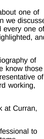
Curran Events

Dear Reader:



The Curran international Team appreciates you reading *Curran Events*.

In this and succeeding issues, you will find a brief biography about one of Curran's very best. In fact when we discussed the biographies, I felt each and every one of our associates needed to be highlighted, and that just might happen.

If we are unable to provide a biography of every Curran teammate, please know those featured, while unique, are representative of all of Curran's knowledgeable, hard working, committed professionals.

The men and women that work at Curran, work for you - our customers.

You can count on Curran's professional to improve and maintain your systems.

You have my word on it.

Sincerely,

Ed Curran
Ed Curran

Contents

Catch Curran

Meet the Professionals from Curran:

International Water Conference 2015, Hilton Orlando Lake Buena Vista, November 16th and 17th

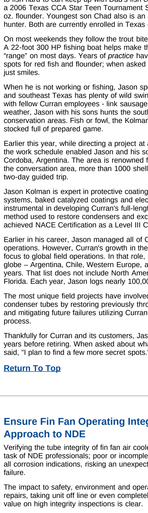
NACE Corrosion 2016, Conference and Expo, Vancouver Convention Center, Vancouver, CA; March 6th – 10th

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

Expertise and Energy – Jason Kolman, Field Operations Manager

In 1990, Ed and Roseline Curran were determined to grow their company beyond steam turbine maintenance and needed a disciplined, mechanically minded field technician.

They found him in Jason Kolman.



Jason, Tyler and Chad with the small trout catch at a local fishing tournament.

Twenty five year later Jason leads widely talented field organization and serves as Field Operations Manager. Curran International has evolved in to a global provider of maintenance services for power plant, refinery and petrochemical companies.

Jason has been at the heart of a generation of growth for Curran International. In those formative years, Curran's field team averaged eight to 10 professionals. Back then, the company's crews kept very busy at power plants. As a small skilled team, they quickly expanded capabilities to plant fixed equipment and protective coating and epoxy cladding of condensers. Currently, during peak turnaround season, Jason directs and supervises multiple project crews and more than 50 field employees - project supervisors, foremen and technicians.

When asked what he enjoys most about his work, Jason said, "I like working as part of a team. Curran is a team of people who know what they are doing and care about the customers they are doing it for. Every year, Curran saves its customers tens of millions of dollars by repairing and upgrading systems customers thought they would need to replace."

Jason's role requires providing insightful project advice and direction to crews at work across the globe on 24-7 schedules. In order to meet or exceed critical path schedules and navigate crews and equipment through the hurdles of international projects, Jason must understand client expectations and Curran's scope and execution plans.

When not traveling on company projects, Jason channels the same discipline and energy into fishing and hunting.

His favorite outdoor partners are his wife, Genevieve, and two sons who have to fish hard to can keep up with Dad's fish count. Jason's oldest son, Tyler, is a 2006 Texas CCA Star Teen Tournament Scholarship winner with a 6lb. 1 oz. flounder. Youngest son Chad also is an accomplished fisherman and hunter. Both are currently enrolled in Texas colleges.

On most weekends they follow the trout bite across the Galveston Bay area. A 22-foot 300 HP fishing boat helps make the vast recreation complex within "range" on most days. Years of practice have resulted in knowing the secret spots for red fish and flounder; when asked where those spots are, Jason just smiles.

When he is not working or fishing, Jason spends most Sundays hog hunting; and southeast Texas has plenty of wild swine. Jason shares the hunt bounty with fellow Curran employees - link sausage or bacon - yum! In cooler weather, Jason with his sons hunts the southeast Texas prairies and conservation areas. Fish or fowl, the Kolman's home freezer storage is stocked full of prepared game.

Earlier this year, while directing a project at a power plant in Chile, a break in the work schedule enabled Jason and his sons to experience a dove hunt in Cordoba, Argentina. The area is renowned for the number of dove flying over the conversation area, more than 1000 shells were spent per hunter on a two-day guided trip.

Jason Kolman is expert in protective coating and epoxy cladding applications systems, baked catalyzed coatings and electric arc alloy spray. He was instrumental in developing Curran's full-length tube ID coating application method used to restore condensers and exchangers in-situ. Jason has achieved NACE Certification as a Level III Coating Inspector 11860.

Earlier in his career, Jason managed all of Curran's shop and field operations. However, Curran's growth in the last 10 years has turned Jason's focus to global field operations. In that role, he has led field work across the globe – Argentina, Chile, Western Europe, and Hawaii - all in just the last two years. That list does not include North American projects from Montana to Florida. Each year, Jason logs nearly 100,000 air miles traveling to projects.

The most unique field projects have involved refurbishing end-of-life steam condenser tubes by restoring previously through-walled tubes back to service and mitigating future failures utilizing Curran International's down-tube coating process.

Thankfully for Curran and its customers, Jason plans to work a many more years before retiring. When asked about what he will do after Curran, Jason said, "I plan to find a few more secret spots."

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Ensure Fin Fan Operating Integrity with Multi-Method Approach to NDE

Verifying the tube integrity of fin fan air coolers is an important inspection task of NDE professionals; poor or incomplete inspection data may not detect all corrosion indications, risking an unexpected upset as a result of tube failure.

The impact to safety, environment and operations usually requires immediate repairs, taking unit off line or even completely shutting down the unit. The value on high integrity inspections is clear.

As you may know, there are several types of air cooled heat exchangers and different methods of examining them. This short article discusses the non-destructive examination (NDE) of a forced air exchanger with aluminum "L" finned tubes and plug header box.

Before a non-destructive examination is performed, it is imperative that tube IDs be cleaned of scale and process foulant using high pressure hydro-lancing or dry grit blast methods. A "near white" metal cleanliness is optimal for IRIS inspection. Tenacious scales likely require dry grit blast cleaning for tubes being inspected.

Once the tubes have been cleaned a visual inspection should be performed to identify the type of damage, if any. The selection of NDE method to be used is dependent of the type of damage identified. To properly complete the work, multiple NDE techniques may be needed.

There are a few forms of NDE typically used for the evaluation of aluminum "L" finned tubes. The most common of these forms are Near Field Testing and Internal Rotary Inspection Systems or IRIS.

IRIS probe (L) and RFT probe; use of either method of inspection is acceptable. IRIS detects changes in wall thickness; RFT is limited to detecting internal cracking and pitting.

Near Field operates using an electromagnetic field similar to Eddy Current, in which the field penetration stays on the inner diameter (ID) of the tubes not affected by the fins. Near Field is capable of detecting and sizing ID erosion, corrosion and pitting. One of the most common misunderstandings is the sizing ability of the Near Field test. Unlike Eddy Current, there is no phase analysis of the wall thickness.

IRIS uses ultrasound to detect changes in the wall thickness. IRIS is the best technique to accurately detect and size wall loss however, IRIS cannot detect cracking or small diameter pits. One of the major advantages of IRIS is the detection of wall loss behind the header box on the outside diameter. Due to dissimilar metals and environmental attack, corrosion and erosion often occur behind the header box.

As one can see, each of the NDE methods offers insights and has blind spots. This is the reason multiple NDE techniques are often needed. Having an inspector capable of using multiple NDE techniques to more completely identify problems can preempt operating interruptions.

Contact Curran International about our fin fan tube cleaning services and NDE partners. 281-339-9993 edeely@curranintl.com

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Are Your Heat Exchangers *Green*?

It's common knowledge that a properly maintained heat exchanger can positively impact the bottom line as well as promote better thermal performance, reliability and longevity.

And now, a properly maintained heat exchanger can be extremely valuable in helping to meet increasingly tighter emission standards required by today's *green* society.

Main steam condensers have the biggest impact on power plant steam cycle efficiency.

A properly maintained condenser promotes:

- lower turbine back pressure
- lower unit heat rate
- less fuel consumption.

This, in turn, leads to less emissions leaving the exhaust stack.

Curran was recently contracted by a petroleum distribution and transportation company to clean, inspect, test and repair four gasoline coolers. This job entailed cleaning and inspecting approximately 12,000 tubes!

The plant was concerned with the condition of the heat exchanger tubes due to the fact that the shell-side fluid was gasoline at 425 psi and the tube side fluid was cooling tower water at 125 psi. So if there was a tube failure, gasoline would contaminate their cooling tower water system and could possibly end up in an overflow pond creating environmental issues and possibly even jail time for the plant manager.

Over a 30-day period, Curran successfully cleaned, inspected, tested all four heat exchangers. In the process, Curran identified two tube failures and identified numerous tubes with excessive wall loss. Curran also pulled tube samples for analysis and NDE results confirmation. The two defective tubes were removed and the corresponding tubesheet holes plugged.

Additionally, Curran also plugged all of the tubes that had significant wall loss or other indications. The end result was that the plant not only had heat exchangers that were performing better from a thermal heat transfer standpoint, but were also more reliable, giving the plant manager peace of mind instead of an orange wardrobe.

Curran's work was turnkey and provided the plant with better project management, clear communications and an overall lower project cost than brining in multiple contractors.

If you're interested in enhancing the performance or reliability of your heat exchangers, contact a Curran professional @ 218-339-9993 or via e-mail @ dgrimes@curranintl.com

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