U. S. DEPARTMENT OF ENERGY
OFFICE OF SCIENCE

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) ENVIRONMENTAL EVALUATION NOTIFICATION FORM

To be completed by "financial assistance award" organization receiving Federal funding. For assistance (including a point of contact), see "Instructions for Preparing SC F-560, Environmental Evaluation Notification Form".

Solicitation/Award No. (if applicable): _____

Organization Name: Lawrence Berkeley National Laboratory (LBNL)

Title of Proposed Project/Research: ADVANCED BIOFUELS PROCESS DEVELOPMENT UNIT for LBNL

Total DOE Funding/Total Project Funding: First Year approximately$18M/ outyears 5 years @ ~$3M/year

I. Project Description (use additional pages as necessary):

A. Proposed Project/Action (delineate Federally funded/Non-Federally funded portions)

Lease for a term of up to 60 months, consisting of approximately16,000 square feet of space located at 5885 Hollis St Emeryville, CA for the Advanced Biofuels Process Development Unit (PDU). The lease includes provisions for two (2) additional terms of five (5) years each. Fourteen employees, guests, and collaborators would need lab spaces for general research and development laboratories, and office space for associated support, office, and administrative functions. The rented space would be improved to accommodate the PDU. Approximately 13,000 square feet of vacant space would be reconfigured into research laboratory, support, utility, and office space. In addition, approximately 2,000 square feet of mechanical room and roof space would be used to support mechanical equipment, which would serve research equipment. Modifications would also be made to the existing mechanical, electrical, plumbing, and HVAC systems to support the use of the facility.

The PDU would be an ARRA funded user facility for entities to scale-up and demonstrate (at a small-scale) newly developed processes and technologies. The facility would be made available to the three Bioenergy Research Centers (BRCs) – the BioEnergy Science Center (BESC), the Joint Bioenergy Institute (JBEI), and the Great Lakes Bioenergy Research Center (GLBRC); as well as, University researchers, non-profit research organizations, and to companies involved in biofuels production. The facility will have capabilities for testing a range of biomass types (grasses, woody biomass), using current and newly emerging pretreatment methods. Facilities for production of lignocellulolytic enzymes will enable deconstruction of biomass at a scale sufficient to obtain data for design of commercial plants. The fermentation capacity will also permit simultaneous saccharification and fermentation and consolidated bioprocessing to be examined, using enzymes produced in the PDU facility. These enzymes can be produced from both pretreated biomass or from monosaccharide substrates. Biofuels generated at the PDU will be transferred to the Combustion Research Facility at Sandia National Lab (SNL) in Livermore, CA. Engine testing will occur at the SNL site, which has all of the permits necessary for safe operation and testing of these fuels.

DOE Office of Energy Efficiency and Renewable Energy has a need to translate technologies created by the DOE BRCs from laboratory scale to commercial operation.

B. Would the project proceed without Federal funding? Yes ☐ No ☒

If "yes", describe the impact to the scope:

II. Description of Affected Environment:

The entire suite is new, in shell-space condition that has been vacant since the building was originally constructed in 2007. The roof area includes a platform where new mechanical equipment will be located with similar equipment for other tenants. An existing storage room below ground level will be used to house utilities support equipment.

III. Preliminary Questions:

		Yes	No
A.	Is the DOE-funded work *entirely* a "paper study"?	☐	☒

If "Yes", ensure that the description in Section I reflects this and go directly to Section V.

		Yes	No
B.	Will the work to be performed take place *entirely* in existing buildings?	☒	☐

And :

		Yes	No
1.	Threaten a violation of applicable statutory, regulatory, or permit requirements for environment, safety, and health?	☐	☒
2.	Require the siting, construction or major expansion of waste treatment, storage, or disposal facilities?	☐	☒
3.	Disturb hazardous substances, pollutants, or contaminants preexisting in the environment?	☐	☒
4.	Adversely affect environmentally-sensitive resources identified in Section IV.A.?	☐	☒
5.	Be connected to another existing/proposed activity that could potentially create a cumulatively significant impact?	☐	☒
6.	Have an inherent *possibility* for high consequence impacts to human health or the environment (e.g., Biosafety Level 3-4 laboratories, activities involving high levels of radiation)?	☐	☒

If "No" to Question III.B. and ALL six subsequent questions, ensure the descriptions in Sections I and II reflect this and go directly to Section V.

IV. Potential Environmental Effects:

Attach/insert an explanation for each "Yes" response.

A. Sensitive Resources: Will the proposed action result in changes and/or disturbances to any of the following resources?

		Yes	No
1.	Threatened/Endangered Species and/or Critical Habitats	☐	☒
2.	Other Protected Species (e.g., Burros, Migratory Birds)	☐	☒
3.	Sensitive Environments (e.g., Tundra/Coral Reefs/Rain Forests)	☐	☒
4.	Archaeological/Historic Resources	☐	☒
5.	Important Farmland	☐	☒
6.	Non-Attainment Areas for Ambient Air Quality Standards	☐	☒
7.	Class I Air Quality Control Region	☐	☒
8.	Special Sources of Groundwater (e.g. Sole Source Aquifer)	☐	☒
9.	Navigable Air Space	☐	☒
10.	Coastal Zones	☐	☒

11.	Areas with Special National Designation (e.g. National Forests, Parks, Trails)	☐	☒
12.	Floodplains and Wetlands	☐	☒

B. Regulated Substances/Activities: Will the proposed action involve any of the following regulated items or activities?

		Yes	No
13.	Natural Resource Damage Assessments	☐	☒
14.	Exotic Organisms **The PDU would use recombinant bacterial and yeast strains. No introduction of any exotic organism into a natural ecosystem would occur because of the design, construction or operation of the PDU. LBNL will implement the controls required by its safety Manual Publication 3000. In addition, the facility will include spill control measures and byproduct discharges from the PDU equipment to the sanitary sewer will be neutralized before release.**	☒	☐
15.	Noxious Weeds	☐	☒
16.	Clearing or Excavation (indicate if greater than one acre)	☐	☒
17.	Dredge or Fill (under Clean Water Act, Section 404, indicate if greater than ten acres)	☐	☒
18.	Noise (in excess of regulations)	☐	☒
19.	Asbestos Removal	☐	☒
20.	PCB's	☐	☒
21.	Import, Manufacture, or Processing of Toxic Substances	☐	☒
22.	Chemical Storage/Use **The PDU would involve the use, storage, and disposal of hazardous chemicals. Each chemical would have unique toxic, fire, carcinogenic and physical characteristics. Toxin materials may include corrosives, irritants, carcinogens, and mutagens. The laboratory space must meet the requirements of "B" Occupancy laboratories, in accordance with the applicable California Building and Fire Codes. The PDU will maintain the amount of those chemicals below the allowable quantities of hazardous materials, compressed gases and flammable and combustible materials in these laboratories by using Control Areas and their location (floor level and arrangement). Hazardous chemical storage cabinets would be located throughout the wet laboratory areas. Tenant-provided hazardous chemical storage cabinets would require dedicated fume exhaust ductwork to the building's main exhaust riser. Fume hoods and biosafety cabinets would be utilized in laboratory areas for applications where personnel protection from hazardous materials is required.**	☒	☐
23.	Pesticide Use	☐	☒
24.	Hazardous, Toxic, or Criteria Pollutant Air Emissions	☒	☐
25.	Liquid Effluents **Discharge resulting from the staff and research at the PDU would be to publically owned treatment works. The project will install a neutralization system to treat byproduct before the byproduct is discharged to the sanitary sewer**	☒	☐
26.	Underground Injection	☐	☒
27.	Hazardous Waste **Chemical waste would be up to 10,000 liters annually of mixed chemicals**	☒	☐
28.	Underground Storage Tanks	☐	☒
29.	Radioactive Mixed Waste	☐	☒
30.	Radioactive Waste	☐	☒
31.	Radiation Exposure	☐	☒
32.	Surface Water Protection	☐	☒
33.	Pollution Prevention Act	☐	☒
34.	Ozone Depleting Substances	☐	☒
35.	Off-Road Vehicles	☐	☒
36.	Biosafety Level 3-4 Laboratory **Biological hazard materials would include both Risk Group 1 and Risk Group 2 materials, although the majority would be Risk Group 1 and do not present risks to healthy adults under normal**	☐	☒

circumstances. Risk Group 1 materials include DNA, and laboratory strains of certain organisms (e.g., E. coli). Risk Group 2 materials include viral vectors. Risk Group 3 materials would not be used and would not be permitted on the PDU site.

C. Other Relevant Information: Will the proposed action involve the following?

		Yes	No
37.	Potential Violation of Environment, Safety, or Health Regulations/Permits	☐	☒
38.	Siting/Construction/Major Modification of Waste Recovery, or Waste Treatment, Storage, or Disposal Facilities	☐	☒
39.	Disturbance of Pre-existing Contamination	☐	☒
40.	New or Modified Federal/State Permits **Work Planning controls are in place to determine if the fuels to be combusted at Sandia will require new permits.**	☒	☐
41	Public Controversy	☐	☒
42.	Environmental Justice	☐	☒
43.	Action/Involvement of Another Federal Agency (e.g. license, funding, approval)	☐	☒
44.	Action of a State Agency in a State with NEPA-type law. (Does the State Environmental Quality Review Act apply?) **LBNL will conduct a CEQA review. The existing EA DOE/EA-1422; Final Site-Wide Environmental Assessment of the Sandia National Laboratories/California (SNL/CA) covers the activities that will take place at SNL CA**	☒	☐
45..	Public Utilities/Services **Annual utilities consumption is projected to be 1,000 ft^3 of water, 45,000 therms of natural gas, and 400,000 kwh of electrical energy.**	☐	☒
46.	Depletion of a Non-Renewable Resource	☐	☒
47.	Extraordinary Circumstances	☐	☒
48.	Connected Actions	☐	☒
49.	Exclusively Bench-top Research	☐	☒
50.	Only a Laboratory Setting	☒	☐

V. Financial Assistance Award Organization Concurrence:

A. Organization Official (Name and Title): Jeff Phillber LBNL Environmental Planner
Signature: _____ Date: _____

e-mail: JGPhilliber@lbl.gov Phone: (510) 486-5257

Remainder to be completed by SC

VI. SC Concurrence/Recommendation/Determination:

A. SC Office of Acquisition and Assistance or Office of Safety, Technical & Infrastructure Services:

Federal Project Director Barry Savnik
Signature: _____ Date: _____

B. SC NEPA Team Review:

Is the project/activity appropriate for a determination or a recommendation to the Head of the Field Organization by the NEPA Compliance Officer (NCO) under Subpart D of the DOE NEPA Regulations?

Yes ☒ No ☐

Specific classes of action from Appendices A-D to Subpart D (10 CFR 1021): A7, B1.3, B1.4, B2.1, B2.2, B2.3, and B3.6,

Name and Title: Kim Abbott, NEPA Document Manager
Signature: _____ Date: _____

C SC ISC Counsel (if necessary):

Name and Title: _____

Signature: _____ Date: _____

D. SC ISC Field Office NEPA Compliance Officer:

The preceding pages are a record of documentation required under DOE Final NEPA Regulation, 10 CFR 1021.400.

☐ Action may be categorically excluded from further NEPA review. I have determined that the proposed action meets the requirements for Categorical Exclusion referenced above.

☐ Action requires approval by Head of the Field Organization. Recommend preparation of an Environmental Assessment.

☐ Action requires approval by Head of the Field Organization or a Secretarial Officer. Recommend preparation of an Environmental Impact Statement.

Comments/Limitations if necessary:

Print Name Gary Hartman

Signature: _____ Date: _____

ORO NEPA Compliance Officer