

Process Monitoring

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Process Monitoring

Chapter 1

Introduction To Process Monitoring



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Chapter Description

- Aims
 - Define the conceptual background of process monitoring.
- Expected Outcomes
 - Critically discuss the essentials and benefits of applying process monitoring system for ensuring smooth as well as safe industrial operability.
- Other related Information



Exercise I

- **Explain the justification of applying conceptual statistics rather than finite statistics for monitoring!**
- **What is the connection between monitoring system and sensor?**
- **Would there be any advantage or is it really necessary for a particular operation to install both process control and process monitoring under a single comprehensive system? Justify!**



Exercise II



BHOPAL TRAGEDY

Please watch the clip from the following site:

<https://www.youtube.com/watch?v=wl-AGENUU0k>



Source: [https://commons.wikimedia.org/wiki/File:Bhopal-Union Carbide_1_crop_memorial.jpg](https://commons.wikimedia.org/wiki/File:Bhopal-Union_Carbide_1_crop_memorial.jpg), Simone.lippi

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Exercise II

BHOPAL TRAGEDY

Suppose that you are the new plant manager who are responsible of the particular unit MIC #610 tank. One month prior to the tragedy, you have noticed the gravely safety concerns that related to the unit. One of the options is to install a process monitoring system covering the whole safety aspects of the plant. Based from your understanding, how would the BHOPAL TRAGEDY turned out technically, provided that an effective process monitoring is in place!

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References

- **Mason, R.L., and Young, J.C., (2002). Multivariate Statistical Process Control with Industrial Applications. USA: ASA-SIAM.**
- **MacGregor, J. F., and Kourti, T. (1995). Statistical Process Control of Multivariate Processes. Control Engineering Practice, 3, 403 – 414.**



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