

Preface

The *Environmental Report 2003* is prepared for the U.S. Department of Energy (DOE) by the Environmental Protection Department at Lawrence Livermore National Laboratory (LLNL). The submittal of the *Environmental Report 2003* satisfies requirements under DOE Order 231.1A, *Environmental Safety and Health Reporting* and DOE Order 5400.5, *Radiation Protection of the Public and Environment*. The purpose of the *Environmental Report 2003* is to present summary environmental data, confirm compliance with environmental standards and requirements, and highlight facility programs and efforts.

The primary methods of distribution of the *Environmental Report 2003* are electronic. The document will be physically distributed by compact disc (CD), and accessible on the Internet at the LLNL Site Annual Environmental Report homepage: <http://www.llnl.gov/saer/>. Both the report and data tables can be viewed in its most up-to-date form. Environmental reports covering calendar years 1994 through 2002, and corrections to them, can be accessed at this same Internet address.

This report contains an Executive Summary and a summary of LLNL's compliance with environmental regulations and environmental programs. The majority of this report then features LLNL's environmental monitoring programs – air; waters including wastewater, surface water, and groundwater; soil and sediment; vegetation and foodstuff; ambient radiation; and wildlife and rare plants – with some discussion on quality assurance activities associated with these monitoring programs. To describe the impact of LLNL operations on the public and environment, the monitoring chapters are followed by a chapter on radiological dose assessment. This report also provides an overview of LLNL's groundwater remediation program. Information on both the Livermore site and Site 300 is presented in each chapter. All environmental monitoring data summarized in this report are provided in files on the report CD.

The *Environmental Report 2003* continues the practice of using *Système International* units. This is consistent with federal law stated in the Metric Conversion Action of 1975 and Presidential Order 12770, *Metric Usage in Federal Government Programs* (July 25, 1991). For ease of comparison to environmental reports issued prior to 1991, dose values and many radiological measurements are presented in both metric and U.S. customary units. A conversion table is also provided in the Glossary under the heading of “metric units.”

This document is the responsibility of LLNL's Operation and Regulatory Affairs Division of the Environmental Protection Department. Monitoring data were obtained through the combined efforts of the Operation and Regulatory Affairs Division, Environmental Restoration Division, Chemistry and Materials Science Environmental Services' Environmental Monitoring Radiation Laboratory, and the Hazards Control Department. Special recognition is deserved for the dedication and professionalism of the technicians who carried out environmental and effluent monitoring – Gary A. Bear, Karl Brunckhorst, David J. Castro, Steven Hall, Renee Needens, Terrance W. Poole,

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