

**Book Title: *Industrial Reliability and Safety Engineering:
Applications and Practices***

FULL FORMATTED CHAPTER SUBMISSION DUE: 15th August, 2021

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Introduction:

Many accidents have been already faced by the different industrial sector in the world. These accidents are due to sudden failure of a subsystem/equipment which results in loss in term of hazards and production loss to the industry. Bhopal Gas Tragedy in 1992 is one the best example in front of the world where a sudden failure of a component results in leakage of toxic gas and nearly 10,000 people died. Thus these type of tragedy indicates us that how the concept of reliability and safety engineering is of supreme importance for failure free operation of the industry across the globe. In the present scenario, the world is also facing the problem of sustainable operation as it contributes to plant availability and profitability. In order to optimize plant availability and profitability it is essential to develop the reliability modelling and apply this modelling to the various industrial system in order to develop their optimum maintenance policies. These approaches consider the real operational data of the plant and stochastically help system analyst to study the failure dynamics of the complex industrial system. Further, the application of multi-criteria decision-making (MCDM) approach to

solving real-world problems related to reliability, risk, safety and operation has gained considerable attention in both academia and practice. This book makes an effort to discuss and address the reliability, risk and safety issues of real industrial system with the application of latest reliability and risk based modelling. Further, many other issues related to the theme of the proposed book like maintenance decision making, risk and safety modelling etc. are also addressed with the implementation of decision-making techniques. Thus, this book aims to collect high-quality papers which apply different reliability, risk and safety assessment based tools and techniques for optimizing the performance of the industrial systems, manufacturing system and other equipment of the engineering systems.

Coverage: The volume will cover following topics but not limited to:

- *Mathematical modelling with industrial applications*
- *Real life reliability studies on Industrial operations*
- *Markov modelling for reliability analysis*
- *Petri Net modelling for reliability analysis*
- *Fuzzy modelling and optimization of reliability and safety aspects in industry*
- *Reliability and maintenance issues in process industries*
- *RAM analysis*
- *Industrial Hazard management*
- *Cost optimization and life cycle costing analysis*
- *Fuzzy MCDM application for risk and safety analysis*
- *Software reliability and safety problems*
- *Microelectronic reliability*
- *FMEA models and industrial application*
- *Maintenance Engineering*
- *Reliability design based application*
- *Reliability evaluation of system based on k-out of n-subsystem*
- *Reliability role in supply chain based industrial operation*

Submission procedure: Prospective authors are requested to submit **their proposals (350 - 550 words) / full length chapters (around 15-25 formatted pages)** as an email attachment in word file to the following email address. The proposal should highlight the novelty and contribution of the chapter. All submitted chapters will be peer reviewed and should have plagiarism less than 15 percent.

**E-mail id: panchald@nitj.ac.in cc to drmrswami@yahoo.com
(For proposal submission and queries)**

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