

1. Record Nr.	UNINA9910958370103321
Titolo	Science and technology for environmental cleanup at Hanford / / Committee on the Review of the Hanford Site's Environmental Remediation Science and Technology Plan, Board on Radioactive Waste Management, Division on Earth and Life Sciences, National Research Council
Pubbl/distr/stampa	Washington, D.C., : National Academy Press, 2001
ISBN	9786610184286 9781280184284 1280184280 9780309565615 0309565618
Edizione	[1st ed.]
Descrizione fisica	1 online resource (192 p.)
Collana	Compass series
Disciplina	363.728
Soggetti	Hazardous waste site remediation - Washington (State) - Hanford Site Groundwater - Pollution - Washington (State) - Hanford Site Hanford Site (Wash.) Environmental conditions
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references (p. 154-162).
Nota di contenuto	""SCIENCE AND TECHNOLOGY FOR ENVIRONMENTAL CLEANUP AT HANFORD""; ""Copyright""; ""Preface""; ""Reviewer Acknowledgments""; ""Contents""; ""Summary""; ""CHARGE 1: ASSESS THE TECHNICAL MERIT OF THE S&T WORK TO BE CARRIED OUT UNDER THE PROGRAM, INCLUDING ITS LIKELY CONTRIBUTIONa€?""; ""CHARGE 2: ASSESS THE RELEVANCE AND TIMELINESS OF THE PLANNED S&T WORK TO DOE REMEDIATION DECISIONS AT THE HANFORD SITE""; ""CHARGE 3: ASSESS THE POTENTIAL APPLICABILITY OF S&T RESULTS TO CONTAMINATION PROBLEMS AT OTHER DOE SITES""; ""1 Introduction and Task ""; ""SCOPE OF THIS STUDY"" ""REPORT CONTENT AND ORGANIZATION""""2 Hanford Site Background ""; ""WASTE PRODUCTION AND MANAGEMENT""; ""Releases to the Atmosphere""; ""Releases to the Ground""; ""Solid Waste Disposal""; ""Liquid Waste Disposal""; ""Accidental Releases and Discharges"";

""Releases to the Columbia River""; ""CLEANUP OF THE HANFORD SITE""; ""DISCUSSION""; ""3 Overview of the Integration Project""; ""BACKGROUND AND HISTORY""; ""SCIENCE AND TECHNOLOGY PROGRAM""; ""SCIENCE AND TECHNOLOGY PROGRAM PLANNING THROUGH RESEARCH AND DEVELOPMENT a€œROADMAPSa€œ""; ""IMPLEMENTATION OF INTEGRATION PROJECT ROADMAP"" ""SCHEDULE AND BUDGET"" ""DISCUSSION""; ""4 System Assessment Capability""; ""SCOPE OF THE SYSTEM ASSESSMENT CAPABILITY""; ""SCHEDULE AND BUDGET""; ""DISCUSSION""; ""5 Inventory Technical Element""; ""SCOPE OF INVENTORY TECHNICAL ELEMENT""; ""EVALUATION OF WORK PLANNED UNDER THE INVENTORY TECHNICAL ELEMENT""; ""6 Vadoso Zone Technical Element""; ""THE VADOSE ZONE: WHAT IS IT, AND WHY IS IT POORLY UNDERSTOOD?""; ""SCOPE OF VADOSE ZONE TECHNICAL ELEMENT""; ""EVALUATION OF WORK PLANNED UNDER THE VADOSE ZONE TECHNICAL ELEMENT""; ""Field Investigations of Representative Sites"" ""Can the objectives of the planned work be achieved?"" ""Does the planned work represent new science?""; ""Can the planned work have an impact on cleanup decisions at the Hanford Site?""; ""Does the planned work address the important issues?""; ""Are there other concerns, comments, or suggestions that should be considered by the Integration Project in executing the plan""; ""Transport Modeling""; ""Can the objectives of the planned work be achieved?""; ""Does the planned work represent new science?""; ""Can the planned work have an impact on cleanup decisions at the Hanford Site?"" ""Does the planned work address the important issues?"" ""Are there other concerns, comments, or suggestions that should be considered by the Integration Project in executing the plan""; ""Waste and Sediment Experiments and Models""; ""Can the objectives of the planned work be achieved?""; ""Does the planned work represent new science?""; ""Can the planned work have an impact on cleanup decisions at the Hanford Site?""; ""Does the planned work address the important issues?"" ""Are there other concerns, comments, or suggestions that should be considered by the Integration Project in executing the plan""

## Sommario/riassunto

The Hanford Site was established by the federal government in 1943 as part of the secret wartime effort to produce plutonium for nuclear weapons. The site operated for about four decades and produced roughly two thirds of the 100 metric tons of plutonium in the U.S. inventory. Millions of cubic meters of radioactive and chemically hazardous wastes, the by-product of plutonium production, were stored in tanks and ancillary facilities at the site or disposed or discharged to the subsurface, the atmosphere, or the Columbia River. In the late 1980s, the primary mission of the Hanford Site changed from plutonium production to environmental restoration. The federal government, through the U.S. Department of Energy (DOE), began to invest human and financial resources to stabilize and, where possible, remediate the legacy of environmental contamination created by the defense mission. During the past few years, this financial investment has exceeded \$1 billion annually. DOE, which is responsible for cleanup of the entire weapons complex, estimates that the cleanup program at Hanford will last until at least 2046 and will cost U.S. taxpayers on the order of \$85 billion. Science and Technology for Environmental Cleanup at Hanford provides background information on the Hanford Site and its Integration Project, discusses the System Assessment Capability, an Integration Project-developed risk assessment tool to estimate quantitative effects of contaminant releases, and reviews the technical elements of the scierovides programmatic-level recommendations.

