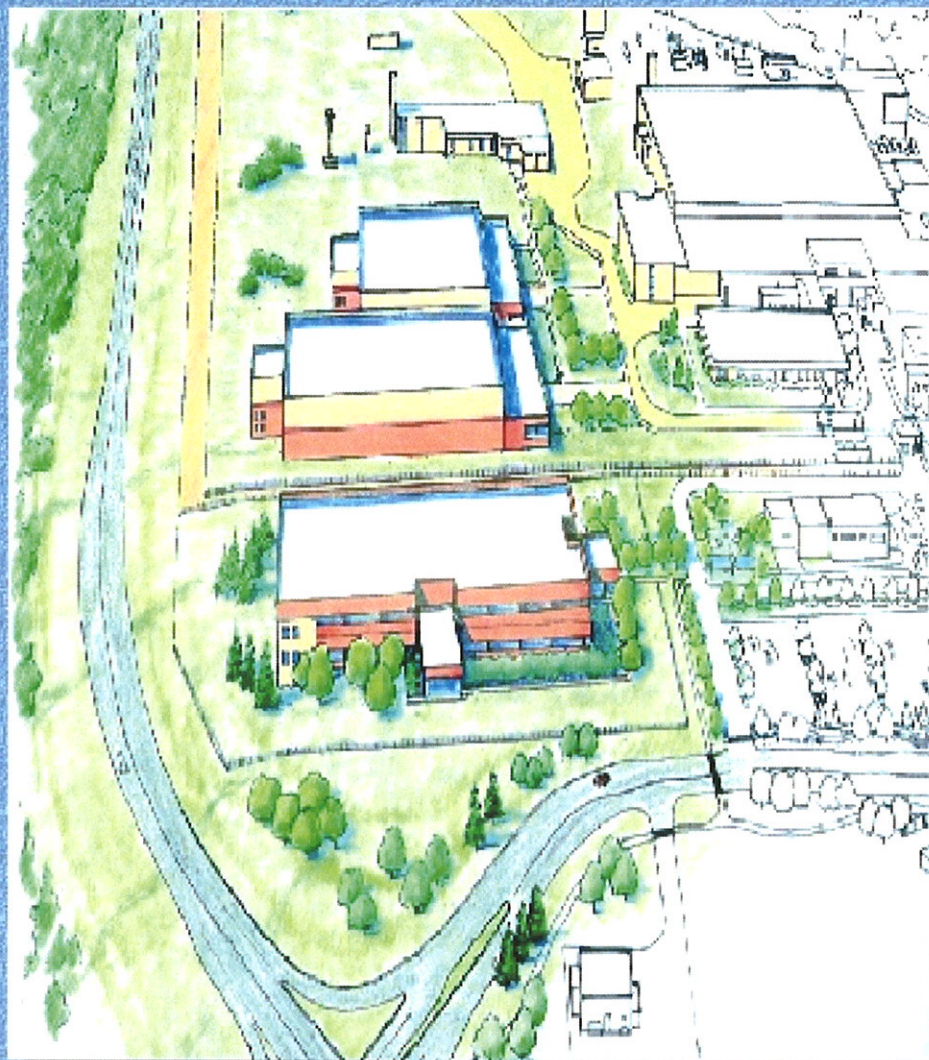


CMRR EIS Alternatives & Impacts

Introduction

The U.S. Department of Energy's National Nuclear Security Administration (NNSA) proposes to replace the Chemistry Metallurgy Research (CMR) Building located in Technical Area 3 (TA-3) at Los Alamos National Laboratory (LANL). The Draft Environmental Impact Statement for the Proposed Chemistry and Metallurgy Research Building Replacement Project (CMRR Draft EIS) examines potential environmental

impacts associated with the proposed action of relocating analytical chemistry (AC) and materials characterization (MC) capabilities from the existing CMR Building to a new CMRR facility at LANL. It also evaluates environmental impacts that could result from the implementation of alternatives to the proposed action.



Pre-design sketch
of proposed new
CMR Facilities

CMRR EIS Impacts

Potential Environmental Impacts

The CMRR Draft EIS evaluates the potential direct, indirect, and cumulative environmental impacts associated with the proposed action. The environmental impacts analysis addresses all potential affected areas in a manner commensurate with the importance of the effects on each resource area. Potential environmental impacts are evaluated for the following resource areas: land use and visual resources, site infrastructure, air quality and noise, geology and soils, surface and groundwater quality, ecological resources, cultural and paleontological resources, socioeconomics, environmental justice, human health impacts to workers and the public, and waste management and pollution prevention. The CMRR Draft EIS also evaluates the environmental consequences of impacts common to all alternatives, including transportation, CMR Building and CMRR Facility disposition, transition period, sabotage, and cumulative impacts, mitigation measures, and resource commitments. The table at right provides a summary and comparison of the environmental impacts for resource areas of interest for each alternative evaluated in the CMRR Draft EIS.

Summary of Environmental Consequences for the CMRR Replacement Project

Resource/Material Categories	No Action Alternative	Alternative 1 (relocate CMR AC and MC operations to TA-55) ^a	Alternative 2 (relocate CMR AC and MC operations to TA-6) ^b	Alternative 3 (relocate CMR AC and MC operations to TA-55) ^c	Alternative 4 (relocate CMR AC and MC operations to TA-6) ^d					
Land Resource										
Construction ^e	No impact	26.75 acres/ ^f 13.75 acres	26.75 acres/ ^f 15.25 acres	22.75 acres/ ^f 9.75 acres	22.75 acres/ ^f 11.25 acres					
Air Quality										
Construction ^e	No impact	Small temporary impact	Small temporary impact	Small temporary impact	Small temporary impact					
Operations	0.0003 curies of actinides	- 0.00076 curies of actinides - 2.645 curies of tritium and noble fission gases	- 0.00076 curies of actinides - 2.645 curies of tritium and noble fission gases	- 0.00076 curies of actinides - 2.645 curies of tritium and noble fission gases	- 0.00076 curies of actinides - 2.645 curies of tritium and noble fission gases					
Water Resource										
Construction ^e	No impact	Small temporary impact	Small temporary impact	Small temporary impact	Small temporary impact					
Operations	Small impact	Small impact	Small impact	Small impact	Small impact					
Ecological Resources										
Construction ^e	No impact	Indirect adverse effect to Mexican spotted owl habitat	No impact	Indirect adverse effect to Mexican spotted owl habitat	No impact					
Operations	No impact	Indirect adverse effect to Mexican spotted owl habitat	No impact	Indirect adverse effect to Mexican spotted owl habitat	No impact					
Socioeconomics										
Construction ^e	No impact	No noticeable changes; 300 workers (peak); 1,152 jobs	No noticeable changes; 300 workers (peak); 1,152 jobs	No noticeable changes; 300 workers (peak); 1,152 jobs	No noticeable changes; 300 workers (peak); 152 jobs					
Operations	No impact	No increase in workforce ^g	No increase in workforce ^g	No increase in workforce ^g	No increase in workforce ^g					
Public and Occupational Health and Safety										
Normal Operations										
	Dose	LCF	Dose	LCF	Dose	LCF	Dose	LCF	Dose	LCF
Population dose (person-rem per year)	0.04	0.00002	1.9	0.001	2.0	0.001	1.9	0.001	2.0	0.001
MEI (millirem per year)	0.006	3.0 H 10 ⁻⁹	0.33	1.7 H 10 ⁻⁷	0.35	1.8 H 10 ⁻⁷	0.33	1.7 H 10 ⁻⁷	0.35	1.8 H 10 ⁻⁷
Average individual dose (millirem per year)	0.0001	6.6 H 10 ⁻¹¹	0.006	3.1 H 10 ⁻⁹	0.006	3.2 H 10 ⁻⁹	0.006	3.1 H 10 ⁻⁹	0.006	3.2 H 10 ⁻⁹
Total worker dose (person-rem per year)	22	0.009	61	0.02	61	0.02	61	0.02	61	0.02
Average worker dose (millirem per year)	110	0.00004	110	0.00004	110	0.00004	110	0.00004	110	0.00004
Hazardous chemicals	None	None	None	None	None	None	None	None	None	None
Accidents (Maximum Annual Cancer Risk, LCF)										
Population	0.002	0.00042	0.0004	0.0004	0.00042	0.0004	0.00042	0.0004	0.0004	0.0004
MEI	3.5 H 10 ⁻⁹	1.2 H 10 ⁻⁸	5.6 H 10 ⁻⁷	5.6 H 10 ⁻⁷	1.2 H 10 ⁻⁷	1.2 H 10 ⁻⁷	5.6 H 10 ⁻⁷	1.2 H 10 ⁻⁷	5.6 H 10 ⁻⁷	5.6 H 10 ⁻⁷
Noninvolved worker	0.00013	0.000038	0.000036	0.000036	0.000038	0.000038	0.000038	0.000038	0.000036	0.000036
Environmental Justice										
No disproportionately high and adverse impacts on minority or low-income populations										
Waste Management (cubic yards of solid waste per year unless otherwise indicated): Waste would be disposed of properly with small impact										
Transuranic waste	19.5	61	61	61	61	61	61	61	61	61
Mixed Transuranic	8.5	27	27	27	27	27	27	27	27	27
Low-level radioactive waste	1,021	2,433	2,433	2,433	2,433	2,433	2,433	2,433	2,433	2,433
Mixed low-level radioactive waste	6.7	26	26	26	26	26	26	26	26	26
Hazardous waste (pounds per year)	10,494	24,692	24,692	24,692	24,692	24,692	24,692	24,692	24,692	24,692
Transportation										
Accidents^h										
	Dose	Dose	Dose	Dose	Dose	Dose	Dose	Dose	Dose	Dose
MEI (rem per year)	7.7 H 10 ⁻⁷	0	0.00015	0.00015	0	0.00015	0	0.00015	0	0.00015

LCF = latent cancer fatality; MEI = maximally exposed individual member of the public.

^a Relocate CMR AC and MC and actinide research and development activities to a new CMRR Facility consisting of an administrative offices and support functions building and Hazard Category 2 and 3 buildings.

^b Relocate CMR AC and MC and actinide research and development activities to a new CMRR Facility consisting of only Hazard Category 2 and 3 buildings.

^c Construction impacts are based on Construction Option 1 which is bounding.

^d Acreage reflects building footprints, parking lot, and new roads as applicable.

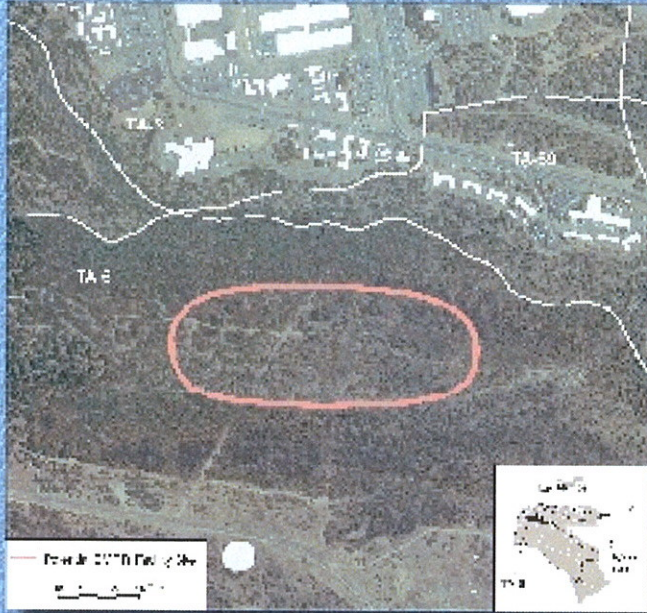
^e CMR operations would require no additional workers beyond what was projected by the Expanded Operations Alternative analyzed in the LANL SWEIS. Increased CMRR Facility operations at LANL would require up to 550 workers. This would be an increase of 346 workers over current requirements. The Expanded Operations Alternative presented in the LANL SWEIS addressed the impact of this increase in employment.

^f Population transportation impacts would be bounded by the normal operation and accident impacts evaluated for the various alternatives.

For information on the EIS for the Chemistry and Metallurgy Research Building Replacement Project at Los Alamos National Laboratory (CMRR EIS) contact: Ms. Elizabeth Withers, U.S. Department of Energy, National Nuclear Security Administration, Los Alamos Site Office, 528 35th Street, Los Alamos, NM 87544 • Phone 877-491-4957 • Fax 505-665-4504 • Email: cmrreis@doel.gov

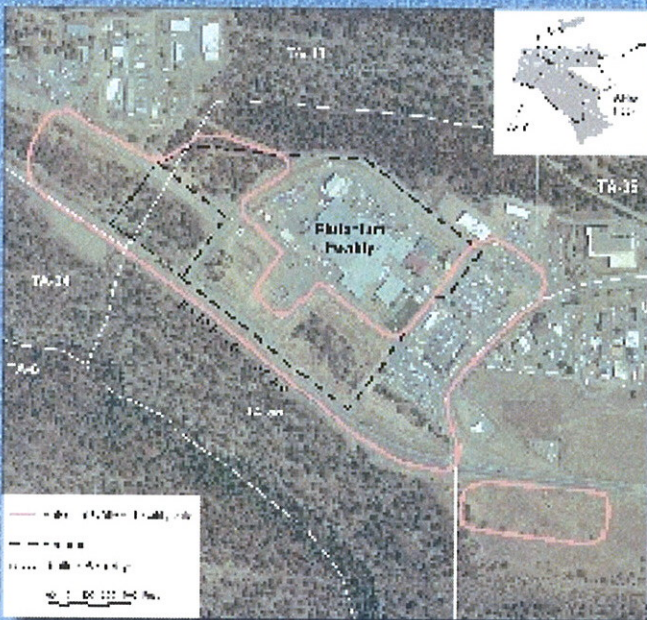
Alternatives Analyzed in the CMRR Draft EIS

Reasonable alternatives include the following:



Alternative 2:

- Construct a new CMRR Facility in an undeveloped “greenfield” area at TA-6 composed of two or three buildings to house existing CMR Building capabilities.



Alternative 3 and 4:

- Continue to use portions of the existing CMR Building for office and light laboratory purposes with minimal necessary structural and systems upgrades and repairs. Move AC and MC capabilities to new CMRR Facility laboratory building(s) at TA-55 or TA-6, respectively.

No Action Alternative:

- Continue to use the current CMR Building for AC and MC operations with minimal structural and equipment component replacements and repairs so that it could continue to function, although AC and MC operations would be restricted to minimal levels. No new facilities would be constructed.

CMRR EIS Alternatives

Background

The existing CMR Building was constructed in the early 1950s. It houses LANL's AC and MC capabilities. These capabilities are not available at any other site within the Department's nuclear weapons complex. These AC and MC capabilities support virtually every program at LANL including:

- Nuclear materials handling, processing, and fabrication,
- Stockpile management,
- Materials and Manufacturing Technologies,
- Nonproliferation programs, and
- Waste Management.



Alternative 1: Construct a new CMRR Facility at TA-55 (Preferred Alternative)

In 1992, planning and implementation of CMR Building upgrades were initiated to address specific safety, reliability, consolidation and safeguards issues. However, in 1997 and 1998, a series of operational, safety, and seismic issues surfaced regarding the long-term viability of the CMR Facility. Because of these issues, NNSA determined that the planned upgrades would be more expensive and time-consuming than originally estimated and less effective. As a result, the NNSA decided to perform only the upgrades necessary to ensure safe and reliable operation of the CMR through 2010 and to seek a viable long-term solution.

The CMR Risk Management Strategy was approved in January 1999. NNSA's goal is to ensure that AC and MC capabilities are available beyond the year 2010. The objective of the CMRR Project is to achieve that availability. The NNSA must now decide how and

where to relocate existing CMR operations at LANL, and what to do with the existing CMR Building if CMR operations are relocated.

The public scoping process assisted NNSA in identifying alternatives that were analyzed in detail in the CMRR Draft EIS.

The Preferred Alternative

The Preferred Alternative is to construct a new CMRR Facility in Technical Area 55 at LANL. It would consist of two or three buildings to house existing CMR Building capabilities. The new buildings would be expected to operate for approximately 50 years. Proposed activities would also include the construction of tunnels, storage vaults, utility and security structures, and suitable parking lots to serve the new buildings.