



10338 Miller Road
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MARGARET KOPREK
SENIOR CONSULTANT

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With nearly two decades of experience in the railroad industry, Margaret Koprek is a seasoned Industrial Engineer and Senior Consultant at ESi. Her expertise spans a wide range of rail operations, including mechanical railcar and locomotive research and development, wayside technologies, failure progression modes, operational efficiency, technical training and talent development.

Previously, Ms. Koprek held leadership and technical positions within Mechanical, Engineering, Labor Relations and Human Resource departments at BNSF Railway, the world's largest Class 1 railroad.

Ms. Koprek's technical proficiency includes locomotive and railcar wheels, axles, and bearings as well as air brake systems. During her tenure, she oversaw the development, deployment, and implementation of hundreds of wayside technologies. Ms. Koprek has conducted thousands of root cause investigations for product and process failures. Her expertise in metallurgy has been instrumental in analyzing the underlying causes of equipment failures and implementing preventive measures. In this capacity, Ms. Koprek has experience providing depositions and testimony.

Ms. Koprek's technical proficiency extends to data analysis and visualization. She has a deep understanding of root cause analysis, utilizing tools like Power BI and Tableau to identify trends and improve processes. Her expertise in LEAN and Six Sigma methodologies has helped organizations reduce costs and enhance efficiency. For more than 15 years, Ms. Koprek successfully created business cases for multi-million-dollar projects that included capital planning, budget management and forecasting. Many of these projects advanced the physical and digital infrastructure that enabled other progressive projects.

Ms. Koprek has a strong record of collaboration with regulatory and industry agencies, associations and committees. She championed governance processes to increase uniformity and compliance. Ms. Koprek has been instrumental in advancing detector protocols, training, use, and access.

Beyond her technical skills, Ms. Koprek is a dedicated leader and mentor. She has a passion for developing high-performing teams that prioritize safety and productivity. Her experience in curriculum design and instruction has led to creating and delivering effective leadership development programs. Ms. Koprek developed requirements for tools that reduced operating expense and expedited handling of labor agreement claims. Additionally, she led teams associated with maintaining content and records for technical and compliance training programs.

Areas of Specialization

Data Collection

- Analysis of Reliability Data
- Reliability Modeling and Simulation

Data Visualization

- Statistical Analysis and Probability Modeling
- Sampling Plans and Data Collection
- Reliability Testing

Executive Leadership



Leadership Development
Instructional Design

Material Science
Metallurgical Failure Analysis

Rail Operations,
Safety and Rules
Accident/Incident Investigation
Root Cause Analysis
Risk Analysis/Pre-Loss Audit
Environmental Health and Safety
Failure Analysis
Derailment Cause Analysis
Component Evaluations
Locomotive and Vehicle Data Analysis
Personal Injury Investigation
Product and Process Safety and Reliability Analysis

Education

Master of Science, Industrial Engineering, St. Mary's University, San Antonio, TX

Master of Education, Curriculum & Instruction, Texas A&M University, College Station, TX

Bachelor of Science, Biomedical Science, Texas A&M University, College Station, TX

Positions Held

Engineering Systems Inc., Dallas, Texas

Senior Consultant, 2024 – Present

BNSF Railway, Fort Worth, Texas

Director, Talent Development and Onboarding 2022 – 2024

Director, Labor Agreement Technology, 2018 – 2022

Manager, Reliability Engineering, 2011 – 2018

Manager Equipment Operations, 2009 – 2011

Intern, Maintenance of Way, 2007

BNSF Railway, Kansas City, Missouri

Mechanical Foreman, 2007 – 2009



Continued Education

International Coaching Federation Associate Certified Coach, 2025

Certified Professional in Talent Development (ATD), 2022

Board Experience

TRI COUNTY ELECTRIC COOPERATIVE, Aledo, Texas, NRECA Credentialed Director and Secretary/Treasurer, 2021-2024.

Awards

BNSF Railway Employee Achievement Award (and IAAA International Finalist): Train Matching Improvements, 2017