

Ultra High-Speed Condenser Tube Inspection Systems Helps Find Tube Leaks in Main Condensers Quickly



STATE OF THE ART PRODUCTS AND SERVICES
FOR NON-DESTRUCTIVE TESTING

FROM THE FIELD

Problem:

A large utility in the Southeast United States was experiencing a high rate of tube leaks in one of their main condenser units. The unit was repeatedly forced offline due to these leaks and other related boiler problems. Locations of the leaks were sporadic and could not be isolated to any given area. The unit was due for re-tubing, however, this was not to be performed for another 1-2 years. The customer needed to inspect all the tubes in the unit and plug any leaking or near leaking tubes to avoid any unscheduled outages for 1 year until the next scheduled shutdown. The condenser contained 18,000 tubes, 40' long.



Solution:

TesTex utilized its [Ultra High-Speed Condenser Tube Inspection System](#) to perform the work. This system inspects 8 tubes per minute (30'tube lengths) and operates at inspection speeds up to 10 feet per second. TesTex was able to mobilize to the customer's site with a few days notice. Upon arrival, TesTex setup, performed the inspection, and presented the customer with a full color tube sheet map showing plugged tubes, blocked tubes and tubes with wall loss of 40% and over. The entire unit was inspected from start to finish within 5 days, only working day shifts with 2 inspection teams.

Conclusion:

Shortly after the inspection, the customer was able to plug the necessary tubes and bring the unit back online. The customer experienced greater efficiency and no tube leaks up

until the next scheduled shutdown.

The TesTex [Ultra High-Speed Eddy Current Inspection System](#) is capable of performing 100% condenser inspections in minimal time with a high degree of accuracy. This system has great resolution at inspection speeds up to 10 feet per second, and is capable of picking up flaws as small as 0.9 mm in diameter. Full color tube sheet maps are provided on-site, within a day of completing the inspection.

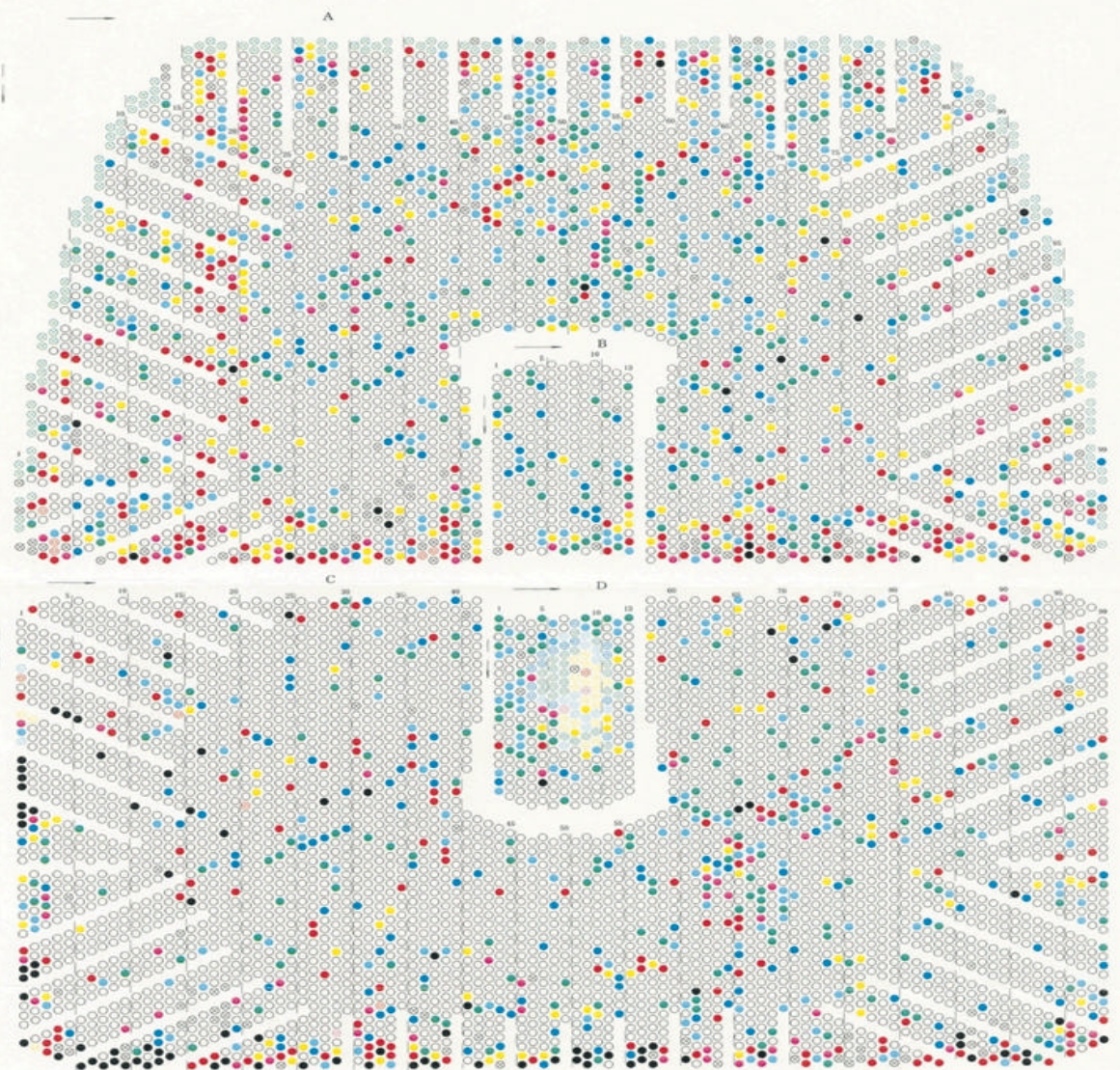
Pricing for this hi-speed inspection service is extremely competitive due to the reduction of inspection time. The client in this instance was able to complete a 100% inspection at a lower cost than in previous years and quickly remove the condenser from the critical path. The ability to perform a complete inspection saved the customer money in lower water treatment costs and increased reliability of the condenser.

This system has over 30 years of field experience and has inspected over 60 million tubes. For more information on the [Ultra High-Speed Eddy Current Inspection service](#) or other TesTex products and services, please contact us at testex-ndt@verizon.net or call 412-798-8990.

Tube Sheet Map:

Row _____
No _____

B B o x (W e s t)



View From South End

TUBE SPECS.

Material : 90-10 Cu Ni 8,847
 : 70-30 Cu Ni 206

SIZE: 1.0" O. D x 0.035" (90-10 Cu Ni)
 1.0" O. D x 0.049" (70-30 Cu Ni)

TOTAL: 9,053

LEGEND (% WALL REDUCTION)

I. D. Flaw

O. D. Flaw

● 90%~	328 Tubes	○ 90%~	10 Tubes
● 80%~89%	155 Tubes	○ 80%~89%	3 Tubes
● 70%~79%	274 Tubes	○ 70%~79%	22 Tubes
● 60%~69%	434 Tubes	○ 60%~69%	17 Tubes
● 50%~59%	468 Tubes	○ 50%~59%	25 Tubes
● 20%~49%	257 Tubes	○ 20%~49%	14 Tubes
⊙ BLOKED	163 Tubes	⊙ 70-30 CN	172 Tubes
● PLUGGED	108 Tubes		

For more information on the TesTex, Inc. Ultra High-Speed Condenser Tube Inspection System or other TesTex products and services, please contact us at info@testex-ndt.com or call us at (412) 798-8990.

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