U.S. DEPARTMENT OF ENERGY
OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY
PROGRAMMATIC NEPA DETERMINATION
NATIONAL RENEWABLE ENERGY LABORATORY

PND Number: NREL-PND-04

Title: ReFUEL Operations and Research Activities

The Renewable Fuels and Lubricants Laboratory (ReFUEL) is dedicated to advanced fuels and vehicles research and aims to improve efficiency of conventionally powered vehicles and overcome barriers to the increased use of renewable fuels. The lab is located in a leased facility in Denver, Colorado and features a chassis dynamometer for vehicle performance and emissions research, two engine dynamometer test cells for advanced fuels research, and precise emissions analysis equipment. The ongoing activities being conducted using equipment and materials at ReFUEL include the following:

1. Blending, handling, mixing, metering, and testing of different fuel mixes, including fuel properties (consumption and emissions) and engine performance
2. Operation of the chassis dynamometer or engine dynamometer in conjunction with a medium and heavy duty gasoline engine, diesel engine, or a test vehicle
3. Vehicle performance, emission, and mobile testing of gasoline powered vehicles using renewable diesel, biodiesel, and synthetic diesel derived from biomass
4. Laboratory equipment diagnosis, upgrades and calibration
5. Testing and certification of heavy duty engines using blended fuels or biofuels
6. Exhaust measurement of engines and vehicles, and combustion analysis
7. Welding operations
8. Interior laboratory modifications to further research needs that do not change the exterior footprint of the facility or otherwise conflict with the lease agreement
9. Recycle or disposal of unused fuel and used lubricating oil at appropriate disposal facilities
10. Routine administrative activities associated with ReFUEL research operations
11. Routine maintenace and repairs to existing laboratory equipment

March 2016
V.1.0

Activities Not Covered:

The following may be proposed at the ReFUEL site but are not considered rountine operational actions. These are specifically excluded from this determination and require additional NEPA review. These actions include but are not limited to:

1. Physical modifications of facility that change the footprint
2. Ground disturbing activities
3. Changes in use or mission (research that has not been done before, changes in research scope)

Applicable Categorical Exclusions:

A1 Routine DOE business actions: Routine actions necessary to support the normal conduct of DOE business limited to administrative, financial, and personnel actions.

B3.6 Small-scale research and development, laboratory operations, and pilot projects: Modification and operation of facilities for small-scale research and development projects; conventional laboratory operations (such as preparation of chemical standards and sample analysis); and small-scale pilot projects (generally less than 2 years) frequently conducted to verify a concept before demonstration actions, provided that construction or modification would be within or contiguous to a previously disturbed or developed area.

For the complete DOE National Environmental Policy Act regulations regarding categorical exclusions, including the full text of each categorical exclusion, see Subpart D of 10 CFR Part 1021.

Rationale:

DOE has determined that the proposed actions are consistent with the actions contained in DOE Categorical Exclusions A1 and B3.6 that do not individually or cumulatively have a significant effect on the human environment. There are no known extraordinary circumstances that would affect the significance of the environmental effects of the covered activities. The activities have not been segmented to meet the definition of a categorical exclusion.

All ReFUEL activities take place in an existing leased research/laboratory facility. NREL has all of the required local, state and federal permits approvals in place for current operations. Work is performed primarily by NREL engineers and technicians following NREL's Safe Operating Procedures for the ReFUEL lab and applicalbe NREL EHS policies and procedures.

Waste materials produced on site include unused fuel and used lubricating oil, which are either recycled or disposed of in accordance with NREL's Laboratory Level Procedures. The ReFUEL facility has a SPCC Plan in place to avoid accidental spills that could potentially contaminate nearby wetlands or floodplains.

Air emissions from the laboratory would be limited to gasoline or diesel engine exhaust. Exhaust would be identical to conventional diesel or gasoline exhaust or cleaner than that of conventional

engines, due to the nature of the research conducted at the lab. The minor amount of emissions resulting from operations is managed under NREL's Lab Level Procedure (LLP) 6-1.15: Air Quality Protection and in compliance with Colorado Department of Public Heath and Environment's regulations, and would result in de minimis contribution to air quality conditions of the area.

Activities would not involve ground disturbance or have impacts to cultural/historic/archaeological resources; threatened and endangered or other special status species; or wetlands, floodplains, and water resources.

Determination:

Based on my review of the proposed action, as NEPA Compliance Officer (as authorized under DOE Order 451.1B), I have determined that the proposed action fits within the specified class(es) of action, that the other regulatory requirements set forth above are met, and that the proposed action is hereby categorically excluded from further NEPA review.

NEPA Compliance Officer: Lori A. Gray

Date: 03/02/2016

The DOE Golden Field Office will revisit this Programmatic NEPA Determination annually and update as warranted.

NEPA Compliance Officer:	Date Reviewed:	Updated version number or N/A for no revisions made: