

No wonder, when you make a living expanding steel with explosives.



Curran provides hydraulically expanded tube sleeves and full length liners.



Mike Ferry brings years of experience to Curran International as a tube lining and sleeving installation specialist.

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