Ronald James Parrington, P.E.

IMR Test labs
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SELECTED ACHIEVEMENTS

- Managed materials engineering, materials testing, corrosion, welding, and/or failure analysis departments at General Electric, Lockheed Martin, Dresser-Rand and IMR Test Labs.
- Teaches courses in materials engineering and failure analysis.
  - Created and taught a new course, “Non-Metallics for the Metallurgist”, for ASM International.
  - Teaches “Principles of Failure Analysis” and “Metallurgy for the Non-Metallurgist” for ASM International.
  - Presented “Product Liability and Failure Analysis” as part of the Bar Association’s Continuing Legal Education program.

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EXPERIENCE

1/05 to Present — **IMR Test labs**
Lansing, NY

President

Managing all aspects of a fully equipped, commercial materials engineering laboratory. Performing failure analysis of metallic and nonmetallic materials and leading IMR’s forensic and professional services.

1/00 to Present — **IMR Test labs**
Lansing, NY

Vice President - Materials Engineering Manager

Managed metallic and nonmetallic materials departments of a fully equipped, commercial materials engineering laboratory. Performed failure analysis of metallic and nonmetallic materials. Led IMR’s expert witness, legal and forensic services.

Chaired local ASM International chapter and ASM International Failure Analysis Committee. Taught, presented and published papers on failure analysis.

11/98 to 1/00 — **IMR Test labs**
Lansing, NY

Senior Materials Engineer

Performed failure analysis of metallic and nonmetallic materials. Staffed and

built a new, state-of-the-art nonmetallic materials laboratory.

09/98 to 11/98 **Dresser-Rand**
Painted Post, NY

Supervisor, Materials & Lab Sciences

Direct development and testing activities for new products and participate in the overall materials considerations associated with design, development, production and quality of all products manufactured at the division. In addition to those activities detailed below for a Senior Materials Engineer, supervise six laboratory technicians and one test engineer.

08/96 to 09/98 **Dresser-Rand**
Painted Post, NY

Materials Engineer (08/96-07/98)/Senior Materials Engineer (07/98-09/98)

Worked in a modem, fully equipped materials engineering laboratory. Performed all aspects of materials failure analysis, supported design efforts and resolved production problems. Responsible for metallic and nonmetallic (corporate responsibility) materials.

Competent operating all types of laboratory equipment including scanning electron microscope (SEM), metallographs, tensile testers, impact testers, and hardness testers. Also, qualified in liquid penetrant testing (Level 11) and magnetic particle testing (Level 1).

Identified a costly crevice corrosion problem, completely described failure mechanism, correctly attributed root cause to another company's cleaning products, and resolved the problem to the satisfaction of internal management and the customer. Similarly, identified the root cause and corrective actions for a fabrication-related bearing problem that manifested itself in costly field failures.

Served as secretary of NACE International Unit Committee T-1 G-1 7 (Elastomers and Other Nonmetallics for Oilfield Service). Created and chaired a new NACE International Working Group T-1 G-1 7b (Environmental Wear of Nonmetallics for Oilfield Use).

03/94 to 04/96 **Lockheed Martin (KAPL, Inc.)**
Schenectady, NY

Manager - Joining Engineering & Technology

In charge of welding development and engineering support for naval nuclear reactors and a 3,000 person facility. Managed a group of approximately 8 welding engineers and 8 welding technicians.

Weld materials included INCONEL 600, 625 and 690, stainless steels, plain carbon steels, low alloy steels, pressure vessel steels, aluminum, developmental alloys, and their respective weld filler metals.

Weld processes included gas tungsten arc, gas metal arc, shielded metal arc, plasma arc, submerged arc, electron beam, laser, friction and ultrasonic welding.

Successfully proposed and implemented a $2M and 20 manyear technical budget.

Modernized laboratory with the addition of >$1 M advanced equipment including a fiber optic laser welding system.

Served as project manager for the construction of a new weld laboratory. Required soil remediation and hazardous materials disposal. Trained as a hazardous materials waste operations and emergency response (HAZWOPER) technician.

Revamped facility welding system to assure code compliance (ASME Boiler and Pressure Vessel Code, AWS Structural Welding Code, etc.) and quality product.

Cognizant for military and naval nuclear welding and fabrication codes and specifications.

Increased engineering staffing by 100%, decreased welding laboratory cycle time by 50%, and increased on-time delivery by 25%.

10/90 to 03/94 **Martin Marietta (KAPL, Inc.)**
Schenectady, NY

Manager - Pressurizer Materials Unit

Created and managed a new organization consisting of 16 materials engineers responsible for identifying materials needs, developing and executing test programs (primarily stress corrosion cracking), and performing materials assessments.

Materials included INCONEL 600, 625, 690 and X-750, and Type 304 stainless steel. Test methods included constant displacement and constant load SCC testing, CERT testing, corrosion fatigue, full-size component testing, and various residual stress characterization methods (X-ray diffraction, strain gage and sectioning followed by layer removal, hole drilling, etc.). Test environments included high temperature water and steam, 75OF steam and doped steam, and boiling magnesium chloride.

Proposed and implemented test programs requiring >1 00 manyears and $5M to support.

Performed post-service destructive evaluations on >200 components, mostly irradiated.

Acted as liaison to commercial nuclear Alloy 600 experience. Attended four international conferences of commercial nuclear engineers and scientists on Alloy 600 stress corrosion cracking. Prepared and presented two technical papers at international meetings: (1) SCC of Alloy *600 Weld Metal;* and (2) *Residual Stresses and SCC in Alloy 600 Pipe and Fittings.*

Led all units in quantity of commitments and percentage on-time completion in 1992 and 1993, including 100% performance in 1993.

06/89 to 10/90 **General Electric Company (KAPL)**
Schenectady, NY

Lead Engineer

Lead engineer in charge of eight technicians responsible for corrosion testing and, subsequently, lead engineer in charge of four mechanical engineers responsible for nuclear core design.

Engineered the design and startup of a new, 12 autoclave, $2M test facility.

Developed a spreadsheet computer program to coordinate test and inspection schedules.

Recommended and implemented widespread changes to improve autoclave test water chemistry controls.

Leader of team for nuclear core component assessment impacting a multi-billion dollar fleet refueling decision.

12/84 to 06/89 **General Electric Company (KAPL)**
Uncasville, CT

Resident Engineer - Nuclear Core Manufacturing

Resident engineer at nuclear core manufacturing vendor (United Nuclear Corporation) responsible for the delivery of quality product on-time and at cost.

Implemented a new, computer spreadsheet based vendor performance measurement system.

Performed first ever assessment of core vendor's software engineering capabilities that was praised by company and vendor management. Assessed vendor readiness for multi-million dollar automated manufacturing facility design and development contract.

07/80 to 12/84 **General Electric Company (KAPL)**
Schenectady, NY

Corrosion Engineer

Designed and coordinated stress corrosion cracking test programs, provided technical assessments, solved materials problems, and performed failure analyses on stainless steels, nickel-based alloys, and titanium alloys in support of naval nuclear and laboratory operations.

EDUCATION

B.S., Rensselaer Polytechnic institute, 05/80
- Majors: Materials Engineering; Metallurgical Engineering
- Honors: Summa Cum Laude; Matthew A. Hunter Prize (Materials Engineering); #7 in Class; GPA - 3.98

M.S., Rensselaer Polytechnic Institute, 05/84
- Major: Materials Engineering
- GPA - 4.00

PROFESSIONAL ASSOCIATIONS

ASM International (Past Chairman of Failure Analysis Committee, Past Chairman of Chapter Council, Past Chairman and Secretary of Twin Tier Chapter)
NACE International (past Secretary of T-1G-17 and past Chairman of T-1G-17b)
Society of Plastics Engineers

COMMUNITY ACTIVITIES

KAPL NOVA (chairperson 1994-1996)
- a 400 member organization dedicated to community volunteerism
KAPL Community Relations Council member
United Way Drive Coordinator
US Savings Bond Drive
Little League Baseball

PAPERS AND PUBLICATIONS

Stress Corrosion Cracking of Alloy 600 Weld Metal, EPRI Conference, 11/30/92-12/2/92, Orlando, FL.

Residual Stresses and Stress Corrosion Cracking in Pipe Fittings, RJ Parrington, JJ Scott and F Torres, Fontevraud III, 9/12/94-9/16/94, Fontevraud, France.

Corrosion Resistance of Coatings for Compressor Applications *in* Sour Environments, ASM Materials Solutions Conference, 10/12/98-10/15/98, Rosemont, ILL.

Environmental Wear Testing of Nonmetallic Materials for Compressor Applications, RJ Parrington and EM Hinchliff, NACE Corrosion/99 Conference, 4/25/99-4/30/99, San Antonio, Texas.

Helicopter Shaft Failure Analysis, ASM 10th Annual Advanced Aerospace Materials & Processes Conference, 6/21/99-6/24/99, Dayton, OH.

Cavitation Erosion of a Zirconium Pump Impeller in an Aqueous Hydrochloric Acid Service Environment, 32nd Annual Convention of the International Metallographic Society, 10/31/99-11/3/99, Cincinnati, OH.

Case Histories of Improper Material Selection, Sachs Seminar 2000, 4/18/00, Syracuse, NY.

Failure of a Stainless Steel Holding Tank, Advanced Materials & Processes, ASM, Vol. 157, No. 6, June 2000.

Fractography of Metals and Plastics, ANTEC 2000, 5/8/00-5/11 /00, Orlando, FL, Plastics Engineering, Vol. 56, No. 12, December 2000.

Put It in the Drawing and Make It Like the Drawing, "Failure Prevention Through Education: Getting to the Root Cause", Conference Proceedings, ASM Intl., 2000.

The Four Types of Failure, ASM Materials Solutions Conference, 10/16/00-10/19/00, St. Louis, MO.

Precision Equipment Bearing Failures, ASM Materials Solutions Conference, 11/5/01-11/8/01, Indianapolis, IN.

Fractography of Metals and Plastics, Practical Failure Analysis, ASM, Vol. 2, Issue 5, October 2002.

Corrosion-Related Failures (Chairperson), Failure Analysis and Prevention, ASM Handbook, Volume 11, December 2002, ASM International, Materials Park, OH.

Fractographic Features in Metals and Plastics, Advanced Materials & Processes, ASM, Vol. 161, No. 8, August 2003.

Product Liability and Failure Analysis, ASM Materials Solutions Conference, 10/19/04, Columbus, OH.

What Are Polymers & Why Do They Fail?, 2005 MS&T Conference, 9/27/05, Pittsburgh, PA.

Deep Fryer Failure Analysis, 2005 MS&T Conference, 9/28/05, Pittsburgh, PA.

Product Liability and Failure Analysis, The 1st Annual Southern Tier Region Engineering Symposium and Professional Development Seminar, 10/24/05, Owego, NY.

Visual Examination of Failures, The 1st Annual Southern Tier Region Engineering Symposium and Professional Development Seminar, 10/24/05, Owego, NY.