



Problem Solving for Process Operators and Specialists

By Joseph M. Bonem

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This book provides methods to train process operators to solve challenging problems. The book is split into two parts. The first part consists of two parts; first developing a daily monitoring system and second providing a structured 5 step problem solving approach that combines cause and effect problem solving thinking with the formulation of theoretically correct hypotheses. The 5 step approach emphasizes the classical problem solving approach (defining the sequence of events) with the addition of the steps of formulating a theoretically correct working hypothesis, providing a means to test the hypothesis, and providing a foolproof means to eliminate the problem. The initial part of the book focuses on defining the problem that must be solved and obtaining the location, time and quantity based specifications of the problem. This part of the book also presents techniques to find and define problems at an early point before they progress to the critical level.

The second part of the book deals with the utilization of fundamental chemical engineering skills to develop a technically correct working hypothesis that is the key to successful problem solving. The primary emphasis is on simple pragmatic calculation techniques that are theoretically correct. It is believed that any operator can perform these calculations if he is provided the correct prototype. Throughout the book, the theory behind each pragmatic calculation technique is explained in understandable terms prior to presenting the author's approach. These techniques have been developed by the author in 50+ years of industrial experience. The book includes many sample problems and examples of real world problem solving. Using these techniques, theoretically correct working hypotheses can be developed in an expedient fashion.

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Editorial Review

From the Back Cover

A dependable five-step problem-solving technique for chemical plant and refinery process operators and engineers

As chemical engineering processes increase in size, scale, and intricacy, industrial problem solvers need to embrace new strategies for resolving complex or chronic plant operating issues. Too often, these professionals rely on intuition and experience-based solutions for tackling problems that require rigid procedural standards, resulting in approaches that routinely fail to fix—or even define—what's gone wrong. To institute a more effective industrial problem-solving environment, *Problem Solving for Process Operators and Specialists* combines cause-and-effect thinking with the formulation of theoretically correct hypotheses to create a five-step technique for overcoming the most challenging operational stumbling blocks. Discussion includes:

- Techniques to find, define, and solve process problems and to create a daily monitoring system before they progress to the critical level
- Methods for formulating corrective remedies for typical process equipment such as pumps, compressors, heat exchangers/furnaces, fractionating towers, and reactors
- A thorough, well-balanced mix of underlying theory and practical field applications
- Helpful tips on reducing repeat failure risk by teaching how to determine the root cause of a problem

Presenting pragmatic calculation techniques, real-world examples, and insight from an author with more than fifty years of industrial experience, this practical resource hones greater awareness and responsiveness to problems related to processes in operating plants, and helps establish a protocol these facilities can implement to attain—and maintain—peak performance.

About the Author

Joseph M. Bonem has had a highly productive five-decade career that includes over three decades in polymer manufacturing and process development with Exxon Chemical as well as fourteen years in consulting. He has taught numerous short courses in plant problem solving and has extensive experience working abroad.

Users Review

From reader reviews:

Lisa Jennings:

This Problem Solving for Process Operators and Specialists book is simply not ordinary book, you have it then the world is in your hands. The benefit you receive by reading this book is information inside this book incredible fresh, you will get details which is getting deeper you actually read a lot of information you will get. This specific Problem Solving for Process Operators and Specialists without we understand teach the one who examining it become critical in contemplating and analyzing. Don't be worry Problem Solving for Process Operators and Specialists can bring if you are and not make your carrier space or bookshelves' come to be full because you can have it with your lovely laptop even cell phone. This Problem Solving for Process

Operators and Specialists having great arrangement in word along with layout, so you will not experience uninterested in reading.

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