

Introduction

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Contributors to this Symposium will be particularly concerned with the safety of chemical batch processes. By implication, and by contrast with the giant continuous processes, the interests of the small and medium-sized producer of high-value chemicals will be borne in mind. Particular attention will be given to safety aspects of computerised process control. It is hoped that the traditional interest of this series of Process Hazards Symposia in research and development will be remembered.

Keywords: Process safety; batch processes; computer control.

This symposium is sub-titled "Hazards X" - a reminder that it is a further addition to a series that began in Manchester nearly thirty years ago. During that period the subject of Process Safety and Loss Prevention has become increasingly defined as a specialist branch of Chemical Engineering. To-day we see, not only symposia of increasing frequency devoted to collecting, reviewing, discussing and even re-cycling information, but also specialist journals and books devoted to the subject. The Institution itself is active in encouraging and promoting education in safety and loss prevention, in information exchange and in the recognition of safety professionals.

During the last few years there has been much pre-occupation in the chemical and process industries with the subject of Major Hazards. This has resulted from a series of spectacular industrial disasters throughout the world, which have attracted public attention and have resulted in much legislative activity in most developed countries. This has further intensified specialisation in safety and loss prevention and has brought the subject to the forefront of many minds.

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The time has perhaps come to remind ourselves that the smaller-scale hazards that have been with us for so long are still with us and still exact their toll. Indeed, new substances, new processes and new techniques continually extend the field of concern.

With this thought in mind, the North-Western Branch decided to devote a symposium to the discussion of the hazards of batch processes and by implication, operations of limited size and the concerns of some medium-sized and smaller manufacturers. The result of this initiative is the interesting series of papers that we have before us.

One should perhaps add that although the large continuous process situations that characterise major hazards have been deliberately excluded from our discussions, our concern is by no means with "minor hazards". What we shall consider contain the seeds of occurrences that are serious enough, in all conscience, and can even be the precursors of major events if not controlled at the lower level.

A feature of recent years has been the rapid development of programmable electronic systems for the automatic control of process plants. At first these were applied to large-scale continuous processes for reasons both economic and technological. It is now possible to look back on some length of experience and begin to make assessments and derive lessons. More recently there have been developments in connection with batch operations, where the technology is more difficult but the rewards in improved operability and safety remain very attractive. It is timely to look at this whole area of development from the viewpoint of safety and reliability and we are to have a series of papers devoted to this end.

The North-West Branch's series of process hazard symposia have always aimed to attract papers reporting new discoveries affecting process safety. The present symposium adopts more of a reviewing position, but, so that the importance of continuing safety research may not be forgotten, a special discussion on this subject forms part of the programme.