

This book is a story about the above noted waste production and disposal as it evolved (and is evolving still) over time as DOE addresses the problems of the past with evolving waste handling techniques and public oversight.

The book has 12 chapters, each of which can stand on its own. Liberal use of tables, photographs, maps, and diagrams makes for pleasurable reading and understanding.

By title, the 12 chapters are as follows:

1. Hanford—in the beginning.
2. Hanford's corporate culture.
3. Environmental monitoring and surveillance.
4. Radiation: what was known and when.
5. Waste and nuclear materials.
6. The end of secrecy.
7. Environmental regulations and the cleanup agreement.
8. Cleanup of Hanford and the nuclear weapons complex.
9. Exploring choices and decisions.
10. Science: partner in choices.
11. A matter of risk.
12. Building a path forward.

As noted before, the book is well written (in a conversational style) and is easy to read but, more importantly, it contains a great deal of information on the technology and philosophy of nuclear waste handling and disposal. The book would be an excellent text for a course on nuclear waste management.

Gary F. Bennett

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### **Hanford Site Historic District: History of the Plutonium Production Facilities 1943–1990**

Contributing authors: T.E. Marceau, D.W. Harvey, D.C. Stapp, S.D. Cannon, C.A. Conway, D.H. DeFord, B.J. Freer, M.S. Gerber, J.K. Keating, C.F. Noonan, and G. Weisskopf, Battelle Press, Columbus, OH, 2003, US\$ 47.50, 626 pp., 8.5 × 11 inch format, paperback, ISBN 1-57477-133-7

As stated in the preface, “The purpose of this book is to preserve in words, diagrams, and photographs the structures at the Hanford Site during the Manhattan Project and Cold War Era because the majority of them have been or will be demolished.”

“Covering events from the beginning of the Manhattan Project through the Cold War Era, this book describes the selection of the (Hanford) site for production of plutonium on an industrial scale; development and function of the various facilities; life as a worker during the construction, operation, and diversification of the Hanford Site; and the role of secrecy and security during the production era.”

This is a fascinating book discussing, as noted above, the history of the United States' production of plutonium for the atomic bomb. Although the main focus of the book was the World War II time period, it does discuss Hanford operations up to 1990, thus covering the Manhattan Project and the Cold War. The contents of the book are as follows. Chapter 1 is a historic overview summarizing some of the events that accounted for and influenced the creation and operation of the Hanford Site as well as some of the activities undertaken on the Hanford Site in response to these events. Chapter 2 consists of 12 sections with details, descriptions, and illustrations of the primary production operations (manufacturing the fuel, irradiating it in the reactors, chemically separating it to isolate plutonium, and finishing the plutonium into the form needed for a bomb), support activities (construction, waste management, research and development, security, military operations, worker health and safety, and infrastructure, and most importantly a perspective from the workers who made it all happen. Chapter 3 is a guide to resources and information for future researchers. Ideas generated or omissions noted within this text may be investigated more fully by the interested reader using these resources. Chapter 4 looks to the future and provides recommendations for future uses for some of the facilities still standing on the Hanford Site. It envisions opportunities for economic development and heritage tourism as a way to extend vestiges of the past into the 21st century.

The book is exceedingly well-written with copious photographs, diagrams, and numerous tables and data. The appendix contains lists of key dates, figures and tables, references cited (36 pages), bibliography for further information (14 pages), glossary and a comprehensive index.

The book is published for an incomprehensibly low price of US\$ 47.50. The U.S. Department of Energy's Hanford Cultural and Historical Resources Program and Battelle Press are to be commended for producing this book which should be on the shelves of all university and public libraries.

Gary F. Bennett

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### **Reinventing Water and Wastewater Systems: Global Lessons for Improving Water Management**

Paul Seidenstat, David Haarmeyer, Simon Hakim (Eds.), John Wiley & Sons, Inc., New York, NY, 2002, 495 pp., US\$ 100.00, ISBN 0-471-06422-X

The provision of clean safe drinking water is a major worldwide challenge both in industrial as well as developing countries. At the other end of the water utilization system, the need for wastewater treatment grows in step with increases in water supply. In the past, the role of water services provider has fallen to governments. More recently, however, the private sector has undertaken a major role, both in developed and developing countries. This book discusses the challenges faced in this area and discusses lessons learned by different countries in utilizing different approaches to improving water and wastewater services.