

ATTACHMENT J.9

APPENDIX I

DOE DIRECTIVES/LIST B

Applicable to the Operation of  
Ernest Orlando Lawrence Berkeley National Laboratory

Contract No. DE-AC02-05CH11231

DOE Directives	Effective Date
DOE O 142.3A Unclassified Foreign Visits and Assignments Program	3/7/2011
DOE O 200.1A Information Technology Management, Attachment 1, Contractor Requirements Document, Sections 1, 2, 4, and 5 only	4/3/2009
DOE O 205.1B Department of Energy Cyber Security Management	5/16/2011
DOE P 205.1 Departmental Cyber Security Management Policy	6/1/2005
DOE O 206.2, Identity, Credential, and Access Management (ICAM)	6/3/2013
DOE O 210.2A DOE Corporate Operating Experience Program, Attachment 1, Contractor Requirements Document	04/08/2011
DOE O 221.1A Reporting Fraud, Waste, and Abuse To The Office of Inspector General	5/7/2008
DOE O 221.2A Cooperation With The Office of Inspector General (See Appendix P for Advanced Understanding regarding Implementation)	3/7/2011
DOE O 227.1 Independent Oversight Program	04/20/2012
DOE O 241.1B Scientific and Technical Information Management	12/13/2010
DOE O 243.1B, Records Management Program, Attachment 2, Contractor Requirements Document	6/3/2013
DOE O 252.1A Technical Standards Program	2/23/2011
DOE O 350.1, Chg. 3 Contractor Human Resource Management Programs, Only Chapter VII DOE Contractor Risk Management and Liability Program	3/7/2011
DOE O 350.2B Use of Management and Operating or Other Facility Management Contractor Employees for Services to DOE in the Washington, D.C. Area	5/31/2011
DOE O 413.1B Internal Control Program	10/28/2008
DOE O 413.2B Admin Chg. 1 Laboratory Directed Research and Development	4/19/2006
DOE O 413.3B Program and Project Management for the Acquisition of Capital Assets	3/7/2011
DOE O 430.1B, Chg. 2 Real Property Asset Management	6/1/2005
DOE O 436.1 Departmental Sustainability	5/02/2011
DOE O 442.2, Differing Professional Opinions for Technical Issues involving Environment, Safety, and Health Technical Concerns	6/3/2013
DOE O 470.4B, Safeguards and Security Program, Attachment 1 Contractor Requirements Document	7/26/2011
DOE O 471.3 Admin Chg 1, Identifying and Protecting Official Use Only Information, Contractor Requirements Document, Sections 1, 5 & 6 only	6/1/2005
DOE M 471.3-1, Admin Chg , Manual for Identifying and Protecting Official Use Only Information (Sections 2 and 9)	6/1/2005
DOE O 473.3 Protection Program Operations	1/29/2011
DOE O 474.2 Admin Chg 1, Nuclear Material Control and Accountability, Attachment 1 Contractor Requirements Document	6/27/2011
DOE O 475.1 Counterintelligence Program (Sections 3a; 3b(1), (3), (7), (8), (17-21); 3d and 4)	6/1/2005
DOE O 482.1 DOE Facilities Technology Partnering Programs	6/1/2005
DOE M 483.1-1 DOE Cooperative Research and Developments Agreements Manual	6/1/2005
DOE O 483.1 DOE Cooperative Research and Developments Agreements	6/1/2005
DOE O 484.1, Admin Chg 1, Reimbursable Work for the Department of Homeland Security	8/17/2006
DOE O 522.1 Pricing of Departmental Materials and Services (See Appendix P for Advanced Understanding regarding Implementation)	12/2/2011
DOE O 534.1B Accounting	6/1/2005
DOE O 551.1D Official Foreign Travel	4/20/2012
DOE O 580.1A, Department of Energy Personal Property Management Program	3/7/2011
DOE O 1450.4 Consensual Listening-In to or Recording Telephone/Radio Conversations	12/23/2009

<b>Environment, Safety and Health Standard Set for LBNL</b>
07 USC, Chapter 6, 136 et seq., FIFRA (Federal Insecticide, and Rodenticide Act)
07 USC Chapter 54, 2131-2157, Animal Welfare Act (Transportation, Sale, and Handling of Certain Animals)
15 USC, Chapter 53, 2601-2692, Toxic Substances Control Act
16 USC, Chapter 1, Subchapter LXI, Sections 432 and 433, American Antiquities Act
16 USC, Chapter 1A, Subchapter I, Section 469(a)(1) and Subchapter II, Section 470 et seq., National Historic Preservation Act
16 USC, Chapter 1B, sections 470aa and ee, Archeological Preservation Act
16 USC, Chapter 1A, Subchapter II, Part A, 470 h-2 Historic Properties Owned or Controlled by Federal Agencies
16 USC, Chapter 5a 668 et seq. - Eagle Protection Act and Chapter 7,703 et seq. - Migratory Bird Treaty Act
16 USC, Chapter 35, 1531 et seq., Federal Endangered Species Act
25 USC, Chapter 32, 3001 et seq., Native American Graves Protection and Repatriation
33 USC, Chapter 26, 1311 et seq., Clean Water Act
42 USC, Chapter 82, 6901 et seq., Resource Conservation and Recovery Act (RCRA), as amended
42 USC, Chapter 85, 7401 et seq., Clean Air Act (CAA), as amended
42 USC, Chapter 103, Section 9601 et seq., CERCLA, as amended
42 USC, Chapter 116, 11021-11023. Emergency Planning and Community Right to Know
42 USC, Chapter 133, 13101 – 13109 Pollution Prevention Act of 1990
49 USC, Chapter 51, 5101 et seq., Hazardous Materials Transportation
07 CFR 331, Possession, Use, and Transfer of Select Agents and Toxins
07 CFR 355, Endangered Species, Regulations Concerning Terrestrial Plants
09 CFR, Chapter I, Animal and Plant Inspection Service, Department of Agriculture
09 CFR, 121, Possession, Use, and Transfer of Select Agents and Toxins
10 CFR 71, Subparts D,E,F, (71.31 - 71.77),Transportation of radioactive materials-package approval
10 CFR 20, Subpart K, Section 20, 2005, Disposal of Specific Wastes
10 CFR 20, Subpart K, Section 20, 2003, Disposal by Release into Sanitary Sewerage
10 CFR 708, DOE Contractor Employee Protection Program
10 CFR 745, DOE, Protection of Human Subjects
10 CFR 820, Procedural Rules for Department of Energy Nuclear Activities
10 CFR 830, Nuclear Safety Management
10 CFR 835, Occupational Radiation Protection
10 CFR 850 Chronic Beryllium Disease Prevention Program
10 CFR 851, Worker Safety and Health Program

The following standards are incorporated by reference<sup>1</sup> in 10 CFR 851.

10 CFR 850, Chronic Beryllium Disease Prevention Program

29 CFR 1904.4 - 1904.11, 1904.29 - 1904.33, 1904.44, and 1904.46, Recording and Reporting Occupational Injuries and Illnesses

29 CFR 1910, Occupational Safety and Health Standards, excluding 29 CFR 1910.1096, Ionizing Radiation

29 CFR 1915, Shipyard Employment

29 CFR 1917, Marine Terminals

29 CFR 1918, Safety and Health Regulations for Longshoring

29 CFR 1926, Safety and Health Regulations for Construction

29 CFR 1928, Occupational Safety and Health Standards for Agriculture

ACGIH Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure

Indices (2005) when the ACGIH Threshold Limit Values are lower (more protective) than permissible

exposure limits in 29 CFR 1910. When the ACGIH TLVs are used as exposure limits, contractors must

nonetheless comply with the other provisions of any applicable expanded health standard found in 29 CFR 1910.

ANSI Z88.2, American National Standard for Respiratory Protection (1992)

ANSI Z136.1, Safe Use of Lasers (2000)

ANSI Z49.1, Safety In Welding, Cutting, and Allied Processes, Sections 4.3 and E4.3 (1999)

NFPA 70, National Electrical Code (2005)

NFPA 70E, Standard for Electrical Safety in the Workplace (2004)

ASME Boilers and Pressure Vessel Code, Sections I - XII including applicable Code Cases (2004)

ASME B31, Code for Pressure Piping as follows:

B31.1 (2001), Power Piping

B31.1a (2002), Addenda to ASME B31.1 (2001)

B31.2, Fuel Gas Piping (1968)

B31.3, Process Piping (2002)

B31.4, Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids (2002)

B31.5 (2001), Refrigeration Piping and Heat Transfer Components

B31. Sa (2004), Addenda to ASME B31. 5 (2001)

B31.8, Gas Transmission and Distribution Piping Systems (2003)

B31.8S, Managing System Integrity of Gas Pipelines (2001)

B31. 9, Building Services Piping (1996)

B31.11, Slurry Transportation Piping Systems (2002)

B31 G, Manual for Determining Remaining Strength of Corroded Pipelines (1991)

10 CFR 1008, Records Maintained on Individuals (Privacy Act)

10 CFR 1021, National Environmental Policy Act Implementing Procedures

10 CFR 1022, Compliance with Floodplain/Wetlands Environmental Review Requirements

21 CFR, Chapter II, Drug Enforcement Administration, Department of Justice, Controlled Substances

21 CFR 361.1, Radioactive Drugs for Certain Research Uses

29 CFR 1630.13, Prohibited Medical Examinations and Inquiries

29 CFR 1630.14, Medical Examinations and Inquiries Specifically Permitted

36 CFR, National Park Service, Department of the Interior, Parts:

63 - Inclusion in National Register

65 - Historic Landmarks

68 - Preservation of Architectural Integrity

79 - Federally Owned Archeological Collections

<sup>1</sup> The version of a standard referenced in 10 CFR 851 may become outdated. LBNL monitors health and safety standards for changes, and as appropriate will list current versions of standards referenced in 10 CFR 851 in its "Sufficient" Work Smart Standards. To the extent that there may be differences between versions, the 10 CFR 851- enforceable versions are those listed below in these "Necessary" Work Smart Standards.

40 CFR, Air Programs, Parts: 50 - National Primary and Secondary Ambient Air Quality Standards 54 - Prior Notice of Citizen Suits 60 - Standards of Performance, New Stationary Sources 61 - NESHAPs, applicable subparts 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories 68 - Chemical Accident Prevention Provisions 82 - Protection of Stratospheric Ozone
40 CFR 110, Discharge of Oil
40 CFR 112, Oil Pollution Prevention
40 CFR 116, Designation of Hazardous Substances
40 CFR 117, Determination of Reportable Quantities for Hazardous Substances
40 CFR 122, NPDES System
40 CFR 136, Guidelines Establishing Test Procedures for the Analysis of Pollutants
40 CFR 246, Source Separation for Materials Recovery Guidelines
40 CFR 247, Comprehensive Procurement Guideline for Products Containing Recovered Materials (Federal Agency Recycling Programs)
40 CFR 260 - 279, Hazardous Waste
40 CFR 280, Underground Storage Tanks
40 CFR 300,(CERCLA) National Oil and Hazardous Substances Pollution Contingency Plan
40 CFR 302, (CERCLA) Designation, Reportable Quantities, and Notification
40 CFR 355, Emergency Planning and Notification (SARA Title III)
40 CFR 370, Hazardous Chemical Reporting, Community Right To Know
40 CFR 372, Toxic Chemical Release Reporting, Community Right To Know
40 CFR 401, Subpart N, Effluent Guidelines and Standards, General Provisions
40 CFR 403, Subpart N, General Pretreatment Regulations for Existing and New Sources of Pollution
40 CFR 433, Metal Finishing Point Source Category
40 CFR 720, Premanufacture Notification
40 CFR 761, Polychlorinated Biphenyls (PCB)
40 CFR 763, Subpart E, U. S. EPA Asbestos-Containing Materials in Schools, Asbestos Hazard Emergency Response Act (AHERA). Reference to asbestos clearance sample limit of less than 70 structures per square millimeter only. Does not include sampling protocol or procedures.
42 CFR 73, Select Agents and Toxins
43 CFR, Part 3 - Preservation of American Antiquities, and Part 7 - Protection of Archeological Resources
43 CFR, Part 10 - Native American Graves Protection and Repatriation Regulations
45 CFR 46, DHHS, Protection of Human Subjects
48 CFR 936.602-70(a)(8), Architect - Engineer Services DOE Selection Criteria, Construction and Architect - Engineer (A-E) contracts
49 CFR 40, Procedures for Workplace Drug Testing Programs
49 CFR, Subtitle B, Other Regulations Relating to Transportation, Chapter I, Research And Special Programs Administration, Department Of Transportation
49 CFR 382, Controlled Substances and Alcohol Use and Testing
49 CFR 397, Subpart D, 101 and 103, Routing of Class 7 Radioactive Materials
50 CFR 17 and 222, Endangered Species Act Rules

50 CFR 402, Endangered Species Act
California Health and Safety Code, Division 20, Chapter 6.95, Article 1, Hazardous Materials Release Response Plans and Inventory
California Health and Safety Code, Division 104, Part 7 (Retail Food Facilities) Chapter 4 (Retail Food Practices-California Uniform Retail Food Facilities Law [CURFFL])
California Public Resources Code, Division 13, California Environmental Quality Act (CEQA), and 14 CCR, Division 6, Chapter 3, Guidelines for Implementation of the California Environmental Quality Act
08 CCR, Division 1, Chapter 4, Subchapter 1, Unfired Pressure Vessel Safety Orders
08 CCR, Division 1, Chapter 4, Subchapter 4, Construction Safety Orders (for all construction safety unless 29 CFR 1926 is more strict)
08 CCR, Division 1, Chapter 4, Subchapter 7, General Industry Safety Orders, Group 3, General Plant Equipment Procedures and Special Operations, Article 12, Tree Work, Maintenance or Removal, 3427. Safe Work Procedures
13 CCR Division 2, Chapter 6, Article 3, 1160 - 1167, for activities relating to the offering of hazardous materials for transportation by commercial carriers
17 CCR, Division 1, Chapter 5, Subchapter 4, Group 3, Article 6, Special Requirements for Radiographic Operations 30330-30337
17 CCR Division 3, Air Resources (stationary and mobile sources)
19 CCR, Division 2, Chapter 4, Hazardous Material Release Reporting, Inventory and Response Plans
19 CCR Division 2, Chapter 4.5, California Accidental Release Prevention Program (Cal ARP)
22 CCR, Division 2, Subdivision 1, Chapter 3, 12000 (c), Chemicals Known to the State to Cause Reproductive Toxicity (consensus listing solely referenced to define reproductive toxins)
22 CCR Division 4.5, Chapter 10, Article 2, 66260.1 et seq., Hazardous Waste Regulation
CCR Title 23 CCR Division 3, Chapter 9, Waste Discharge Reports and Requirements, and Chapter 9.2, Sections 2250, 2251, 2260, Reportable Quantities and Reporting Requirements, discharges of non-AEA materials to waters of the state
23 CCR Division 3, Chapter 16, Underground Storage Tank Regulations
24 CCR, Building Standards (for facilities design, only), Parts: .2 - California Building Code (for fire protection-life safety) .3 - California Electrical Code .4 - California Mechanical Code .5 - California Plumbing Code .6 - California Energy Code .7 - California Elevator Safety Construction Code .9 - California Fire Code (for fire protection-life safety) .12 - California Reference Standards Code
California Fish and Game Code, 1601-1616, Floodplains and Wetlands
California Health and Safety Code, Division 5, sections 5410, 5411, and 5411.5, Reporting discharge of sewage or other waste to waters of the state
California Health and Safety Code, Division 20, Chapter 6.5, Hazardous Waste Control
California Health and Safety Code, Division 20, Chapter 6.67, Aboveground Storage of Petroleum, to the extent involving discharges or potential discharges to waters of the state
California Health and Safety Code, Division 20, Chapter 6.7, Underground Storage of Hazardous Substances
California Health and Safety Code, Division 20, Chapter 6.95, Article 2, Hazardous Materials Management
California Health and Safety Code, Division 26, Air Resources, California Clean Air Act
California Health and Safety Code, Division 104, Part 14, 117600-118360 California Medical Waste Management Act
California Labor Code, Division 4, Workers' Compensation and Insurance
California Public Resources Code, Division 30,40000 et seq., California Integrated Waste Management Act of 1989

California Vehicle Code, Division 11, Rules of the Road
California Water Code, Division 7, Water Quality, to the extent involving discharges or potential discharges of non-AEA materials to waters of the state
SWRCB Water Quality Order #2006-003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems
SWRCB Water Quality Order #97-003-DWQ, Statewide General Permit Requirements for Stormwater Discharges Associated with Industrial Activity
SWRCB Water Quality Order #99-008-DWQ, Statewide General Permit Requirements for Construction Stormwater Discharges
DOE O 150.1, Continuity Programs, Attachment 1 Contractor Requirements Document
DOE O 151.1C, Comprehensive Emergency Management System, Attachment 2, Contractor Requirements Document
DOE O 225.1B, Accident Investigations (Cooperation with DOE investigation only)
DOE O 231.1B, Environment, Safety and Health Reporting
DOE O 232.2 Occurrence Reporting and Processing of Operations Information
DOE O 414.1D, Change 1, Quality Assurance
DOE O 420.1B, Facility Safety, Attachment 2, Contractor Requirements Document, Chapter II (Fire Protection) and Chapter IV (Natural Phenomena Hazards Mitigation)
DOE O 420.2C, Safety of Accelerator Facilities, Paragraph 3C- Exemptions/Equivalencies, and Contractor Requirements Document
DOE O 435.1, Chg 1, Radioactive Waste Management, Attachment 1, Contractor Requirements Document
DOE M 435.1-1 Admin Chg 2, Radioactive Waste Management Manual, applicable chapters and sections listed below:  Chapter I- General Requirements and Responsibilities: All sections except that DOE orders incorporated by reference are applicable only to the extent they were adopted site-wide in the Berkeley Lab Necessary and Sufficient Set of standards.  Chapter III - Transuranic Waste Requirements sections: A and B, D except for (4) relative to disposal facility requirements, F, G, H and I, (J, K, O, and P only when an off-site option for Berkeley Lab TRU waste has been identified by DOE and the off-site facility has established a WAC applicable to Berkeley Lab), L, N(1), N(2), N(3), Q(1), Q(2) except that ventilation exhaust monitoring is limited to MW6 and MW7 as specified in the HWHF SAD  Chapter IV - Low Level Waste Requirements sections: A, B, D, and F, G except for 1(d) relative to disposal facility requirements, H(1), H(2), I, J, K and L, M, N, N(2), O and R(1) except that ventilation exhaust monitoring is limited to MW6 and MW7 as specified in the HWHF SAD
DOE O 440.2C Admin Chg 1, Aviation Management and Safety, Contractor Requirements Document
DOE O 442.1A Department of Energy Employee Concerns Program, Attachment 1, Contractor Requirements Document
DOE O 443.1B, Protection of Human Subjects, Attachment 1, Contractor Requirements Document
DOE O 456.1 The Safe Handling of Unbound Engineered Nanoparticles
DOE O 458.1 Change 2, Radiation Protection of the Public and Environment
DOE O 460.1C, - Packaging and Transportation Safety, Attachment 1, Contractor Requirements Document sections: 1, 2, 3, and 6.b
DOE-EM-STD-5502-94 Hazard Baseline Documentation
ACGIH Ventilation Manual (Applicable Sections)
ANSI N43.2, Sections 6.2.1.1, 6.2.1.2, 6.2.1.3, 6.2.2.1.4, 6.2.2.3, 6.2.2.3.1, 6.2.2.3.3, 6.2.2.3.4, 6.2.2.3.5, 7.5, 8.1

ANSI N43.3, Definitions, Sections 4.1,5.1.1,5.1.2,5.1.4,5.1.6.4,5.1.5.2,5.1.5,7,9.1,9.2,9.4, Annex C
ANSI Z 133.1-2000, American National Standard for Arboricultural Operations - Pruning, Repairing, Maintaining, and Removing Trees, and Cutting Brush - Safety Requirements, Sections 6.7.6 - 6.7.6.11
ANSI Z136.2-1997, American National Standard for the Safe Use of Optical Fiber Communication Systems Utilizing Laser Diode and LED Sources
ANSI Z358.1-2004, Standard for Emergency Eyewash and Shower Equipment, (Applicable sections). Note: (1) Testing frequency to be quarterly, not weekly; (2) LBNL has NOT adopted provisions in the standard dealing with the temperature of the delivered flushing fluid.
ASME B30.2, Overhead and Gantry Cranes (Top Running Bridge, Single or Multiple Girder, Top Running Trolley Hoist) (2001)
ASME B30.17, Overhead and Gantry Cranes (Top Running Bridge, Single Girder, Underhung Hoist) (2003)
ASME B30.5, Mobile and Locomotive Cranes (2004)
ASME B30.9, Slings (2003)
ASME B30.10, Hooks (1999)
ASME B30.11, Monorails and Underhung Cranes (2004)
ASME B30.16, Overhead Hoists (Underhung) (2003)
ASME B30.20, Below-the-Hook Lifting Devices (2003)
ASME B30.21, Manually Lever Operated Hoists (1999)
ASME B56.1, Low Lift and High Lift Trucks (2004)
ASME B56.6, Rough Terrain Forklift Trucks (2002)
ASME Boiler and Pressure Vessel Code (for non-research applications)
Compressed Gas Association (CGA) Pamphlet S - 1.1 and 1.2, Pressure Relief
National Fire Protection Association, Applicable National Fire Codes
BAAQMD Regulations 1 through 12, BAAQMD Manual of Procedures
Title 10, Central Contra Costa Sanitary District Code, Source Control (Pre-treatment)
City of Berkeley Municipal Code, Title 15, Chapters 15.04, 15.08, and 15.12, Hazardous Materials Management, to the extent sovereign immunity has been waived by federal act
City of Berkeley Municipal Code 16.12.30-32-34, Permits and deposits for well construction, installation, destruction or modification and for soil boring/probe/grab and ground water sampling (except AEA materials)
City of Berkeley Municipal Code 17.20, Reduction of Storm Water Pollution (except discharges of AEA materials)
City of Berkeley Ordinance 6715, provision prohibiting transportation on specified streets at which Purge Chamber Openings are located
City of Berkeley Noise Ordinance, Chapter 13.40 "Community Noise". Limit to referenced noise levels only
East Bay Municipal Utility District (EBMUD) Ordinance No. 311A -03, (except AEA discharges). NOTE: Berkeley Lab annually accepts radiation discharge standards voluntarily
Oakland Municipal Ordinance 12024, City of Oakland Creek Protection, Storm Water Management, and Discharge Control Ordinance, (except discharges of AEA materials)
Oakland Municipal Code, 8.12.020, Adopting California Health and Safety Code Division 20, Chapter 6.95, Article 2, to the extent involving prevention of accidental releases to air, and to the extent sovereign immunity has been waived by federal act
City of Oakland Planning Code, Title 17, Performance Standards, Chapter 17.120.050, limited to referenced noise levels in Tables A, B, and C
California Emergency Services Act 2006, Article 9.5, Disaster Preparedness, Subsection 8607, Standardized Emergency Management System, where applicable
Homeland Security Presidential Directive (HSPD)-5: National Incident Management System

California Water Code, 13800 - 13806, State Water Resources Control Board requirement for adoption of Model Well Ordinance by state and local agencies (as applicable at LBNL except AEA materials)

United States Housing and Urban Development (HUD), "Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing," June 1995

Chapter 12 (Paint Removal Methods); Section IV, A-E; and Section V, C. (Note: Excluding references to other HUD Guideline Chapters and work site preparation levels)

Chapter 14 (Cleaning). (Note: Excluding references to other HUD Guideline Chapters and reference to containment)

Chapter 15 (Clearance). (Note: Excluding Section IV, A-C and Table 15.1; Section V; and Section IX). However, "clearing" work sites following lead related work and applying prescribed clearance levels to work at the Lab will be implemented at the discretion of the Berkeley Lab.

International Air Transportation Association (IATA) Dangerous Goods Regulations

**END OF ES&H STANDARDS FOR LBNL**