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Nota di contenuto	Nuclear Wastes -- Copyright -- Preface -- Contents -- Executive Summary -- THE "ONCE-THROUGH" FUEL CYCLE -- THE S&T CONCEPTS -- OVERALL CONCLUSIONS -- DETAILED FINDINGS AND CONCLUSIONS -- Findings Regarding Potential Radiological Effects of S&T -- Findings Regarding Separations Technology -- Separations Technology Requirements for ALMR and LWR -- Separations Technology Requirements for the ATW -- Findings Regarding Transmutation Technology -- Current Status of LWR, ALMR, and ATW -- Relative Capabilities of the Concepts for TRU Transmutation -- ALMR -- LWR -- ATW -- Findings Regarding

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Sommario/riassunto

Disposal of radioactive waste from nuclear weapons production and power generation has caused public outcry and political consternation. Nuclear Wastes presents a critical review of some waste management and disposal alternatives to the current national policy of direct disposal of light water reactor spent fuel. The book offers clearcut conclusions for what the nation should do today and what solutions should be explored for tomorrow. The committee examines the currently used "once-through" fuel cycle versus different alternatives of separations and transmutation technology systems, by which hazardous radionuclides are converted to nuclides that are either stable or radioactive with short half-lives. The volume provides detailed findings and conclusions about the status and feasibility of plutonium extraction and more advanced separations technologies, as well as three principal transmutation concepts for commercial reactor spent fuel. The book discusses nuclear proliferation; the U.S. nuclear regulatory structure; issues of health, safety and transportation; the proposed sale of electrical energy as a means of paying for the transmutation system; and other key issues.
