Articles Written by Thielsch Engineering Personnel:

Reinspection of Deaerator Welds is Key to Continued Safe Operation
By Helmut Thielsch and Nancy Knarr

Failures, Repairs, and Integrity of Pulp & Paper Mill Equipment

Casing Repair Adds Years of Service to Vintage Turbine
By Helmut Thielsch and Nancy Knarr

In-Service Creep Strain Measurements for Life Prediction and Extension of Piping and Boiler Components
By Helmut Thielsch

Accelerated Tube Metal Wastage in Municipal Solid Waste Fired Furnace
By Helmut Thielsch
Presented at NACE Annual Conference, March 1991, Cincinnati, Ohio

Capacitive Creep Strain Measurements Predict Component Life
By Helmut Thielsch, Nancy Knarr and Caroline Burdick
Reprinted from POWER ENGINEERING, Vol. 95, pp. 24 - 27, May 1991

Engineering Analysis of Suitability for Pressure Vessel Re-Rating
By Ara Nalbandian and Nancy Knarr
Presented at TAPPI Conference, September 1991, Nashville, Tennessee

Reformer Failures and Repairs
By Helmut Thielsch and Florence Cone
Reprinted from FINDS, Vol. VI, No. 3, pp. 29 - 34, 3rd Quarter 1991

Recommended Practice for Prevention, Detection and Correction of Deaerator Cracking
By Nancy Knarr

Turbine Casing - Inspection Repair Considerations Extension of Remaining Life
By Helmut Thielsch and Nancy Knarr
Presented at EPRI Conference, December 1988, San Antonio, Texas

Considerations in the Evaluation of Graphitization in Piping Systems
By Helmut Thielsch

Cost Effective Evaluation of Our Roadway Bridges
By Pamela Olsen
Reprinted from Providence Engineering Society, ENGINEERINGS, Vol. LXVII, No. 8, April 1992
Fitness-for-Purpose Evaluation of a Deaerator with Cracking
By Helmut Thielsch and Nancy Knarr
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Critical Component Failures Associated with Pipe Supports - Causes and Prevention
By William Thurley and Helmut Thielsch, Jr.
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Operation and Maintenance of Instrumentation Systems
By Edward R. Altiere

Corrosion Damage Assessment Utilizing Special Ultrasonic Techniques
By Matt Dowling and Nancy Knarr
Presented at TAPPI Conference, September 1992, Boston, Massachusetts; and
Published by CSNDT Journal, Vol. 14, No. 4, pp. 12 - 14, July/August 1993

Failures, Integrity and Repairs of Petrochemical Plant Reformers
By Helmut Thielsch and Florence Cone
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Utilization of Modern Nondestructive Testing Techniques on Plant Reliability
By Helmut Thielsch and Florence Cone
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Natural Gas Plants, November 1992, Houston, Texas; and
Published in two parts by MATERIALS EVALUATION, Vol. 52, No. 4, pp. 457 - 461, April 1994 and Vol. 52, No. 5,
1), and Vol. 14, No. 4, pp. 18 - 24, July/August 1993 (Part 2)

Pressure Part Protection Against High Temperature Corrosion
By Nancy Knarr, Wayne Pratt and Brad Rogers
Presented at NACE Annual Conference and Corrosion Show, March 1993, New Orleans, Louisiana

Equipment Failures
By Helmut Thielsch and Florence Cone
Reprinted from AMERICAN PAPERMAKER, Vol. 56, No. 3, pp. 44 - 47, March 1993, also
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Consider Repair Before Replacing Cracked Steam-Turbine Shells

Inspecting Urea Reactors and Associated Equipment
By Helmut Thielsch and Florence Cone

Causes and Resolution of Through-Wall Cracking in a Cold Reheat Piping System
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Boiler Waterwall Tube Evaluation to Identify Deterioration and Prevent Forced Outages

Increasing Plant Reliability by Nondestructive Examinations
By Helmut Thielsch and Florence Cone
Reprinted from NITROGEN, No. 205, pp. 39 - 47, September - October 1993

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Reprinted from FLUID POWER SERVICE CENTER, Vol. 2, No. 4, pp. 22 - 23, Summer 1993

Potential Failure Mechanisms in Composite Tubing
By Helmut Thielsch and Florence Cone
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Failures and Failure Prevention in Process Piping
By Helmut Thielsch and Florence Cone

Remedies for Waste-to-Energy Plants' Most Vexing Operations and Maintenance Problem: Tube Failures
By Helmut Thielsch and Florence Cone

Equipment Integrity - Essential to Risk Management
By Helmut Thielsch and Florence Cone
Presented at American Risk Protection Consultants 21st Annual Loss Control and Risk Management Conference, March 1994, Clearwater Beach, Florida

Steam Chest Repairs
By Caroline Burdick
Presented at the EPRI International Conference on Welding and Repair Technology for Fossil Power Plants, March 1994, Williamsburg, Virginia

Modifications to Tee Connections and Pipe Supports of the Main Steam Piping Systems Unit Nos. 1, 2, and 3, Wood River Generating Station, Illinois Power Company
By Helmut J. Thielsch, Jr., James M. Yagen and Kenneth W. McCully

Condition Assessment and Repair Welding of High Temperature Headers
Presented at the EPRI International Conference on Welding and Repair Technology for Fossil Power Plants, March 1994, Williamsburg, Virginia and
Published in the Conference Proceedings, Session 1, Headers and Pressure Vessels, March 1994
Failures and Failure Prevention of Paper Machine Components
By Helmut Thielsch and Florence Cone
Presented at the TAPPI Engineering Conference, September 1994, San Francisco, California and Published in the Engineering Conference Proceedings, Book 1, 1994, pp. 31 - 83

Utility Repairs Damaged Generator Shaft, Avoids Replacement
Reprinted from HYDRO REVIEW, Vol. XIII, No. 5, pp. 112 - 113, August 1994

Digester Safety - Failures, Failure Prevention and Repairs of Batch and Continuous Digesters
By Helmut Thielsch and Florence Cone
Reprinted from AMERICAN PAPERMAKER, Vol. 57, No. 9, pp. 54 - 57, September 1994

Failures in Waste Heat Boilers
By Helmut Thielsch, Florence Cone and Jonathan Freeman

Corrosion in Recovery and Refuse-Fired Boilers
By Helmut Thielsch and Florence Cone
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Equipment Integrity Inspections - Essential to Risk Management
By Helmut Thielsch and Florence Cone
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Digester Inspections for Safety and Integrity
By Helmut Thielsch and Florence Cone
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Failures and Repairs of Turbine Casings
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Failures and Repairs of Headers and Drums in Fossil Fired Boilers
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Catastrophic Failure of Cast Iron Dryer Roll Caused by Severe Erosion Resulting from Spoiler Bar Failures
By Jim Johnson, Helmut Thielsch and Susan Freeman

Inspection of Surface Defects in Paper Machine Dryer Cans
By Helmut Thielsch, Nancy Hoffman and Jonathan Freeman
Failures in Urea Reactors
By Helmut Thielsch and Florence Cone
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Repair Welding of a High Pressure Turbine Casing Subject to Thermal Fatigue Cracking and Original Manufacturing Defects
By Matthew Dowling, Helmut Thielsch and Darrell Wisner
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Induction Heating Coil Design for Materials Testing Applications
By David Spenciner

Microbiological Activity and Chlorides Cause Carbon Steel Pipe Pitting
By Susan Freeman and Helmut Thielsch

Repair Welding of the Control Valve Steam Chest at the Barry Steam Station, Unit No. 3, Alabama Power Company
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Accelerated Fatigue Testing
By David Spenciner and Mohammed Ovase
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By Helmut Thielsch and Susan Freeman

Texas Facility Investigates Catastrophic Failure
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Explosions, Critical Exposures and Leaks in Recovery Boilers
By Helmut Thielsch and Florence Cone
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Stress Analysis of Overhung Flange and Head Sections in Yankee Dryers
By T. H. Service, Ph.D., P.E. and A. Nalbandian, P. E.
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Nondestructive Examination of Structure
By Richard DeWolf
Presented at Construction New England '99, May 1999, Boston, Massachusetts

**Failure Analysis and Repair Welding of Superheater Outlet Header Subject to Thermal Fatigue Cracking**
By Helmut Thielsch, Florence Cone, Robert Smoske and Jason Husband
Presented at the 50th Annual Generation Conference of the Association of Rural Electric Generating Cooperatives (AREGC), June 1999, Biloxi, Mississippi. Complete copy of paper available from Thielsch Engineering. (Abbreviated version was also published in ADVANCED MATERIALS & PROCESSES, Vol. 157, No. 2, pp. 43-44, February 2000.)

**The Sense and Nonsense of Seam Welded Pipe Inspections - Sharing 40 Years of Experiences**
By Helmut Thielsch, Florence Cone and Peter Kennefick

**Selection and Application of Nondestructive Examination Techniques for Non-Metal Components**
By Richard H. DeWolf, Nancy Hoffman and Jon Freeman
Presented at the Maintenance and Reliability Conference, May 2000, Knoxville, Tennessee

**Maximizing the Safety of Critical Piping Systems by Meaningful and Cost-Effective Inspections and Repairs**
By Helmut Thielsch, Florence Cone and Peter Kennefick
Presented at the 6th Annual Outage "Best Practices" Conference, NUS Information Services, August 2000, Clearwater Beach Florida

Development of Paper Machine Dryer Inspection Guidelines
By Roland O'Brien-Bills, Nancy Hoffman and Richard H. DeWolf
Presented at TAPPI Engineering Conference, September 2000, Atlanta, Georgia

**Reference Book: Defects and Failures in Pressure Vessels and Piping**
By Helmut Thielsch, P.E.
Published by Robert E. Krieger Publishing Co., Inc.
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