

Book review

Sam Mannan (Ed.), Lees' Loss Prevention in the Process Industries: Hazard Identification, Assessment and Control, vol. III, third ed., Elsevier, Butterworths, Heinemann, Burlington, MA, 2005, three-volume set, US\$ 476.00, 1071 pp.), ISBN 0-7506-7555-1 (three-volume set), ISBN 0-7506-7589-3 (vol. III).

Volume III in this series contains a variety of appendix matter plus a complete citation of all the references for all three volumes. Let me start my review with the latter, which I estimate to number approximately 2400. Clearly, this number of reference citations represents a vast amount of material. The current best-known safety guru is Trevor Kletz; he is cited over 200 times. Even this reviewer is cited as many of the prior *Journal of Hazardous Materials* editors including Frank Feates and Clive Nussey as well as members of the Editorial Advisory Board, past and present.

The first chapter in this volume sets the stage for several following chapters as it focuses on Incident Case Histories. One of the early tables in this chapter gives the following data for 551 incidents which include some of the major accidents in the process industries: date (starting with an incident in Glasgow in 1911 and ending with one in Ukhta, Russia in 1995), location, plant/transport, chemical involved, event type, deaths/injuries, cost (US\$), and references. I understand the difficulty it might present, but it would have been helpful if the table had been updated to at least the year 2000.

Following this table there are short reviews of approximately 150 of the incidents that are well known and involved the loss of life and/or property; the physical events involved are noted. Short case histories are given for almost 150 incidents. Many of these reports are for incidents with which I was not familiar and include events occurring up to the year 2001; clearly this table is up-to-date.

The several chapters following this appendix describe in detail the most famous (or should I say the most infamous) chemical spills/releases/exposures:

- Flixborough, cyclohexane;
- Seveso, dioxin (TCDD);
- Mexico City, LPG;

- Bhopal, methyl isocyanate;
- Pasadena, isobutane.

Next in the book come reports of hazard assessments:

- *Canvey reports*. These reports discuss the potential hazards from operations in the Canvey Island/Thurrock area. The references to LPG production and storage.
- *Rijnmond report*. This report is an assessment of risk posed by six potentially hazardous industrial sites in the Rijnmond area (petrochemical complex).

The next chapters address a potpourri of topics such as: laboratories, pilot plants, safety, health and the environment, noise, safety factors for simple relief systems, failure and event data, earthquakes, transport hazards and offshore process safety.

Four appendix chapters deal with nuclear energy in general and related accidents such as Three Mile Island and Chernobyl in particular. Discussed in this section is the Rasmussen Report which is a comprehensive hazard assessment of nuclear power plants in general.

Approximately the last half of the book is devoted to information resources:

- Institutional publications are listed in Appendix 28; AIChE, for example is noted as many of its publications including water, an annual volume of water pollution related papers that this reviewer edited for many years. Unfortunately, that volume is long out-of-date.
- Units and unit conversions are found in Appendix 30.
- Process safety management (PSM) regulation in the United States (Appendix 31).
- Risk management program regulation in the United States (Appendix 32).
- Incident databases (Appendix 33).
- Web links (Appendix 34).
- References: this section is 486 pages long.

In summary, there is little to add to these very long reviews of the three massive, well-written, vitally important books. Even these three reviews, as extensive as they are, do not do credit to the amount of information provided in this series. Mannan and Elsevier are to be congratulated on this publication. I hope that future editions will be published periodically updating the material.

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