ALGENOL
BIOFUELS
DIRECT TO ETHANOL™

Pilot-Scale Integrated Biorefinery
Simplified Process Flow Diagram

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Detailed blueprints for the Algenol pilot-scale integrated biorefinery are located in the final four pages of the PFD_Data document:
Sheet 1: Site Layout and Notes
Sheet 2: Operations Layout
Sheet 3: Detailed Process Flow Diagram
Sheet 4: Notes and Electrical Loads

Proprietary Information: All information in this document is proprietary. Algenol Biofuels requests all information in this document not be released to persons outside the Government, except for the purposes of review and evaluation.

Process Flow Diagram Step 1

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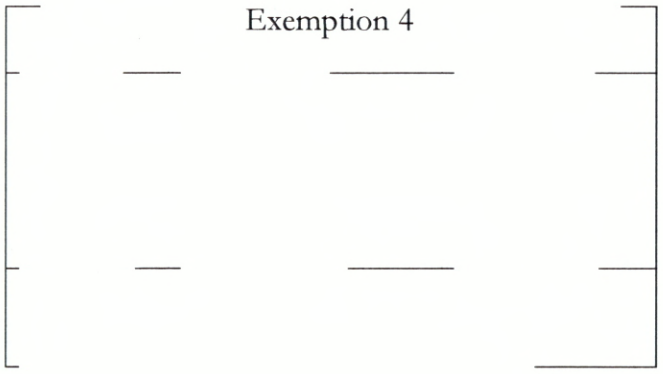

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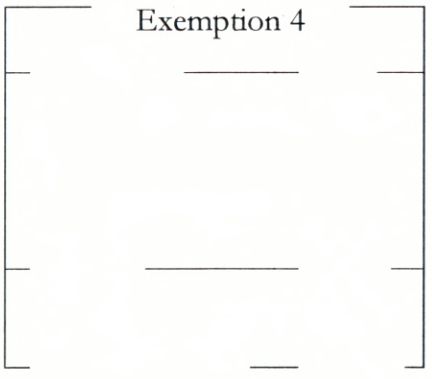

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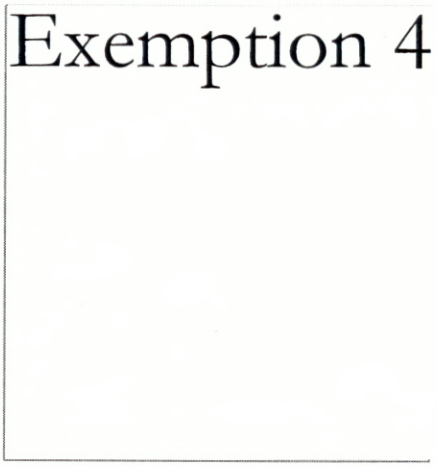
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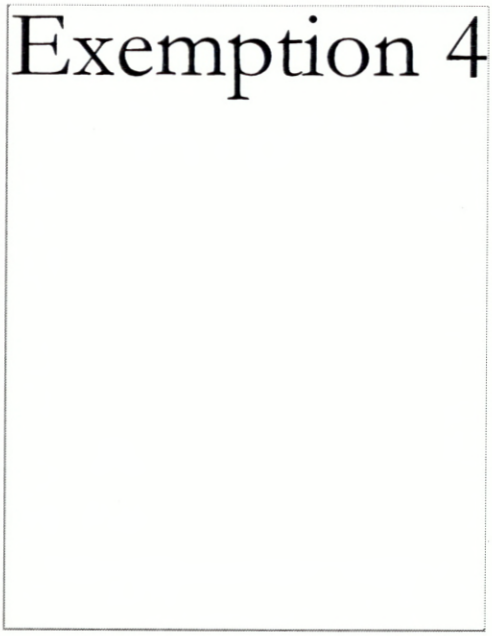
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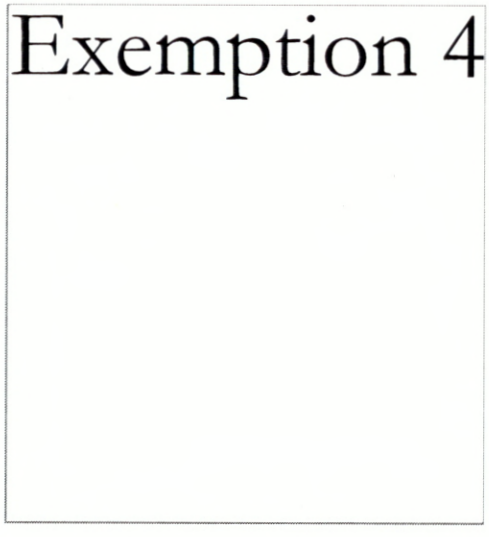

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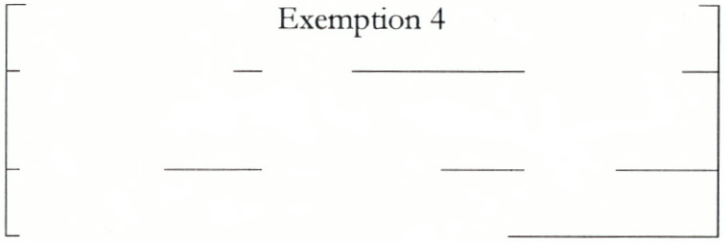

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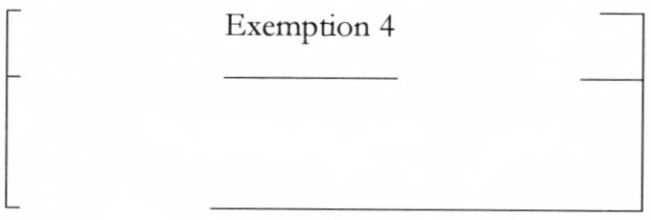
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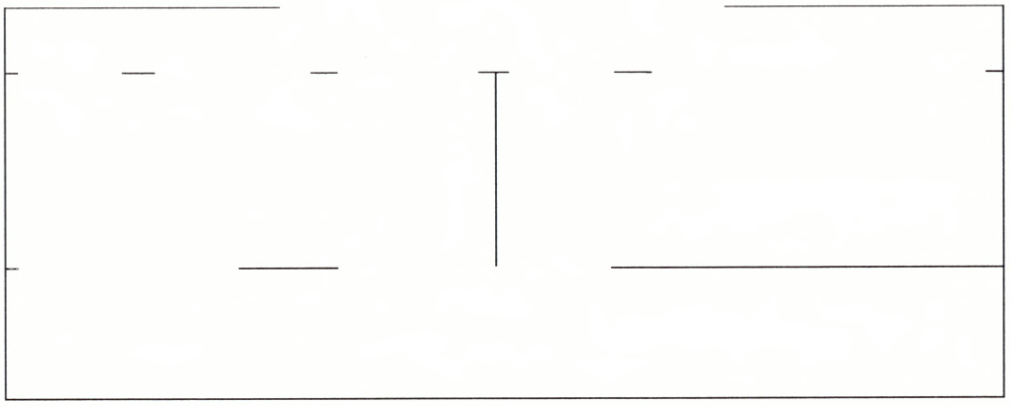

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Algenol Lifecycle Energy and Greenhouse Gas Emissions

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Georgia Institute of Technology

June 16, 2009

*Principal Investigators

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1. Introduction

This report is a summary of the lifecycle energy and greenhouse gas emissions of the Algenol ethanol production system. The Algenol system aims at large-scale fuel ethanol production using genetically enhanced photoautotrophic cyanobacteria (algae). This analysis applies to the current vision of a full-scale commercial system.

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Table 1. LCA Data and Sources

Stage	Content	Data	Unit	Reference
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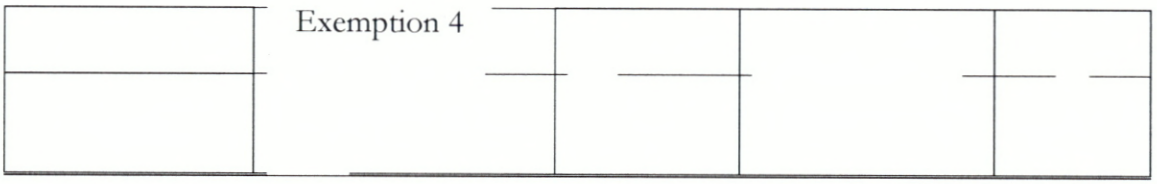

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Algenol Biofuels Inc.

Petroleum Displacement Analysis

	Product	BTU or Joule Content per Gallon Exemption 4	Annual Output of Facility (in gallons)	BTU of Total Output per Year	Equivalent Barrels of Oil

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