

Contents

EXECUTIVE SUMMARY	vii
ACRONYMS	x
1.0 PURPOSE AND NEED	1
1.1 INTRODUCTION	1
1.2 BACKGROUND.....	2
1.3 PURPOSE AND NEED FOR AGENCY ACTION.....	10
1.4 SCOPE OF THIS EA.....	11
1.5 PUBLIC INVOLVEMENT.....	12
1.6 COMMENT SUMMARIES AND DOE RESPONSES.....	12
1.6.1 NEPA Compliance Issues	13
1.6.2 LANL Safety/Security Concerns	18
1.6.3 Anti-NNSA Mission Sentiment and Fear of Future Bioweapons Work/International Treaties Concerns.....	20
1.6.4 Inspector General (IG) Report	21
1.6.5 Terrorist Attack Risk	22
1.6.6 Institutional Biosafety Committee (IBC) Role	23
1.6.7 Seismic Issues	23
1.6.8 Transportation Issues	25
2.0 DESCRIPTION OF ALTERNATIVES.....	27
2.1 PROPOSED ACTION TO CONSTRUCT AND OPERATE A BSL-3 FACILITY AT LANL.....	27
2.1.1 Proposed BSL-3 Facility Locations and Construction Measures	29
2.1.2 BSL-3 Facility Description and Operations	34
2.1.3 BSL-3 Facility Decommissioning and Decontamination	48
2.2 ALTERNATIVE ACTION TO INSTALL PREFABRICATED FACILITY UNITS (PREFABRICATION ALTERNATIVE).....	48
2.3 ALTERNATIVE ACTION TO INSTALL AND OPERATE A PREFABRICATED BSL-3 LABORATORY UNIT AND CONSTRUCT AND OPERATE A PERMANENT ON-SITE CONSTRUCTED BSL-3 FACILITY (PARTIAL PREFABRICATION/BUILD ALTERNATIVE)	49
2.4 NO ACTION ALTERNATIVE	50
2.5 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER ANALYSIS	51
2.5.1 Use and Upgrade an Existing Building at LANL to House a BSL-3 Facility	51

2.5.2	Construction and Operation of the Proposed BSL-3 Facility at More Remote LANL Locations or Within the Research Park at LANL.....	52
2.5.3	Construction and Operation of the BSL-3 Facility at Another National Security Laboratory	52
2.6	RELATED ACTIONS	53
3.0	AFFECTED ENVIRONMENT	55
3.1	REGIONAL AND LOCAL SETTING.....	55
3.1.1	Climate and Meteorology	56
3.2	ENVIRONMENTAL RESOURCES NOT AFFECTED.....	57
3.3	ENVIRONMENTAL RESOURCES POTENTIALLY AFFECTED.....	57
3.3.1	Human Health.....	57
3.3.2	Ecological Resources	61
3.3.3	Transportation.....	65
3.3.4	Waste Management.....	66
3.3.5	Utilities and Infrastructure	67
3.3.6	Noise	68
3.3.7	Socioeconomics	68
3.3.8	Geology, Soils, and Seismicity	69
3.3.9	Visual Resources	72
3.3.10	Air Quality	73
4.0	ENVIRONMENTAL CONSEQUENCES.....	75
4.1	ENVIRONMENTAL CONSEQUENCES OF THE PROPOSED ACTION.....	75
4.1.1	Human Health	75
4.1.2	Ecological Resources	81
4.1.3	Transportation.....	82
4.1.4	Waste Management.....	83
4.1.5	Utilities and Infrastructure	83
4.1.6	Noise	84
4.1.7	Socioeconomics	84
4.1.8	Geology, Soils, Seismicity	85
4.1.9	Visual Resources	86
4.1.10	Air Quality	86
4.2	ANALYSIS OF ABNORMAL EVENTS AND ACCIDENT SCENARIOS	87
4.2.1	Site Preparation and Construction	87
4.2.2	Operation	87
4.3	PREFABRICATION ALTERNATIVE	94
4.4	PARTIAL PREFABRICATION/BUILD ALTERNATIVE	95

4.5	ENVIRONMENTAL CONSEQUENCES OF THE NO ACTION ALTERNATIVE.....	95
5.0	CUMULATIVE EFFECTS.....	97
6.0	AGENCIES AND PERSONS CONSULTED.....	103
7.0	REFERENCES.....	105

APPENDICES

A	CDC GUIDANCE ON BIOSAFETY LABORATORIES AND REGISTRATION REQUIREMENTS	A-1
A.1	CDC BIOSAFETY LEVEL CRITERIA	A1-1
A.2	CDC FACILITY REGISTRATION FOR TRANSFER OR RECEIPT OF SELECT AGENTS	A2-1
B	INSPECTION OF DEPARTMENT OF ENERGY ACTIVITIES INVOLVING BIOLOGICAL SELECT AGENTS	B-1
C	PUBLIC COMMENT LETTERS	C-1
D	HAZARD CONTROL PLAN FOR BSL-2 FACILITIES AT LANL.....	D-1
E	MICROORGANISM BACKGROUND INFORMATION AND THE LANL PROPOSED ACTION MICROORGANISMS.....	E-1
E.1	BACKGROUND INFORMATION ON UNDERSTANDING INFECTIOUS MICROORGANISMS AND THE LANL PROPOSED ACTION MICROORGANISMS	E1-1
E.2	UNDERSTANDING EMERGING AND RE-EMERGING INFECTIOUS DISEASES	E2-1
E.3	BACTERIAL, VIRAL, FUNGAL, AND PARASITE SAFETY CLASSIFICATIONS AND LANL CURRENTLY PROPOSED AND CDC SELECT AGENTS	E3-1
F	ABNORMAL EVENTS INFORMATION.....	F-1
F.1	POTENTIAL RISK TO WORKERS – LABORATORY-ACQUIRED INFECTION	F1-1
F.2	POTENTIAL RISK TO NON-WORKERS FROM CONTACT WITH BIOSAFETY LABORATORY WORKERS	F2-1
F.3	ACCIDENTS	F3-1
G	TRANSPORTATION INFORMATION.....	G-1
G.1	TRANSPORTATION ACCIDENT INFORMATION AND DATA ANALYSIS	G1-1
G.2	TRANSPORTATION STATISTICAL INFORMATION FROM THE DOT HAZARDOUS MATERIALS INFORMATION SYSTEM.....	G2-1

Figures

Figure 1-1. Location of Los Alamos National Laboratory (LANL)	3
Figure 1-2. Los Alamos National Laboratory Technical Areas.....	5
Figure 2-1. Three optional locations for the proposed BSL-3 facility at LANL	28
Figure 2-2. Conceptual floor plan for the proposed BSL-3 facility at LANL	33
Figure 2-3. Conceptual floor plan showing equipment layout for the proposed BSL-3 facility at LANL	35
Figure 2-4. Schematic diagram of a typical Class II Type B3 BSC (CDC 2000b).....	36
Figure 2-5. Schematic diagram of airflow in the proposed BSL-3 facility at LANL	38
Figure 2-6. Conceptual workflow schematic for the proposed BSL-3 facility at LANL	42
Figure 2-7. Example of a Primary Shipping Package	44
Figure 3-1. Geographic location map showing topographic features near LANL.....	56
Figure 3-2. 1999 daytime wind rose for TA-6 (LANL 2000d).....	58
Figure 3-3. 1999 nighttime wind rose for TA-6 (LANL 2000d)	58
Figure 3-4. Map showing LANL and faults of the Pajarito Fault System (Krier et al. 1998a)	70

Tables

Table 3-1 Applicability of Resource Categories to the BSL-3 Analysis	59
Table 3-2 LANL Main Access Points.....	65
Table 3-3 Population of New Mexico and the Seven County Area of Los Alamos and Surrounding Areas	69
Table 3-4 Peak Horizontal Ground Acceleration Corresponding to Return Periods from 500 to 10,000 years for TA-3	72