

**Title 40 CFR Part 191  
Compliance Certification  
Application  
for the  
Waste Isolation Pilot Plant**

**Appendix BIR**



**United States Department of Energy  
Waste Isolation Pilot Plant**

**Carlsbad Area Office  
Carlsbad, New Mexico**

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# **Transuranic Waste Baseline Inventory Report**

**Transuranic Waste Baseline  
Inventory Report  
(Revision 2)**



**December 1995**

**Prepared by Carlsbad Area Office Technical Assistance Contractor  
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**Volume 1**

## PREFACE

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TRANSURANIC WASTE BASELINE INVENTORY REPORT  
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Change History

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## ACRONYMS AND ABBREVIATIONS

AE	Argonne National Laboratory-East site identifier
AL	Ames Laboratory site identifier
AM	ARCO Medical Products Company site identifier
ANL-E	Argonne National Laboratory-East
AW	ANL-W site identifier
ANL-W	Argonne National Laboratory-West
BC	Battelle Columbus Laboratory site identifier
BEMR	Baseline Environmental Management Report
BT	Bettis Atomic Power Laboratory site identifier
C&C Agreement	Agreement for Consultation and Cooperation between the Department of Energy and the State of New Mexico on the Waste Isolation Pilot Plant
CFR	Code of Federal Regulations
CH	contact handled
CY	calendar year
D&D	decontamination and decommissioning
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
ER	environmental restoration
ET	Energy Technology Engineering Center site identifier
ETEC	Energy Technology Engineering Center
FFCAct	Federal Facility Compliance Act
FGE	Fissile Gram Equivalent
HDPE	high-density polyethylene
HQ	(DOE) Headquarters
ID	identification
IDB	Integrated Data Base
IDC	item description code
IN	Idaho National Engineering Laboratory site identifier
INEL	Idaho National Engineering Laboratory
IMWIR	Interim Mixed Waste Inventory Report
IT	Inhalation Toxicology Research Institute site identifier
ITRI	Inhalation Toxicology Research Institute
KA	Knolls Atomic Power Laboratory-Schenectady site identifier
KAPL	Knolls Atomic Power Laboratory - Schenectady
kg	kilograms
LA	Los Alamos National Laboratory site identifier
LANL	Los Alamos National Laboratory
LB	Lawrence Berkeley Laboratory site identifier
LBL	Lawrence Berkeley Laboratory
LL	Lawrence Livermore National Laboratory site identifier
LLNL	Lawrence Livermore National Laboratory
LWA	Land Withdrawal Act
MC	U.S. Army Material Command
MD	Mound Plant site identifier
MITI95	Material Inventory and Tracking Information Database 1995
m <sup>3</sup>	cubic meters

mrem	millirem
MU	University of Missouri Research Reactor site identifier
MTRU	mixed transuranic
MWIR	Mixed Waste Inventory Report
NMVP	No-Migration Variance Petition
NRC	Nuclear Regulatory Commission
NT	Nevada Test Site site identifier
NTS	Nevada Test Site
OR	Oak Ridge National Laboratory site identifier
ORIGEN-2	Oak Ridge Isotope Generation and Depletion Code
ORNL	Oak Ridge National Laboratory
PA	performance assessment (in text only)
PA	Paducah Gaseous Diffusion Plant site identifier (in waste profiles only)
PCB	polychlorinated biphenyls
PGDP	Paducah Gaseous Diffusion Plant
PX	Pantex site identifier
RCRA	Resource Conservation and Recovery Act
RF	Rocky Flats Environmental Technology Site site identifier
RFETS	Rocky Flats Environmental Technology Site
RH	remote handled
RL	Hanford (Richland) site identifier
SA	Sandia National Laboratories/New Mexico site identifier
SARP	Safety Analysis Report for Packaging
SEIS	Supplemental Environmental Impact Statement
SNL/NM	Sandia National Laboratories/New Mexico
SR	Savannah River Site site identifier
SRS	Savannah River Site
SWB	Standard Waste Box
TB	Teledyne Brown Engineering
TDOP	Ten Drum Overpack
TRU	transuranic
TRUCON	Transuranic Package Transporter-II Content Codes
TRUPACT-II	Transuranic Package Transporter-II
TSCA	Toxic Substances Control Act
TWBID	Transuranic Waste Baseline Inventory Database
TWBIR	Transuranic Waste Baseline Inventory Report
WAC	waste acceptance criteria
WIPP	Waste Isolation Pilot Plant
WMC	waste matrix code
WMP	waste material parameter
WS	waste stream
WTWBIR	Waste Isolation Pilot Plant Transuranic Waste Baseline Inventory Report
WV	West Valley Demonstration Project site identifier
WVDP	West Valley Demonstration Project

## PREFACE

The information in this report summarizes the U.S. Department of Energy's (DOE) transuranic (TRU) waste inventory, projections, and characteristics. Revision 0 of the *Waste Isolation Pilot Plant (WIPP) Transuranic Waste Baseline Inventory Report (WTWBIR)* published in June 1994, was the first attempt ever made by the DOE complex to report all of its TRU waste at the waste stream level. The waste data reported in Revision 0 was considered preliminary until quality checks of the data were completed by the DOE TRU waste generator/storage sites. Data changes resulting from the site reviews were contained in Revision 1 of the WTWBIR.

This document, Revision 2 of the *Transuranic Waste Baseline Inventory Report (TWBIR)* reports all DOE TRU waste, WIPP and non-WIPP TRU wastes, that have been identified by DOE TRU waste generator/storage sites. The primary differences between Revision 1 and Revision 2 are as follows:

- The name of the document has changed from WTWBIR to TWBIR to reflect the inclusion of all DOE TRU waste.
- Revision 1 was primarily developed to support Sandia National Laboratories, New Mexico (SNL/NM) performance assessment (PA) of the WIPP. Revision 2 TWBIR questionnaire continues to support the SNL/NM PA analyses and also supports additional WIPP program (e.g., WIPP Land Withdrawal Act requirements, WIPP transportation studies, the RCRA Part B Permit Application, WIPP No-Migration Variance Petition for Operations Period, and the Supplemental Environmental Impact Statement for Disposal Phase).
- Revision 2 incorporates a change in the plutonium residue processing assumptions at the Rocky Flats Environmental Technology Site (RFETS). In Revision 1, the RFETS TRU waste and radionuclide inventory projections reflected the plan to process the plutonium residues for actinide separation. In Revision 2, at the WIPP level, the RFETS TRU waste and radionuclide inventory projections reflect the plan to repackage/process the plutonium residues to meet WIPP Waste Acceptance Criteria, and safe storage requirements. This results in an increase to the WIPP waste inventory of approximately 1,320 cubic meters and an increase to the WIPP radionuclide inventory of approximately 1.35 million curies in the RFETS submittal.
- Revision 1 reported Hanford Site's submittal as approximately 46,000 cubic meters projected RH-TRU, of which 43,000 cubic meters were called "suspect" RH-TRU due to insufficient information from the Hanford Site. Reevaluation of the 46,000 m<sup>3</sup> of projected RH-TRU by Hanford personnel has resulted in a decrease of reported projected RH-TRU to approximately 21,500 m<sup>3</sup> for Revision 2 of the TWBIR. Additional evaluations of the reported Hanford Site RH-TRU waste volumes is ongoing and the results will be reported in future revisions of the TWBIR.
- Revision 2 defines waste streams to a more detailed level than Revision 1 of the WTWBIR. Savannah River Site (SRS), Idaho National Engineering Laboratory (INEL), Hanford Site, and RFETS divided their waste streams to the Local Identification level which will provide the detail desired to support the additional programs requesting DOE TRU waste inventory information. This resulted in an increase in the number of waste streams from 360 to approximately 970.