U.S. Department of Energy
Categorical Exclusion Determination Form

Program of Field Office: Sandia Site Office

Project Title: First-Principles Flocculation as the Key to Low Energy Algal Biofuels Processing

Location: Sandia National Laboratories - New Mexico

Proposed Action or Project Description:　　　American Recovery and Reinvestment Act: ☐

Sandia National Laboratories/New Mexico (SNL/NM) proposes to address algae flocculation dynamics, which are primarily determined by two factors: collision frequencies and sticking probabilities. The proposed project, "First-Principles Flocculation as the Key to Low Energy Algal Biofuels Processing" would be a three-year funded Laboratory Directed Research and Development (LDRD) project. The work would be divided into predictive tools to develop hypotheses, and experimental methods to test hypotheses.

Facility Operations

- ☐ B1.1 - Rate increases < inflation (not power marketing)
- ☐ B1.2 - Training exercises and simulation
- ☐ B1.3 - Routine maintenance and custodial services
- ☐ B1.4 - Air conditioning installation for existing equipment
- ☐ B1.5 - Cooling water system improvements in existing structures
- ☐ B1.6 - Installation of runoff/spill control retention tanks and basins
- ☐ B1.7 - Communication system and data processing equipment acquisition, installation, operation, removal
- ☐ B1.8 - Screened water intake/outflow structure mods, within permits
- ☐ B1.9 - Placing airway safety markings and painting on existing power lines and antennas
- ☐ B1.10 - Routine onsite storage of activated material at existing facility
- ☐ B1.11 - Fence installation, no adverse effect on wildlife or water flow
- ☐ B1.12 - Detonation/burning of failed/damaged high explosives or propellants in designated areas, within permits
- ☐ B1.13 - On-site pathway or short access road construction/acquisition
- ☐ B1.14 - Refueling of a nuclear reactor
- ☐ B1.15 - Support building or structure, non-waste storage, const/oper
- ☐ B1.16 - Removal of asbestos in accordance with regulations
- ☐ B1.17 - Removal of PCB items from aboveground structures
- ☐ B1.18 - Water supply well const/oper, from existing field, no degradation
- ☐ B1.19 - Siting/construction/operation of microwave/radio communication towers
- ☐ B1.20 - Protect/restore/improve fish and wildlife habitat
- ☐ B1.21 - Noise abatement
- ☐ B1.22 - Building relocation to developed area/demolition/disposal
- ☐ B1.23 - Demolition/disposal of buildings, equipment, and structures
- ☐ B1.24 - Transfer, disposition, or acquisition of uncontaminated structures or equipment, environmental quality maintained
- ☐ B1.25 - Transfer, disposition, or acquisition of uncontaminated land for habitat preservation/wildlife management
- ☐ B1.26 - Siting/construction/operation/decommissioning of small water treatment facilities
- ☐ B1.27 - Disconnection of utilities
- ☐ B1.28 - Placement of unused facilities in environmentally safe condition
- ☐ B1.29 - Small on-site const/demolition waste disposal facility const/oper/decom
- ☐ B1.30 - Transfer/transportation actions, quantities incidental to amounts at receiving site
- ☐ B1.31 - Relocation/operation of machinery or equipment, similar use
- ☐ B1.32 - Traffic flow adjustments, existing roads.

Safety and Health

- ☐ B2.1 - Modifications to enhance workplace habitability
- ☐ B2.2 - Installation/improvement of building/equipment instrumentation
- ☐ B2.3 - Installation of equipment for personnel safety and health
- ☐ B2.4 - Equipment Qualifications Program
- ☐ B2.5 - Facility safety and environmental improvements, replacement or of facility components
- ☐ B2.6 - Packaging/transportation/storage of radioactive sources from public domain upon request

Site Characterization, Monitoring and General Research

- ☐ B3.1 - Site characterization/environmental monitoring
- ☐ B3.2 - Aviation activities for survey/monitoring/security
- ☐ B3.3 - Research related to conservation of fish and wildlife
- ☐ B3.4 - Transport packaging tests for radioactive/hazardous material
- ☐ B3.5 - Tank car tests
- ☐ B3.6 - Siting/construction/operation/decomm of facilities for R&D, conventional laboratory operations and pilot projects
- ☐ B3.7 - New infill exploratory, experimental oil/gas/geothermal construction/operation
- ☐ B3.8 - Outdoor ecological/environmental research in small area
- ☐ B3.9 - Certain CCT demonstration activities, emissions unchanged
- ☐ B3.10 - Siting/construction/operation/decommissioning of particle accelerators
- ☐ B3.11 - Outdoor tests, experiments on materials and equipment components, no source, special nuclear, or by-product materials
- ☒ B3.12 - Siting/construction/operation/decommission of microbiological or biomedical facilities
- ☐ B3.13 - Magnetic fusion experiments, no tritium fuel use

Conservation, Fossil, and Renewable Energy Activities

- ☐ B5.1 - Actions to conserve energy, no indoor air quality degradation
- ☐ B5.2 - Modification to oil/gas/geothermal pumps and piping, no flow changes, or air emission effects
- ☐ B5.3 - Modification (not expansion)/abandonment of oil storage access/ brine injection/gas/geothermal wells; no site closure
- ☐ B5.4 - Repair/replacement of pipeline sections within maintenance provisions of a Section 404 permit
- ☐ B5.5 - Short crude oil/gas/steam/geothermal pipeline const/oper within a single industrial complex/existing right-of-way
- ☐ B5.6 - Oil spill cleanup operations

Environmental Restoration/Waste Management Activities

- ☐ B6.1 - Cleanup actions: small-scale, short-term
- ☐ B6.2 - Siting/construction/operation of temporary pilot-scale waste collection/treatment/stabilization/containment facilities
- ☐ B6.3 - Environmental control system improvements in existing structures, recycle/release/disposal within permitted facility
- ☐ B6.4 - Packaged hazardous waste storage facility const/oper/decom
- ☐ B6.5 - Const/oper/decom of on-site facility for characterizing/sorting or over packing previously packaged waste (not high-level or spent nuclear fuel; no unpacking)
- ☐ B6.6 - Modification of facility for storing, packaging, or repacking waste (not high-level or spent nuclear fuel)
- ☐ B6.7 - Granting/denying petitions for allocation of commercial disposal capacity
- ☐ B6.8 - Minor operational changes to minimize waste or reuse materials
- ☐ B6.9 - Small-scale, temporary measures to reduce contaminated GW migration
- ☐ B6.10 - Siting/construction/operation/decommissioning of small upgraded or replacement waste storage facilities

Other

- ☐ Specify category:

*-For a Detailed Listing of DOE's Appendix A/B Subpart D of 1021: Click Here

This action would not (1) violate applicable ES&H requirements, (2) require siting of waste Treatment, Storage, Disposal or Recovery facilities, (3) disturb hazardous substances (excluding naturally occurring petroleum and natural gas), thus producing uncontrolled or unpermitted releases, and (4) adversely affect environmentally sensitive resources. Furthermore, this action (1) would not present any extraordinary circumstances such that the action might have a significant impact upon the human environment, (2) is not connected to other actions with potentially significant impacts, and (3) is not related to other actions with cumulatively significant impacts. Therefore, the proposed action may be categorically excluded from further review.

NEPA Compliance Officer or Program Officer: LACY,SUSAN DOYLENE　　　Date Determined: 05/19/2010

Comments:

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