

CONTROLWORX – OUR SERVICE & SOLUTION EXPERTS

ControlWorx, a subsidiary of John H. Carter Company, is made up of our service and solution experts. Our engineers are available to offer comprehensive, integrated solutions designed to meet the toughest process control challenges.

EMERSON LIFECYCLE SERVICES

- FM Certification Program of local service centers provides FM compliant repair capability
- Emerson sponsored service center Quality Audits
- ISO 9001 Certified QuickShip Manufacturing for specialty/short lead-time products
- Factory specified and certified NIST traceable calibration/test equipment
- Only utilize OEM parts for repairs
- State-of-the-art Diagnostic tools:
 - AMS™ Suite: Intelligent Device Manager
 - ValveLink™ Software
 - FlowScanner™ 6000/QL2
 - Valve Seat Leak Detection
 - TREX Handheld Communicators
 - Spray Nozzle Tester

AIR-OPERATED VALVE SERVICES

- Diagnostic Testing: data collection & analysis. Remote monitoring & analysis also available for customers who have implemented Emerson's Valve Asset Monitoring
- Factory Engineering Support with access to OEM drawings
- Tubing & fittings – removal & installation
- Actuator removal & installation
- Actuator Inspections, PM's, & rebuilds
- AOV Accessories: PM's, Troubleshooting, & replacements (Positioner, Trip Valve, I/P, Regulator, Solenoid, Limit Switches, etc.)
- Calibrate, Bench Set, & Stroke Actuator & Accessories
- Valve and Actuator Troubleshooting & Repair

REPAIR PROCEDURES

- Performed to OEM specifications and Manufacturer's recommendations

GLOBAL VALVE TRACKER

- Online portal access to asset repair status, documentation, & history

MOTOR-OPERATED VALVE SERVICES

- Diagnostic Testing: data collection & analysis
- Advanced Stem Nut wear testing & trending
- Electrical Terminations / Determinations
- Actuator Removal & Installation
- Electric Actuator PM's: external inspection, grease samples, stem lube, switch compartment inspection, mounting bolt torque
- Electric Actuator Rebuilds
- Actuator Accessory PM's
- Install Local Controlling Devices i.e. Dead-Man Switches & Jumpers
- Set-up Operator electrically using M&TE, Limit Switch and Torque Switch adjustments
- Valve and Actuator Troubleshooting & Repair

INSTRUMENT CALIBRATIONS AND VALIDATIONS

- Precise calibration at your local Emerson Service Center
 - Obtain Calibration Certificates as required by your industry
 - Ensure calibration is consistent with ISO 10474 3.1B or EN 10204 3.1
 - In-house systems are designed to meet the intent of ANSI Z540-1-1994
- Precise calibration at your local Emerson Service Center
 - Receive “as found” inspection & “as left” data results
 - Ensure calibration & validation is consistent with ISO 10474 2.1 or EN 10204 2.1
- Measuring methods & test equipment used in inspection & validation are traceable to NIST

ASSET OPTIMIZATION PROGRAM

- Storage & inventory management of spare valve & actuator assets

ENGINEERED SOLUTIONS

- Bad Actor Application Review
- Predictive Maintenance Optimization
- Packing Program Evaluation
- Obsolescence Planning
- Severe Service Review
- System Controllability & Variability reduction services

ACTUATION AND VALVE SERVICES

- Manual & Automated Gate, Globe & Check Valve Repair
- High-Pressure Pressure Seal Valve Repair
- Ball & Butterfly Valve Repair
- Lubricated & Lined Plug Valve Repair
- Check Valve repair & Diagnostic testing
- ASME Section IX Certified Welders
- In-House Post-Weld Heat-Treat Equipment w/ Chart Recorder
- Clean Room for Oxygen & Chlorine Degreasing
- Hydraulic Bolt-Torque Capabilities
- SNT-TC-1A Level-II NDE Personnel for MT and PT examination
- PMI, UT Thickness, & Hardness Testing Capabilities
- Part Fabrication
- Pressure Seal (metal) & gasket fabrication
- Pull and install valves as needed
- Onshore/Offshore Start Up & Commissioning

**INDUSTRY PRODUCTS & SOLUTIONS****ASSET MANAGEMENT SERVICES****CONTROL & SAFETY SYSTEM SOLUTIONS****EDUCATION SERVICES****ENGINEWORX: ENGINE & COMPRESSOR****CONTROLS****FISHER CONTROL VALVES & FLOW SOLUTIONS****INSTRUMENTATION & INDUSTRIAL EQUIPMENT****MEASUREMENT SOLUTIONS****MECHANICAL RELIABILITY SOLUTIONS****PPE: PROCESS PUMPS & EQUIPMENT****PRESSURE MANAGEMENT SOLUTIONS****INDUSTRIAL & NATURAL GAS REGULATORS****VALVES & AUTOMATION SOLUTIONS****WATER & WASTEWATER SOLUTIONS****24/7 SERVICE****225-751-3788****JOHNHCARTER.COM**

Emerson Impact Partner

**CONTROLWORX SERVICE & SUPPORT LOCATIONS****CORPORATE OFFICE**

17630 Perkins Rd. Baton
Rouge, LA 70810
225-751-3788

GEISMAR OFFICE

37056 Cornerview Rd.
Geismar, LA 70737
225-673-6132

LAFAYETTE OFFICE

401 Wall St. Lafayette,
LA 70506
337-233-8331

METAIRIE OFFICE

2728 N. Arnoult Rd.
Metairie, LA 70002
504-887-8550

MOBILE OFFICE

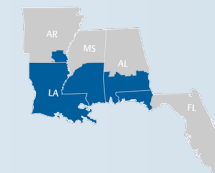
2203 Perimeter Rd. Ste 300
Mobile, AL 36615
251-653-9898

SHREVEPORT OFFICE

9656 St. Vincent Ave.
Shreveport, LA 71106
318-861-0168

SULPHUR OFFICE

650 East Highway 108
Sulphur, LA 70665
337-583-8420

**EMERSON LIFECYCLE
SERVICE LOCATIONS****Gonzales, LA****Lake Charles, LA****Mobile, AL****Monroe, LA**

TOTAL CUSTOMER COMMITMENT

- Dedicated Repair Coordinators & Repair Sales
- 24/7/365 on-call support
- Multiple service facilities
- Local technicians available, on short notice, year-round.
- Fast response times during unplanned events.

OEM CERTIFIED REPAIRS

- OEM Certified repairs for all Emerson brand valves & actuators
- Fisher, Bettis, Vanessa, Yarway, Clarkson, KTM, K-Lok, Keystone, Sempell, Hancock, Neotecha, Fasani, Raimondi, Rovalve, Morin, A.E. Valves, Penberthy, & Biffi

FIELD SERVICE TRAILERS

- Our 45' and 53' climate controlled mobile service trailers provide a portable maintenance facility at your site.
- NBIC VR Certified: Technicians can test, repair & re-certify as required using calibrated instruments.
- Capability: Equipped with valve industry specialized testing & repair equipment, including extensive on-board tools: lathe, full size mill, media blasting equipment test equipment, portable lapping equipment, calibration instruments & maintenance reliability software.
- Seven (7) Field Trailers & Mobile Machining Centers


OUTCOME-BASED SERVICES
WHAT IS IT?

- A unique approach to outage scope identification.
- Accurate health reports of both actuator & valve.
- Focus on which actuators / valves need to be pulled or repaired rather than pulling or repairing all.
- Identify parts needed & scope of repairs
- Improved budget & schedule accuracy; scope growth & discovery items are significantly reduced.
- Decreased unscheduled, unexpected & non-budgeted repairs by detecting problem valves prior to failure
- Improved plant efficiency through optimal valve configuration/ calibration

DESIRED OUTCOMES

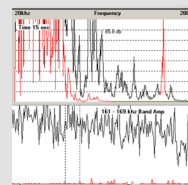
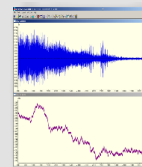
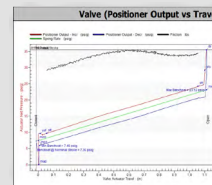
- Predictability – Outage scope, schedule, & budget
- Reliability - Early detection of failures
- Efficiency – Recovery of lost product
- Root cause analysis, empirical test data, solutions

ADDRESS KEY MILESTONES WHEN PREPARING FOR AN OUTAGE

- Work Scope Defined
- Work Package Planning
- Scheduling
- Budget development
- Resource loading

NON-INTRUSIVE DIAGNOSTIC TEST METHODS:

- Ultrasonic Seat Leak Detection
- AOV Diagnostics
- MOV Diagnostics
- Check Valve Diagnostics
- Relief Valve Set Pressure Verification


OUTAGE EXCELLENCE PROGRAM

With our maintenance programs & resources, we can help implement an outage excellence plan that includes:

PROJECT MANAGEMENT

- Pre-outage planning for all valve types
- Work-scope scrub
- Work package development
- Schedule Development
- Readiness assessments
- Walk down
- Parts verification
- BOM & Spec Sheet updates
- Risk Assessments & contingency planning
- HIT (High Impact Team) meetings

INTEGRATED VALVE TEAM WAR ROOM

- Staffing
- Implementation
- Oversight
- Progress Tracking
- Scheduling
- Issue Management
- Constraint identification and removal
- Daily reporting

CONTINUOUS IMPROVEMENT

- Ongoing documentation of lessons learned
- Gap analysis with action plan implementation
- Post-Outage Critiques to capture lessons learned
- Fleet Summit meetings to include all sites/corporate for information sharing
- Procedure Adherence Program
- Human Performance Improvement Plan

OUTAGE EXECUTION

- Field and Shop repairs for all valve types
- Diagnostic Testing
- Status Reporting
- Pre-job briefs
- Turnover
- Behavior Observations
- Condition Reporting
- Schedule adherence
- Schedule optimization

REPORTING

- Realtime status updates through online portal
- Digital Repair condition reporting with pictures
- Internal QC verification documentation
- Delay reporting to be used for constraint removal
- Real-time Budget Forecasting
- Internal burn-down curve reporting

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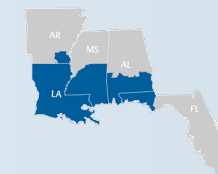
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