

GRANTS/CONTINGENT AWARD REQUEST



To: Grants and Loans Office

Date: 7 / 16 / 2012

Project Manager: Jacob Orenberg

Phone Number: (916) 654-3888 ext.

Office: Special Projects

Division: Fuels and Transportation

MS- 23

Project Title: A Catalyst for Success

Type of Request: (check one)

[X] New Agreement: (include items A-F from below) Agreement Number: ARV-11-030
Program: Alternative and Renewable Fuels and Vehicles Technology Program
Solicitation Name and/or Number: PON-11-601
Legal Name of Recipient: Yokayo Biofuels, Inc.
Recipient's Full Mailing Address: 350 Orr Springs Road Ukiah, CA 95482
Recipient's Project Officer: Kumar Plocher Phone Number: (707) 462-5889 ext.
Agreement Start Date: 8 / 16 / 2012 Agreement End Date: 12 / 31 / 2014

[] Amendment: (Check all that apply) Agreement Number:
[] Term Extension - New End Date: / /
[] Work Statement Revision (include Item A from below)
[] Budget Revision (include Item B from below)
[] Change of Scope (include Items A - F as applicable from below)
[] Other: (Specify)

ITEMS TO ATTACH WITH REQUEST:

- A. Work Statement B. Budget C. Recipient Resolution, if applicable. (Resolution may be requested in Special Conditions if not currently available.) D. Special Conditions, if applicable. E. CEQA Compliance Form F. Other Documents as applicable: Copy of Score Sheets, Copy of Pre-Award Correspondence, Copy of All Other Relevant Documents

California Environmental Quality Act (CEQA)

[] CEC finds, based on recipient's documentation in compliance with CEQA:
[] Project exempt: Section NOE filed: / /
[X] Environmental Document prepared: Mitigated Negative Declaration NOD filed: / /
[] Other: Explain
[] CEC has made CEQA finding described in CEC-280, attached

Funding Information:

*Source #1: ARFVT Amount: \$ 1,860,330.00 Statute: 2011 FY: 11/12 Budget List #: 601.118D
*Source #2: Amount: \$ Statute: FY: Budget List #:
*Source #3: Amount: \$ Statute: FY: Budget List #:

If federally funded, specify federal agreement number:
* Source Examples include ERPA, PIER-E, PIER-NG, FED, GRDA, ARFVT, OTHER.

Business Meeting Approval: (refer to Business Meeting Schedule)

Proposed Business Meeting Date: 8 / 9 / 2012 [] Consent [X] Discussion
Business Meeting Participant: Jacob Orenberg Time Needed: 5 minutes

Agenda Notice Statement: (state purpose in layperson terms)

Possible approval of a [X] Grant / [] Contingent Award to... see attached

Item #12
August 9, 2012
Energy Commission Business Meeting

California Environmental Quality Act Review of Grant Agreement
ARV-11-030 with Yokayo Biofuels, Inc.

Table of Contents

Initial Study and Mitigated Negative Declaration Recommendation for Yokayo Biofuels, Inc. Grant for Improvements and Expansion of an Existing Facility	2
Mitigation Monitoring and Reporting Program.....	60
Draft Notice of Determination.....	66
Grant Application Excerpt	68

**Initial Study and Mitigated Negative
Declaration Recommendation
for Yokayo Biofuels, Inc. Grant for
Improvements and Expansion of
an Existing Facility**

*Prepared by California Energy Commission,
Siting, Transmission and Environmental
Protection Division, July 2012*

YOKAYO BIOFUELS, INC.

**GRANT FOR IMPROVEMENTS AND EXPANSION OF
AN EXISTING FACILITY**

**INITIAL STUDY AND MITIGATED NEGATIVE
DECLARATION RECOMMENDATION**

CALIFORNIA ENERGY COMMISSION
SITING, TRANSMISSION AND ENVIRONMENTAL
PROTECTION DIVISION
1516 NINTH STREET
SACRAMENTO, CALIFORNIA 95814

JULY 2012

CEC-700-2012-005-REV1

TABLE OF CONTENTS

1. PROPOSED MITIGATED NEGATIVE DECLARATION

2. INITIAL STUDY SECTIONS:

- I. Aesthetics
- II. Agriculture and Forestry Resources
- III. Air Quality
- IV. Biological Resources
- V. Cultural Resources
- VI. Geology and Soils
- VII. Greenhouse Gas Emissions
- VIII. Hazards and Hazardous Materials
- IX. Hydrology and Water Quality
- X. Land Use and Planning
- XI. Mineral Resources
- XII. Noise
- XIII. Population and Housing
- XIV. Public Services
- XV. Recreation
- XVI. Transportation and Traffic
- XVII. Utilities and Service Systems
- XVIII. Mandatory Findings of Significance

3. PREPARATION TEAM

Christina Snow, Planner II – STEP Division
Andrea Koch, Planner II – STEP Division
Elliott Lum, Planner II – STEP Division
John Hope, Planner II – STEP Division

PROPOSED MITIGATED NEGATIVE DECLARATION

PROJECT:

California Energy Commission Alternative and Renewable Fuel and Vehicle Technology Program Grant (Solicitation PON-11-601) to expand an existing biofuels production facility (Yokayo Biofuels, Inc.) located at 350 Orr Springs Road, Ukiah, California, 95482.

LEAD AGENCY:

California Energy Commission, Siting, Transmission and Environmental Protection Division
1516 9th Street, Sacramento, California 95814

BRIEF PROJECT DESCRIPTION:

THE PROPOSED PROJECT:

Yokayo Biofuels, Inc. is an existing biofuels facility located at 350 Orr Springs Road, Ukiah, California one and a half miles north of downtown Ukiah. The company produces and distributes biodiesel. The company collects used fryer oil from approximately 1,024 restaurants and other facilities throughout Mendocino, Sonoma, Lake, Napa, Solano, and Marin counties and converts this oil into biodiesel. The biodiesel is then distributed to retail pumps for use in automobiles.

Yokayo proposes to add a proprietary enzymatic biodiesel production process and expand their existing production by constructing new production, laboratory and storage facilities consisting of a steel-framed metal-roofed structure with three open sides, an enclosed laboratory, and an enclosed concrete building. Additional project expansion elements include the installation of two pipelines to connect the biodiesel vessels in the existing building with the vessels in the new buildings, and an additional pipeline to allow for the transport of methanol to the mixing vessel in the new building from a newly installed methanol vault storage tank.

The existing buildings onsite will be upgraded with venting, central heat and air conditioning, and a fire prevention sprinkler system. Other project features include a new loading dock, installation of a liquid nitrogen blanketing system to increase fire safety, resurfacing the onsite hardtop and installation of bioswales for stormwater runoff and incidental water needs, and improvements to the existing driveway.

The project is located on an existing industrial site that is fully developed.

PROJECT DESCRIPTION - FIGURE 1
Yokayo Biofuels, INC

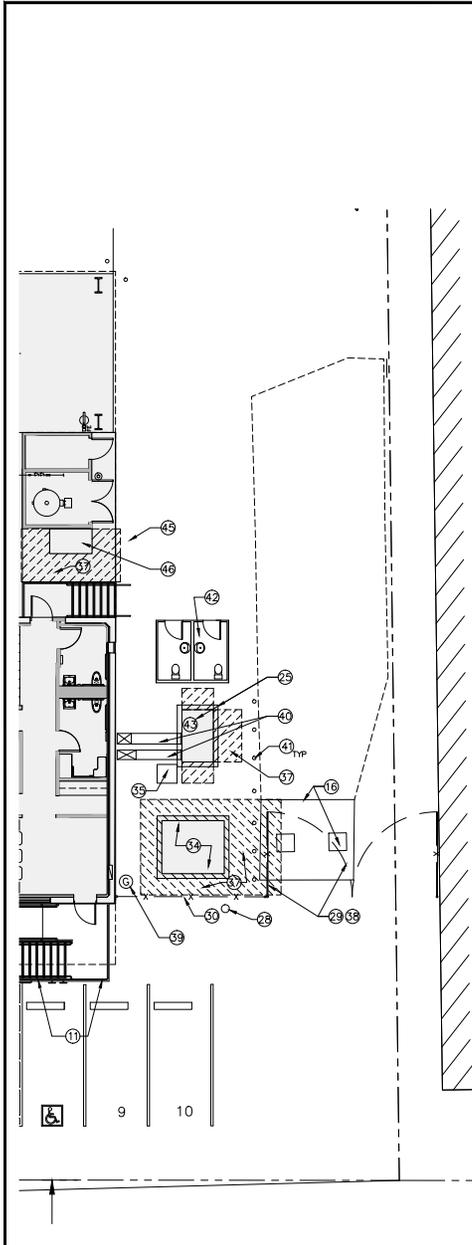


PROJECT DESCRIPTION

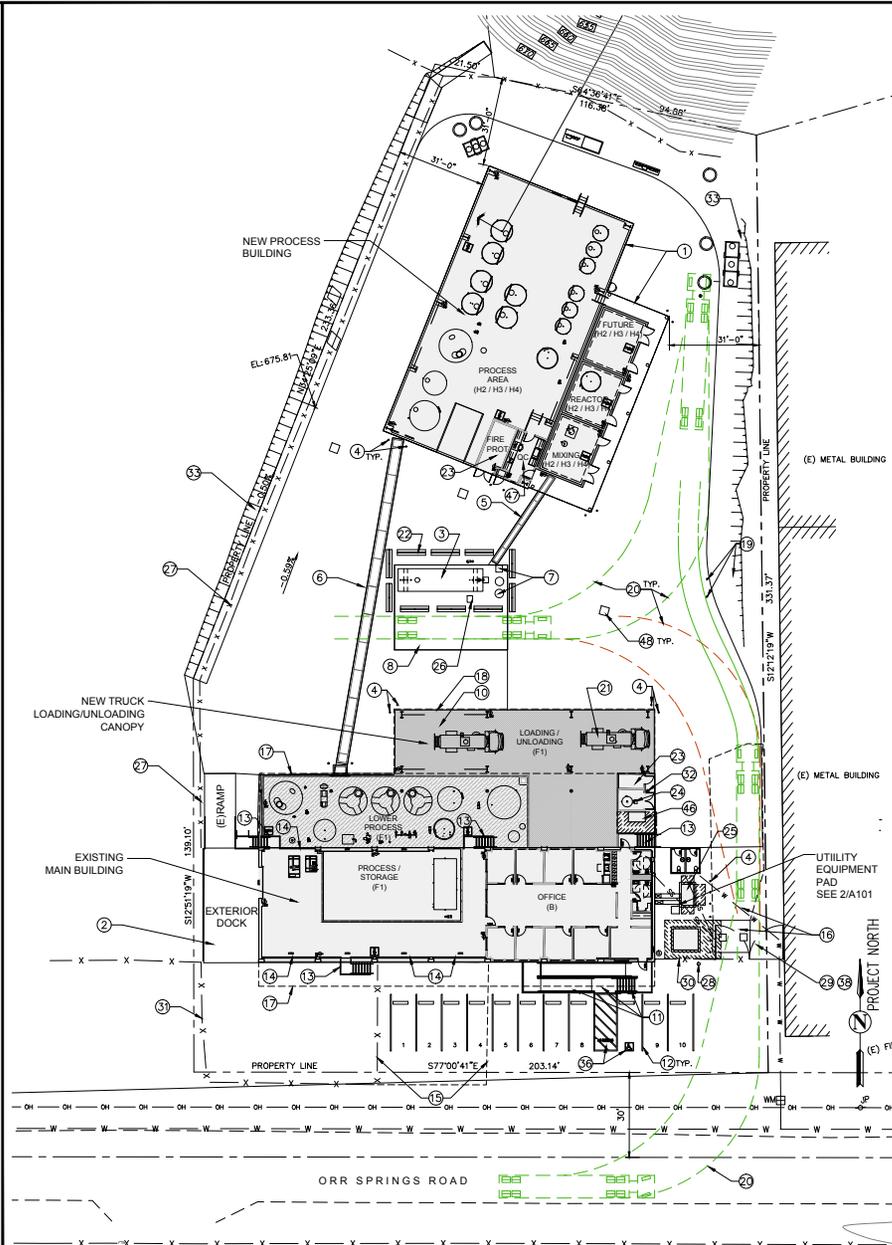
PROJECT DESCRIPTION - FIGURE 2
Yokayo Biofuels, INC



PROJECT DESCRIPTION



2 UTILITY PAD PLAN
SCALE: 1" = 8'-0"



1 SITE PLAN
SCALE: 1" = 20'-0"

KEY NOTES

- 1 PROCESS STRUCTURE AND BUILDING. SEE SHEET A211.
- 2 DEMO (E) WOOD STRUCTURE (ROOF AND ASSOCIATED WALL). EXISTING CONCRETE LOADING DOCK AND RAMP TO REMAIN - SEE SHEET A102.
- 3 RELOCATED METHANOL STORAGE TANK - SEE STRUCT DRAWINGS FOR (N) FOUNDATIONS AND ANCHORING REQUIREMENTS.
- 4 CRASH RATED VEHICLE BOLLARDS (TYP) - SEE STRUCTURAL DRAWINGS.
- 5 COVERED CONCRETE TRENCH W/ METHANOL PIPING. SEE CIVIL DRAWINGS.
- 6 COVERED CONCRETE TRENCH W/ RAW MATERIAL TRANSFER PIPING & BIOFUEL PIPING. SEE CIVIL DRAWINGS.
- 7 LIQUID NITROGEN STORAGE TANKS AND VAPORIZER, BY DESIGN-BUILD SUBCONTRACTOR.
- 8 LEVEL CONCRETE PAD FOR TRUCK LOADING & UNLOADING.
- 9 GENERATOR - SEE ELECTRICAL DRAWINGS.
- 10 CONCRETE SPILL PAD - DRAINED TO ADJACENT SECONDARY CONTAINMENT AREA - SEE STRUCT. DRAWING.
- 11 ACCESSIBLE CONCRETE RAMP, STAIRS, AND HANDRAILS. SEE SHEETS A401 AND A501.
- 12 PAINTED PARKING STALL STRIPING 9' X 20' MIN. STALL SIZE.
- 13 CONCRETE STAIRS - SEE SHEETS A401 AND A501.
- 14 42" H. GUARDRAILS AT ROLL-UP DOOR OPENINGS.TYP.
- 15 EXISTING FENCE TO BE RELOCATED.
- 16 (E) SEPTIC TANK WITH TRAFFIC RATED COVER AND SUBTERRANEAN LEACHFIELD, SEE CIVIL DRAWINGS.
- 17 OUTLINE OF (E) BUILDING CANOPY STRUCTURE ABOVE.
- 18 OUTLINE OF (N) CANOPY STRUCTURE ABOVE.
- 19 EXISTING BOLLARDS AND CONCRETE PAD TO BE REMOVED.
- 20 APPROXIMATE PATH & TURNING RADIUS OF 55' TRACTOR-TRAILER.
- 21 APPROXIMATE SIZE & CONFIGURATION OF BIOFUEL DELIVERY TRUCK (TYP)
- 22 PRE-CAST CONCRETE VEHICLE PROTECTION BARRIER (K-RAIL), ANCHORED & SECURED TO CONCRETE PAVING - SEE CIVIL DRAWINGS.
- 23 FIRE PROTECTION SYSTEM VALVE & RISER CLOSET
- 24 WATER HEATER CLOSET
- 25 MECHANICAL UNIT. SEE MECHANICAL DRAWINGS.
- 26 SPILL CONTAINMENT SUMP. PROVIDE 16' LONG PORTABLE SPILL CONTAINMENT BOOM FOR USE DURING FILLING OPERATIONS.
- 27 REMOVE (E) CHAIN LINK FENCE. INSTALL NEW 6'-0" HIGH CHAIN LINK FENCES W/ REDWOOD SLATS. LOCATE 6" INWARD OF PROPERTY LINE, CONFIRM LOCATION W/ CIVIL ENGINEER PRIOR TO INSTALLATION.
- 28 (E) LIGHT POLE TO REMAIN
- 29 (N) 12" WIDE CHAIN LINK VEHICULAR ACCESS SWING GATE
- 30 (N) 6'-0" HIGH CHAIN LINK FENCE W/ REDWOOD SLATS AT AREA BETWEEN (E) BUILDING AND SWING GATE
- 31 (E) CHAIN LINK FENCING TO REMAIN.
- 32 (E) DOWNPOUT TO BE REORIENTED AND EXTENDED TO DRAIN AWAY FROM BUILDING AT THIS AREA. COORDINATE WITH CIVIL AND ENGINEERING.
- 33 DRAINAGE SWALE. SEE CIVIL DRAWINGS.
- 34 480V TRANSFORMER AND CONC. PAD - SEE ELECTRICAL DWGS. PAD TO BE PER PGM&E ENGINEERING DWGS.
- 35 FIREWATER TRAIN - SEE CIVIL DRAWINGS.
- 36 HANDICAP ACCESSIBLE PARKING STALL W/ 8' WIDE STRIPED LOADING AREA. SEE SHEET A805.
- 37 REQUIRED MAINTENANCE CLEARANCES. TYP. SHOWN IN DASHED HATCH.
- 38 REMOVE (E) CHAIN LINK SWING GATE
- 39 GAS METER LOCATION.
- 40 MECHANICAL DUCT WORK. SEE MECHANICAL DRAWINGS. FINISH PAINT W/ FLUOROPOLYMER PAINT TO MATCH BUILDING EXTERIOR.
- 41 REMOVABLE BOLLARD - COMPLING W/PG&E GREENBOOK STANDARDS
- 42 (E) TOILET ROOMS
- 43 CONCRETE EQUIPMENT PAD @ HVAC UNIT - SEE STRUCT.
- 44 UNDERGROUND CONDUIT. (LOCATION TBD) SEE ELECTRICAL AND CIVIL DRAWINGS.
- 45 COORDINATE UNDERGROUND SERVICE LINE DEPTHS AND ROUTES IN THIS AREA.
- 46 SWITCHGEAR. SEE ELECTRICAL DRAWINGS
- 47 QUALITY CONTROL ROOM (H2/H3/H4)
- 48 MAN HOLE - SEE CIVIL DRAWINGS.
- 49 AREA DRAIN - SEE CIVIL DRAWINGS.
- 50 STORMWATER INTERCEPTOR - SEE CIVIL DRAWINGS.

GENERAL NOTES

1. SEE CIVIL DRAWINGS FOR ADDITIONAL DEMOLITION REQUIREMENTS OF EXISTING STRUCTURES, GRADING, DRAINAGE, UNDERGROUND UTILITIES AND DETAILING OF ALL FLATWORK.
2. VEHICLE CIRCULATION SHOWN IS APPROXIMATE AND IS BASED ON THE LARGEST DELIVERY SIZE OF A 55' TRACTOR-TRAILER ASSEMBLY. OTHER VEHICLE CIRCULATION IS NOT SHOWN.
3. SEE CIVIL DRAWINGS FOR LOCATION AND TYPES OF PAVING.

ACCESSIBILITY NOTES

EXISTING BUILDING:

SITE ACCESSIBILITY INCLUDES NEW HANDICAP PARKING STALL, ACCESSIBLE VEHICLE LOADING AREA, NEW ACCESSIBLE STAIRS AND RAMP AT THE FRONT OF THE BUILDING. A NEW ACCESSIBLE FRONT DOOR WITH ACCESSIBLE DECAL IS INCLUDED. TWO NEW ACCESSIBLE TOILET ROOMS ARE ALSO INCLUDED, ONE WITH AN ACCESSIBLE SHOWER STALL.

AN ACCESSIBLE PATH OF TRAVEL CONNECTS THE NEW ACCESSIBLE PARKING STALL TO ALL ROOMS INSIDE THE OFFICE PORTION OF THE EXISTING BUILDING AND ALSO CONNECTS TO THE MANUFACTURING FLOOR IN THE SAME BUILDING.

NEW PROCESS BUILDING:

THE PROCESS BUILDING HOUSES TANKS, VESSELS AND OTHER RELATED ELECTRICAL, MECHANICAL AND PROCESS EQUIPMENT. THIS BUILDING IS NORMALLY UNOCCUPIED AND THE BUILDING ENCLOSURE IS REQUIRED TO PROVIDE WEATHERPROOF PROTECTION FOR THE MANUFACTURING PROCESS.

THE LAB IS NOT NORMALLY OCCUPIED, BUT IS FOR OCCASIONAL TESTING OF SMALL SAMPLES TAKEN FROM VARIOUS PROCESS TANKS AND VESSELS. SAMPLES REQUIRING TESTING ARE TAKEN FROM TANKS VIA FIXED OR PORTABLE LADDERS AND EQUIPMENT PLATFORMS.

BUILDING ACCESSIBILITY IS NOT REQUIRED FOR THE SPACES IN THIS BUILDING, IN ACCORDANCE WITH CBC CHAPTER 11B, SECTION 1103.8.1, EXCEPTION 1 WHICH STATES THAT FLOORS OR PORTIONS OF FLOORS NOT CUSTOMARILY OCCUPIED, INCLUDING, BUT NOT LIMITED TO, NON-OCCUPIABLE OR EMPLOYEE SPACES, FREQUENTLY ONLY BY SERVICE PERSONNEL FOR REPAIR OR MAINTENANCE PURPOSES...

D	05/17/22	RSM	RHM	NB	ISSUED FOR CONSTRUCTION
A	03/30/22	RSM	RM	RM	ISSUED FOR 50% REVIEW
REV	DATE	BY	CHK	APPD	DESCRIPTION OF REVISION



APPROVALS	
DESIGNED BY	APPROVED (SEPT 18K)
CHECKED BY	APPROVED (PHO 18K)

Eichleay
Engineers Inc. of California

1390 Willow Pass Road, Suite 600, Concord, CA. 94520
(925) 689-7000 * FAX (925) 689-7006



**FACILITY RENOVATION
ARCHITECTURAL
SITE PLAN**

SEE: D	CREATED On: 02/02/22	FILE #	A101
PRINTER:	RSM	DRAWING	
PROJECT #	4103372		
SCALE:	1" = 20'-0"		

EXECUTIVE SUMMARY

INTRODUCTION

The Initial Study (IS) contains the California Energy Commission (Energy Commission) staff's evaluation of the Yokayo Biofuels, Inc. proposed expansion and improvements, proposed to be funded in part through the Energy Commission Alternative and Renewable Fuel and Vehicle Technology Program (ARFVT Program).

The Energy Commission, through the ARFVT Program, provides funding for the development and improvement of California-based biofuel production facilities that can sustainably produce low carbon transportation fuels and provide a fuel alternative that can reduce greenhouse gas emissions (GHG) and petroleum fuel demand while stimulating economic development.

Funding that is provided under the ARFVT Program for use in new or expanding alternative fuel facilities is subject to the California Environmental Quality Act (CEQA). In this IS staff examined potential impacts of the proposed Yokayo Biofuels, Inc. improvements and expansion. Staff concludes that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because mitigation measures in the project have been made by or agreed to by the project proponent. These mitigation measures will be incorporated into a Mitigation Monitoring and Reporting Program and will be included in the grant agreement, if approved by the Energy Commission. Therefore, staff recommends that a mitigated negative declaration be adopted.

BACKGROUND

Yokayo Biofuels, Inc. submitted an application for grant funding, dated February 22, 2012, in response to the Energy Commission Solicitation Notice PON-11-601, Biofuels Production Facilities competitive funding award process. The ARFVT Program evaluated the application and determined that the recipient was a candidate for the funding award. The applicant submitted application materials that included a CEQA worksheet to assist the Energy Commission in determining the appropriate lead agency and level of environmental analysis. It is determined that the Energy Commission is the lead agency with regard to the proposed improvements related to the grant funding.

The analyses contained in this Initial Study are based upon information from:

1. The application for the Yokayo Biofuels, Inc. facility;
2. The applicant;
3. The County of Mendocino;
4. Staff's independent investigations and analyses published as the Initial Study.

1. INTRODUCTION

1.1 PURPOSE OF THE INITIAL STUDY

Yokayo Biofuels, Inc. submitted an application in response to an Energy Commission solicitation notice for available grant funds to be awarded to new, low carbon biofuel production facilities, or for projects that lower the carbon intensity of fuels produced at an existing biorefinery.

The Yokayo Biofuels grant application was accepted according to the solicitation screening criteria and was selected for an award using the grant scoring criteria. Yokayo Biofuels' proposed expansion is a project under the California Environmental Quality Act (CEQA) (Public Resources Code, Section 21065) and is subject to the requirements of the CEQA (Public Resources Code, § 21000 et seq.). Staff has prepared this Initial Study in accordance with CEQA and Title 20, California Code of Regulations (CCR) sections 1934 et seq. and 2300 et seq.

REVIEW PROCESS

The Energy Commission will conduct a hearing at which all parties will have an opportunity to comment on the IS and make recommendations on the grant award. The Commission will consider the application, staff's analysis, and any other evidence presented in the proceedings to determine whether to approve the grant funds for the Yokayo Biofuels, Inc. expansion project.

California Code of Regulations, Title 14, Section 15063, subdivision (d), states that an Initial Study shall contain the following items:

- A description of the project including the location of the project;
- An identification of the environmental setting;
- An identification of environmental effects by use of a checklist, matrix, or other method, provided that entries on a checklist or other form are briefly explained to indicate that there is some evidence to support the entries;
- A discussion of the ways to mitigate the significant effects identified, if any;
- An examination of whether the project would be consistent with existing zoning, plans, and other applicable land use controls; and
- The name of the person or persons who prepared or participated in the Initial Study.

2. PROJECT DESCRIPTION

2.1 PROJECT LOCATION

The Yokayo Biofuels, Inc. facility is located at 350 Orr Springs Road, Ukiah, California.

2.2 BACKGROUND AND PURPOSE

California Energy Commission Initial Study/Mitigated Negative Declaration for a grant award to expand an existing biofuels facility.

BACKGROUND AND SETTING:

Yokayo Biofuels, Inc. submitted an application to obtain grant funding from the Energy Commission's Alternative and Renewable Fuels and Vehicle Technology Program (ARFVT Program), dated February 22, 2012. The applicant sought funds to expand their existing biodiesel production plant and make improvements to existing onsite buildings and equipment.

The ARFVT Program recommended the Yokayo Biofuels, Inc. facility to receive available grant funds in the amount of \$1,860,330. With the grant funds, Yokayo Biofuels, Inc. proposes to update and expand their biodiesel production process by constructing new production, laboratory and storage facilities consisting of a 4,500 square foot steel-framed metal-roofed structure with three open sides, an enclosed laboratory, and a 1,600 square foot enclosed concrete building. Two pipelines will be installed to connect the biodiesel vessels in the existing building with the vessels in the new buildings. A third pipeline will be installed to transport methanol to the mixing vessel in the new building from a newly installed methanol vault storage tank.

An existing pole barn on the northern portion of the property will be removed and replaced with the new steel-framed structure. An existing building located in the front southern portion of the property will be upgraded with venting, central heat and air conditioning, and a fire prevention sprinkler system. Other project features include a new 1,500 square foot loading dock, installation of a liquid nitrogen blanketing system to increase fire safety, resurfacing the onsite hardtop and installation of bioswales for stormwater runoff and incidental water needs, and improvements to the existing driveway.

The project is located on an existing industrial site that is fully developed and that is surrounded by industrial uses and agriculture operations.

The following figures are illustrative of the location and setting of the Yokayo Biofuels, Inc. biodiesel facility. The proposed new buildings will be constructed on the northern portion of the property. **Figure 1** illustrates the project's location within the regional setting; **Figure 2** is an aerial photograph which illustrates the current facility. **Figure 3** is a site plan indicating the proposed improvements.

3. ENVIRONMENTAL CHECKLIST

PROJECT INFORMATION

1. Project Title:

Grant for Improvements and Expansion of an Existing Facility - A Catalyst for Success

2. Lead Agency Name and Address:

**California Energy Commission
1516 Ninth Street
Sacramento, CA 95814**

3. Contact Person and Phone Number:

Jacob Orenberg, Associate Energy Specialist, 916-654-3888

4. Project Location: **350 Orr Springs Road, Ukiah, California**

5. Project Sponsor's Name and Address: **Yokayo Biofuels, Inc., 350 Orr Springs Road, Ukiah, California.**

6. General Plan Designation: **Limited Industrial**

7. Zoning: **I-1 Limited Industrial District**

8. Description of Project (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.): **See Attached Project Description**

9. Surrounding Land Uses and Setting:

**Zoning District: I-1– Limited Industrial
General Plan Designation – I- Limited Industrial**

10. Other Public Agencies Whose Approval is Required (e.g., permits, financing approval, or participation agreement):

**Mendocino County
Mendocino County Air Quality Management District
North Coast Regional Water Quality Control Board**

DISCLAIMER

Staff members of the California Energy Commission prepared this report. As such, it does not necessarily represent the views of the Energy Commission, the State of California, its employees, contractors and subcontractors make no warrant, express or implied, and assume no legal liability for the information in this report; nor does any part represent that the uses of this information will not infringe upon privately owned rights. This report has not been approved or disapproved by the Energy Commission nor has the Commission passed upon the accuracy or adequacy of the information in this report.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED					
X	Aesthetics	X	Agriculture and Forest Resources	X	Air Quality
X	Biological Resources	X	Cultural Resources	X	Geology and Soils
X	Greenhouse Gas Emissions	X	Hazards and Hazardous Materials	X	Hydrology and Water Quality
X	Land Use and Planning	X	Mineral Resources	X	Noise
X	Population and Housing	X	Public Services	X	Recreation
X	Transportation / Traffic	X	Utilities and Service Systems	X	Mandatory Findings of Significance

DETERMINATION (To be completed by the Lead Agency)

On the basis of this initial evaluation:

<input type="checkbox"/>	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
<input checked="" type="checkbox"/>	I find that although the proposed project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
<input type="checkbox"/>	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
<input type="checkbox"/>	I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
<input type="checkbox"/>	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Original Signed by Roger Johnson, Deputy Director
Signature

7/9/12
Date

Printed Name

Title

Agency

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.
4. “Negative Declaration: Less Than Significant With Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from “Earlier Analyses,” as described in (5) below, may be cross-referenced).
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
 - a) Earlier Analysis Used. Identify and state where they are available for review.
 - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c) Mitigation Measures. For effects that are “Less than Significant with Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project’s environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
 - a) The significance criteria or threshold, if any, used to evaluate each question; and
 - b) The mitigation measure identified, if any, to reduce the impact to less than significance.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. Aesthetics.				
Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

ENVIRONMENTAL SETTING

Visually, the area is predominantly industrial and agricultural in character. Structures along local and arterial streets include similarly sized warehouses and industrial buildings. Located immediately to the south of the site are agricultural parcels. Bordering the project site to the east and west are other industrial buildings and operations. The Pinoleville Indian Reservation is located within a quarter mile of the site to the north.

DISCUSSION

a) Have a substantial adverse effect on a scenic vista?

A scenic vista is typically defined as a view that includes remarkable or memorable scenery or a view of a natural or cultural feature that is indigenous to the area. The site is within a developed area just outside the City of Ukiah (City). The topography is flat and views of the eastern and western foothills are partially blocked by existing industrial structures bordering the project site. The immediate view to the south includes agricultural parcels (and, further out, residential development) that are typical of the area. As there is no place in the project vicinity with the level of scenic appeal that would distinguish a specific view as a scenic vista, the project would have **NO IMPACT** on a scenic vista.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

According to the California Department of Transportation's Scenic Highway Mapping System, Highway 20 is the closest scenic highway to the project site. Highway 20 is approximately five miles north of the project site and the proposed improvements are all contained on the project site. The project would have **NO IMPACT** to scenic resources within a state scenic highway.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

The site is a currently developed with an operational industrial biodiesel facility. The project consists of infrastructure improvements, including: two new buildings, piping, office, and bio-swales for storm-water runoff. All of the improvements would be contained on the existing project site and/or structures and would involve a relatively short, three month construction timeline. Public visibility of the new improvements and construction would be limited, as the majority of the improvements would be located in the rear of the project area (screened by existing structures, industrial operations, and trees) or underground. In addition, the area surrounding the project site is predominately industrial with agricultural operations to the south. Therefore, the project would have **NO IMPACT** with regard to the existing visual character or quality of the site and its surroundings.

a) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

According to the applicant, there will be five surface-mounted exterior security lights added to an existing building and three surface-mounted exterior security lights added to the proposed building. There will also be five smaller lighting fixtures added to the front of the building adjacent to the parking area.

However, these new lights will conform to the “Dark Sky” policies detailed in the 2009 Mendocino County General Plan for light pollution control.¹ Further, the project is bordered by industrial development and agricultural parcels. Given that the majority of the above-ground improvements would be behind an existing building and bordered by existing industrial operations and trees, the additional lighting would have a **LESS THAN SIGNIFICANT** impact as it is not anticipated that the project would create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

PROPOSED MITIGATION MEASURES

None proposed or required.

CONCLUSION

The proposed Yokayo Biofuels Project would not result in significant, adverse visual or aesthetic impacts.

¹ http://www.co.mendocino.ca.us/planning/pdf/fGPU_04_Resource_Element_MendocinoCoGP08.2009_08-18-09.pdf

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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II. Agriculture and Forest Resources.

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997, as updated) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use or a Williamson Act contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

ENVIRONMENTAL SETTING

The project site is located on a 1.3-acre site within an area both designated and zoned Limited Industrial. According to the Department of Conservation Important Farmland 2010 Map, the project site is designated *Urban and Built-Up Land*. *Urban and Built-Up Land* is occupied by

structures with a building density of at least one unit to one and half acres or approximately six structures to a ten acre parcel.

Common examples include residential, industrial, commercial, institutional facilities, cemeteries, airports, golf courses, sanitary landfills, sewage treatment and water control structures. Currently, the project site is not used for agricultural purposes.

DISCUSSION

- a) **Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?**

The Department of Conservation, Farmland Mapping and Monitoring Program (FMMP) designates the Yokayo Biofuels project site as “Urban and Built-Up Land.”

The project site does not contain any farmland with FMMP designations of Prime Farmland, Unique Farmland or Farmland of Statewide Importance and therefore would not convert farmland to non-agricultural use. Therefore, the Yokayo Biofuels project would have **NO IMPACT** with respect to farmland conversion.

- b) **Conflict with existing zoning for agricultural use or a Williamson Act contract?**

There are no existing agricultural uses present on the project site. The Yokayo Biofuels project and surrounding area are not located within lands under a Williamson Act Contract and as a result, would not conflict with any Williamson Act Contracts and would have **NO IMPACT**.

- c) **Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?**

The project site is not zoned for forest land, timberland, or for timberland production. Therefore, there would be no conflict with or cause for rezoning of forest land or timberland and as a result there would be **NO IMPACT** to forest land or timberland.

- d) **Result in the loss of forest land or conversion of forest land to non-forest use?**

The project site does not contain forest land and therefore would not result in the loss of forest land or conversion of forest land to non-forest use. Therefore the project would have **NO IMPACT**.

- e) **Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?**

The project would not involve other changes in the existing environment as the project site and surrounding areas are industrial in nature and do not contain Farmland or forest land. **NO IMPACT** would result to farmland conversion.

PROPOSED MITIGATION MEASURES

None proposed or required.

CONCLUSION

The proposed Yokayo Biofuels Project would not result in significant, adverse impacts to agricultural or forest resources.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. Air Quality.				
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make the following determinations.				
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

ENVIRONMENTAL SETTING

The proposed project is located within the Mendocino County Air Quality Management District (District). The facility will need to renew their existing air permit with the local District. As an aspect of this permit review, the Air Pollution Control Officer (APCO) will determine whether the project would need additional environmental review (Mendocino AQMD 2012). If the APCO determines that additional environmental review is needed, the District would conduct that review as part of their permit renewal.

This portion of Mendocino County is non-attainment for the state PM10 Standard (Mendocino AQMD 2012). The county is an attainment area for all federal ambient air quality standards and all state standards except PM10. The District encourages the paving of all access roads in populated areas and the use of dust suppressants on all unpaved roads (excluding roads associated with agricultural operations).

The primary sources of PM10 are wood combustion emissions, fugitive dust from construction projects, automobile emissions and industry. Some of the automobile emissions are the result of "pass-through" traffic on Highway 101 because of its nature as a major transportation corridor in the state. The District has full monitoring stations (NOx, Ozone, CO and PM10) in both Ukiah and Willits. A PM2.5 monitor has been established in Ukiah. Both Ukiah and Willits have had PM10 exceedances in the past. Winter cold-air inversions are common in the valleys from November to February.

DISCUSSION

a) Conflict with or obstruct implementation of the applicable air quality plan?

Yokayo Biodiesel has an existing permit and will be subject to the Mendocino County Air Quality Management District's (MCAQMD) requirements. Although the area is non-attainment for PM10, the proposed construction activities are minor in nature and the project will not conflict or obstruct implementation of the applicable air quality plan. However, a mitigation measure is recommended to ensure that the construction activities do not increase fugitive dust emissions. With the proposed mitigation measure, the impacts will be **LESS THAN SIGNIFICANT**. Operational impacts of the proposed modification are not anticipated to cause a significant increase in vehicular traffic.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

No. Construction emissions of PM10 will be short-term and the degree of earth-working activities needed for facility expansion is not expected to cause a substantial increase in PM10 emissions. Staff has included a mitigation measure to ensure that impacts from construction activities do not violate any air quality standards. With the proposed mitigation measure, the impacts will be **LESS THAN SIGNIFICANT**. Operational impacts of the proposed modification are also not likely to cause a significant increase in vehicular traffic.

- c) **Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?**

The MCAQMD recommends using the Bay Area Air Quality Management District (BAAQMD) California Environmental Quality Act, Air Quality Guidelines (BAAQMD 2011). These Guidelines state that for a project that does not individually have significant operational air quality impacts, the determination of a significant cumulative air quality impact is based upon an evaluation of the consistency of the project with the local general plan and of the general plan with the most current Clean Air Plan (CAP). The proposed project, redevelopment of an industrial site, is consistent with Mendocino County's general plan and the assumptions in the current CAP. The project, therefore, would not result in a significant cumulative impact. Therefore, this impact is **LESS THAN SIGNIFICANT**.

- d) **Expose sensitive receptors to substantial pollutant concentrations?**

The site is industrial and is developed as a biodiesel facility. The implementation of the new technology proposed reduces toxic emissions by eliminating the use of potassium hydroxide flakes and improving the methanol vapor collection system.

The closest sensitive receptor is the Pinoleville Head Start (identified as a school by Google Earth), which is located about 0.2 mile northeast of the proposed location of the new process building (on the northern portion of the site). All local medical facilities and retirement facilities identified by Google Earth are located at least 1.75 miles to the southeast, in Ukiah. As a result of the new biodiesel process and the decreased toxic emissions, the Yokayo Biodiesel project would not expose sensitive receptors to substantial pollutant concentrations. The expansion and improvement would be **LESS THAN SIGNIFICANT**.

- e) **Create objectionable odors affecting a substantial number of people?**

The Yokayo Biofuels facility is current in operation and there have not been any odor complaints received on their current operations. In the new process, odors will be controlled by use of vapor controls such as carbon canisters. The exact type of control has yet to be selected. The most significant potential for odors is the collection of brown grease and trap grease, although odor control will be implemented throughout the entire process. There have not been any odor complaints received for their current operations and it is anticipated that the process improvements will have **LESS THAN SIGNIFICANT IMPACTS** with regard to objectionable odors.

PROPOSED MITIGATION MEASURES

AIR QUALITY-1: The applicant shall consult with the District to ensure that project construction activities do not increase fugitive dust emissions to be consistent with the

District's PM10 air quality plan. Evidence of the MCAQMD determination shall be submitted to the Energy Commission prior to construction (e.g., a letter of determination or permit).

CONCLUSION

The proposed Yokayo Biodiesel project is not anticipated to create significant impacts and to ensure that impacts remain less than significant during project construction, the proposed mitigation measure is recommended.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. Biological Resources.				
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

ENVIRONMENTAL SETTING

The proposed project is located on a developed industrial site surrounded by developed industrial parcels on the west, east and north. Although the site is developed and currently used as a biodiesel facility, the northern portion of the site contains several trees. An actively farmed vineyard is located across Orr Springs Road and Masonite Industrial Road to the south.

DISCUSSION

- a) **Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?**

The project is on an existing developed industrial site that is paved and surrounded by developed industrial parcels that are in operation and an actively farmed vineyard is across two roadways to the south of the project. Although all project improvements will be onsite and the site is developed, there are mature trees that line the northern portion of the property which could provide nesting habitat for birds. Staff is proposing a mitigation measure (**BIO-1**) to ensure that no impacts to nests occur as a result of the proposed project and that impacts will be mitigated to **LESS THAN SIGNIFICANT**.

- b) **Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?**

As indicated above, the project site is already developed and paved, and is surrounded by developed industrial sites. No habitat or other sensitive natural communities identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service occur on or surrounding the project site and there will be **NO IMPACT** to these natural communities by the proposed project improvements.

- c) **Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

There are no federally protected wetlands on the project site that would be adversely impacted by the project improvements/expansion. **NO IMPACTS** will occur to federally protected wetlands as defined by the Section 404 of the Clean Water Act.

- d) **Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?**

The project improvements/expansion will occur on a developed industrial site that is surrounded by active industrial and agricultural uses. Additionally, Highway 101 is approximately a quarter of a mile to the east. The project improvements and expanded facilities will all occur onsite and will not interfere with the movement of any native resident or migratory fish or wildlife species, or impeded the use of native wildlife nursery sites. **NO IMPACT** will occur.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The project site is designated as Limited Industrial in Mendocino County's General Plan and zoned Limited Industrial District and is developed accordingly. The project improvements and biodiesel production expansion will occur onsite and will not conflict with local policies or ordinances protecting biological resources. Therefore, **NO IMPACTS** will occur as a result of the proposed project.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The project site is located within an urban area that is developed with industrial uses. The area directly south of the project site is an actively farmed grape vineyard. There are no Habitat Conservation Plans, Natural Community Conservation Plan, or other local, regional, or state plan that covers the project area. There is one Natural Communities Conservation Plan in Mendocino County that is currently in the planning phase and that plan area occurs in the redwood community in the western portion of the county and west of the entire Ukiah planning area. **NO IMPACTS** to such plans will occur.

PROPOSED MITIGATION MEASURES

BIO-1: To avoid disturbance to nesting activity to the extent feasible, preconstruction surveys shall be conducted by a qualified biologist no more than 30 days prior to initiation of proposed construction activities. Surveys shall be conducted to determine if active nesting is occurring and the results shall be submitted to the Energy Commission. If active nests are found on or immediately adjacent to the site, survey results shall be submitted to the Energy Commission, Mendocino County, and the California Department of Fish and Game and consultation shall be initiated to determine appropriate avoidance measures, which could include implementation of a construction buffer zone, limited construction activity (to limit noise), or a delay of construction activities until the nestlings have fledged and dispersed. If no nesting is found to occur, construction activities can proceed.

CONCLUSION

Implementation of the above mitigation measure would ensure that the project would have a **LESS THAN SIGNIFICANT IMPACT** to biological resources.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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V. Cultural Resources.

Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

ENVIRONMENTAL SETTING

The site is currently being used for biofuels production and is fully developed with two structures, a cement warehouse and pole barn. The project activities include the removal of the pole barn and the erection of a pre-fabricated steel-framed metal-roofed structure and the addition of an enclosed laboratory. The existing cement warehouse will be improved with a loading dock and internal upgrades. Three pipelines will be installed underground that run between the buildings to aid in the biodiesel process. Additional piping onsite will be installed for the storm drainage system.

DISCUSSION

a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

There are two existing buildings on the site. The building in the front southern portion of the site is a cement building that will be retained and improved. The second structure, the pole barn, is located in the rear northern portion of the property and will be removed and replaced with a new steel structure building with open sides and an adjacent cement laboratory. Based upon historic aerials and topographic maps, the two existing buildings on the project site are not historic and were constructed between 1972 and 1978. The proposed project activities would have **NO IMPACT** on any historic buildings.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

The project construction activities include installation of three pipelines on the project site and additional trenches will be dug to install the storm drain system. The approximate total linear feet of new piping will be 150 feet and the trenching activities will vary from two to five feet in depth. A record search has not been conducted for the proposed project site and therefore, staff is proposing mitigation measures to ensure that any potential significant impacts will be reduced

to a less than significant level. With the proposed measures any potential impacts to an archaeological resource will be **LESS THAN SIGNIFICANT**.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The project construction activities include installation of three pipelines on the project site and additional trenches will be dug to install the storm drain system. The approximate total linear feet of new piping will be 150 feet and the trenching activities will vary from two to five feet in depth. There are no geologic features present on the proposed site as the site has been graded and is currently used as a biofuels facility.

A record search has not been conducted for the proposed project site and there is a possibility that such a resource could be unearthed during construction activities. The direct or indirect destruction of paleontological resources would be a potentially significant impact. Therefore, staff is proposing a mitigation measure to ensure that any potential significant impacts will be reduced to a less than significant level. With the proposed measures any potential impacts to a paleontological resource will be **LESS THAN SIGNIFICANT**.

d) Disturb any human remains, including those interred outside of formal cemeteries?

It is unlikely that human remains would be disturbed during the construction or operation of the proposed project. However, although unlikely, the discovery of human remains during ground disturbance is always a possibility. If human remains are discovered during project construction, these finds would be dealt with in accordance with State of California Health and Safety Code Section 7050.5. This code section dictates the treatment of such finds and states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. The County Coroner must be notified of the find immediately if a find is made and all work in the immediate area must cease. If the human remains are determined to be prehistoric, the Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendent (MLD). The MLD shall complete the inspection of the site within 24 hours of notification, and may recommend removal and nondestructive analysis of human remains and items associated with Native American burials. Compliance with State of California Health and Safety Code Section 7050.5 would reduce the potential for significant impacts to occur in the unlikely event that human remains are found on the site during construction. Therefore, impacts would be **LESS THAN SIGNIFICANT**.

PROPOSED MITIGATION MEASURES

CUL-1: The applicant shall retain an archaeologist meeting the Secretary of the Interior's Qualification Standards (Qualifications) to complete a records search for the project site at the appropriate California Historic Resource Information System (CHRIS) Information Center (IC). The applicant shall submit the proposed archaeologist's qualifications to the Energy Commission for review and approval prior to executing a contract with the archaeologist. Energy Commission staff shall have the authority to deny a proposed archaeologist should the resume of the proposed archaeologist fail to demonstrate how they meet the Qualifications.

CUL-2: The designated archaeologist shall request a search of the Sacred Lands files at the Native American Heritage Commission (NAHC).

CUL-3: The applicant shall submit the results of the IC and NAHC searches to Energy Commission staff for review prior to the commencement of ground disturbance activities. Depending on the results the qualified archeologist and Energy Commission staff shall determine if further measures are required. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. The project applicant will implement the agreed upon mitigation measures necessary for the protection of archeological resources and submit documentation to Energy Commission staff and Mendocino County.

CUL-4: The designated archaeologist shall monitor all excavation and excavation-related activities for indications of subsurface archaeological deposits pertaining to the proposed project. Should cultural materials be discovered, the archaeologist shall have the authority to halt excavations. The archaeologist shall document any find to the extent possible on the appropriate Department of Parks and Recreation (DPR) 523 forms and determine appropriate measures. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. The project applicant will implement the agreed upon mitigation measures necessary for the protection of archeological resources and submit documentation to Energy Commission staff and Mendocino County..

CUL-5: At the conclusion of excavation-related activities, the designated archaeologist shall prepare a written letter report documenting the results of the monitoring activities and attach any DPR 523 forms that were prepared. The letter report and attachments shall be submitted to the appropriate IC, the Energy Commission, and Mendocino County within 30 days of the conclusion of excavation-related activities. The applicant shall submit the letter report and attachments to the Energy Commission within 15 days of the completion of the ground disturbance.

CUL-6: If during the course of implementing the project any paleontological resources (fossils) are discovered, all work shall be halted immediately within 50 feet of the discovery and the Mendocino County Planning and Building Services Department and Energy Commission shall be immediately notified. A qualified paleontologist shall be retained to determine the significance of the discovery.

Mendocino County and the Energy Commission shall consider the mitigation recommendations of the qualified paleontologist for any unanticipated discoveries. The County and project applicant shall consult and agree upon implementation of a measure or measures that they deem feasible and appropriate and notify the Energy Commission of the determination and course of action. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. The project applicant will implement the agreed upon mitigation measures necessary for the protection of paleontological resources.

CONCLUSION

With implementation of the above proposed mitigation measures, the project would have a less than significant impact to cultural resources.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. Geology and Soils.				
Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

ENVIRONMENTAL SETTING

The geology and paleontology section discusses potential impacts of the proposed Yokayo Biofuels project regarding geological hazards, geological (including mineralogical) and paleontological resources, and soils.

Site Geology

The proposed Yokayo Biofuels project site is located on Urban Land and Pinole very gravelly loam. The site is overlain in alluvium derived from sedimentary rock made up of gravelly clay loam. No known faults occur at the site.

The majority of the project site is categorized as Urban Land of which is not rated for soil qualities and is representative of the existing conditions at the project site. For these reasons, soil types are

considered well suited for project construction. Soil types encountered at the project site are not likely to present significant challenges with respect to construction.

Site Seismicity

Energy Commission staff reviewed the California Department of Conservation, California Geological Survey, publication "Geological Map of California," dated 2010 (CDC 2010). No known faults cross the proposed project site. The closest known active fault is the Maacama Fault located approximately 1.5 miles east of the site. The Maacama Fault has generated only a few moderate earthquakes in history. However, the Maacama Fault has an abundance of micro-earthquakes (less than magnitude 3) associated with it. The strongest earthquake with a magnitude 5.6 was reported to have occurred in the Ukiah area in 1869. In addition, several earthquakes within the magnitude range 4 were recorded in the Ukiah area between 1977 and 1978 (Mendocino County 2009:3-50).

Liquefaction, Hydrocompaction, Subsidence, Expansive Soils, Landslides, and Erosion

Liquefaction is a condition in which cohesion-less soil may lose shear strength due to a sudden increase in pore water pressure. Soils beneath the proposed project site include dense sandy to gravelly soils intermixed with silty sands and clay. Although the dense in-situ soils indicate that the potential for liquefaction at the facility is negligible, the project site is located in an area identified with liquefiable soils (Mendocino County 2009:3-51).

Due to the dense nature of the soils, significant dynamic compaction at the site is also considered to be low. In addition, the potential for lateral spreading is considered to be negligible because of the low topographic relief at the site.

Hydrocompaction is the process of the loss of soil volume upon the application of water. The soils at the site are dense enough that hydrocompaction is not considered to be a significant problem at the project site.

Ground subsidence in the vicinity of the project is typically related to the localized drawdown of aquifers, so that the soil column in the aquifer compacts under its own weight without the presence of water to hold open the void space between soil particles. The ground water surface elevation in the region has not been noted to have substantially dropped. The proposed project would not use ground water so the potential for ground subsidence by ground water withdrawal would not increase with implementation of the project.

Soils that contain a high percentage of expansive clay minerals are prone to expansion, if subjected to an increase in water content. Expansive soils are usually measured with an index test such as the expansive index potential. In order for a soil to be a candidate for testing, the soil must have high clay content and the clay must have high shrink-swell potential and high plasticity index. The majority of the project site is categorized as Urban Land of which is not rated for soil qualities and is representative of the existing conditions at the project site. For these reasons, soil types are considered well suited for project construction and are not likely to be prone to significant soil expansion.

Landslide potential is considered to be negligible because the proposed project site is located in an area with a slope of less than 1 percent.

Soil types anticipated to be encountered during the construction of the project site are not highly susceptible to erosion because of the existing developed condition of the site. However, the Applicant has indicated that adequate sedimentation and erosion controls will be employed through the use of

bioswales for stormwater runoff during construction and operation of the project. This subject is dealt with further in the Hydrology and Water Quality Section of this initial study.

Geological, Mineralogical, and Paleontological Resources

There are no known geological or mineralogical resources located at or immediately adjacent to the proposed Yokayo Biofuels site. The proposed project site has been disturbed in the past and is not likely to contain significant paleontological resources in-situ.

DISCUSSION

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault

The proposed Yokayo Biofuels site is not located on a fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist. **NO IMPACTS** would occur.

ii) Strong seismic ground shaking?

The proposed project site is not located on any known faults. The closest known active fault is the Maacama fault located approximately 1.5 miles east of the site. The strongest earthquake recorded in the Ukiah area was magnitude 5.6. The California building standards require design of buildings to be earthquake resistant. Design and construction of the proposed project would be required to meet the California building standards which would ensure project-related structures are capable of withstanding seismic ground shaking the project area. **LESS THAN SIGNIFICANT** impacts would occur.

iii) Seismic-related ground failure, including liquefaction?

Soils at the proposed Yokayo Biofuels project site include dense sandy to gravelly soils intermixed with silty sands and clay. Although the dense in-situ soils indicate that the potential for liquefaction at the facility is negligible, the project site is located in an area identified with liquefiable soils (Mendocino County 2009:3-51). However, the project site has previously been developed for industrial uses and implementation of the proposed project would not change the overall existing soil qualities at the project site. Construction and operation of the proposed project is not anticipated to result in seismic-related ground failure, or specifically liquefaction, because existing industrial development at the project site has not exhibited liquefaction.

Due to the dense nature of the soils, significant dynamic compaction at the site is also considered to be low. Lastly, low topographic relief at the site would limit the potential for lateral spreading and is considered to be negligible. **NO IMPACTS** would occur.

iv) Landslides?

The proposed project site is located in an area with a slope of less than 1 percent; therefore, the potential for landslides is considered to be negligible. **NO IMPACTS** would occur.

b) Result in substantial soil erosion or the loss of topsoil?

Soil types anticipated to be encountered during the construction of the project site are not highly susceptible to erosion because the project site has been developed in the past. However, the Applicant has indicated that adequate sedimentation and erosion controls will be employed through the use of bioswales for stormwater runoff during construction and operation of the project. **NO IMPACTS** would occur.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Dense in-situ soils indicate that the potential for liquefaction at the facility is negligible. Due to the dense and previously developed nature of the soils, significant dynamic and hydrocompaction compaction at the site is also considered to be low. Due to the low topographic relief at the site, the potential for lateral spreading is considered to be negligible.

Ground water surface elevation in the region has not been noted to have substantially dropped. The potential for ground subsidence by ground water withdrawal would not increase with implementation of the project because the project would not use ground water. There would be **NO IMPACT** as a result of the proposed project.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

The majority of the project site is categorized as Urban Land of which is not rated for soil qualities and is representative of the existing conditions at the project site. The developed condition of soil types at the project site are considered well suited for project construction and are not likely to be prone to significant soil expansion. **NO IMPACTS** would occur.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

The proposed project would not use septic tanks or onsite sewer system to dispose waste water. **NO IMPACTS** would occur.

PROPOSED MITIGATION MEASURES

None proposed or required.

CONCLUSION

The proposed Yokayo Biofuels project would have a **LESS THAN SIGNIFICANT IMPACT** related to geology and soils.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. Greenhouse Gas Emissions.				
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

ENVIRONMENTAL SETTING

Greenhouse gas emissions are of concern because of global climate change (GCC), which is generally accepted by the scientific community to be caused by Greenhouse Gases (GHGs). Climate change issues are widely discussed scientific, economic, and political issues in the United States. Briefly stated, GCC is the cumulative change in the average weather of the earth that may be measured by changes in temperature, precipitation, storms, and wind. GHGs are gases that trap heat in the atmosphere. The scientific and policy communities in the State of California have collectively concluded that a significant and growing scientific body of evidence supports the need for regulating GHG emissions. Worldwide, California is estimated to be a significantly large emitter of carbon dioxide, and this fact has added to the impetus behind California's leadership in this area. California is exercising climate change leadership in two significant efforts: one, the passage and implementation of Assembly Bill 32 (AB32), "California Global Warming Solutions Act of 2006", designed to significantly reduce existing GHG emissions in the State of California; and two, in the analysis of environmental impacts of new GHG emissions related to discretionary project approvals under the California Environmental Quality Act (CEQA).

Due to the global nature of climate change issues, large-scale, programmatic efforts such as AB32 are required to address and resolve this issue. Local entities contribute by doing their part by requiring best practices for construction, and use of low-carbon fuels in their local fuel uses. This project will contribute to that effort by expanding the local and regional availability of low-carbon fuels.

DISCUSSION

Existing operations at Yokayo Biofuels produce approximately 300,000 gallons per year of low-carbon biodiesel fuel which is purchased at a premium by its customers as their contribution to overall efforts to displace petroleum and reduce GHG emissions. Their current product offering is estimated to have a carbon intensity of the production process of only 11.76 grams of carbon per mega-Joule of fuel (gCO₂/MJ) compared to conventional petroleum diesel at 93.08 gCO₂/MJ (an 87 percent reduction over conventional diesel). The proposed project would expand production to over 700,000 gallons of biodiesel per year and improve their production process to further reduce the carbon intensity of the fuel to only 8.82 gCO₂/MJ (a 90+ percent reduction compared to conventional diesel). Expanding this

facility to 700,000 gallons of biodiesel would displace nearly 14 million pounds of CO2 per year once the project becomes fully operational. The modest amount of GHGs emitted to expand and operate this facility would be more than fully offset by the carbon reductions achieved by displacing conventional diesel fuel.

The existing product offering significantly reduces carbon dioxide emissions for those entities that use it; the fact that proposed expansion would more than double production while reducing the carbon intensity (approximately 25 percent) will further statewide efforts to address global climate change issues.

PROPOSED MITIGATION MEASURES

None needed or required.

CONCLUSION

The proposed Yokayo Biofuels project would have **NO IMPACT** related to greenhouse gas emissions and climate change.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. Hazards and Hazardous Materials				
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas where residences are intermixed with wildlands? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

ENVIRONMENTAL SETTING

The project would use methanol, liquid nitrogen, and catalysts for biodiesel production. Of these, methanol has the potential to be hazardous and is of concern.

DISCUSSION

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

The facility would use methanol (methyl alcohol), a flammable material routinely produced and transported in large volumes. The project would involve transportation of approximately 16 loads of methanol annually, a reduction from the 26 loads the existing facility transports annually. (This reduction in loads is due to the project's addition of a large on-site methanol storage tank.) The project's reduced frequency of methanol transportation would reduce the probability of an accident or spill on roadways and highways.

Spills during transportation of methanol happen very infrequently, but precautions must be taken to reduce the potential of a spill which could create hazards for the public. Precautions for methanol transportation are much the same as those for ethanol, gasoline, MTBE, jet fuel (kerosene), and other distillates. Methanol transportation must comply with Title 49 of the Code of Federal Regulations, and transportation routes must be approved by the California Highway Patrol.

To mitigate any potential impacts from methanol transportation, staff has included a mitigation measure at the end of this section.

As for the use and disposal of methanol and any minor hazardous materials that could be used on-site, hazardous materials handling regulations are enforced by various State agencies, such as the California Occupational Safety and Health Administration (OSHA) and the California Department of Toxic Substances Control (DTSC). Depending on site-specific requirements and volumes present, hazardous materials handling regulations require process hazard analyses, process safety management plans, spill response plans, fire protection systems, and secondary containment facilities to reduce the likelihood of any releases occurring, and to reduce the likely impacts should a release occur. To mitigate any potential impacts from the use and disposal of methanol, staff has included a mitigation measure at the end of this section. Impacts would be **LESS THAN SIGNIFICANT WITH MITIGATION**.

- b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?**

There are no reasonably foreseeable upset and accident conditions that would create a significant hazard to the public. Although, there are no reasonably foreseeable upset and/or accident conditions that would release hazardous materials into the environment there is always a remote possibility of an unforeseen upset/accident to occur. Should an accident occur, the type and amount of materials would not pose a significant hazard to the public. Therefore, impacts would be **LESS THAN SIGNIFICANT**.

- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?**

Pinoleville Head Start is located approximately 0.20 mile northwest of the project site. Although methanol is not acutely hazardous and would not generate emissions, it is a hazardous substance that could cause impacts if improperly handled, mainly due to its flammability. Mitigation Measure **HAZ-2**, described below, would reduce the possibility of impacts to the school by ensuring the project owner's compliance with Federal and State regulations related to the use and storage of hazardous materials. Impacts would be **LESS THAN SIGNIFICANT WITH MITIGATION**.

- d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?**

Section 65962.5(a)(1) requires that the California Department of Toxic Substances Control (DTSC) "compile and update as appropriate, a list of all the facilities that are listed as a hazardous waste facility subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code". The project site is not on that list. Therefore, the project would generate **NO IMPACT**.

- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?**

The nearest airport is Ukiah Municipal Airport, approximately 3 miles south of the project. According to the Mendocino County Airport Comprehensive Land Use Plan, the proposed project would not be located within the area covered by the Ukiah Municipal Airport

Compatibility Map. Therefore, the project would not be located within an airport land use plan or within two miles of a public airport or public use airport. The project would not result in an aviation-related safety hazard for people residing or working in the project area, and the project would generate **NO IMPACT**.

- f) **For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?**

There are no private airstrips within 20 miles of the project site. Therefore, the project would not result in a safety hazard for people residing or working in the project area, and the project would have **NO IMPACT**.

- g) **Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

The proposed project involves on-site improvements to an already developed site, and therefore would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, such as the Mendocino County Emergency Operations Plan or the Multi-Hazard Mitigation Plan. Also, the project would not significantly impact level-of-service on nearby streets, and would therefore not obstruct any routes that would be used during an emergency. The project would have **NO IMPACT**.

- h) **Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?**

The project, located in an urbanized area just north of the boundaries of the City of Ukiah, is surrounded by industrial and agricultural uses. Wildlands are located approximately 0.75 mile to the west. Because the project is an improvement located on an already developed site in an urbanized area, and because the project involves the addition of just 8 employees, impacts associated with exposing people or structures to loss, injury or death from wildland fires is **LESS THAN SIGNIFICANT**. The applicant proposes installation of a fire suppressing sprinkler system in each building and would comply with Mendocino County Fire Department regulations as part of the building permit process; this would further reduce any risk.

PROPOSED MITIGATION MEASURES

HAZ-1: The project owner shall obtain the necessary permits and/or licenses for the transportation of hazardous materials from the California Highway Patrol, Caltrans, and any relevant local jurisdictions. The project owner shall ensure compliance with all applicable regulations, including Title 49 of the Code of Federal Regulations, and implementation of the proper procedures. The project owner shall submit evidence of applicable licenses/permits and/or correspondence from the appropriate transportation agencies.

HAZ-2: The project owner shall comply with all relevant Federal and State regulations related to the use and storage of hazardous materials, including California Occupational Safety and Health Administration (OSHA) and California Department of Toxic

Substances Control (DTSC) regulations. The project owner shall submit evidence of applicable licenses/permits or correspondence from the appropriate agencies as identified above.

CONCLUSION

The project's Hazards and Hazardous Materials impacts would be less than significant with mitigation.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. Hydrology and Water Quality.				
Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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| g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| j) Inundation by seiche, tsunami, or mudflow? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

ENVIRONMENTAL SETTING

Land uses in the vicinity of the proposed Yokayo Biofuels project site consist of agricultural, industrial, and rural residential. The Yokayo Biofuels project would be constructed adjacent to property that is currently industrial uses. The project site is located at the north end of Ukiah, California, and approximately one-quarter mile west of Highway 101. The project site is located on flat topography with a maximum relief across the area of approximately 8 feet. The Ukiah area is located at the headwaters of the Russian River. Numerous tributaries and runoff swales to the Russian River extend through the Ukiah area with one tributary located approximately one-quarter mile north of the project site. These tributaries or swales provide storm water drainage for the area.

DISCUSSION

a) Violate any water quality standards or waste discharge requirements?

The proposed project would not increase water or wastewater discharges from the project compared to existing operating conditions. **NO IMPACTS** would occur.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

The proposed project would not utilize groundwater supplies for production of biofuels. **NO IMPACTS** would occur.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

The Yokayo Biofuels project site is currently developed and disturbed. An existing drainage swale borders the northern project boundary. However, no construction activities would occur in the drainage swale. Although implementation of the project would involve constructing new structures (i.e., steel-framed metal-roofed structure with three open sides, enclosed laboratory,

enclosed concrete building), large amounts of grading of the site would not be necessary. Lastly, construction of the new structures would not substantially increase the amount of impervious surfaces on the project site compared to existing conditions. The Applicant would also employ sedimentation and erosion controls, such as bioswales, for stormwater runoff during construction and operation of the project. Therefore, the proposed project would not alter existing drainage patterns of the site or area that could result in substantial erosion or siltation. **LESS THAN SIGNIFICANT** impacts would occur.

- d) **Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?**

The Yokayo Biofuels project site is currently developed and disturbed. An existing drainage swale borders the northern project boundary. However, no construction activities would occur in the drainage swale. Although the project would involve construction of new structures, the new structures would not substantially increase the amount of impervious surfaces on the project site compared to existing conditions. **LESS THAN SIGNIFICANT IMPACTS** would occur.

- e) **Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?**

The Yokayo Biofuels project site is currently developed and disturbed. An existing drainage swale borders the northern project boundary. However, no construction activities would occur in the drainage swale. Although the project would involve construction of new structures, the new structures would not substantially increase the amount of impervious surfaces on the project site compared to existing conditions. In addition, the proposed project would construct a new stormwater drainage system onsite sized appropriately to serve improvements to the site (e.g., buildings). Implementation of the proposed project would not contribute runoff water which would exceed the capacity of the existing swale or proposed new stormwater drainage system or substantially increase any source of polluted runoff. **LESS THAN SIGNIFICANT IMPACTS** would occur.

- f) **Otherwise substantially degrade water quality?**

The proposed project would not involve construction or operational activities that would result in substantially degrading water quality. Please refer to discussions provided for c), d), and e) above. **NO IMPACTS** would occur.

- g) **Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?**

The proposed project does not involve construction of any housing. Therefore, the project would not place housing within a 100-year flood hazard area. **NO IMPACTS** would occur.

- h) **Place within a 100-year flood hazard area structures which would impede or redirect flood flows?**

The closest 100-year flood hazard area is located approximately one quarter mile to the north of the project site. Therefore, the project would not place any structures within a 100-year flood hazard area. **NO IMPACTS** would occur.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

The closest dam is the Coyote Dam, which forms Mendocino Lake, located approximately 2 miles to the northeast of the project site. The Russian River outflows from this dam and the Russian River is located approximately 1 mile to the east of the project site. Although the project site would be considered downstream of the Coyote Dam, the proposed project would not locate large numbers of people on site and sufficient emergency egress is currently available at the project site if the Coyote Dam were to fail. Therefore, the proposed project would not expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a dam. **LESS THAN SIGNIFICANT IMPACTS** would occur.

j) Inundation by seiche, tsunami, or mudflow?

The project site is not located adjacent to a large body of water (e.g., lake, ocean). In addition, topography of the project site is primarily flat with an overall change in elevation of approximately 8 feet. Therefore, the potential for the project site to be inundated by a seiche, tsunami, or mudflow does not exist. **NO IMPACTS** would occur.

PROPOSED MITIGATION MEASURES

None proposed or required.

CONCLUSION

No significant impacts to water quality or hydrology would occur with the proposed project.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. Land Use and Planning.				
Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

ENVIRONMENTAL SETTING

The Yokayo Biofuel Diesel facility is located within a limited industrial area just outside of the City of Ukiah in Mendocino County. The project site is by industrial uses to the north, east and west and an active vineyard lies south across Orr Springs Road and Masonite Industrial Road. Scattered residences occur further north of the project site.

DISCUSSION

a) Physically divide an established community?

The project site is located within an industrial area surrounded by other industrial uses. South of the site contains active agricultural uses (vineyards) on large tracts of land. The project will not divide an established community and will have **NO IMPACT**.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

The General Plan designation for the proposed site is Limited Industrial and the Zoning is a Limited Industrial District. This district allows for custom manufacturing and general industrial uses. The term general industrial refers to uses such as industrial plants primarily engaged in manufacturing, compounding, processing, assembling, packaging, treatment or fabrication of materials and products (including aggregate processing plants).

The project is currently operational and is an allowed use on the site. All building improvements and expansion work will require approvals from Mendocino County. The proposed project will have **NO IMPACT** as it will not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

The project site does not fall within a habitat conservation or a natural community conservation plan. Based on the historic and current industrial use on site and the surrounding industrial zoning the proposed project site is devoid of native vegetation except for the mature trees lining the northern portion of the site. Therefore, the project would not conflict with any habitat conservation plan or natural community conservation plan and would have **NO IMPACT**.

PROPOSED MITIGATION MEASURES

None proposed or required.

CONCLUSION

The proposed Yokayo Biofuels project would not result in significant, adverse land use impacts.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. Mineral Resources.				
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

ENVIRONMENTAL SETTING

The project site is located in an area that is not known to contain mineral resources. According to the Mendocino General Plan (August 2009), the most predominant minerals found in Mendocino County are aggregate resources, primarily sand and gravel.

DISCUSSION

- a) **Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?**

NO IMPACTS to mineral resources are anticipated as the area is not known to have mineral resources.

- b) **Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?**

The project site and surrounding area is developed as industrial and agricultural uses and has not been designated as a high mineral area in the Mendocino General Plan, other land use plan or the Department of Conservation maps. Therefore, there would be **NO IMPACT**.

PROPOSED MITIGATION MEASURES

None proposed or required.

CONCLUSION

No impacts to mineral resources are anticipated from the completion of this project, and no mitigation is required.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. Noise.				
Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

ENVIRONMENTAL SETTING

The Yokayo Biofuels project site would be located at 350 Orr Springs Road in Ukiah, California, approximately a quarter mile west of Highway 101. The terrain in the general vicinity of the site is essentially flat with full grown trees along the northern property boundary and rural residential land uses beyond to the north, with industrial land uses adjacent to the east and west, and with agriculture land uses to the south. The existing noise environment is dominated by industrial activities which primarily involve operation of light vehicles and heavy trucks.

The closest noise sensitive receptor is a residence located approximately 250 feet to the north along Pinoleville Road. Additional noise sensitive receptors include rural residences further to the north and a

school, Pinoleville Native American Head Start Program, located at 500 Pinoleville Road approximately 1,000 feet northwest of the project site.

DISCUSSION

a) **Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**

Construction Noise

Construction noise is a temporary phenomenon; the construction period for the proposed Yokayo Biofuels facility is scheduled to last 3 months. Construction of an industrial facility, such as a biofuel processing facility, can be typically and unavoidably noisier than what is usually permissible under noise ordinances. In order to allow the construction of new facilities, construction noise during certain hours is commonly exempt from enforcement by local ordinances. The Mendocino County Code of Ordinances limits exterior noise levels depending on land use. For light industrial land uses, noise levels are limited to 70 dBA and cannot be exceeded more than 30 minutes in any hour. In addition, the Mendocino Code permits higher noise levels for temporary, short-term or intermittent activities (e.g., construction) when no sensitive or residential land uses would be affected (Mendocino County Code of Ordinances, Title 20, Appendix B). Although noise levels are not anticipated to exceed 70 dBA at the project site property line, the Mendocino Code allows for higher noise levels resulting from construction work associated with implementing the proposed project. In addition, staff recommends the proposed mitigation measure at the end of this section as a precaution and to further reduce any potential impacts to the community. Impacts are **LESS THAN SIGNIFICANT** with implementation of the proposed mitigation measure.

Operational Noise

The projected noise level from operations at the proposed Yokayo Biofuels facility at the closest residential receptor (340 Pinoleville Road) is not anticipated to increase from existing noise levels. It should be noted this conclusion is based on the fact that the proposed project would result in the operation of one additional truck and all other activities (e.g., biofuel processing) would occur within an enclosed space. Therefore, the noise generated from the operational phase of the proposed Yokayo Biofuels facility would be in conformance with the Mendocino County Code of Ordinances. Although the project is not anticipated to have any significant impacts as a precaution, staff recommends the implementation of the proposed mitigation measure to further reduce any potential impacts to the local community (e.g., residences) associated with operations. Any potential impacts will be **LESS THAN SIGNIFICANT** with the implementation of the proposed mitigation measure.

b) **Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?**

The primary source of vibration noise associated with operation of the proposed biofuels facility would originate with operation of heavy trucks to transport materials. Groundborne vibration and noise generated by heavy truck operation would be imperceptible off the project site. Consequently, no excessive vibration or noise levels would be experienced by adjacent land uses and the potential impacts will be **LESS THAN SIGNIFICANT**.

c) **A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?**

Construction Noise

As described above, construction of the biofuels facility is a temporary phenomenon; the construction period for the Yokayo Biofuels facility is scheduled to last 3 months. As a result, noise generated from construction would not cause a substantial permanent increase in ambient noise levels and would be **LESS THAN SIGNIFICANT**.

Operational Noise

During the operating life, the Yokayo Biofuels facility could generate a steady, continuous noise source day and night. The primary noise sources anticipated from the proposed facility include the washing process and processing of by-products. Secondary noise sources are anticipated to include auxiliary pumps, ventilation fans, motors, valves and compressors. The noise emitted by the facility during normal operations is anticipated to be generally broadband and steady state in nature.

Although the noise level generated by the proposed biofuels facility were not modeled to assist in evaluating whether the new plant would contribute an incremental increase in noise levels at the nearest residential receptors, the Mendocino County Code of Ordinances includes policies which limit noise levels that can be generated at the project site. Specifically, the Mendocino Code limits noise levels for industrial land uses to a maximum 70 dBA (not to be exceeded more than 30 minutes in any hour) during all times of the day (Title 12, Appendix B). With conformance to Mendocino County Code of Ordinance, noise levels associated with the proposed biofuels processing operations would be considered less than significant. Staff recommends the implementation of the proposed mitigation measure identified in item a) to further reduce any potential impacts to the local community associated with operations. Any potential impacts are **LESS THAN SIGNIFICANT**.

d) **A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?**

Construction Noise

Construction impacts are generally short-term in nature and usually result from the operation of heavy-duty diesel- and gasoline-powered construction equipment (e.g., backhoes, boom trucks, delivery trucks, compressors). The Applicant indicates that construction of the proposed project would require the use of a fork lift and concrete truck. Modeling of noise levels for the use of this equipment would result in noise levels of 59 L_{eq} dBA at 80 feet (approximate distance to property boundary) and 49 L_{eq} dBA at 250 feet (distance to residence located north of project site) (FTA 2006). In addition, the Mendocino County Code of Ordinances allows for higher noise levels than allowed by land use for temporary, short-term or intermittent activities (e.g., construction) (Title 12, Appendix B). Modeled noise levels during operation of construction equipment would conform to Mendocino County Code of Ordinances. Therefore, temporary noise level increases associated with construction of the proposed biofuels processing facility would be considered **LESS THAN SIGNIFICANT**. Staff recommends the implementation of the proposed mitigation measure identified in item a) to further reduce any potential for impacts to the local community associated with construction activities.

Operational Noise

As described above, the Yokayo Biofuels facility will represent essentially a steady, continuous noise source day and night. However, occasional short-term increases in noise levels could occur (e.g., relief valves open to vent pressure). It is anticipated that the short-term noise levels would not cause any significant impacts. These impacts are considered **LESS THAN SIGNIFICANT**.

- e) **For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?**

In general, the Yokayo Biofuels facility area is not influenced by aircraft noise associated with local airports. Ukiah Municipal Airport is located over 3 miles to the south. Therefore, this criterion is not applicable to the proposed project and **NO IMPACT** will occur.

- f) **For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?**

In general, the Yokayo Biofuels facility area is not influenced by aircraft noise associated with local airports. Ukiah Municipal Airport is located over 3 miles to the south. Therefore, this criterion is not applicable to the proposed project and **NO IMPACT** will occur.

PROPOSED MITIGATION MEASURES

- NOISE-1** Throughout the construction and operation of the project, the project owner shall document, investigate, evaluate, and attempt to resolve all project-related noise complaints.

The project owner or authorized agent shall:

- use the Noise Complaint Resolution Form (see Exhibit 1) to document and respond to each noise complaint;
- attempt to contact the person(s) making the noise complaint within 24 hours;
- conduct an investigation to determine the source of noise related to the complaint;
- if the noise is project related, take all feasible measures to reduce the noise at its source; and,
- submit a report documenting the complaint and the actions taken. The report shall include: a complaint summary, including final results of noise reduction efforts; and if obtainable, a signed statement by the complainant stating the noise problem is resolved to the complainant's satisfaction.

CONCLUSION

The proposed Yokayo Biofuels project will not significantly impact the public or environment related to noise. A mitigation measure is recommended to further ensure that impacts will remain less than significant.

EXHIBIT 1 - NOISE COMPLAINT RESOLUTION FORM

Yokayo Biofuels Facility

NOISE COMPLAINT LOG NUMBER _____

Complainant's name and address:

Phone number: _____

Date complaint received: _____

Time complaint received: _____

Nature of noise complaint:

Definition of problem after investigation by plant personnel:

Date complainant first contacted: _____

Initial noise levels at 3 feet from noise source _____ dBA Date: _____

Initial noise levels at complainant's property: _____ dBA Date: _____

Final noise levels at 3 feet from noise source: _____ dBA Date: _____

Final noise levels at complainant's property: _____ dBA Date: _____

Description of corrective measures taken:

Complainant's signature: _____ Date: _____

Approximate installed cost of corrective measures: \$ _____

Date installation completed: _____

Date first letter sent to complainant: _____ (copy attached)

Date final letter sent to complainant: _____ (copy attached)

This information is certified to be correct:

Facility Manager's Signature: _____

(Attach additional pages and supporting documentation, as required).

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. Public Services.				
Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

ENVIRONMENTAL SETTING

Fire Services

The Ukiah Valley Fire District serves the Ukiah unincorporated planning area and their offices are located at 1500 S. State Street, Ukiah, CA, approximately 3.5 miles south of the project site.

Police Services

Police protection services are provided by the Mendocino County Sheriff Department. The Sheriff's location is approximately one mile southwest of the proposed site, located at 951 Low Gap Road in Ukiah.

Schools

The nearest school to the project site is the Pinoleville Head Start, which is located about 0.2 mile northeast of the proposed location of the new process building (on the northern portion of the site).

Parks

The nearest park and recreation facility to the project site is Vinewood Park, located approximately 1.4 miles south of the project site at 1260 Elm St., Ukiah, CA 95482.

DISCUSSION

- a) **Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:**

Fire Protection?

The Yokayo Biofuels is currently being served by the Ukiah Valley Fire District. The Ukiah Valley Fire District has indicated that the district has the capacity to continue to provide adequate fire protection services to the project site.

The applicant is proposing to update the fire system in the existing cement warehouse and include features that will reduce potential fire hazards. The applicant has submitted plans to the Fire District and they are currently in the process of reviewing the submittal. **NO IMPACTS** will result to public services for fire service as result of the proposed project.

Police Protection?

The project will continue to be served by the Sheriff Department and no impacts will occur as a result of the site improvements or expansion. The project would be constructed in conformance with current codes, including features that will reduce potential fire hazards and increase security. The proposed project will not require the construction of new facilities or stations and will have **NO IMPACT**.

Schools?

The proposed project will expand and improve an existing biodiesel facility. The expansion may result in eight new employees and ten construction jobs. These employees would likely come from the surrounding area and will not place a significant demand on existing public services, including schools. Even if some employees relocated to the area as a result of the proposed project, the increase to school enrollment would be negligible. Therefore, the project would not result in an increase in school population or result in the need for new school facilities, or modification to school facilities, that could result in significant environmental impacts due to new or physically altered public service facilities. Impacts to schools would be **LESS THAN SIGNIFICANT**.

Parks?

The proposed project would not generate substantial population growth in the project area or result in the use of public park facilities in the city by new residents. Some employees at the project site may visit local parks, however, it is not anticipated that this use would create the need for any new facilities or adversely impact the physical condition of existing facilities. These potential impacts are **LESS THAN SIGNIFICANT**.

Other Public Facilities?

There are no other public facilities that were identified that would be potentially impacted by the proposed project.

PROPOSED MITIGATION MEASURES

None proposed or required.

CONCLUSION

The proposed Yokayo Biofuels project would not result in significant adverse public service impacts.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. Recreation. Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

ENVIRONMENTAL SETTING

There are three different categories of parks and recreation facilities in the City of Ukiah (City). Park categories include Federal Recreation Areas (two), County Recreation Areas (four), and City Parks (13).²

The nearest park and recreation facility to the project site is Vinewood Park, located approximately 1.4 miles south of the project site at 1260 Elm St., Ukiah, CA 95482. All of the City Parks are located within a five mile radius to the project site.

DISCUSSION

- a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**

According to the applicant, the proposed project would create eight permanent jobs and approximately ten temporary construction jobs. It is likely that the majority of the workers would be local residents. However, any new residents as a result of the employment would likely have a negligible impact on the nearby parks and recreation facilities. Therefore, any increase in use

²http://www.cityofukiah.com/pdf/planning/General_Plan/Parks-Rec_Arch-Hist.pdf and http://www.cityofukiah.com/pageserver/?page=parks_rec#194

of the park facilities by the workers would not cause a substantial physical deterioration of the park. The potential impacts would be **LESS THAN SIGNIFICANT**.

a) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

As stated above, it is likely that the majority of the new workers would be local residents. However, assuming these new workers relocate to the immediate area, there would be no need to construct or expand any park or recreational facility, as existing facilities near the proposed project would be sufficient to service the relatively small number of new workers. Therefore, the project would not require the construction or expansion of recreational facilities and impacts would be **LESS THAN SIGNIFICANT**.

PROPOSED MITIGATION MEASURES

None proposed or required.

CONCLUSION

The proposed Yokayo Biofuel Project would not result in significant adverse impacts to parks and recreational facilities.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. Transportation/Traffic.				
Would the project:				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exceed, either individually or cumulatively, a level-of-service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| e) Result in inadequate emergency access? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Result in inadequate parking capacity? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
-

ENVIRONMENTAL SETTING

The proposed project is located in Mendocino County in an industrial area along Orr Springs Road, approximately 0.70 mile north of the boundary of the City of Ukiah. U.S. Highway 101 runs north-south less than 0.25 mile east of the project site and has four lanes, two in each direction. Vehicles traveling on U.S. 101 would access the project site by taking the North State Street exit, traveling north on North State Street, and turning east on Orr Springs Road.

The Mendocino County General Plan classifies Orr Springs Road as a Minor Collector. Collector routes generally serve travel of primarily regional importance, and distances traveled tend to be shorter than for arterial routes.

DISCUSSION

- a) **Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?**

Project construction and operations traffic would be minimal, as described below:

Construction Traffic

Two forklifts, two concrete trucks, and an excavator would be in use at various points during construction. There would be a maximum of 4-6 construction employees at the site at any one time. Construction is anticipated to take approximately 3 months.

Operations Traffic

Juggler Truck

The existing facility uses a truck to collect yellow grease from restaurants. The project would replace this truck with a juggler truck combining the collection of yellow grease with the collection of trap grease. This would not significantly increase truck trips, as collection of yellow grease and trap grease would likely be frequently combined.

Methanol Truckloads

The project would also include transportation of approximately 16 annual truckloads of methanol to the site, a reduction from the existing facility's 26 annual loads.

Trips for Distribution of Biodiesel to Fuel Stations and End Users

The existing facility generates 1 daily trip for distributing biodiesel to fuel stations and end users, usually within a 250-mile radius. A bobtail tanker transports the biodiesel. Because the

proposed project would increase production capacity of biodiesel, the number of biodiesel distribution trips may double to an average of 2 daily trips (using 2 tankers).

Trips for Distribution of Glycerin By-Product

The proposed project would generate a glycerin by-product for distribution and sale. Distribution of the glycerin product would result in a maximum of approximately 28 truckloads annually.

Employee Trips

The proposed project would involve 8 additional employees, which would generate a minimal number of additional commuting trips.

The number of trips generated by construction and operation of the project, as discussed above, would be minimal.

Larry Alexander, the Deputy Director of Transportation for Mendocino County, stated that due to Mendocino County's rural nature, the County generally does not have problems with streets operating at unacceptable levels-of-service (LOS). Mr. Alexander estimated that Orr Springs Road operates at level-of-service (LOS) A, the "best" traffic LOS, characterized by free-flowing, uncongested traffic conditions. According to Mr. Alexander, North State Street also provides an adequate LOS. Highway 101 near the project site operates at an LOS better than LOS C (Caltrans' standard for highways), meaning traffic flow is acceptable. Due to the satisfactory LOS provided by nearby roads and highways, and due to the minimal additional traffic trips that the project would generate during construction and operation, the project would not cause an increase in traffic which would be substantial in relation to the existing traffic load and capacity of the street system. Impacts would be **LESS THAN SIGNIFICANT**.

b) Exceed, either individually or cumulatively, a level-of-service standard established by the county congestion management agency for designated roads or highways?

According to Mr. Alexander, Deputy Director of Transportation for Mendocino County, the County does not enforce any formal level-of-service standards, as the area is rural and as a result, does not generally have roads operating at an unacceptable LOS. Mr. Alexander stated that roads and highways near the project site do not experience problems with traffic flow. Because of this and the minimal number of trips the project would generate during construction and operation, the project would not cause roads or highways to operate at substandard LOS. Therefore, the project would generate **NO IMPACT**.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

The project would not generate additional air traffic and would not encroach on airport land, as the nearest airport is Ukiah Municipal Airport, located approximately 3 miles southeast of the project site. At only 20 feet in height, the project would not interfere with aircraft flights or air traffic patterns, or require review by the Federal Aviation Administration under Title 14, Part 77 of the Code of Federal Regulations. Therefore, the project would not result in a change in air traffic patterns and would generate **NO IMPACT**.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The project would not alter existing roads or accesses and would generate only a minimal number of additional trips for construction and operation. The project's industrial uses and associated traffic trips would be compatible with the existing industrial uses in the area and at the existing facility. Therefore, the project would not increase hazards due to a design feature or incompatible uses and would generate **NO IMPACT**.

e) Result in inadequate emergency access?

The proposed project would use Highway 101, North State Street, and Orr Springs Road for emergency access, just as the existing facility does. The proposed project would not physically block this access or result in traffic congestion which could compromise timely access to this facility or any other location. On-site circulation would provide access for emergency vehicles to reach all buildings on the project site. Finally, as part of issuance of project building permits, Mendocino County would ensure adequate emergency access. Therefore, the project would not result in inadequate emergency access and would generate **NO IMPACT**.

f) Result in inadequate parking capacity?

The proposed project would include 10 on-site parking spaces, plus one additional Americans with Disabilities Act (ADA) space for a van. This would be sufficient to provide parking to the additional 8 employees. Therefore, the project would not result in inadequate parking capacity, and the project would generate **NO IMPACT**.

g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

The proposed project does not conflict with adopted policies, plans, or programs supporting alternative transportation. Improvements would occur on-site and would not interfere with any mode of alternative transportation. Therefore, the project would generate **NO IMPACT**.

PROPOSED MITIGATION MEASURES

None proposed or required.

CONCLUSION

The project's Transportation and Traffic impacts would be less than significant.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. Utilities and Service Systems.				
Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

ENVIRONMENTAL SETTING

Yokayo Biodiesel receives water from the Millview County Water District. The Mendocino Solid Waste Management Authority has jurisdiction over the waste produced by the existing facility and a septic tank and leachfield is located onsite.

DISCUSSION

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board (RWQCB)?

The North Coast Regional Water Quality Control Board has jurisdiction over the project area and the applicant has indicated that all permits and plans will be updated to reflect the requirements identified by the RWQCB.

The current biodiesel reaction process results in the production of 250 gallons of waste wash per day and this is trucked 2.5 miles away to a disposal site. The new proposed enzymatic biodiesel reaction process that would be implemented eliminates the need to water wash the

fuel and the water involved in the reaction process is 100% recycled or converted to vapor. As a result the waste water use will be reduced from 250 gallons per day to 0.

The second project improvement involves the repaving of existing surfaces. Resurfacing the hardtop is proposed to eliminate the absorption of water into the ground, and will redirect stormwater. In addition, bioswales will be added to facilitate rainwater capture for use in incidental landscaping water needs.

All of these proposed improvements will improve wastewater generation and decrease the need for wastewater treatment. The project will not exceed wastewater requirements of the applicable RWQCB and staff anticipates a reduction in wastewater generation. **NO IMPACTS** are anticipated as a result of these improvements.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

As indicated in a) above, the wastewater generated from the proposed is projected to decrease and would not result in new wastewater facilities. The Millview County Water District has approved the proposed project and there is adequate water to serve the proposed project improvements and expansion. **NO IMPACTS** from the construction or expansion of facilities will occur as a result of the proposed project.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

The project improvements include the construction of new storm water drainage facilities. These improvements require trenching onsite to a depth of approximately three to five feet deep. The new storm water drainages will not create a significant environmental effect as all improvements will be contained within the site. The new storm water system will have a **LESS THAN SIGNIFICANT** impact.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

The Millview County Water District serves the existing site and has approved the proposed project. As described in a), the new enzymatic process reduces the water used and the improvements are anticipated to decrease water needs. The project is anticipated to have a **LESS THAN SIGNIFICANT** impact and will actually decrease existing water supply needs.

e) Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?

The new biodiesel process will decrease the wastewater generated at the facility. The existing facility currently trucks all wastewater (which is filled with contaminants such as

soap, oil, and dilute chemicals) to a disposal site located 2.5 miles away. The new process will eliminate most of this wastewater. The project will not result in a determination as to whether or not they will have sufficient capacity and **NO IMPACT** is anticipated.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs?

The waste generated by the project will be handled by Ukiah Waste Solutions and will be recycled as much as possible. The applicant has received clearance from the Mendocino Solid Waste Management Authority for a recycling plan for the construction waste generated by the proposed improvements and expansion activities. The Ukiah Waste Solutions currently serves the facility and has sufficient capacity to continue serving the project. The impacts are considered **LESS THAN SIGNIFICANT**.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

The existing facility complies with all federal, state, and local statutes and regulations. The County of Mendocino will require the project applicant to obtain all necessary permits and proof of service evidence prior to approving the construction of the project. The proposed improvements and expansion will comply with all valid permits and it is anticipated that any potential impacts will be **LESS THAN SIGNIFICANT**.

PROPOSED MITIGATION MEASURES

None are proposed or required.

CONCLUSION

The project’s utilities and service systems impacts will be less than significant.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. Mandatory Findings of Significance.				
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| b) Does the project have impacts that are individually limited, but cumulatively considerable?
("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
-

DISCUSSION

- a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?**

Energy Commission staff has reviewed the proposed Yokayo Biofuel project and found no substantial environmental effects from the proposed construction and operation of the project.

- b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)**

No cumulatively considerable impacts have been identified in the Energy Commission staff evaluation of the project.

- c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?**

No substantial adverse effects either direct or indirect have been identified by Energy Commission staff in their evaluation of the project.

MITIGATION MEASURES

Mitigation measures contained in this Initial Study and Mitigated Negative Declaration as well as the requirements of all applicable permitting agencies, including Mendocino County will ensure that there are no significant impacts from the construction and operation of the proposed Yokayo Biofuels project.

**Mitigation Monitoring and Reporting
Program for Yokayo Biofuels, Inc. Grant for
Improvements and Expansion of
an Existing Facility**

Exhibit D-1
Mitigation Monitoring and Reporting Program

Public Resources Code, Section 21081.6, and the California Code of Regulations, Title 14, Section 15097, require a lead agency to adopt a monitoring and reporting program in order to ensure that the mitigation measures identified in the mitigated negative declaration are implemented. The mitigation monitoring table below lists the mitigation measures that are required to avoid or reduce the significant effects of the Yokayo Biofuels, Inc. Grant for Improvements and Expansion of an Existing Facility (“A Catalyst for Success” project) to not-significant levels.

Recipient shall complete each of the mitigation measures listed below. Within the timeframe specified in each mitigation measure, the Recipient shall initial the applicable section of this form and submit this form together with any required and relevant supporting documentation to the Commission Agreement Manager.

MITIGATION MEASURE	PHASE	COMPLIANCE VERIFICATION	
		Initial & Date	Comments
AIR QUALITY-1: The applicant shall consult with the District to ensure that project construction activities do not increase fugitive dust emissions to be consistent with the District’s PM10 air quality plan. Evidence of the MCAQMD determination shall be submitted to the Energy Commission prior to construction (e.g., a letter of determination or permit).	Shall be completed prior to beginning construction.		
BIO-1: To avoid disturbance to nesting activity to the extent feasible, preconstruction surveys shall be conducted by a qualified biologist no more than 30 days prior to initiation of proposed construction activities. Surveys shall be conducted to determine if active nesting is occurring and the results shall be submitted to the Energy Commission.. If active nests are found on or immediately adjacent to the site, survey results shall be submitted to the Energy Commission, Mendocino County, and the California Department of Fish and Game and consultation shall be initiated to determine appropriate avoidance measures, which could include implementation of a construction buffer zone, limited construction activity (to limit noise), or a delay of construction activities until the nestlings have fledged and dispersed. If no nesting is found to occur, construction activities can proceed. If no nesting is found to occur, construction activities can proceed.	Shall be completed prior to beginning construction.		

MITIGATION MEASURE	PHASE	COMPLIANCE VERIFICATION	
		Initial & Date	Comments
<p>CUL-1: The applicant shall retain an archaeologist meeting the Secretary of the Interior's Qualification Standards (Qualifications) to complete a records search for the project site at the appropriate California Historic Resource Information System (CHRIS) Information Center (IC). The applicant shall submit the proposed archaeologist's qualifications to the Energy Commission for review and approval prior to executing a contract with the archaeologist. Energy Commission staff shall have the authority to deny a proposed archaeologist should the resume of the proposed archaeologist fail to demonstrate how they meet the Qualifications.</p>	<p>Shall be completed prior to beginning construction.</p>		
<p>CUL-2: The designated archaeologist shall request a search of the Sacred Lands files at the Native American Heritage Commission (NAHC).</p>	<p>Shall be completed prior to beginning construction.</p>		
<p>CUL-3: The applicant shall submit the results of the IC and NAHC searches to Energy Commission staff for review prior to the commencement of ground disturbance activities. Depending on the results the qualified archeologist and Energy Commission staff shall determine if further measures are required. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. The project applicant will implement the agreed upon mitigation measures necessary for the protection of archeological resources and submit documentation to Energy Commission staff and Mendocino County.</p>	<p>Shall be completed prior to beginning construction.</p>		

MITIGATION MEASURE	PHASE	COMPLIANCE VERIFICATION	
		Initial & Date	Comments
<p>CUL-4: The designated archaeologist shall monitor all excavation and excavation-related activities for indications of subsurface archaeological deposits pertaining to the proposed project. Should cultural materials be discovered, the archaeologist shall have the authority to halt excavations. The archaeologist shall document any find to the extent possible on the appropriate Department of Parks and Recreation (DPR) 523 forms and determine appropriate measures. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. The project applicant will implement the agreed upon mitigation measures necessary for the protection of archeological resources and submit documentation to Energy Commission staff and Mendocino County.</p>	<p>Shall be implemented throughout all excavations and exaction-related activities during the project.</p>		
<p>CUL-5: At the conclusion of excavation-related activities, the designated archaeologist shall prepare a written letter report documenting the results of the monitoring activities and attach any DPR 523 forms that were prepared. The letter report and attachments shall be submitted to the appropriate IC, the Energy Commission, and Mendocino County within 30 days of the conclusion of excavation-related activities. The applicant shall submit the letter report and attachments to the Energy Commission within 15 days of the completion of the ground disturbance.</p>	<p>Shall be completed within 30 days of the conclusion of excavation-related activities.</p>		

MITIGATION MEASURE	PHASE	COMPLIANCE VERIFICATION	
		Initial & Date	Comments
<p>CUL-6: If during the course of implementing the project any paleontological resources (fossils) are discovered, all work shall be halted immediately within 50 feet of the discovery and the Mendocino County Planning and Building Services Department and Energy Commission shall be immediately notified. A qualified paleontologist shall be retained to determine the significance of the discovery.</p> <p>Mendocino County and the Energy Commission shall consider the mitigation recommendations of the qualified paleontologist for any unanticipated discoveries. The County and project applicant shall consult and agree upon implementation of a measure or measures that they deem feasible and appropriate and notify the Energy Commission of the determination and course of action. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery, or other appropriate measures. The project applicant will implement the agreed upon mitigation measures necessary for the protection of paleontological resources.</p>	<p>Shall be implemented throughout the entire project.</p>		
<p>HAZ-1: The project owner shall obtain the necessary permits and/or licenses for the transportation of hazardous materials from the California Highway Patrol, Caltrans, and any relevant local jurisdictions. The project owner shall ensure compliance with all applicable regulations, including Title 49 of the Code of Federal Regulations, and implementation of the proper procedures. The project owner shall submit evidence of applicable licenses/permits and/or correspondence from the appropriate transportation agencies.</p>	<p>Shall be completed prior to transporting hazardous materials.</p>		
<p>HAZ-2: The project owner shall comply with all relevant Federal and State regulations related to the use and storage of hazardous materials, including California Occupational Safety and Health Administration (OSHA) and California Department of Toxic Substances Control (DTSC) regulations. The project owner shall submit evidence of applicable licenses/permits or correspondence from the appropriate agencies as identified above.</p>	<p>Shall be completed prior to using or storing hazardous materials.</p>		

MITIGATION MEASURE	PHASE	COMPLIANCE VERIFICATION	
		Initial & Date	Comments
<p>NOISE-1: Throughout the construction and operation of the project, the project owner shall document, investigate, evaluate, and attempt to resolve all project-related noise complaints.</p> <p>The project owner or authorized agent shall:</p> <ul style="list-style-type: none"> • use the Noise Complaint Resolution Form (see Exhibit 1) to document and respond to each noise complaint; • attempt to contact the person(s) making the noise complaint within 24 hours; • conduct an investigation to determine the source of noise related to the complaint; • if the noise is project related, take all feasible measures to reduce the noise at its source; and, • submit a report documenting the complaint and the actions taken. The report shall include: a complaint summary, including final results of noise reduction efforts; and if obtainable, a signed statement by the complainant stating the noise problem is resolved to the complainant's satisfaction. 	Throughout the construction and operation of the project.		

**Draft Notice of Determination for the
Proposed Mitigated Negative Declaration**

To:

Office of Planning and Research
For U.S. Mail: Street Address:
P.O. Box 3044 1400 Tenth St.
Sacramento, CA 95812-3044 Sacramento, CA 95814

County Clerk
County of:
Address:

From:

Public Agency:
Address:
Contact:
Phone:

Lead Agency (if different from above):
Address:
Contact:
Phone:

SUBJECT: Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.

State Clearinghouse Number (if submitted to State Clearinghouse):

Project Title:

Project Location (include county):

Project Description:

This is to advise that the [Lead Agency or Responsible Agency] has approved the above described project on [Date] and has made the following determinations regarding the above described project:

- 1. The project [will will not] have a significant effect on the environment.
2. An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA. A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures [were were not] made a condition of the approval of the project.
4. A mitigation reporting or monitoring plan [was was not] adopted for this project.
5. A statement of Overriding Considerations [was was not] adopted for this project.
6. Findings [were were not] made pursuant to the provisions of CEQA.

This is to certify that the final EIR with comments and responses and record of project approval, or the negative Declaration, is available to the General Public at:

Signature (Public Agency) Title

Date Date Received for filing at OPR

**Excerpt from
Yokayo Biofuels, Inc.
Application to the Energy Commission
under PON-11-601**

*Executive Summary and Project
Narrative*

**Alternative and Renewable fuels and Vehicle Technology Program
Subject Area: Biofuels production Facilities**

Solicitation Number Listed on the Solicitation Notice:

PON-11-601

Applicant for Stage 3: Commercial Facilities

- Applicant's Legal Name: **Yokayo Biofuels, Inc.**
- Name of project: **A Catalyst for Success**
- Project Description:
Yokayo Biofuels, an industry veteran with over 10 years experience, produces and distributes biodiesel. The main goals of this project are to build a safer, expanded biodiesel production plant, with a lower carbon footprint, while creating jobs, improving air quality, and improving the local economy. Infrastructure improvements include new structures, piping, offices, and bioswales for stormwater runoff. These upgrades are complimentary to process improvements that validate production expansion by improving the business model. Through a partnership with Piedmont Biofuels, and the addition of an enzymatic biodiesel production process which incorporates Piedmont's FAeSTER skid unit, Yokayo Biofuels will be able to model a safer, greener, and more economically sustainable way of doing business that can withstand the ebb and flow of government incentives and market conditions. There will be a sizable increase in energy efficiency, 100% elimination of process water input, higher biodiesel yield, elimination of a hazardous material from the process, and generation of a sellable co-product. More biodiesel will be generated for the California marketplace, and the feedstock from which it is produced will all be low carbon. By doing all of this, Yokayo Biofuels will realize the CEC's goal of reducing GHG emissions and petroleum fuel demand, while enhancing the local economy and inspiring the public about what is possible!
- Grant Funding Requested: **\$1,860,330**
- Identify the address of the site where the project will take place:
350 Orr Springs Road, Ukiah, CA 95482
- Primary feedstock used and quantities processed:
Yellow or brown grease in the form of Restaurant Fryer Oil & Trap Grease
- Primary fuel produced: **Diesel Substitute**
- Technology development stage of project: **Stage 3, Commercial Facilities**
- Quantity of primary fuel to be produced annually: **722,700 gal**
- **No secondary fuels produced**
- Value added co-products: **>97% pure Glycerin**

- **No electricity co-generation will occur**
- **No CEQA will be required for this project**
- **Based on existing Notice of Exemption, this project qualifies for Round 1**
- The Biofuel produced **will have a carbon intensity value lower** than the LCFS pathway for soy biodiesel (83.3 gCO₂-eq/MJ) or for California-produced ethanol using Midwest corn feedstocks (80.7gCO₂-eq/MJ).
- Amount of Match funding: **\$2,909,775**
- Source of Match Funding (cash and /or in-kind): **SBA loan and in-kind**
- Proposed Agreement Duration: **June 2012-September 2013**
- Principal Investigator/Project Manager
 Name: **Kumar Plocher**
 Organization's Legal Name: **Yokayo Biofuels, Inc.**
 Address: **350 Orr Springs Rd.**
Ukiah, CA 95482

Principal Investigator/Project Manger Certification: To the best of my knowledge, I certify that the information contained in this grant application package is true, and discloses all requested information. This package does not contain any confidential information (This signature is only necessary if the Principle investigator/Project Manager is not the Authorized Representative).

Principal Investigator/Project Manager Signature:

_____ Date: _____

Authorized Representative Certification: To the best of my knowledge, I certify that the information contained in this grant application package is true, and discloses all requested information. I have read and agree to be bound by the ARFVT Program Grant Terms and conditions for any agreement resulting from this solicitation. This package does not contain any confidential information.

Authorized Representative Signature:

_____ Date: _____

Executive Summary

Project Description

Yokayo Biofuels was formed in October of 2001 with a purpose to provide an ecological, sustainable, local alternative to fossil fuels. The idea that biofuels are “carbon neutral” is central to our business philosophy. We are completely dedicated to the idea of a local, living economy and support the philosophy in action by the fact that we have never sold, or sourced, our fuel or feedstock outside of Northern California. We do not believe in the inherent sustainability of biodiesel feedstocks such as low-yield crops that double as food (i.e. soybeans), or high-yield crops that compete with rainforest (i.e. palm oil), and have consistently spoken out against such practices, utilizing various platforms including CEO Kumar Plocher’s tenure on the National Biodiesel Board’s Taskforce on Sustainability, participation at conferences such as the Sustainable Biodiesel Summit, and a wide variety of mixed media articles and interviews.

We began design work for a complete biodiesel facility in 2004 to accommodate our growing demand. Once we had secured our existing site in 2008, we accelerated the engineering project to upgrade and expand our facilities. The project includes constructing new production and lab facilities, upgrading existing buildings to create needed office space and a shared central space which will serve as a meeting room, classroom, kitchen, and locker room, installing new materials storage facilities, resurfacing hardtop and adding bioswales to address stormwater issues, rainwater capture for use in incidental water needs, and landscaping. All existing and new components will be updated for ADA-compliant accessibility, fire prevention systems, and appropriate insulation and HVAC.

There is a second component of this project, concerning the upgrade and expansion of our biodiesel production process. While Yokayo’s carbon footprint is already among the best in the industry¹, there is serious room for improvement in energy and water usage, wastewater output, worker safety, product yield, and by-product value. To expand our capacity without addressing these concerns would be impractical, yet expanded capacity is needed to hit a critical economy of scale with which we can sustain ourselves into the future². A new biodiesel reaction process addresses all of these concerns. We are pleased to be partnering with Piedmont Biofuels, a major innovator in enzymatic process technology. We believe strongly in Piedmont's cutting edge process, which we have tested and verified in our own lab. The biodiesel reaction process will be dramatically changed from the current method of using a caustic catalyst (potassium hydroxide flakes) to an enzymatic catalyst. This eliminates a hazardous material from the process, allows for introduction of a lower cost brown grease feedstock (opening the door for expanding B20 sales), creates no soap, and the glycerin co-product is pure. The lack of soap production dramatically increases yield, and greatly reduces wastewater output. It also results in a higher quality final biodiesel product that burns cleaner, is better for engines, and more stable for customers to store.

While much of the initial engineering for this project had already taken place at the time the grant was announced, and been funded by Yokayo Biofuels, this project and its timeline are ambitious. It is our understanding that the California Energy Commission supports such ambition, and supports the quickest timeline possible to expanded production of sustainable biofuels in this State. We are excited that our project satisfies every one of the five “potentially funded activities” under Stage 3: Commercial Facilities, on page 4 of the Grant Solicitation.

¹ As measured by LCFS registered biorefineries carbon intensity, where Yokayo Biofuels’ 11.76gCO₂/MJ ranks among the very lowest: http://www.arb.ca.gov/fuels/lcfs/reportingtool/Biofuel_Registration_Info_complete_01042012.pdf

² As estimated by our CFO, to be able to break even without any biodiesel incentives.

Project Goals

The project addresses the following goals:

- Expansion of capacity from 1400-2000 gal/day
- Energy reduction
- Dramatically reduced or eliminated water usage
- Sellable co-product (glycerin)
- A safer, cleaner, more comfortable facility
- Elimination of storm water runoff concerns
- Higher quality biodiesel product
- Dramatically higher fuel yield

Projected Costs and Yields

There are seven tasks that comprise this project. The costs breakdown as follows³:

1. Agreement Management	\$ 101,926
2. Detailed Design and Specifications	\$ 21,960
3. Construction Management	\$ 216,295
4. Construction of New Facilities	\$ 3,866,030
5. Installation of Vessels and Equipment	\$ 112,128
6. Start-up Process	\$ 26,496
7. Data Collection and Analysis	\$ 425,270
Total	\$ 4,770,105

These tasks will be referenced and explained in greater detail throughout this proposal. The projected costs and benefits associated with the enzymatic process are as follows⁴:

- Enzyme cost of \$.173/gal biodiesel
- Wash process savings of \$.037/gal biodiesel
- Methanol usage savings of \$.06/gal biodiesel
- Glycerin disposal savings of \$.02/gal biodiesel

The biggest single benefit is that projected yield of biodiesel per gallon of feedstock for the enzymatic process is .99 gallons, up 13.8% from our current average yield of .87.⁵

Additionally, the enzymatic method will give us the ability to use brown grease as feedstock, which is a lower carbon feedstock, in line with the goals of this grant, and is available for approximately half the cost of yellow grease on the open market, enabling our expansion.

Expansion of sales into B20 blends, for which brown grease is an appropriate feedstock, will provide the proper outlet for the new fuel. Thus, the enzymatic process allows us to grow production ahead of in-house grease collection. That is a huge additional “yield” of the project.

Other Quantitative and Measurable Objectives to be Achieved

- 62.5% less heat used in biodiesel process
- Creation of 8 permanent jobs
- 100% elimination of soap in biodiesel
- 33% reduction in our carbon intensity

³ See budget Attachment F

⁴ See attached multiple process production costs comparison spreadsheet

⁵ Current average yield is based on finished fuel divided by feedstock that goes into the reactor. Enzymatic yield is based on Yokayo Biofuels lab testing, documented in attached multiple process production costs comparison spreadsheet

Project Narrative

The proposed project begins with construction of two new buildings. The first will be a 4,500 sq. ft. steel-framed metal-roofed structure with three open sides. This building will house the washing process and processing of by-products. An enclosed laboratory will be constructed in the southeast corner of the roofed-structure. The second new building will be a 1,600 sq. ft. fire-rated concrete building located adjacent to the roofed structure. This enclosed facility will house the mixing and enzymatic reaction process⁶.

Switching to the enzymatic process requires, in addition to enzymes (for which there is an established supply chain), a skid-mounted FAeSTER processing unit from Piedmont Biofuels. With the exception of the new technology, the process is completely compatible with our existing equipment. The skid-mounted FAeSTER unit, a proprietary method that allows the reaction to reach the full ASTM standard, is necessary as an important specification we have not been able to reach in the absence of such technology.

To obtain the FAeSTER unit, we will complete the attached Equipment Purchase Agreement from Piedmont Biofuels⁷, and follow the terms set forth in that agreement. Prior to receiving the equipment, Yokayo Biofuels will send its CEO, both engineers, and the production plant supervisor to Piedmont Biofuels for hands on instruction on the use of the equipment. After the reception and installation of equipment at Yokayo Biofuels, Piedmont Biofuels will perform prescribed tests to determine that the equipment is operating in conformity with its specifications.

With the hazardous components of the process moved out into the new buildings in the facility yard, the westernmost portion of the existing production building will be used for raw material processing, washed biodiesel dehydration (back up processing procedure in the event of equipment failure), and finished biodiesel storage. It will be upgraded with fire suppression sprinkler equipment.

New offices and staff facilities will be constructed on the east half of the existing building, including central heating, venting, and air conditioning systems, as well as an appropriate office-scale fire prevention sprinkler system. There will be seven private offices and one large meeting room. The meeting room will serve as a classroom, kitchen, and locker room. The entrance to the offices and the bathroom will be upgraded to meet Americans with Disabilities Act requirements (with match funds).

A methanol vault storage tank will be installed in the open area between the new building and the existing building, and will be surrounded by crash-rated vehicle bollards. A liquid nitrogen blanketing system will be installed to increase fire safety.

There will be two pipelines in covered concrete trenches to connect the vessels in the existing building with the vessels in the new buildings. One pipeline will transport processed used fryer oil to the mixing vessel in the new building. The second pipeline will transport washed fuel back to the dehydrator in the existing building. A third pipeline in a covered trench will transport methanol to the mixing vessel in the new building from the methanol storage tank.

Yokayo Biofuels will own and operate the proposed project.

⁶ See attached Building Plans

⁷ See attached Equipment Purchase Agreement

The goal of the proposed project includes construction of a biodiesel production facility with a capacity of 2,000 GPD and utilization of the FAeSTER enzymatic process for producing methyl esters (biodiesel) from used fryer oil and brown trap grease. The project will also increase capacity for production, and will incorporate Building Code and Fire Code safety requirements.

The proposed project is not required to be undertaken in order to reduce the emission of one or more criteria pollutants, toxic air contaminants, or any greenhouse gas.

Qualifications of the Applicant/Project Team:

Yokayo Biofuels Key Personnel:

Kumar Plocher⁸: Founder, CEO, Company Visionary with over 10 years leadership experience in the biodiesel industry including completion of Iowa State University's Commercial Biodiesel Production Technology workshop, former member of CEC working group on biodiesel, former member NBB Sustainability Taskforce, current member of CBA Board of Directors

Function: Project Manager, CEO

Specific Contributing Experience: Founder of company, established its original accounting system, developed sales department, developed oil collection operation, developed production process, managed the relocation of the entire plant, managing current engineering project.

Skills Pertinent to Project Tasks: Fiscal responsibility, visioning, production plant process, quality control, project management, technical analysis, contract writing, managerial supervision, hands on experience with every aspect of this business.

Steve Plocher⁸: CFO, CPA with over 30 years of accounting and leadership experience

Function: Project Controller, CFO

Specific Contributing Experience: Yokayo's CFO since 2004; has owned and managed Stephen Plocher Accountancy Corporation for 22 years, co-owned Lombardi & Plocher CPAs for 7 years, specializes in audits, financial consulting, management of complex budgets, fiscal compliance, growth, development, and equipment procurement including financing.

Skills Pertinent to Project Tasks: Accounting, financial oversight, government contract compliance experience

Nancy Ann Atkinson, PE⁸: Civil Engineer with 14 years experience in public and private engineering sectors, including project management of multiple facility planning, design, and construction projects.

Function: Engineering and Construction Manager

Specific Contributing Experience: Project Manager for \$1.5M sewer force main replacement adjacent to a sensitive waterway, including preparation and coordination of State funding application and reports, CalTrans right of way, Coastal Commission Development, State Lands Commission right of way and State Water Board CEQA permitting, consultant selection and management, construction oversight and coordination with Federal and State resource agencies during construction.

Skills Pertinent to Project Tasks: Civil Engineering, project management, excellent communication.

⁸ SEE ATTACHED RESUMES

Brian Eberly⁹: Mechanical Engineer with 7 years experience in alternative energy, process development, biofuels and sustainability planning

Function: Process Manager

Specific Contributing Experience: Designed and built a farm-sized biodiesel plant and ethanol plant as owner of Eberly Alternative Energy. Performed computer modeling and experimental work on wood industry waste to energy project while a Graduate Research Assistant at WVU, including feedstock characterization and laboratory work.

Skills Pertinent to Project Tasks: Project management, lab work, data analysis, technical ability, visioning

Bert Mosier⁹: Oil Collection Manager with over 30 years executive leadership experience, including both the fuel and restaurant industries.

Function: Feedstock Manager

Specific Contributing Experience: As Executive Director of Ukiah Chamber of Commerce, CA, Lyndon, KS, and Hoxie, KS Chambers of Commerce, managed member services, implemented business recruitment, retention and expansion; as Owner of Mosier Pumping, Inc., gained experience with commercial trucking, pumping, heavy equipment, and fuel concerns; as Manager of 4-King, operated a restaurant, including its supply/waste chain and its used fryer oil collection protocol.

Skills Pertinent to Project Tasks: Customer relations, technical ability, department management

Jenifer Elmer⁹: Sales and Marketing Manager with 8 years experience in sales, marketing, account management and PR.

Function: Biodiesel Product Manager

Specific Contributing Experience: Marketing experience throughout professional career; while at Powerhouse Marketing, established Sales and Marketing Department, developed and maintained customer relationships and developed community partnerships; At Venbea, identified potential new markets for products and developed pricing strategies; at Frank Groff, developed and wrote press releases.

Skills Pertinent to Project Tasks: Customer Service, marketing genius, excellent communication

Key Subcontractors:

Eichleay Engineers, Inc: of California, with offices in Concord, is among the largest privately held providers of specialty technical services in California. Excels at providing the resources necessary to engineer and design specialized, technically complex process facilities.

Function: Primary engineering firm involved in the engineering and construction component of the project, covering a wide variety of components (architecture, civil, chemical, etc.).

Specific Contributing Experience: Yokayo Biofuels began its relationship with Eichleay Engineers, Inc. in 2004, and has continuously worked with this firm in recognition of it being

⁹ SEE ATTACHED RESUMES

unique in its mastery of the engineering issues that we deal with, with special sensitivity to the more hazardous elements of biodiesel plant operations.

Skills Pertinent to Project Tasks: Specializes in detailed design and specifications for industrial projects like this.

Rau and Associates, Inc: A General Civil Engineering firm in Ukiah providing surveying, environmental, civil and structural design and geotechnical consulting services to Northern California for over 30 years.

Function: The secondary engineering firm involved in the engineering and construction component of the project, handling various aspects of the civil engineering work.

Specific Contributing Experience: Local expertise and history in this area, including their extensive work with the construction firm that originally built this facility, gives them a valuable perspective on the project.

Skills Pertinent to Project Tasks: Specializes in the type of engineering that encompasses the grounds work in this project.

Piedmont Biofuels: A Certified B Corporation based in Pittsboro, North Carolina, that has pioneered biodiesel education and technologies for the better part of the last decade.

Function: Vendor of the Enzymatic Biodiesel Process component of this project.

Specific Contributing Experience: Piedmont and Yokayo have a history of working together, but the most relevant piece of past experience to this project is the work that Piedmont has done in recent years, in cooperation with Novozymes and the Department of Energy, to develop and commercialize Enzymatic Biodiesel.

Skills Pertinent to Project Tasks: Technical and research mastery, visioning, project management

Key Partner:

Lela Wadsworth: A Yokayo Biofuels shareholder and a member of the company's Board of Directors. She is the owner of the property on which Yokayo's production plant facility sits.

Function: Project Site Land Owner

Specific Contributing Experience: Purchased property as an investment in Yokayo's future back in 2008; has steadfastly supported the developments of the company however she can; designed and implemented a pilot project to test biodiesel in school busses- currently expanding that effort with a project to construct a biodiesel station within her children's school district; previously worked for a company that recycled landfill gas, and is continuing in her passion to recycle waste.

Skills Pertinent to Project Tasks: Being a good land owner and visionary.

Technical Development

Biodiesel has a positive history and a promising future as a viable alternative fuel. The product we intend to provide with this project is biodiesel that meets the ASTM D6751 standard. We also intend to go from producing a costly by-product in our current process, crude glycerin, to producing a valuable co-product with the new process, glycerin with greater than 97% purity.

The current process for producing biodiesel has many drawbacks. The process for converting vegetable oils and animal fats to biodiesel involves heating the oil, adding two dangerous chemicals and producing several byproducts.

One of these by-products is soap, which must be removed from the biodiesel before it can be used; this purification process results in either a large volume of wastewater or large amount of solid waste. Another drawback to soap production is that it competes with biodiesel production causing a loss of yield. There is a preprocessing practice that can mitigate some of this loss, but it requires an addition of a dangerous acid and only increases yield a few percent. There is also a post processing practice that can recover yield lost to soaps, but it also requires adding acid and can only recover a few percent. One important technique in reducing soap production is to ensure minimum water content for the feedstock. Drying oil to these levels can consume a great deal of energy.

The other byproduct is crude glycerin, which is so laden with contaminants as to be worthless unless further refined. Many biodiesel producers have incorporated some glycerin refining capabilities into their plants, but this increases costs and complexity, as well as adding more hazardous chemicals.

The cutting edge for biodiesel technology incorporates the use of enzymes to catalyze the reaction. After examining the preceding 15 years of research on the subject, Piedmont Biofuels; with help and involvement from Novozymes, the USDA and the DOE, developed their own enzymatic biodiesel process. They commissioned the first enzymatic biodiesel production plant in the United States in July of 2010. Their plant successfully produced biodiesel fuel that meets the ASTM D-6751 specification. Now they have proven the technology at the commercial scale (2000 gallon batch size). The skid unit they have designed, called the FAeSTER process, is a key component of this project.

Enzymatic biodiesel technology has many benefits. Because it can handle any percentage of FFAs, it accommodates both low and high quality feedstocks equally. Because the process requires a relatively low amount of methanol, and involves some methanol recovery in the FAeSTER skid unit, it is Piedmont’s conclusion that “biodiesel plants which do not have acid esterification, or who do not have methanol recovery, have the most to gain from this technology.”¹⁰ It eliminates all the need for hazardous potassium hydroxide, creates no soap, and the glycerin byproduct is pure. The lack of soap production eliminates yields loss and the need to purify the biodiesel and eliminates waste water. Other benefits of the enzyme process are a significant decrease in energy needed by the process; being more tolerant to water content, eliminating the need to dry the oil prior to the conversion process, and requiring much lower reaction temperatures. While the enzymes used in the process are more expensive than traditional catalysts, some of them can be reused several times and other can be reused hundreds of times. Also, the additional yields and more valuable glycerin more than offset the added cost.

Test	Unit	Method	Enzymatic Glycerol	Chemical Glycerol
Glycerol Content	% mass	AOCS Ea 6-94	97.55	55.78
Moisture	ppm	ASTM D6304	20500	22900
Ash	%	IUPAC 3.A.4	0	12.87
Methanol	%	EN 14110	0.14	0.45
MONG	%	IUPAC 3.A.6	0.4	29.17

¹¹fig.4



¹²fig.5

¹⁰ Enzymatic Catalysis for Biodiesel Production; Piedmont Biofuels

¹¹ Figure 4 Enzymatic Glycerol Certificate of Analysis

¹² Figure 5 Glycerol Comparison

The enzyme process that Yokayo Biofuels is planning to use is a two stage process. The first stage is partial transesterification. Oil, alcohol, water and enzyme are added to a reactor and heated to 100°F. The reactor is mixed for several hours. In this process the alcohol is not added all at once, but gradually at a low rate. When the reaction is complete and the mixture is allowed to settle, two phases with form. One phase contains FAME, FFAs, and a small amount of methanol, the other contains glycerin, water, methanol and enzyme. The glycerin layer is saved and used to process the next batch of oil (allowing reuse of the expensive enzyme) and the FAME layer goes on to the second stage of processing. In the second stage, the FAME and FFA are mixed with more methanol and a different catalyst that esterifies the FFA into FAME.

Through a proprietary method that is incorporated in the FAeSTER unit, the water that results from the esterification reaction is removed. This process reduces the FFA content of the FAME to within the ASTM specifications for biodiesel. When the reaction is complete, the FAME is purified by removing the methanol and water content via evaporation. The catalyst in the second stage is immobilized on ceramic beads, as opposed to in a solution. These beads can be reused many times, though activity will eventually decrease on the timescale of years. The glycerin layer from the first stage can theoretically be reused many times, though in practice, every time it is used, the glycerin content is increased. Eventually the volume of this layer would surpass the volume of the oil in the batch; in practice 3-7 reuses can be achieved. These particular enzymes only work in a narrow temperature range, 95-110°F, which makes temperature controls important, but reduces much of the heat energy requirements of traditional methods.

The end result of this process is pure biodiesel and pure glycerin, with no wastewater. Traditionally biodiesel is made from virgin oil or yellow grease. Yellow grease is used cooking oil or oil obtained from animal processing. These two forms of oil are expensive but contain the limited amount of FFAs that the traditional method requires. One exciting prospect of enzymatic biodiesel is the tolerance of the process to FFA content. Technically speaking, enzymatic biodiesel can be made from oil that is 100% FFAs. Brown grease is the industry name of grease removed from grease interceptors and grease traps that protect the sewer system from restaurant grease. Brown grease is currently very inexpensive owing to the fact that grease interceptor owners have to pay to have them cleaned. It also cannot be used in traditional biodiesel production unless it is blended in very small amounts owing to a high FFA content. However, the enzyme process can make biodiesel from brown grease readily, thereby greatly reducing the cost of feedstock.

From “Enzymatic Catalysis for Biodiesel Production”, by Piedmont Biofuels:

The key take-way for the biodiesel industry is that future biodiesel production will come from high FFA feedstocks. In the current implementation of the second version of the Renewable Fuel Standard (RFS-2), land use concerns were raised in the eligibility of feedstocks for the advanced biofuel category. If land use issues become integrated into environmental policies of nations across the globe, the use of food grade material for biofuels may decrease. Alternatives to food grade materials like the waste greases tend to be very high in free fatty acids.

Yokayo Biofuels looks forward to helping realize this goal of utilizing more appropriate, “future” feedstocks, today. In this way, we can move the industry forward while making our own operation more sustainable in every sense of the word.

Because the technology is already developed, we see it as our job to demonstrate its viability through its usage in our production plant, thereby aiding in the commercialization process. Our success with the technology should influence sales of future units by Piedmont Biofuels, thus allowing for the deployment of this technology through the industry.

Piedmont Biofuels has estimated that it will take less than three months from the time of order to the time of equipment reception. Considering that Yokayo Biofuels proposes that this technology purchase be grant-funded, and that the timeline for executing an agreement with the California Energy Commission is June 2012, Yokayo Biofuels expects to begin using the technology to produce biodiesel October of 2012.

At that time, the machine will be operating at roughly two-thirds capacity, producing fuel only from the feedstock we are already collecting. There will be a gradual ramping up of additionally purchased brown grease feedstock, timed to coincide with increased B20 blend sales, beginning in November 2012 and culminating with the new process fulfilling its 2000 gallon per day, 60,000 gallons per month production capacity in Spring of 2013. Following is a projected timeline:

October 2012	0 brown grease gallons added
November 2012	5,000 gal
December 2012	10,000 gal
January 2013	15,000 gal
February 2013	20,000 gal
March-September 2013	25,000 gal per month, plant is at capacity
<hr/>	
Total	225,000 gal during project

This ramp-up may be accelerated or decelerated based on B20 sales progress. In addition to the new gallons added with brown grease feedstock, there will be the “new” gallons added from the increased yield with the old feedstock. By the time we hit capacity, we will be producing 1,980 gallons of finished biodiesel per day, with a production capacity of 702,900 gallons per year.

Market Development

In addition to wholesale vs. retail, there are two categories of biodiesel markets in Northern California: B99¹³ users, and B20 users. In order to sell the additional fuel that will be created through this project’s implementation, Yokayo Biofuels is planning on expanding our distribution beyond the B99 market and into the B20 market.

Currently we sell nearly all of our 417,000 annual gallons of fuel in the B99 market. It is a small market, comprising less than 1% of the total diesel demand in our region by our estimate. It is comprised of a loyal group of environmentalists who will pay more for fuel based on their ideals. We created this niche market from scratch, through hard work, benefiting extensively from grassroots marketing and word-of-mouth. After we learned everything about the use of

¹³ B99 blend comprises of 99% biodiesel + 1% petroleum, B20 blend comprises of a 20% mix petroleum with biodiesel

biodiesel in various vehicles and equipment, we were the first company in Northern California that introduced the fuel, educated our customer base about its use, supported them when there were questions or problems, and finally offered biodiesel at the retail level to the general public. There are now other companies in Northern California providing biodiesel, although we still have the majority of pure biodiesel sales north of the Bay Area, up to the Northern end of Mendocino County. While we expect to stay strong in this market due to our reputation and experience, there does not appear to be much growth in the B99 sector. It requires a lot of consumer education, and the higher price isn't as generously accepted in poor economic times.

The B20 market is much larger. It is much closer in proximity to the base "diesel market". To get a sense of scale of the diesel market, consider that in Mendocino County alone annual diesel usage is over 8 million gallons¹⁴. Many fleets that would never consider using B99 are more open to B20 due to the relative ease of entry and lower price. It is also much more competitive than the B99 market, as there are already a number of petroleum jobbers selling B20.

Yokayo Biofuels has been successfully introduced to the B20 market, having just secured our first big customer in the Skunk Train¹⁵. There is much evidence throughout the biodiesel industry that this market is where most of the sales are, and most of the growth lies. Access to municipal fleets, school busses, solid waste trucks, construction companies, and many other types of customers goes hand in hand with selling B20. B20 does not sacrifice environmental gains (a gallon burned, even as a lesser fraction of the fuel, still nets the same emission benefits), and does not come with the steep learning curve associated with pure fuel. Because there is not the same need to educate customers about its use, B20 can be effectively sold on price. By displacing a portion of existing wholesale B99 sales with retail margin sales of B20, Yokayo Biofuels can create a wider profit margin selling B20 at a price competitive with diesel. It is also worth noting that B20, unlike B99, is not considered experimental by the State of California so it can be sold without extensive variance-related paperwork. We believe that sales of B20, both at retail pumps and through delivery, are where much of our future growth will occur.

Yokayo Biofuels anticipates operating our upgraded production facility at full capacity by July of 2013. This means that we will be introducing 324,000 more gallons of biodiesel fuel into our market by that time¹⁶. The majority will be sold in the form of B20 blends. Market barriers we are going to encounter include the sheer amount of sales growth (biodiesel being only one fifth of a B20 blend, $5 \times 324,000 =$ over 1.6M gallons of B20 to sell), and competition from petroleum jobbers. However, Yokayo Biofuels believes we have a market edge because we sell direct to end users, and the enzymatic process technology can utilize cheaper feedstocks like brown and trap grease, and produce a greater yield. Additionally, there are many forms of marketing that we have not utilized in the past because of their lack of applicability to B99 market. This is in large part due to the B99 product's relative difficulty of use, which can only appeal to a niche market. The B20 blend is a more "user friendly" product that is priced competitively with diesel fuel; therefore we can advertise using traditional methods like billboards and fuel pricing signs, thus drawing the public in a way we could not previously. We plan to start by introducing B20 at our retail pumps, which already have an existing

¹⁴ "Energy Usage and Its Impact on Mendocino County", 6/07, www.greentransitions.org/Papers/EWG2007_FRReport_64pgs.pdf

¹⁵ See attached Letter "Skunk Train"

¹⁶ See Sustainability Section

infrastructure that caters to our B99 customers. This will be followed by B20 direct delivery operations.

Due in part to California state incentives, expansion is anticipated for companies producing and marketing biodiesel. Yokayo Biofuels has market advantages over much of the producer competition, in the same way we do over distributors. By being able to produce fuel that meets the ASTM standard from feedstocks such as brown and trap grease with greater efficiency at a higher percentage of yields, Yokayo Biofuels will be taking advantage of every opportunity available to gain an edge. Additionally, there are few producers who sell directly to their end users. We are confident these advantages and others, such as our experience, our knowledge about biodiesel gained from servicing the B99 market, and our core restaurant feedstock supplier base, will keep us ahead of the competition.

While we have used marketing partners in our B99 market sales effort, most of our marketing strategy in the B20 market sector will be aimed directly at retail pump customers and high value fleet customers. By keeping the direct connection to end users rather than selling to “middlemen”, we will be able to maximize the values attained from all of the revenue-generating improvements that this project enables.

Project Implementation

Identify your project objectives, and describe how the tasks in your Statement of Work will lead to project completion.

The objectives of the project include construction of new facilities in order to produce biofuel using the enzymatic process, purchase and installation of the enzymatic process technology, upgrading old buildings, expansion of office space, and improvement of facility grounds. The tasks include planning, design phases and construction of new facilities, as well as installation of vessels and equipment, and start-up of biofuel production. Each task is dependent on the completion of the predecessor for providing the needed infrastructure, with the exception of Task 1, which will be ongoing.

Project schedule, the sequence of tasks, and how tasks are related to or dependent on each other.

Task 1 – Agreement Management

Grant administration will be performed throughout the project, starting when the agreement is executed, and ending October 2013. Critical Project Review will take place as required by the Commission, including 1) a kickoff meeting in which an updated schedule of products, an updated list of match funds, and an updated list of permits will be presented and reviewed, 2) ongoing critical project review meetings based on written determinations of the CEC, and 3) a final meeting to review written documentation of meeting agreements, and the schedule for completing closeout activities. Throughout the project, monthly and quarterly progress reports will be prepared. A Final Report will contain data collected after the construction phase and the start-up phase are completed.

Task 2 – Detailed Design and Specifications

The proposed project is midway through the design process. The finished work includes a review of the Building and Fire Codes for H or “hazardous” occupancy, a preliminary site plan

showing the location of the new buildings in relation to the property line, and preliminary locations of the vessels and the offices.

We have been working with the Mendocino County Planning and Building Department and expect to submit an application for a building permit in mid-May 2012. Tasks to be completed in May 2012 include responding to comments on the plans from Mendocino County and the Ukiah Valley Fire District. We have developed a good working relationship with Mendocino County and the Fire District through meetings and effective communication.

After the building permit is issued, we will contract with a General Construction Contractor to complete the construction project. We anticipate that the start of construction will be early June 2012.

Task 3 - Construction Management

Construction management will be performed throughout the construction and installation phases of the project. Project documentation and coordination with contractors will facilitate the completion of the project. Construction management includes preparation of daily reports, weekly meetings and meeting notes, responses to requests for clarification and change orders, photo documentation, and approval of invoices.

Task 4 - Construction of New Facilities

The proposed facilities will be constructed during the Summer and Fall of 2012. It is estimated that the construction period will be three months long. Allowing for a start in early June, the new facilities should be completed by September 2012. This schedule assumes that materials and equipment are not delayed, and the pre-engineered components can be fabricated in a timely manner and on schedule.

The new 4,500 sq. ft. roofed structure and the 1,600 sq. ft. enclosed mixing and reaction building will be finished first. After the roofed structure and the enclosed reaction building are complete, the existing building will be retrofit with offices and the 1,500 sq. ft. truck loading dock cover will be installed.

Task 4 may not be complete before Task 5 is started.

Task 5 - Installation of Vessels and Equipment

After the new buildings are complete and utilities are installed, new vessels will be installed, and those currently in use will be relocated. This process will take up to two-weeks to complete. The Piedmont enzymatic process equipment will be installed during this phase of the project.

The construction of the offices and truck loading dock (part of Task 4) may still be under construction when Task 5 and Task 6 begin.

Task 6 - Start-up Process

Once the new buildings are completed, the utilities installed, the current vessels moved and the new vessels installed, the start-up of the process will begin. We anticipate that the initial start-up of the facilities will take place during the first week after Task 5 is complete.

Task 7 – Data Collection and Analysis

Data Collection will take place after the construction, installation of vessels, and process start-up. Six months of data will be collected and reported in the Final Report (part of Task 1).

Identify proposed feedstocks, competition for feedstocks, and feedstock procurement strategies

Currently, Yokayo Biofuels uses its own collected used restaurant fryer oil exclusively for its biodiesel feedstock. Purchasing grease from other collectors remains a viable backup plan that we take advantage of as needed. Our 1,024 restaurant facilities supply approximately 40,000 gallons per month of used fryer oil.

This is where the enzymatic processor helps us immensely. Our proposed new feedstock is a combination of brown grease (processed trap grease, purchased from rendering companies) and trap grease that we will collect ourselves. We will be able to use this new feedstock because of the capabilities of the enzymatic processor, which will easily convert feedstock to marketable biodiesel that can be blended to make B20 for the targeted growth market. While our plan is to start out by purchasing brown grease, we recently purchased a 4,000 gallon vacuum truck with patented “Juggler” separation technology. This system allows us to pump out the grease trap at a restaurant, typically about 1000 gallons of water and 150 gallons of brown grease, separate the two liquids and return a filtered water product to the empty grease trap. The trap will remain fully functional and our truck will not be carrying the excess waste water (which would require extra trips to EBMUD for disposal), only the grease which is very usable to us. As we grow this new branch of our grease collecting department we are creating our own supply of “free” brown grease (likely better than free, as the restaurants are accustomed to paying steep fees to have grease traps pumped).

Yokayo Biofuels collects used fryer oil from a significant share of the restaurant market base in the areas comprising the Hwy 101 corridor between Marin and Mendocino Counties, as well as the area immediately east, from Berkeley to Lake County. We currently collect from 1,024 restaurant facilities.

Competition from rendering companies for restaurant fryer oil is very high. There is growing competition from other biodiesel companies, but rendering companies remain by far our largest competition. By turning the oil into biodiesel, we have the highest value product that can be made from used fryer oil, which gives us a market advantage over rendering companies. By using the most efficient processes possible to make the biodiesel, we can remain ahead of the other biodiesel companies as well.

A key market disadvantage has been that we rely on a third party to service grease traps and interceptors. The enzymatic process, in conjunction with our recently purchased specialized Juggler truck, will allow us to fully service grease traps and interceptors, and ultimately turn that into an additional feedstock for our fuel. Because restaurants are accustomed to paying a high fee to have their grease traps pumped, we will have an additional market advantage because we do not depend on that income.

Having the ability to make fuel out of trap grease (and brown grease, a commodity which can be purchased) not only grows our business plan and enables us to fulfill expanded plant capacity, but it also provides us a hedge. If yellow grease prices are high, we will have the ability to sell our used fryer oil and purchase brown grease on the open market- it historically runs much cheaper than yellow grease. Then we can make lower-cost biodiesel with it.

This will be especially important if the IRS biodiesel incentive returns- something that historically drives yellow grease prices up. Depending on the cold-flow properties of the fuel made from brown grease, which may be worse than the fuel made from our used fryer oil, hedging our bets this way with brown grease may end up being a seasonal option (more with

B99 than B20), but it is worth noting that the warm season is generally the season of highest yellow grease value.

Describe how this project will lead to or support your commercialization plans.

As a Stage 3 applicant, Yokayo Biofuels already has achieved commercialization with our biodiesel product in general. This project will help us achieve commercialization of a B20 biodiesel blend product, which takes advantage of lower cost brown grease feedstock. The improved storage stability from the complete elimination of soap will also help us retain existing B99 customers, thus aiding that product's continued commercialization. This project will also enable full commercial utilization of our new Juggler truck, which is specially designed to be able to efficiently pump grease traps. Additionally, this project should help Piedmont Biofuels commercialize their enzymatic process, and FAeSTER skid units, which could have an enormous effect on the industry as a whole, many of whose participants are facing the same production inefficiencies as Yokayo Biofuels. And this project will pave the way for commercialization of a Yokayo Biofuels glycerin co-product.

Project Readiness

Identify all contractual relationships, including feedstocks, needed.

Yokayo Biofuels has retained written contractual commitments with 70% of the 1,024 facilities from which we collect used fryer oil. The terms of these contracts are varied and proprietary. These contracts are made in a manner that keeps the pricing we offer the facility flexible enough to protect both them and ourselves, in the event of dramatically shifting market grease values. We expect to add trap grease services to many of these contracts during the duration of this project. We are also enrolled in SFPUC's grease purchaser program, to facilitate bidding on their grease in times when we are running low (see attached letter).

Where finished biodiesel product is concerned, Yokayo Biofuels serves both wholesale and retail customers. We have wholesale contractual commitments from Biofuel Oasis, a biodiesel station located in Berkeley, CA. The terms of the contracts are proprietary, but a letter of support from Biofuel Oasis is included that references their purchase commitment. Additionally, Yokayo Biofuels has commitments from Santa Rosa Community Market (see attached letter), the Solar Living Institute in Hopland, and the Biofuel Station in Laytonville. While many customers fill up at the fuel stations at these locations, a large number of Yokayo Biofuels customers are direct delivery end users. While they have signed a customer agreement that helps us comply with CDFA DMS biodiesel variance requirements, these customers are of a more decentralized variety typical of consumer goods and services, meaning their commitment is not of the written, contractual variety. There is a notable exception with the Skunk Train (see attached letter), who has a contract with us to supply them with B20. We plan on executing more contracts with large B20 customers in the future.

Contracts that are specific and critical to project completion have been retained with the following firms: Eichleay Engineers of California, and Rau and Associates (see attached letters). Additionally, we have a letter of intent from Piedmont Biofuels to provide us with their technology (see attached).

Provide documentation that the applicant owns, has access to, or controls site¹⁷

Finally, see attached letter from Lela Wadsworth, owner of the property on which the production plant sits, indicating her support of Yokayo's plans, and acknowledgment that we have access to and control the site.

Project Budget/Cost Effectiveness

The budget is divided by tasks, and by schedule. Work to be performed by Yokayo Biofuels staff is divided into work that is scheduled before and after construction takes place. The budget for work performed by Yokayo staff and consultants in Tasks 1, 2, 3, 5, 6 and 7 is based on an estimate of time and materials needed to perform the work.

The construction of new facilities (Task 4) to be performed by a contractor (subconsultant) is a discrete budget item. The construction budget is based on preliminary November 11, 2012, cost estimates for structures and a February estimate for site civil engineering and construction of bioswales.

Task	Cost
1. Agreement Management	\$ 101,926
2. Detailed Design and Specifications	\$ 21,960
3. Construction Management	\$ 216,295
4. Construction of New Facilities	\$ 3,866,030
5. Installation of Vessels and Equipment	\$ 112,128
6. Start-up Process	\$ 26,496
7. Data Collection and Analysis	\$ 425,270
Total	\$ 4,770,105

State funds are needed to supplement the SBA funds for the project. Costs for construction of facilities are high due to safety and building code requirements.

Cash Flow during Project¹⁸: Operations at Yokayo Biofuels are cash flow positive on a monthly basis. This is proven and supported by the corporate tax returns and the annual financial statements. **A sample cash flow budget of one month and one year are attached.** Collection of feedstock, production of fuel, and sales of completed product are very consistent and predictable.

Cash flow of project costs will be determined by the funding of the grant and the matching funds. The projected costs include a 20% overage contingency. Our in house project manager has significant experience in large construction projects and will be monitoring the costs of each component as construction progresses.

The budget is divided by task. The greatest budgetary cost estimate is for the construction of new facilities, which is also the task that will take the longest to complete. The construction management (Task 3)¹⁹ is estimated to be 5% of the construction cost, well within

¹⁷ See attached Letter "Lela Wadsworth"

¹⁸ See attachment 1) Cash Flow Budgets One Month and One Year

¹⁹ See chart above derived from Scope of Work

the typical range of costs for construction management of a project this size. Other Task budgets are estimated based on the length of time that the task will take to complete.

The goals of the project are as follows:

Quantative Goals:

- Higher production yield from existing feedstock
- Elimination of wash water in the process
- Sellable glycerin co-product
- Expansion of plant capacity; job creation
- Conservation of resources and energy
- Elimination of stormwater runoff and absorption of materials into ground

Qualitative Goals:

- Safer, cleaner, better designed place to work
- Higher quality biodiesel product

Completing this project will achieve all of the above goals and allow us to go beyond them in the future, to even greater capacity and greater sustainability.

The enzyme process results in 13.8% higher production yields, from the same volume of feedstock. This means that instead of producing 410,000 gallons of biodiesel last year, we would have produced 466,658 with this process- nearly 5,000 extra gallons per month, without introducing any new feedstock! With an average estimated gross margin of \$3.65 per gallon (after feedstock and process chemicals), that totals over \$200,000 for the year, or over \$17,000 per month.

Eliminating the water washing (not required in the enzyme process) gets rid of 3.7 cents per gallon in chemicals and disposal costs and 8.5 cents in labor. That totals \$50,000 per year, or \$4,165 per month.

We have always had to dispose of our glycerin by-product because it has too many contaminants in it for any use. The enzyme process yields clean marketable glycerin, that we can sell at a price equivalent to an additional 18 cents per gallon of biodiesel produced. That totals \$74,000 per year, or \$6,165 per month.

The enzyme processor we are acquiring will increase our daily production from 1250 gallons to 2000. That's an additional 22,500 gallons per month. We cannot grow our grease collection department fast enough to quickly provide us with all that extra feedstock. And yellow grease costs over \$2.50 per gallon, leaving too little margin. But the enzyme processor can utilize brown grease, with high free fatty acid content and lower market cost. We can acquire all the brown grease needed for a projected price of less than \$1.50 per gallon. At the same time we are developing our own brown grease collection process, with a unique "Juggler" truck we acquired. We will begin to collect the trap grease from all our restaurants, ultimately yielding about 150,000 gallons per year in free feedstock (the restaurants currently pay a great deal to have the trap grease removed- our ability to do that for free or at low cost presents a market advantage). It will take 6-8 months to develop the feedstock acquisition, production increase, and resulting sales of the extra product. But at maturity, that will add almost 300,000 gallons per year in production and sales. This increase has a lower margin because of the brown grease cost (until we are collecting our own) so the gross profit will be lowered to \$2.90 per gallon. At full capacity that will add \$870,000 per year in gross profit, or \$72,500 per month..

Yokayo Biofuels has been operating at a profit with positive cash flow for 2 years now. The above increases in gross profit will mostly drop to the bottom line. All the items above total \$97,800 per month. This will easily provide for the required debt service on the matching funds and various additions to personnel and operating expenses due to the expanded production, sales, and delivery of product.

Yokayo Biofuels lists the following five positions at form B-6, part of Attachment F:

	Direct Labor Rate	Fringe Benefits %	Indirect Overhead %	General & Admin %	Loaded Hourly Rate
CEO	\$20.35	5%	26%	35%	\$33.78
CFO	\$23.26	5%	26%	35%	\$38.61
Civil Engineer	\$30.77	5%	26%	35%	\$51.08
Process Engineer	\$24.95	5%	26%	35%	\$41.42
Plant worker	\$47.00	5%	26%	35%	\$78.02

The Direct Labor Rates are the hourly rates paid to each position. The Fringe Benefits at Yokayo Biofuels consist of the group Health Plan. The Indirect Overhead rate is based on indirect overhead costs divided by direct labor costs. The General and Administrative rate is based on general and administrative costs divided by direct labor plus indirect overhead costs. The Loaded Hourly Rate is a total of the Direct Labor Rate and the values generated by each of the three additional rates.

The Direct Labor Rate and Loaded Hourly Rate are higher for Plant Worker because that position is covered by Prevailing Wage requirements, as opposed to officers and engineers.

Yokayo Biofuels' average of loaded rates takes into account the number of hours projected for each position, above. As reported at Attachment F:

Average Loaded Hourly Rates:

	Loaded Hourly Rate	Projected Number of Hours	Loaded Project Earnings
CEO	\$33.78	684	\$23,105.52
CFO	\$38.61	306	\$11,814.66
Civil Engineer	\$51.08	1,506	\$76,926.48
Process Engineer	\$41.42	1,738	\$71,987.96
Plant worker	\$78.02	480	\$37,449.60
Total		4,714 hours	\$221,284.22

Dividing the total of \$ 221,284.22 by 4,714 hours gives an average loaded rate (ALR) for the project of \$ 46.94/hr.

Match Funding

Our project cost is \$ 4,770,105. This is based on the following:

\$ 101,926	Task 1: Agreement Management
\$ 21,960	2: Detailed Design and Specifications
\$ 216,295	3: Construction Management
\$ 3,866,030	4: Construction of New Facilities
\$ 112,128	5: Installation of Vessels and Equipment
\$ 26,496	6: Start-up Process
\$ 425,270	7: Data Collection and Analysis

\$ 4,770,105 Total

The breakdown of how we will fund the project is as follows:

\$ 2,570,000	SBA loan from Savings Bank of Mendocino County	53.9%	of total funding
\$ 339,775	Yokayo Biofuels “in-kind” contribution, comprised of labor and brown grease value	7.1%	
\$ 1,860,330	CEC PON-11-601 Grant Contribution	39%	

\$4,770,105 Total 100%

See attached letter of intent from Savings Bank of Mendocino County, and attached spreadsheet detailing Yokayo Biofuels “in-kind” contribution.

Economic Benefits

Immediate jobs created as a direct result of the project are as follows:

Level	Industry Class	Job Duration	Number of Jobs
Journeyman	Construction Workers	Temporary 3 months	9.4-10
Total Temp. Jobs			9.4-10

At full capacity, expected within 18 months of project completion, we expect the following new jobs to be created, with no jobs being eliminated:

Level	Industry Class	Job Duration	Number of Jobs
Management		Permanent full time	1
Administrative		Permanent full time	2
Sales		Permanent full time	2
Drivers		Permanent full time	3
Total Pjct. Jobs			8

Quantify State and Local Tax Impact:

Of the \$4,770,105 project cost, approximately \$3.5 million will be paid to local and California contractors and suppliers. Assuming half of that ends up as taxable California wages, there will be \$1.5 million subject to personal income tax. Using an average tax rate of 4%, \$60,000 of California personal income tax would result from the project.

Regarding tax impact upon commercial scale, Yokayo Biofuels has been operating at commercial scale since 2006. Typical payments to the state of California for sales and fuel taxes are approximately \$12,000 per month. With expanded production and sales, this will grow to approximately \$23,000. Sales tax paid on construction materials is estimated to exceed \$38,000.

Adding 8 new positions at capacity will result in extra income taxes paid by staff to the state. However, the average annual wages of our plant workers is about \$35,000. This level of income will likely not result in significant California incomes taxes. If a worker files "single" they may owe \$500. If they are married with children, and not much other income, they will owe no tax. Let's assume half of each, so eight position might result in \$2,000 of extra annual income tax.

Income taxes paid by the company are reported by the individual shareholders, since Yokayo is an S-corp. The 2012 corporate taxes have not yet been completed, but taxable income is expected to be approximately \$150,000. If the average shareholder is paying a tax rate of 6%, this results in \$9,000 of California state income tax. Sales growth will have a significant change on the taxable income of Yokayo Biofuels, as we are past break even and most income increases will sink to the bottom line. Taxable income for the 2014 year, the expected year for reaching capacity, could easily be \$500,000. At a tax rate of 6% that would result in \$30,000 of California state income tax.

To summarize: Annual taxes from the project will be a one time event estimated at \$60,000. After reaching plant capacity, combined taxes to California will go from \$21,000 to \$55,000 per year, an increase of \$34,000 annually.

Impact to Suppliers:

The full project cost is approximately \$4,770,105. Approximately \$3.5 million of that are construction costs, which will all be paid to local California contractors and suppliers. After completion of the project, there will be no further expenditures of this kind. Ordinary operating costs and expenses will rise as we increase production and sales over the next 12-18 months. The variable costs, directly associated with fuel production should increase about 90% along with volume. Those costs are paid to California suppliers and local businesses. Presently such costs average about \$36,000 per month. A 90% increase would raise them to \$68,400., for an increase of \$32,400 per year. Yokayo Biofuels has no contractual supply-side product distributors at this time

Impact from Co-products:

Prior to the project Yokayo Biofuels had no co-products. We dispose of two waste streams at a local composting facility, but the percentage of their product that comes from Yokayo is minimal. Therefore the impact on their revenues from selling the compost would be difficult to estimate.

With the completion of this project we will have marketable glycerin as a co-product and will be selling it either to local California businesses or to nationwide glycerin brokers. It is difficult to estimate the revenues such buyers might achieve after purchasing our glycerin. If we

sell them 6,000 gallons per month at \$1 per gallon, they could possibly use it as a base to produce liquid soap and sell the soap for \$10 per gallon, thereby grossing \$60,000 per month. Whether this is possible or likely is beyond the scope of this grant application. We will have no other co-products.

Economically Distressed Areas Information:

According to the California Employment Development Department Labor Market Information Division, the unemployment rate in Mendocino County in December of 2011 was 10.2%. This was about 1 percentage point above the national average, which just barely constitutes an economically distressed county, as defined by the federal stimulus act passed by Congress in February 2009.

Most of the jobs in the Ukiah area are in agriculture industry. The average reported wage rate for Mendocino County for 2011 was \$13.90 per hour, according to City Data.com internet site. Yokayo Biofuels offers well paying jobs that are mostly above the average wage rate for Mendocino County. Our 17 employees have an average hourly rate of \$17.47, with only one of them below the county average, and that position is part time. New positions that open up after the completion of the project will continue to be paid accordingly.

o Percentage of population falling under the poverty level 19.6% in 2009 (<http://www.city-data.com/poverty/poverty-Ukiah-California.html>)

o Local Unemployment Rate – 12.5% in March, 2011 (<http://www.city-data.com/city/Ukiah-California.html>)

Sustainability

This project addresses the Sustainability Goals in Section 3101.5 of Title 20 California Code of Regulations as follows:

GHG Reduction

The biodiesel Yokayo Biofuels produces from recycled used fryer oil already demonstrates among the highest potential for substantial reduction of greenhouse gas emissions, as demonstrated by its LCFS-designated carbon intensity of 11.76gCO₂/MJ²⁰. This project will significantly reduce that carbon intensity.

The lower temperature from using the enzymes will result in 62.5% less heat used²¹, which lowers the total carbon intensity 25% to 8.82gCO₂/MJ. It is the belief of Yokayo Biofuels that numbers better than 8.82gCO₂/MJ cannot be easily achieved commercially at this time, making the biodiesel we will produce from this project among the very lowest in GHG emissions when compared with the petroleum baseline.

Conventional biodiesel production processes already protect the environment by not relying on resource extraction or any of the dirty processes associated with petroleum refining. Yokayo Biofuels takes that further by using our biodiesel in all of our trucks (and most of our employee vehicles), as well as the boiler at our production plant, and by not relying on virgin agricultural feedstocks, eliminating the carbon footprint associated with pesticide application and other practices associated with growing feedstocks exclusively for biodiesel production. By switching to a dramatically more energy and resource-efficient process, and also adding a lower

²⁰ As calculated through the ARB Biorefinery Registration process.

²¹ Based on Process Engineer's assessment that 40% of our footprint comes from heating oil.

carbon waste stream (brown grease and trap grease), we will be further improving our ability to preserve ecosystem integrity, and protect and enhance the resiliency of natural ecosystems.

Conservation of resources has to be a high priority with every industry as we live in a world with more and more people and less and less natural resources. Our new plant will eliminate our water washing, which uses 18,000 gallons of water per month. That water has to be taken to the EBMUD disposal area, 2.5 hours away. Although our trucks burn B99, it is still using up fuel. Those trips will stop and we will not be disposing of that dirty water anymore. Also, because the enzyme process can work with cooler and wetter feedstock, we won't have to use as much energy to heat and dry the oil prior to conversion. In addition, our physical plant does not have sufficient offices for our administrative staff, so we have always had a second location for those personnel. This has required much travel back and forth. The new plant will have all the offices on site, eliminating that back and forth travel and saving fuel.

By creating infrastructure that eliminates wastewater output and stormwater runoff, we are implementing appropriate resource protection practices.

By using biodiesel in our vehicles and boiler, we are using renewable energy in the feedstock collection, production, processing, and distribution phases. We plan to add to this in the future with photovoltaic electrical power, but that is only part of this project in the sense that the larger new building in the facility yard has been designed to maximize its solar panel potential.

Petroleum Reduction

As established in the technical narrative earlier in this grant proposal, we are moving to a process that uses less methanol per gallon but yields more fuel per day. On average we use 266 gallons of methanol a day and with the new process we will use 260 gallons of methanol per day. Meanwhile, we will be producing almost 900 gallons more fuel per day due to yield increase and capacity increase. This amounts to 324,000 gallons of petroleum based diesel that we will offset annually, in addition to what we've already been displacing, which amounts to roughly 417,000 gallons annually.

Now for some scientific perspective on what we've achieved. On average, each gallon of petroleum diesel fuel contains about 226 moles of carbon. Each mole of carbon weighs roughly 12 grams. So each gallon of diesel fuel has $226 \text{ moles} \times 12 \text{ grams/mole} = 2712 \text{ grams}$ of carbon. CO₂ is formed in the combustion process, when each carbon atom joins forces with two oxygen atoms. A mole of oxygen weighs around 16 grams. So a mole of these CO₂ atoms weighs $12 + 16 + 16 \text{ grams} = 44 \text{ grams}$. So then, if each gallon of fuel has 226 moles of carbon that are burned and converted into CO₂, you wind up with $226 \times 44 \text{ grams/mole} = 9944 \text{ grams}$ (21.91 lbs) of CO₂ produced per gallon of fuel.²²

If one uses the estimate that each gallon of used fryer oil biodiesel displaces 87% of the CO₂ from a gallon of petroleum diesel,²³ then roughly 19 lbs. of CO₂ are displaced by every gallon of biodiesel that Yokayo Biofuels has used and sold. At an average of 300,000 gallons for the past ten years, that is almost 60 million total lbs. of CO₂ that we have displaced!

By reducing our carbon intensity by 33% and increasing our yearly output to 703,000 gallons, we will displace almost 14 million lbs. of CO₂/year as a result of this project.

²² Analysis originally provided at <http://biodieselisgood.com/>, a now-defunct blog, by Galen Bowen, Springboard Biodiesel.

²³ Our carbon intensity of 11.76 gCO₂/MJ, as established through CARB, is an 87% reduction from 93.08 gCO₂-eq/MJ which is given as the carbon intensity of petroleum diesel at http://www.engr.colostate.edu/~thb/Publications/BatanQuinnWillsonBradley_AlgaeLCA.pdf

If this technology were to be utilized to its full potential, thus turning all brown grease in the nation into biodiesel, hundreds of millions of gallons of new, very low carbon biodiesel would be enabled (estimates vary on the exact amount of brown grease created annually). This would result in the offsetting of tens of billions of lbs. of CO₂/year, which is a tremendous achievement!

Natural Resource Impact

Land use

By not using any virgin agricultural feedstocks, Yokayo Biofuels is already minimizing direct and indirect land use impacts on California’s agricultural economy. However, we will take strides to go even further with this project plan, by re-using brown grease and trap grease as our feedstock. In the words of Piedmont Biofuels, “In the current implementation of the second version of the Renewable Fuel Standard (RFS-2), land use concerns were raised in the eligibility of feedstocks for the advanced biofuel category. If land use issues become integrated into environmental policies of nations across the globe, the use of food grade material for biofuels may decrease.”²⁴ In such a scenario, prioritizing the use of low carbon waste streams, as we are doing, is the path to success.

Air Quality

Yokayo Biofuels is in compliance with AB 118 Air Quality Guidelines, and is at the cutting edge of improving air quality by being one of the lowest carbon intensity biorefineries listed at the LCFS database²⁵. The implementation of the new technology proposed in this project reduces toxic emissions by elimination the use of KOH flakes and improving our methanol vapor collection system. This project further reduces criteria emissions by greatly increasing yield and overall production, in turn increasing the amount of biodiesel available to the public. Biodiesel usage improves air quality over petroleum diesel usage, as shown in the following charts:

Figure 1. Tailpipe Emission Changes with Biodiesel²⁶

Tailpipe Emission Changes with Biodiesel

Carbon Monoxide	-43.2%
Hydrocarbons	-56.3%
Particulates	-55.4%
Nitrogen oxides	+5.8%
Air toxics	-60% to -90%
Mutagenicity	-80% to -90%
Carbon dioxide***	-78.3%

***life cycle emissions

²⁴ “Enzymatic Catalysis for Biodiesel Production”, Piedmont Biofuels, 12/30/10

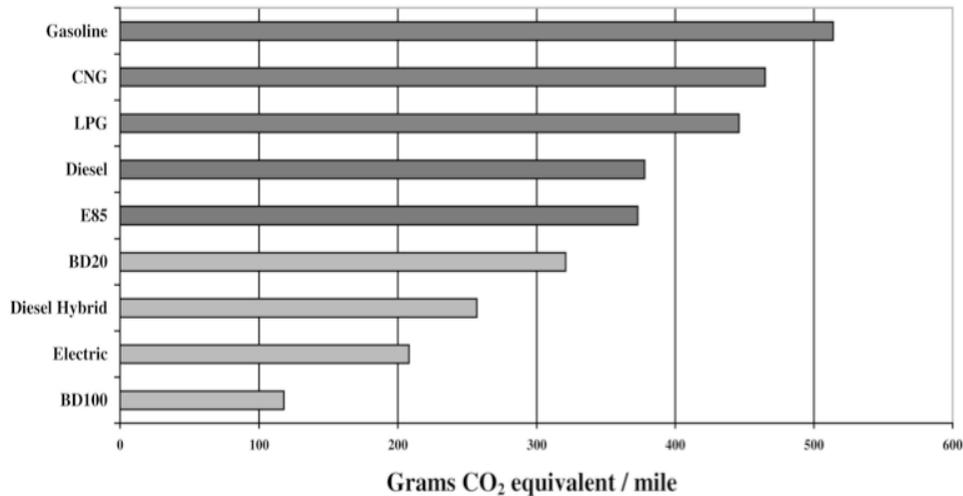
²⁵ As measured by LCFS Yokayo Biofuels’ 11.76gCO₂/MJ ranks among the very lowest http://www.arb.ca.gov/fuels/lcfs/reportingtool/Biofuel_Registration_Info_complete_01042012.pdf.

²⁶ from the National Renewable Energy Laboratory’s Biodiesel Handling and Use Guidelines, available online at http://www.nrel.gov/vehiclesandfuels/nbf/feature_guidelines.html

Figure 2. GHG Emissions / Mile, Grams CO₂ equivalent / mile²⁷

Fuel	Greenhouse Gases	Particulates	Nitrous Oxides	Volatile Organic Compounds	Carbon Monoxide
Gasoline	+35	-70	-55	+170	+415
CNG	+20	-80	-45	-30	+190
LPG	+20	-80	-60	0	+210
Ethanol 85%	0	-75	-55	+130	+210
Diesel	0	0	0	0	0
Biodiesel 20%	-15	-20	0	-10	-15
Hybrid	-30	-20	-20	-20	-20
Electric	-45	-80	-95	-100	-100
Biodiesel 100%	-70	-55	+5	-55	-45

GHG Emissions / Mile for a Passenger Car



Waste water

Currently we are using a biodiesel reaction process that results in the production of 250 gallons of waste wash water per day. Since the water is mixed with contaminants such as soap, oil, and dilute chemicals it is trucked 2.5 miles away to EBMUD disposal. The proposed enzymatic biodiesel reaction process that this project would implement completely eliminates the need to water wash fuel. The water involved in the reaction is 100% recycled, or converted to vapor. As a result our waste water use will be reduced from 250 gallons per day to 0, or 100%.

The second water saving measure proposed involves the repaving of existing surfaces. Resurfacing hardtop is necessary to eliminate absorption of water into the ground, and will redirect stormwater addressing that issue. In addition, bioswales will be added to facilitate rainwater capture for use in incidental and landscaping water needs thus utilizing a valuable resource.

Energy consumption reduction

The production facility currently meets the demand of process energy by generating heat by using an in house boiler fueled by the biodiesel we produce. We plan to continue using this efficient system in the next phase of expansion as proposed by this project.

²⁷ from "Report on Bus Alternatives", authored by the Alternative Fuel Vehicle Program, Sponsored by HGCI, UOS, Ford Motor Company, and Harvard University, 7/31/01

Several parts of this proposed project create opportunities for Yokayo Biofuels to become more energy efficient. The building designs gives us planned opportunities such as new surfaces for the installation of solar panels that will eventually equal or exceed our electrical

Feedstock Sourcing

Type, Source and Volume of Feedstock/Waste Streams for Project

Currently Yokayo Biofuels uses collected used restaurant fryer oil exclusively for its biodiesel feedstock. Purchasing grease from other collectors²⁸ remains a viable backup plan that we take advantage of as needed. We have a local, committed feedstock supplier base of 1,024 restaurant facilities that supply approximately 40,000 gallons per month of used fryer oil.

This project will implement a new technology that will enable Yokayo Biofuels to supplement our current, reliable feedstock supply with purchased brown grease, and ultimately trap grease that we will collect ourselves. Not only will an increase in the amount of feedstock increase yield, but the new process itself will increase the yield of biodiesel from the existing amount of oil. As a comparison; the current feedstock quantity of approximately 480,000 gallons per year generates approximately 417,000 gallons of finished biodiesel. The feedstock will be increased to 710,000 (355 day per year, to account for holidays and down time) gallons, and will generate approximately 703,000 gallons of finished biodiesel. This represents a feedstock increase of 48%, with a finished biodiesel increase of 68%.

There is an additional benefit to using the enzymatic technology as compared to the current process. The current process produces approximately 250 gallons of soapy, oily washwater, and 350 gallons of crude glycerin (contaminated with biodiesel, FFAs, alcohol, soap, water and salts) per day, both of which require costly disposal outlets. The new process will eliminate the washwater waste stream, and eliminate contaminants in the glycerin co-product, thereby making it a valuable commodity.

Sustainability Certification

Please see attached letter

This project will promote sustainable production of alternative, renewable fuels, technologies through use of certified sustainable feedstocks or in accordance with (RSB in our case). Reference 3101.5(b)(3)(A)

CEQA

CEQA documentation was submitted to the state of CA clearing house on 2/21/12.

See attached application for NOE, also Mendocino County Debt. Planning and Building Services letter under the designation "Not a Project".

Local Health Impacts

See attachment G

Scope of Work

See attachment D

Project Team See Following Pages, 27-28

Exhibit A Scope of Work

TECHNICAL TASK LIST

Task #	CPR	Task Name
1	N/A	Administration
2		Finalize Plans and Specifications
3	X	Construction of New Facilities, Rehabilitation of Existing Facilities, and Installation of Equipment
4		Start-up Process
5		Data Collection and Analysis

KEY NAME LIST

Task #	Key Personnel	Key Subcontractor(s)	Key Partner(s)
1	Kumar Plocher		
	Nancy Atkinson		
2	Kumar Plocher	Eichleay Engineers, Inc.	
	Nancy Atkinson	Rau and Associates, Inc.	
	Nino Borsoni		
3	George Rau		
	Kumar Plocher		
	Nancy Atkinson		
4	Brian Eberly		
	Kumar Plocher	Piedmont Biofuels, Inc.	
5	Brian Eberly		
	Kumar Plocher		
	Brian Eberly		

GLOSSARY

Specific terms and acronyms used throughout this work scope are defined as follows:

Acronym/Term	Definition
ARFVT	Alternative and Renewable Fuel and Vehicle Technology
CAM	Commission Agreement Manager
CPR	Critical Project Review
Energy Commission	California Energy Commission
Recipient	Yokayo Biofuels, Inc.

Background:

Assembly Bill 118 (Núñez, Chapter 750, Statutes of 2007), created the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVT Program). The statute, subsequently amended by AB 109 (Núñez, Chapter 313, Statutes of 2008), authorizes the Energy Commission to develop and deploy alternative and renewable fuels and advanced transportation technologies to help attain the state's climate change policies. The Energy Commission has an annual program budget of approximately \$100 million and provides financial support for projects that:

- Develop and improve alternative and renewable low-carbon fuels;
- Optimize alternative and renewable fuels for existing and developing engine technologies;
- Produce alternative and renewable low-carbon fuels in California;
- Decrease, on a full fuel cycle basis, the overall impact and carbon footprint of alternative and renewable fuels and increase sustainability;
- Expand fuel infrastructure, fueling stations, and equipment;
- Improve light-, medium-, and heavy-duty vehicle technologies;
- Retrofit medium- and heavy-duty on-road and non-road vehicle fleets;
- Expand infrastructure connected with existing fleets, public transit, and transportation corridors; and
- Establish workforce training programs, conduct public education and promotion, and create technology centers.

The California Energy Commission issued solicitation PON-11-601 for Advanced Biofuel Production to provide funding opportunities under the ARFVT Program for the development of new, California-based biofuel production facilities that can sustainably produce low carbon transportation fuels, or for projects that lower the carbon intensity of fuels produced at existing facilities. To be eligible for funding under PON-11-601, the projects must also be consistent with the Energy Commission's ARFVT Program Investment Plan updated annually.

In response to PON-11-601, Yokayo Biofuels, Inc. (Recipient) submitted application # 61, which was proposed for funding in the Energy Commission's Notice of Proposed Awards, Round 1 on March 23, 2012, and is incorporated by reference to this Agreement in its entirety.

Problem Statement:

There is a market need for more biodiesel than the Recipient can currently supply. In Mendocino County alone, diesel usage is estimated at 8 million gallons per year. In order to produce more and cleaner biodiesel, the Recipient requires a facility that can accommodate a new enzymatic biodiesel production technology.

The Recipient faces major financial hurdles because the combined technology and construction costs are substantial. Without the ARFVT Program grant, the Recipient would likely have to build the project in phases, thereby delaying the availability of abundant, cleaner fuel to consumers.

Goals of the Agreement:

The goal of this project is to build a new biodiesel production facility that uses an enzymatic process and is capable of producing 2,000 gallons of biodiesel per day. The facility utilizing the enzymatic process will:

- Allow the production of a higher grade of fuel using a lower grade of feedstock
- Reduce greenhouse gas emissions
- Reduce or eliminate hazardous waste and wastewater outputs
- Improve safety and efficiency

Objectives of the Agreement:

The objectives of this project are to:

- Finalize the plans and specifications of the new facility
- Construct the new facilities, rehabilitate the existing facilities, and install equipment. This includes, but is not limited to, the construction, rehabilitation, or installation of: lab facilities, office space, meeting room, classroom, kitchen, locker room, materials storage, hardtop resurfacing, bioswales, rainwater capture system, landscaping, fire prevention system, insulation, HVAC (heating, ventilation, air conditioning), enzymatic process equipment, liquid storage tanks, pipelines, and ADA improvements (note: ADA improvements are to be paid entirely with match funds)
- Start up the enzymatic process.

TASK 1 ADMINISTRATION**Task 1.1 Attend Kick-off Meeting**

The goal of Task 1.1 is to establish the lines of communication and procedures for implementing this Agreement.

The Recipient shall:

- Attend a “Kick-Off” meeting with the Commission Agreement Manager (CAM), the Grants Officer, and a representative of the Accounting Office. The Recipient shall bring its Project Manager, Agreement Administrator, Accounting Officer, and others designated by the CAM to this meeting. The administrative and technical aspects of this Agreement will be discussed at the meeting. Prior to the kick-off meeting, the CAM will provide an agenda to all potential meeting participants.

The administrative portion of the meeting shall include, but not be limited to, the following:

- Discussion of the terms and conditions of the Agreement
- Discussion of Critical Project Review (Task 1.2)
- Review of match fund documentation (Task 1.6).
- Review of permit documentation required (Task 1.7)
- Discussion of subcontracts needed to carry out project (Task 1.8)

The technical portion of the meeting shall include, but not be limited to, the following:

- Presentation of the CAM's expectations for accomplishing tasks described in the Scope of Work
- Review of an updated Schedule of Products
- Discussion of Progress Reports (Task 1.4)
- Discussion of Technical Products (Product Guidelines located in Section 5 of the Terms and Conditions)
- Discussion of the Final Report (Task 1.5)

The CAM shall designate the date and location of this meeting.

Recipient Products:

- Updated Schedule of Products
- Updated List of Match Funds
- Updated List of Permits

CAM Product:

- Kick-Off Meeting Agenda

Task 1.2 Critical Project Review (CPR) Meetings

The goal of Task 1.2 is to determine if the project should continue to receive Energy Commission funding to complete this Agreement and to identify any needed modifications to the tasks, products, schedule or budget.

CPRs provide the opportunity for frank discussions between the Energy Commission and the Recipient. CPRs generally take place at key, predetermined points in the Agreement, as determined by the CAM and as shown in the Technical Task List above. However, the CAM may schedule additional CPRs as necessary, and any additional costs will be borne by the Recipient.

Participants include the CAM and the Recipient and may include the Commission Grants Officer, the Fuels and Transportation Division (FTD) team lead, other Energy Commission staff and Management as well as other individuals selected by the CAM to provide support to the Energy Commission.

The CAM shall:

- Determine the location, date, and time of each CPR meeting with the Recipient. These meetings generally take place at the Energy Commission, but they may take place at another location.
- Send the Recipient the agenda and a list of expected participants in advance of each CPR. If applicable, the agenda shall include a discussion on both match funding and permits.
- Conduct and make a record of each CPR meeting. One of the outcomes of this

meeting will be a schedule for providing the written determination described below.

- Determine whether to continue the project, and if continuing, whether or not modifications are needed to the tasks, schedule, products, and/or budget for the remainder of the Agreement. Modifications to the Agreement may require a formal amendment (please see the Terms and Conditions, Section 8). If the CAM concludes that satisfactory progress is not being made, this conclusion will be referred to the Transportation Lead Commissioner for concurrence.
- Provide the Recipient with a written determination in accordance with the schedule. The written response may include a requirement for the Recipient to revise one or more product(s) that were included in the CPR.

The Recipient shall:

- Prepare a CPR Report for each CPR that discusses the progress of the Agreement toward achieving its goals and objectives. This report shall include recommendations and conclusions regarding continued work on the projects. This report shall be submitted along with any other products identified in this scope of work. The Recipient shall submit these documents to the CAM and any other designated reviewers at least 15 working days in advance of each CPR meeting.
- Present the required information at each CPR meeting and participate in a discussion about the Agreement.

CAM Products:

- Agenda and a list of expected participants
- Schedule for written determination
- Written determination

Recipient Product:

- CPR Report(s)

Task 1.3 Final Meeting

The goal of Task 1.3 is to closeout this Agreement.

The Recipient shall:

- Meet with Energy Commission staff to present the findings, conclusions, and recommendations. The final meeting must be completed during the closeout of this Agreement.
- This meeting will be attended by, at a minimum, the Recipient, the Commission Grants Office Officer, and the CAM. The technical and administrative aspects of Agreement closeout will be discussed at the meeting, which may be two separate meetings at the discretion of the CAM.
- The technical portion of the meeting shall present an assessment of the degree to which project and task goals and objectives were achieved, findings, conclusions, recommended next steps (if any) for the Agreement, and

- The administrative portion of the meeting shall be a discussion with the CAM and the Grants Officer about the following Agreement closeout items:
 - What to do with any equipment purchased with Energy Commission funds (Options)
 - Energy Commission's request for specific "generated" data (not already provided in Agreement products)
 - "Surviving" Agreement provisions
 - Final invoicing and release of retention
 - Prepare a schedule for completing the closeout activities for this Agreement.

Products:

- Written documentation of meeting agreements
- Schedule for completing closeout activities

Task 1.4 Monthly Progress Reports

The goal of Task 1.4 is to periodically verify that satisfactory and continued progress is made towards achieving the research objectives of this Agreement on time and within budget.

The objectives of this task are to summarize activities performed during the reporting period, to identify activities planned for the next reporting period, to identify issues that may affect performance and expenditures, and to form the basis for determining whether invoices are consistent with work performed.

The Recipient shall:

- Prepare a Monthly Progress Report which summarizes all Agreement activities conducted by the Recipient for the reporting period, including an assessment of the ability to complete the Agreement within the current budget and any anticipated cost overruns. Each progress report is due to the CAM within 10 days of the end of the reporting period. The recommended specifications for each progress report are contained in Section 6 of the Terms and Conditions of this Agreement.
- In the first Monthly Progress Report and first invoice, document and verify match expenditures and provide a synopsis of project progress, if match funds have been expended or if work funded with match share has occurred after the notice of proposed award but before execution of the grant agreement. If no match funds have been expended or if no work funded with match share has occurred before execution, then state this in the report. All pre-execution match expenditures must conform to the requirements in the Terms and Conditions of this Agreement.

Product:

- Monthly Progress Reports

Task 1.5 Final Report

The goal of Task 1.5 is to produce a Final Report which describes the project's success in achieving its goals and objectives, advancing science and technology, and providing energy-related and other benefits to California.

The objectives of the Final Report are to clearly and completely describe the project's purpose, approach, activities performed, outcome, and advancements in science and technology; to present a public assessment of the success of the project as measured by the degree to which goals and objectives were achieved; to make insightful observations based on results obtained; to draw conclusions; and to make recommendations for further projects and improvements to the ARFVT project management processes.

The Final Report shall be a public document. If the Recipient has obtained confidential status from the Energy Commission and will be preparing a confidential version of the Final Report as well, the Recipient shall perform the following activities for both the public and confidential versions of the Final Report.

The Recipient shall:

- Prepare an Outline of the Final Report.
- Prepare a Final Report following the approved outline and the latest version of the Final Report guidelines which will be provided by the CAM. The CAM shall provide written comments on the Draft Final Report within fifteen (15) working days of receipt. The Final Report must be completed at least 60 days before the end of the Agreement Term.
- Submit one bound copy of the Final Report with the final invoice.

Products:

- Draft Outline of the Final Report
- Final Outline of the Final Report
- Draft Final Report
- Final Report

Task 1.6 Identify and Obtain Matching Funds

The goal of Task 1.6 is to ensure that the match funds planned for this Agreement are obtained for and applied to this Agreement during the term of this Agreement. The costs to obtain and document match fund commitments are not reimbursable through this Agreement. Although the Energy Commission budget for this task will be zero dollars, the Recipient may utilize match funds for this task. Match funds shall be spent concurrently or in advance of Energy Commission funds for each task during the term of this Agreement. Match funds must be identified in writing and the associated

commitments obtained before the Recipient can incur any costs for which the Recipient will request reimbursement.

The Recipient shall:

- Prepare a letter documenting the match funding committed to this Agreement and submit it to the CAM at least 2 working days prior to the kick-off meeting. If no match funds were part of the proposal that led to the Energy Commission awarding this Agreement and none have been identified at the time this Agreement starts, then, state such in the letter. If match funds were a part of the proposal that led to the Energy Commission awarding this Agreement, then provide in the letter a list of the match funds that identifies the:
 - Amount of each cash match fund, its source, including a contact name, address and telephone number and the task(s) to which the match funds will be applied.
 - Amount of each in-kind contribution, a description, documented market or book value, and its source, including a contact name, address and telephone number and the task(s) to which the match funds will be applied. If the in-kind contribution is equipment or other tangible or real property, the Recipient shall identify its owner and provide a contact name, address and telephone number, and the address where the property is located.
- Provide a copy of the letter of commitment from an authorized representative of each source of cash match funding or in-kind contributions that these funds or contributions have been secured. For match funds provided by a grant, a copy of the executed grant shall be submitted in place of a letter of commitment.
- Discuss match funds and the implications to the Agreement if they are reduced or not obtained as committed, at the kick-off meeting. If applicable, match funds will be included as a line item in the progress reports and will be a topic at CPR meetings.
- Provide the appropriate information to the CAM if during the course of the Agreement additional match funds are received.
- Notify the CAM within 10 days if during the course of the Agreement existing match funds are reduced. Reduction in match funds must be approved through a formal amendment to the Agreement and may trigger an additional CPR.

Products:

- A letter regarding match funds or stating that no match funds are provided
- Copy(ies) of each match fund commitment letter(s) (if applicable)
- Letter(s) for new match funds (if applicable)
- Letter that match funds were reduced (if applicable)

Task 1.7 Identify and Obtain Required Permits

The goal of Task 1.7 is to obtain all permits required for work completed under this Agreement in advance of the date they are needed to keep the Agreement schedule on track.

Permit costs and the expenses associated with obtaining permits are not reimbursable under this Agreement. Although the Energy Commission budget for this task will be zero dollars, the Recipient shall budget match funds for any expected expenditures associated with obtaining permits. Permits must be identified in writing and obtained before the Recipient can make any expenditure for which a permit is required.

The Recipient shall:

- Prepare a letter documenting the permits required to conduct this Agreement and submit it to the CAM at least 2 working days prior to the kick-off meeting. If there are no permits required at the start of this Agreement, then state such in the letter. If it is known at the beginning of the Agreement that permits will be required during the course of the Agreement, provide in the letter:
 - A list of the permits that identifies the:
 - Type of permit
 - Name, address and telephone number of the permitting jurisdictions or lead agencies
 - The schedule the Recipient will follow in applying for and obtaining these permits.
- Discuss the list of permits and the schedule for obtaining them at the kick-off meeting and develop a timetable for submitting the updated list, schedule and the copies of the permits. The implications to the Agreement if the permits are not obtained in a timely fashion or are denied will also be discussed. If applicable, permits will be included as a line item in the Progress Reports and will be a topic at CPR meetings.
- If during the course of the Agreement additional permits become necessary, provide the appropriate information on each permit and an updated schedule to the CAM.
- As permits are obtained, send a copy of each approved permit to the CAM.
- If during the course of the Agreement permits are not obtained on time or are denied, notify the CAM within 5 working days. Either of these events may trigger an additional CPR.

Products:

- Letter documenting the permits or stating that no permits are required
- A copy of each approved permit (if applicable)
- Updated list of permits as they change during the term of the Agreement (if applicable)
- Updated schedule for acquiring permits as changes occur during the term of the Agreement (if applicable)

Task 1.8 Manage Subcontracts

The goal of this task is to ensure quality products and to procure subcontracts required to carry out the tasks under this Agreement consistent with the terms and conditions of this Agreement and the Recipient's own procurement policies and procedures. It will

also provide the Energy Commission an opportunity to review the subcontracts to ensure that the tasks are consistent with this Agreement, that the budgeted expenditures are reasonable and consistent with applicable cost principles.

The Recipient shall:

- Manage and coordinate subcontractor activities.
- Submit a draft of each subcontract required to conduct the work under this Agreement to the Commission Agreement Manager for review.
- Submit a final copy of the executed subcontract.
- If Recipient decides to add new subcontractors, it shall notify the Commission Agreement Manager.

Products:

- Draft subcontracts
- Final subcontracts

TECHNICAL TASKS

Task 2 - Finalize Plans and Specifications

The goal of this task is to complete the plans and specifications for the construction of the new buildings and the rehabilitation of the existing building consistent with the goals of this agreement.

The Recipient shall:

- Prepare and submit finalized plans and specifications for the construction of the new buildings, the rehabilitation of the existing building, and, if applicable, the installation of equipment (including vessels).
- Prepare and submit a letter listing final equipment to be purchased

Products:

- Finalized plans and specifications in Adobe PDF format on Compact Disk (CD)
- Letter listing final equipment to be purchased

Task 3 - Construction of New Facilities, Rehabilitation of Existing Facilities, and Installation of Equipment

The goals of this task are to complete the construction of new facilities and rehabilitate existing facilities, according to the plans and specifications, and install and/or relocate equipment as shown on the plans and specifications.

The Recipient shall:

- Procure all equipment and materials

- Construct new facilities as described in the plans and specifications
- Rehabilitate existing facilities as described in the plans and specifications
- Install and/or relocate equipment as described in the plans and specifications
- During the construction phase of the project, supplement the Monthly Progress Report (Task 1.4) with a letter summarizing the construction progress including milestones achieved, activities completed, and significant problems or changes.
- Upon completion of construction activities, prepare and submit a Facilities Report on the new and rehabilitated facilities. Recipient shall include photos of new and rehabilitated facilities, a brief narrative (1 – 2 pages) that discusses the work completed, and “as built” drawings.
- Upon completion of equipment and vessel installation activities, prepare and submit an Installation Report on the installed or relocated equipment. Recipient shall include photos of installed or relocated equipment as well as a 1 – 3 sentence explanation of each photo.

Products:

- Facilities Report, as described above. Photos shall be high-quality (minimum 300 dpi) and report shall be in Adobe PDF format on Compact Disk (CD).
- Installation Report, as described above. Photos shall be high-quality (minimum 300 dpi) and report shall be in Adobe PDF format on Compact Disk (CD).

Task 4 Start-up Process

The goal of this task is to perform the start-up of the new facilities and equipment for processing biodiesel.

The Recipient shall:

- Train staff to operate the enzymatic process equipment
- Procure enzymatic process materials
- Produce biodiesel using new facilities and equipment
- Test product using ASTM International and/or other accepted methods
- Prepare and submit an Operations and Maintenance manual that includes equipment specifications and weekly, monthly, and annual maintenance schedules
- Prepare and submit a Task 4 Report detailing the outcome of this task and summarizing the start-up data.

Products:

- Operations and Maintenance manual
- Task 4 Report

Task 5 Data Collection and Analysis

The goal of this task is to collect and analyze operational data to determine the economic viability and environmental impact of the project. Final analysis of all project data must be included in the Final Report.

The Recipient Shall:

- Collect 6 months of operational data from the enzymatic process fuel production system to include:
 - time operating (up and down time).
 - efficiency of conversion of feedstock.
 - biofuel production rate.
 - quality and quantity of fuel produced.
- Collect data on brown grease collected and purchased during project, including the price paid if applicable.
- Estimate gasoline and/or petroleum-based diesel fuel that will be displaced annually.
- Explain how the project will reduce criteria air pollutants and air toxics, and reduce or avoid multimedia environmental impact, and lead to a decrease, on a life cycle basis, in emissions of water pollutants or any other substances known to damage human health or the environment.
- Explain how the project incorporated and achieved the sustainability goals.
- Provide a quantified estimate of the project's carbon intensity values for life-cycle scale greenhouse gas emissions.
- Quantify any water efficiency and water use reduction measures used in the project including, but not limited to, the use of recycled or reclaimed water and the reduction or elimination of point and nonpoint source wastewater discharge.
- Describe any potential use of renewable energy or cogeneration in the project.
- Describe any potential energy efficiency measures used in the project that would exceed Title 24 standards in Part 6 of the California Code of Regulations.
- Provide data on expected job creation, economic development, and increased state revenue.
- Compare any project performance and expectations provided in the proposal to Energy Commission with actual project performance and accomplishments.
- Describe how the project supports new technology advancement for vehicles, vessels, engines, and other equipment, and promote the deployment of such technologies in the marketplace. To the extent possible describe how the project, provided a measurable transition from the nearly exclusive use of petroleum fuels to a diverse portfolio of viable alternative fuels that meets California's petroleum reduction and alternative fuel use goals.
- Describe how the project demonstrated the cost-effectiveness of the proposed technology in achieving greenhouse gas emissions reduction.
- Provide additional data that may be requested by the Energy Commission during the term of this Agreement, as is reasonably available.

Products:

None. Information obtained in this task shall be included in the Final Report (Task 1.5).



Award Number: ARV-11-030

Date: 7 / 27 / 12

Note: The Energy Commission Project Managers Manual includes detailed instructions on how to complete this section, with examples of grants that are “Projects” and are not “Projects”. When the Project Manager is completing this section, if questions arise as to the appropriate answers to the questions below, please consult with the Energy Commission attorney assigned to review grants or loans for your division.

1. Is grant/loan considered a “Project” under CEQA? Yes (skip to question #2) No (continue with question #1)

Please complete the following: *[Public Resources Code (PRC) 21065 and 14 California Code of Regulations (CCR) 15378]:*

Explain why the grant/loan is **not** considered a “Project”? The grant/loan will not cause a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment because grant/loan involves:

2. If grant/loan is considered a “Project” under CEQA: (choose either **IS** or **IS NOT**)

Grant/loan **IS** exempt:

Statutory Exemption: (List PRC and/or CCR section numbers) _____

Categorical Exemption: (List CCR section number) _____

Common Sense Exemption. (14 CCR 15061(b)(3))

Explain reason why the grant/loan is exempt under the above section:

Please attach draft Notice of Exemption (NOE). Consult with the Energy Commission attorney assigned to your division for instructions on how to complete the NOE.

Grant/loan **IS NOT** exempt. The Project Manager needs to consult with the Energy Commission attorney assigned to your division and the Siting Office regarding a possible initial study.