

# Ewa Labuda, Ph.D.

Metallurgical Director



## EXPERIENCE

### **Metallurgical Director**

2003-Present

### **Metallurgist**

1998-2003\*

## EDUCATION / CREDENTIALS

### **The University of Mining and Metallurgy, Cracow, Poland**

M.S. in Materials Engineering

### **The Catholic University of America**

M.S. in Chemistry

### **The Catholic University of America**

Ph.D. in Chemistry

## MEMBERSHIPS

- Association of Materials Protection and Performance (AMPP formally NACE)

Dr. Ewa Labuda joined Sheppard T. Powell Associates LLC (STPA) in 2003 as Director of our Metallurgical Laboratory. (Prior to joining STPA, Dr. Labuda served in a similar capacity for Powell Labs Ltd from 1998 to 2003.) As Director, she is charged with conducting failure analyses of water and steam system components from electric utilities, industrial steam and power plants, pulp and paper mills, and residential and commercial buildings. She also performs evaluations of corroded surfaces, manufacturing defects, and cracked and failed structural components using techniques such as SEM/EDXS, stereomicroscopy, and optical metallography. During her tenure with Powell Labs Ltd, she presented a number of papers based on various investigations. These papers include "Determination of Root Causes of Failure in Superheater/Reheater Tubes" (1999 Golden Gate Materials and Welding Technologies Conference), "Fireside Corrosion In Coal- And Oil-Fired Units: Failure Mechanisms And Methods Of Prevention" (Corrosion/2000), "Failure Of Chromized Reheater Tubes" (Corrosion/2000), "Microbiologically Induced Corrosion of Copper Piping Systems - Failure Analysis" (Corrosion 2003), and "Environmentally Assisted Cracking of Carbon Steel and Superaustenitic Stainless Steel - Case Histories" (Corrosion/2003). Dr. Labuda copresented a paper titled "Operational Tube Failures in Heat Recovery Steam Generators (HRSG): Metallurgical and Water Chemistry Perspectives" during the International Conference: Boiler Tube Failures and HRSG Tube Failures and Inspections (EPRI) in November 2001.

Dr. Labuda's graduate education in chemistry focused on chemical and physical properties of hard deposits which accumulate in steam generators at nuclear power stations. Her Ph.D. thesis titled "Reactions of Iron Oxides at Elevated Pressures and Temperatures" required a deep understanding of iron oxides and the mechanisms of their formation under different secondary side water chemistry conditions. During her graduate work, Dr. Labuda developed a successful technique for replicating the hard, iron oxide based deposits which form in power plants. Part of Dr. Labuda's graduate work was presented at the Student Poster Section during a NACE meeting in Denver, CO (1996). Her poster won third place in the Mars Fontana Category. Numerous articles and a patent titled "Immobilization of Radioactive and Hazardous Contaminants and Protection of Surface Against Corrosion with Ferric Oxides" resulted from Dr. Labuda's graduate research.

Her postdoctoral work in Chemical Education involved the development of different types of tests to assess students' conceptual understanding of general chemistry. She is the coauthor of two special exams for First- and Second-Term General Chemistry published by the ACS Division of Chemical Education and was invited to write five short articles for the Macmillan Encyclopedia of Chemistry.

\* In 2003 STPA acquired the laboratory staff of Powell Labs Ltd.