April 11, 2023

Ms. Linda Carey
Senior Air Quality Specialist
Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, CA 94105
lcarey@baaqmd.gov

Subject: *Site 300 Experimental Test Site Prescribed Burning Smoke Management Plan, Lawrence Livermore National Laboratory*

Dear Ms. Carey:

Lawrence Livermore National Laboratory (LLNL) has submitted the 2023 Prescribed Burning Smoke Management Plan (SMP) for LLNL Site 300 Experimental Test Site to Bay Area Air Quality Management District (BAAQMD) through the State's Prescribed Fire Information Reporting System (PFIRS). Enclosed with this letter is a copy of the electronic submittal.

Pursuant to Section 5-113 of BAAQMD Regulation 5 *Open Burning* (November 20, 2019), any public agency conducting a prescribed burn for the purpose of wildfire prevention is exempt from the operation fess requirements of Section 5-411 of this rule. A public agency seeking to rely on this exemption shall request that it be applicable upon submittal of the smoke management plan. As described in LLNL's 2023 SMP, one of the objectives of conducting a prescribed burn at LLN Site 300 is wildfire prevention, and therefore, LLNL respectfully requests that the prescribed burning operation fees be waived.

If you have any questions regarding this submittal or require additional information, please contact Wai-Man So of my staff at (925) 424-4411.

Sincerely,

DocuSigned by:
Paul Roy
6EA10AF95384431...

Paul Roy, Group Leader
Waste and Air Quality Offices
Environmental Functional Area

ESH-EFA-AQ-23-22017 – PR/WS:dj

Enclosure: PFIRS Submittal – 2023 Prescribed Burning Smoke Management Plan for LLNL Site 300 Experimental Test Site

Distribution w/enclosure (PDF):

Amaden, Christopher (NNSA/LFO)
Balaban, Nicholas (NNSA/LFO)
Baylosis, Maggie
Dibley, Valerie
Diregolo, Brian (ACFD)
Fechser, Matt
Fratanduono, Meg
Heard, Marcus (NNSA/LFO)
Kodama, Julie
Mishra, Vijay (NNSA/LFO)
Nakasaki, Steve
Naranjo, Alberto
Roy, Paul
Ruiz, Alex
Saabye, Alexandra
Sagert, Juliana
Sharry, John (ACFD)
So, Wai-Man
Stenzel, Jo Anna
Vaughan, Quentin
Wilson, Scott
Wise, Tammy (NNSA/LFO)
Woodrow, Lisa
Woollett, Jim

Site 300 Prescribed Burn File
UCM: Site 300, Prescribed Burn

ENCLOSURE 1

Prescribed Fire Information Reporting System (PFIRS) Submittal –

2023 Prescribed Burning Smoke Management Plan (SMP) for

LLNL Site 300 Experimental Test Site

LLNL S300 2023 - BAAQMD

General Information

Primary Responsible Person	**Wai-Man So**
Email	**so5@llnl.gov**
Landowner(s) Name(s)*	**US Government-Department of Energy**
Landowner Mailing Address*	**7000 East Ave., Livermore CA 94550**
Field Contact Name*	**Brian Diregolo**
Field Contact 24-hour Phone/Pager*	**9257248040**

Project Description

Description of Objectives*	**Use prescribed burns to reduce the threat of unwanted fires, manage and enhance plant biodiversity and wildlife habitats, to assure minimal impacts on the environment and cultural resources, and to minimize the occurrence of unnaturally intense fires by reducing the amount of vegetation that can fuel larger, more catastrophic fires. LLNL evaluated the following burning alternatives and concluded that mowing/disking is too steep for the terrain, which is unsafe, and grazing and sterilization will cause adverse impacts to native plants onsite.**
Projected Burn Schedule*	**From May 2023 through August 2023**
Ignition start and end times*	**9 AM** to **3:30 PM**
Expected Duration of Project (hours or days)*	Ignition: **4 Hours** Combustion: **1 Hour** Burndown: **1 Hour**

Review Burn Blocks

Project 17 (Plot 16W)

Acreage and Fuels Information

Name	Acres	Unit Type	Fuel Condition
Project 17 (Plot 16W)	**132**	**Broadcast**	**This plot is characterized as ungrazed perennial (native) grassland, with natural standing. The average height of the grass is 12-16 inches.**

Location Information

Legal Description	Latitude*	Longitude*	Mean Elevation (ft)*	County
Plot 11	**37.663503**	**-121.571637**	**1391**	**Alameda**

Fuel and PM10 Emissions Information

Vegetation	% Consumption	Acres	Fuel Loading	Total Tonnage	PM10 per Ton	PM10 per Type
Grass/Forb	**100**	**132**	**1**	**132**	**0.007**	**0.92**
Totals	--	**132**	--	**132**	--	**0.92**

Ignition Prescription

Wind Speed (mph)	Wind Direction	Mixing Height (ft)	Temperature (F)	Relative Humidity (%)
0-20	**0-360**	**min. 500 feet above ground level**	**50-100**	**15-75**

Smoke Sensitive Receptors

No SSAs have been entered.

Project 16 (Plot 11)			
Acreage and Fuels Information			
Name	Acres	Unit Type	Fuel Condition
Project 16 (Plot 11)	**8**	**Broadcast**	**This plot is characterized as ungrazed perennial (native) grassland, with natural standing. The average height of the grass is 12-16 inches.**

Location Information				
Legal Description	Latitude*	Longitude*	Mean Elevation (ft)*	County
Plot 16W	**37.640086**	**-121.580062**	**750**	**Alameda**

Fuel and PM10 Emissions Information						
Vegetation	% Consumption	Acres	Fuel Loading	Total Tonnage	PM10 per Ton	PM10 per Type
Grass/Forb	**100**	**8**	**1**	**8**	**0.007**	**0.06**
Totals	--	**8**	--	**8**	--	**0.06**

Ignition Prescription				
Wind Speed (mph)	Wind Direction	Mixing Height (ft)	Temperature (F)	Relative Humidity (%)
0-20	**0-360**	**min. 500 feet above ground level**	**50-100**	**15-75**

Smoke Sensitive Receptors
No SSAs have been entered.

Smoke Management Components

Specifications for monitoring and verification of meteorological conditions and smoke behavior before and during the burn:

All burns will be conducted with personnel and equipment as set forth in the Alameda County Policy (Site 300 Prescribed Burn). A minimum of ten chief officers, captains, and firefighters will be present at all burns. The incident Commander will manage the project in a manner that will minimize impact to sensitive areas and the public. The project size, firing tactics, and burn duration will be adjusted to meet these goals. LLNL will submit ignition authorization request the day prior to each burn via the PFIRS. LLNL will obtain a spot weather forecast from the National Weather Service the day before any burn.

Specifications for disseminating project information to the public:

In advance of burn activities, the Office of Government and External Affairs at LLNL notifies neighbors and nearby residents of Site 300 of the intent to perform the burn projects. This notification is conducted by mail, local libraries, web using current contact information, and social media platforms such as LinkedIn, Twitter, etc. LLNL points of contact are provided along with the LLNL representative so individual questions or concerns can be addressed.

What contingency actions will be taken during the burn to reduce exposure if smoke intrusions impact any sensitive receptor areas?

X	Halt ignition, except as needed to maintain control of fire
	Allow fire to burn to contingency control lines
X	Suppress fire
	Begin immediate mop up
	Begin mop up within hours of problem identification
	Complete mop up within hours of initiation
	Discontinue mop up if favorable conditions return
X	Other (explain) **Reduce the size of the burn plot by developing new control lines. Initiate mop-up operations once fire is controlled. Focus suppression and mop-up operations on area of greater smoke production.**

Project Maps and Documents

A map must be attached to this Smoke Management Plan that identifies nearby smoke sensitive areas, burn unit perimeters, available interior control lines (if suitable for this project), and areas subject to smoke inversions due to the burn project. Also, the map must indicate

estimated path of unacceptable smoke transport. (map opens in new tab)

View units on Google Maps: Google Map

Smoke Management Plan History

Submitted by:	**Wai-Man So**
Date Submitted:	**Tue Apr 11, 2023 @ 8:38 AM**
Approval letter:	

PRESCRIBED BURN AREAS	
AREA I.D.	ACRES
1	64.4
1A	14.2
2	65.0
3	78.4
4	81.3
4A	133.7
5	78.9
6	9.8
7	9.1
8	53.8
9	30.8
10	26.2
11	8.6 *
12	181.9
13	211.0
14	33.0
15	224.9
16W	573.7 *
16E	110.3
17	7.7
18	17.9
19	7.7
20	5.4
21	25.9
22	128.3
23A	0.2
24	61.6
31A	91.4
31B	58.9
45	55.2

ALAMEDA BURN AREAS	
AREA I.D.	ACRES
11	7.5
16W	131.6

TOTAL BURN ACRES: 139.1

ANNUAL BURN ACRES: 2044.1
VIABLE BURN ACRES: 2449.2
TOTAL SITE ACRES: 6795.0
COMBINED COUNTY TOTAL = *

BURN LEGEND

SITE 300 BURN (PLOTS)

SITE 300 ROTATIONAL BURN (PLOTS)

MISC. MAP LEGEND

INTERMITENT STREAM BEDS
CONTOURS (ABOVE M.S.L.)
BOUNDARY LINE

SURFACE WATER SAMPLING LOCATION

WASTE ACCUMULATION AREA

MONITOR WELLS

LIGHT

JOINT POLES / POWER POLES

HIGH VOLTAGE TRANSMISSION LINE

TREATMENT PONDS

SPRING

CLOSED LANDFILL OR RCRA FACILITY

CLOSED LAGOON/PIT

RCRA FACILITY (883, M-71, 845, 816, M1-M5)

APPROXIMATE LOCATION OF UNDERGROUND TANK

APPROXIMATE LOCATION OF ABOVEGROUND TANK

COOLING TOWER

VEHICLE TURNAROUND

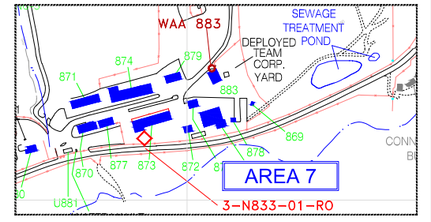
COOLING TOWER DISCHARGING TO PERCOLATION PIT

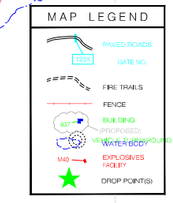
801	812	826	836D
805	815	827-1	851-1
809	817	827-2	851-2
810		828	854

EQUIPMENT DISCHARGING TO PERCOLATION PIT

806A, 827A, 827C, 827D, 827E

MAP LOCALE	HELO SITE	COMMENTS	LATITUDE		LONGITUDE	
R832	2	WEAPONS PARKING LOT	37	39.44	121	30.23
R870	3	NEAR POLICE STATION	37	39.39	121	30.57
CCP TRUCK TURNAROUND	4	NORTH OF CCP	37	38.91	121	31.08
R812	5	PARKING LOT	37	39.42	121	31.53
R845	6	HE BURN FACILITY PARKING LOT	37	39.40	121	30.28
R865	7	ROUTINE LANDING PAD	37	40.27	121	30.64
DRF	8	MAIN GATE	37	39.09	121	33.10
ROUTE 4	9	SEE CIRCLE ON MAP	37	38.66	121	32.12
DRF	10	WEST GATE	37	39.46	121	32.83





SITE 300 FIRETRAIL STREAM CROSSING MAP with BURN AREA INDEX	DRAWN	J.TORRES	DATE	02/10/22
	CHECKED	K. WOOLLETT		04/05/22
	APP.	K. WOOLLETT		04/05/22
			SCALE	AS NOTED
LAWRENCE LIVERMORE NATIONAL LABORATORY PLANT ENGINEERING	SHEET	1 OF 1 SHEET		
RELEASE FOR CONSTRUCTION	DRAWING NO.	2022-S300-001E		

024FTSC_2022.DWG

DATE OF LAST UPDATE: 2/22/2023