because the only ground disturbing activities that will occur are in a previously disturbed area (i.e., within a developed, industrial site).

3.10 Land Use

Parcel 2 at the PMP site is located along the Illinois River in a highly industrialized and commercialized area. No changes in designated land use classes will occur as a result of the SzIBR project. No ground disturbing activities that could potentially disturb sensitive resources will occur. All existing facilities are currently zoned for industrial, manufacturing, or laboratory uses and no changes to local or county zoning designations will be required to construct the project. Additionally, construction and operation of the project will occur within an existing structure or on the existing site, and therefore, no changes or negative impacts on aesthetics of the surrounding areas will occur.

3.11 Noise

Noise above ambient conditions could be generated from the installation of process equipment at Parcel 2. Operation of the fermenters and oil recovery/purification equipment at Parcel 2 will generate noise levels that necessitate the use of hearing protection within the factory, but will not significantly increase ambient noise levels outside the immediate factory area as most SzIBR equipment is enclosed with the EN building structure. Noise will also be generated by the dryer operation but is not expected to increase noise beyond the property line of the PMP site. Further, the noise levels will be below the limits identified in Peoria's building code (measured as allowable octave band sounds emitted to the surrounding area). Because construction noise will be short term and minimal, and noise during operations will be consistent with city code, no permits, consultations, additional mitigation measures, or approvals associated with noise will be required for construction and operation of the SzIBR project.

3.12 Depletion of a non-Renewable Resource

Non-renewable resources that will be used in association with the SzIBR project include diesel fuel used to transport the feedstocks and algal oil product. Other non-renewable resources for the SzIBR project include natural gas used to operate the EX 4 at Parcel 2.

3.13 Socioeconomics

The majority of the SzIBR project work will occur within the City of Peoria in Peoria County, Illinois. As noted above, the current population of Peoria is about 114,000. The population of the county is about 182,000, while the population of the Peoria Metropolitan Statistical Area, which encompasses five counties, is about 372,000.

According to data from the U.S. Bureau of Labor Statistics, the state unemployment rate for both Illinois and the Peoria metropolitan area was 9.3 percent as of December 2010. The primary employment categories in the metropolitan area are trade, transportation, and utilities; government; education and health services; and professional and business services

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(End of notice).

REDACTED
EXEMPTION 4

Although the number of may vary during construction activities, Solazyme anticipates approximately will be required to construct the SzIBR project. will consist of After construction is complete, Solazyme will maintain a permanent workforce of 20 to people at Parcel 2. Solazyme will attempt to hire temporary construction staff and permanent operations staff from the local population, if the local population offers skilled workers in fields related to biorefinery construction and operations. Other positions will be filled by temporary construction workers and permanent staff who relocate to the area. Hiring associated with the project will result in the beneficial impacts of lowering the county unemployment rate and, depending upon the employment position obtained, may increase the average county per capita income.

3.14 Transportation

Because the SzIBR project will leverage existing infrastructure from across the country, transportation of materials and products will be required and will utilize a small number of truck and rail trips during the project. However, no significant impacts on traffic or road infrastructure are anticipated. Table 3.14-1 shows the estimated miles and frequency of trips for the project.

TABLE 3.14-1

Solazyme SzIBR Project
Project Transportation

Product	Source Location	Facility Destination	Quantity	Estimated Miles	Method	Frequency
Inputs						
	REDACTED EXEMPTION 4	Illinois	8 rail car tankers	840 – 1,120	Rail	1 trip per month
	Nebraska	California	~ 0.5 ton / 4 barrels	1,591	Over the Road Truck	1 trip per project
		Illinois	1 tanker truck (~ 2.5 to 3 tons)	515	Over the Road Truck	1 trip per project
		California	~ 1 ton / 5 barrels	403	Over the Road Truck	1 trip per project
		Illinois	1 tanker truck (~2.5 – 3 tons)	2,074	Over the Road Truck	2 trips per project
Outputs						
Algal Oil	Illinois	Texas	1 rail car tanker	1,030	Rail	1 trip per 12 months
		Iowa	1 rail car tanker or 1 tanker truck	234	Rail or Over the Road Truck	Up to 1 trip per month by rail or 3 trips per month by truck

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3.15 Odor

The drying process at Parcel 2 of the PMP facility is expected to generate some localized odors within the factory and in close proximity to the building in which the equipment will be located. Odors generated from the project are expected to be minimal and at levels that should not be considered a nuisance either within or outside the facility boundaries.

3.16 Pre-existing Contamination

Based on desktop review, no known contaminated sites will be affected by the SzIBR project. Solazyme reviewed the EPA's Enviromapper database to identify contaminated media sites (e.g., brownfield properties and Superfund sites) in the vicinity of the project area. No sites were identified on or within 1 mile of the SzIBR project area.

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(End of notice).

Appendix A Facility Locations

0 200 400 600
Feet
1:6,000

NATURAL RESOURCE GROUP

Solazyme SzIBR Project

Solazyme Offices and Laboratory Facility
225 Gateway Blvd.
South San Francisco, CA

Appendix A

M:\Clients\S-U\SZM\SzIBR_ArcGIS\2010\02\Cherokee_Facility_SZM_SZL_Solazyme_Lab.mxd

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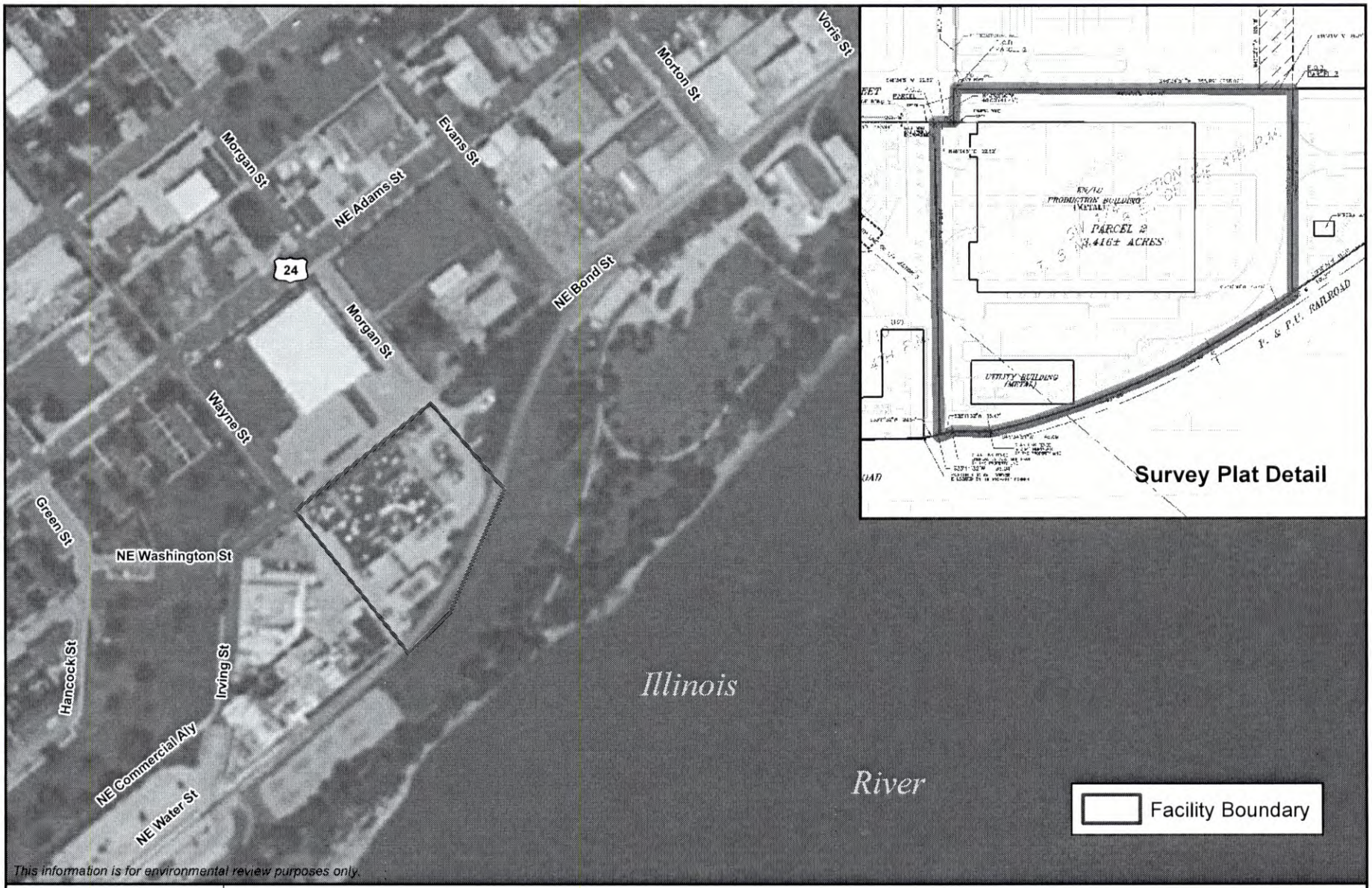

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1:4,000

NATURAL RESOURCE GROUP

Solazyme SzIBR Project
Facility Location
Appendix C

M:\Clients\S-U\SZM\SzIBR_ArcGIS\2011\02\Peoria_SZM_SZP_Peoria.mxd | DATE: 2/11/2011 | REVISED: 2/11/2011 | DRAWN BY: RSMcGREGOR

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1:12,000

NATURAL RESOURCE GROUP

Solazyme SzIBR Project

Ex4

Appendix A

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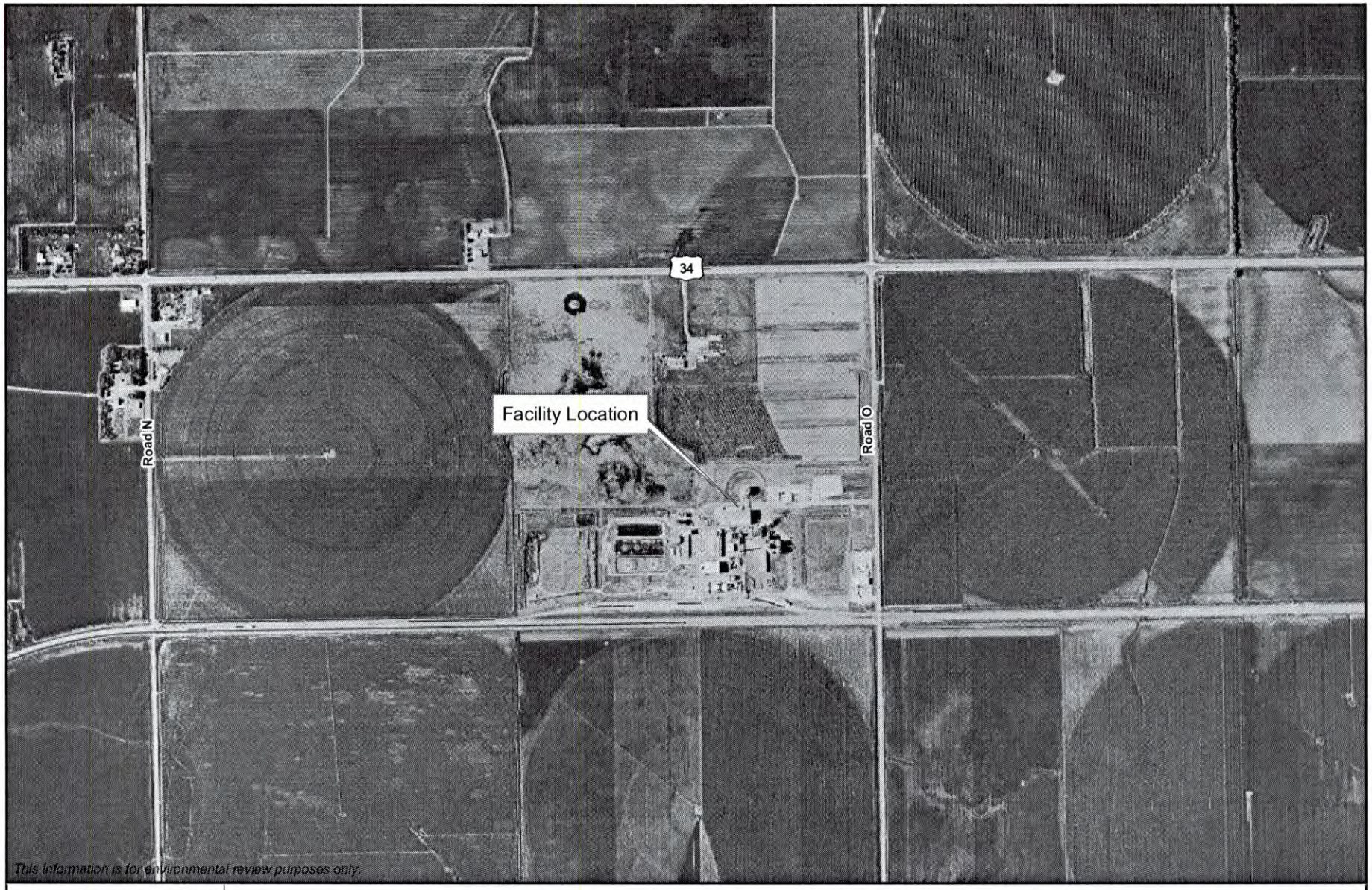
DATE: 03/19/10	REVISED: 03/19/10	DRAWN BY: RSMcGREGOR



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NATURAL RESOURCE GROUP

Solazyme SzIBR Project
Abengoa Bioenergy Facility
Appendix A

York County, NE

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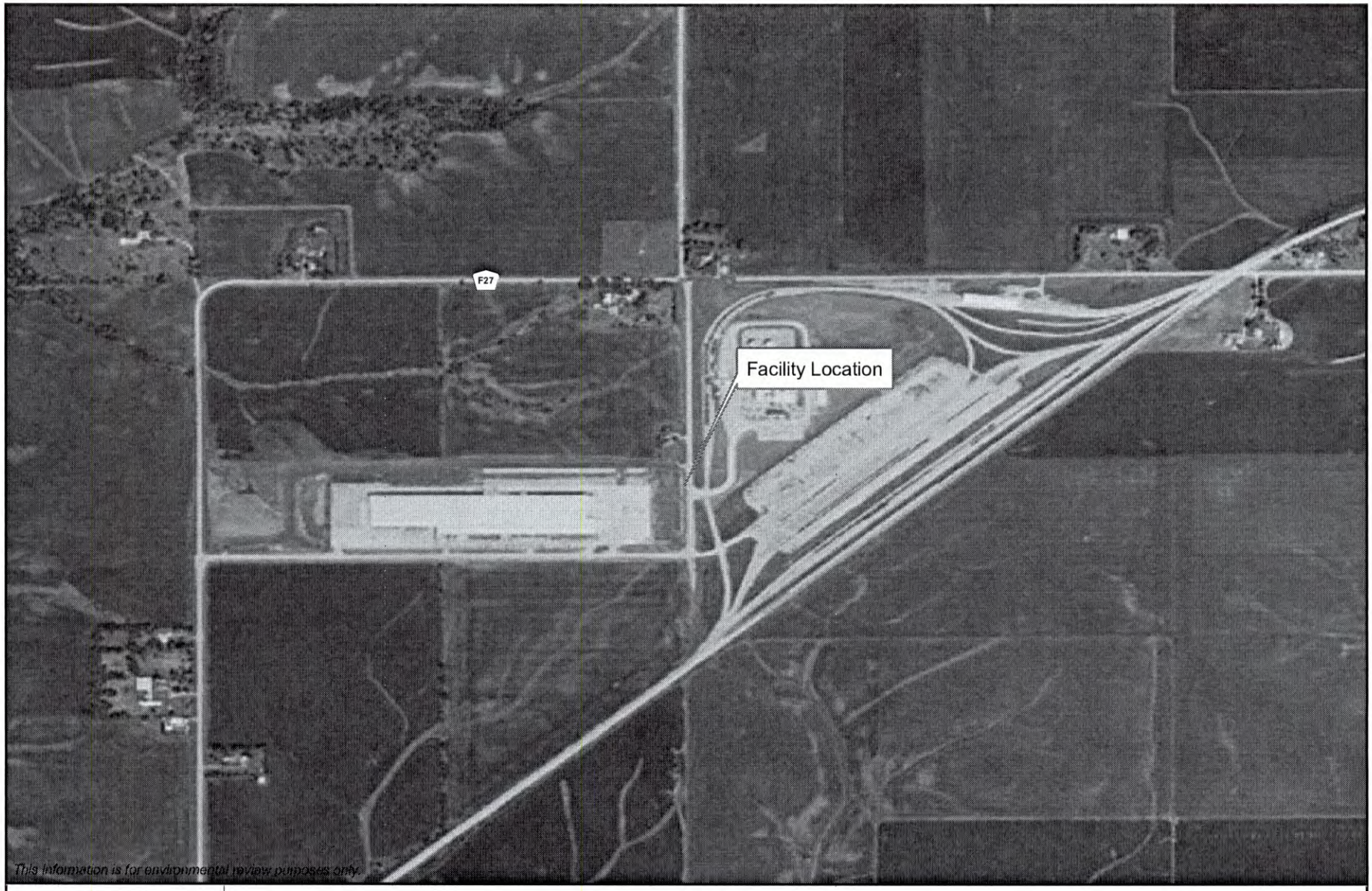

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NATURAL RESOURCE GROUP

Solazyme SzIBR Project
Renewable Energy Group
Appendix A

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Feet
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NATURAL RESOURCE GROUP

Solazyme SzIBR Project
UOP, LLC
Appendix A

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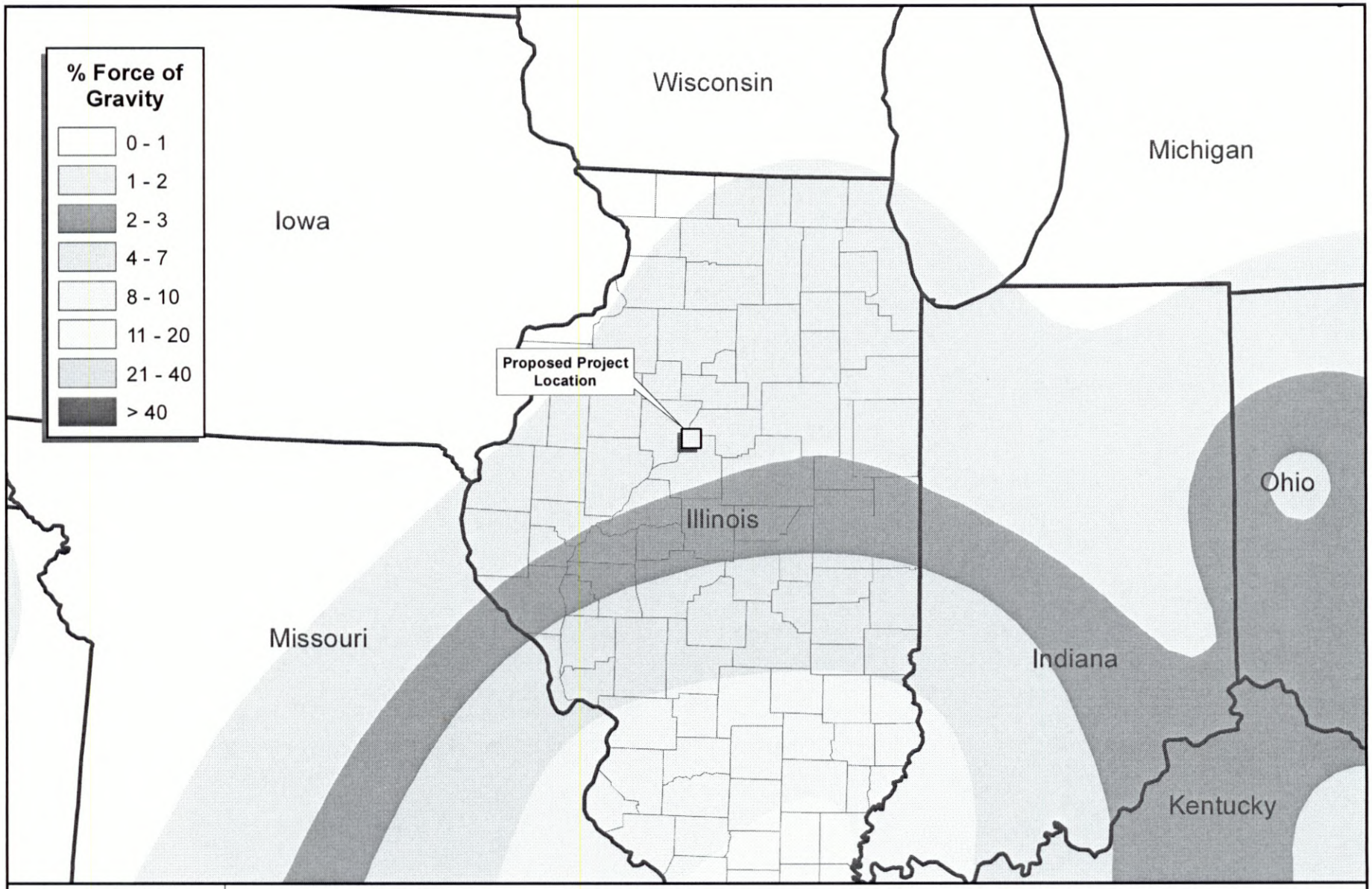
Appendix B Seismic Risk (in percent force of gravity) in Project Area



0 40 80
Miles
1:4,000,000

NATURAL RESOURCE GROUP

Solazyme SzIBR Project
PMP Fermentation Products, Inc. Facility
USGS Seismic Hazard Rating Map
Appendix B

This information is for environmental review purposes only.

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DATE: 02/25/10	REVISED: 02/25/10	DRAWN BY: RSMcGREGOR

PMC-EF2a

(2.04.02)

U.S. DEPARTMENT OF ENERGY
EERE PROJECT MANAGEMENT CENTER
NEPA DETERMINATION

RECIPIENT: Solazyme, Inc **STATE:** IL

PROJECT TITLE : Solazyme Integrated Biorefinery (SzIBR): Diesel Fuels from Heterotrophic Algae

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-EE0000096	EE0002877	GFO-0002877-002	EE2877

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Order 451.1A), I have made the following determination:

CX, EA, EIS APPENDIX AND NUMBER:

Description:

B3.6 Siting, construction (or modification), operation, and decommissioning of facilities for indoor bench-scale research projects and conventional laboratory operations (for example, preparation of chemical standards and sample analysis); small-scale research and development projects; and small-scale pilot projects (generally less than two years) conducted to verify a concept before demonstration actions. Construction (or modification) will be within or contiguous to an already developed area (where active utilities and currently used roads are readily accessible).

A9 Information gathering (including, but not limited to, literature surveys, inventories, audits), data analysis (including computer modeling), document preparation (such as conceptual design or feasibility studies, analytical energy supply and demand studies), and dissemination (including, but not limited to, document mailings, publication, and distribution; and classroom training and informational programs), but not including site characterization or environmental monitoring.

Rational for determination:

DOE is proposing to provide federal funding to Solazyme to build, operate and optimize a pilot-scale Solazyme Integrated Biorefinery (SzIBR). DOE completed the NEPA review for this project (CXA A9 and B3.6) for the originally proposed site. At this time, Solazyme is proposing to complete their project at an alternate location. This NEPA determination applies to the newly proposed site.

Solazyme proposes to construct the SzIBR on Parcel 2 of the existing PMP Fermentation Products, Inc. (PMP) site in Peoria, Illinois. Most equipment will be installed within the existing building with the exception of the dryer, which will be installed immediately outside the building on existing attached concrete pads. No new soil will be disturbed during installation of SzIBR.

There would be no or negligible impacts to odor, traffic, hazardous waste, solid waste, biological resources, cultural resources, wetlands, or other sensitive resources. There will be no land use impacts, as the existing facilities are currently zoned for industrial, manufacturing, or laboratory uses and no changes to local or county zoning designations will be required to construct the project. Additionally, construction and operation of the project will occur within an existing structure or on the existing site, and therefore, no changes or negative impacts on aesthetics of the surrounding areas will occur.

A National Pollution Discharge Elimination System (NPDES) discharge permit for surface water runoff and non-contact cooling water will be obtained for the facilities associated with the SzIBR project. A state air quality construction and operating permit from the Illinois Environmental Protection Agency will be required for emissions generated from the new equipment associated with the SzIBR.

CX A9 and B3.6 apply to this project as it includes information gathering, data analysis, conceptual design, laboratory- and pilot- scale research and development activities. All construction and modification of existing facilities will occur within or contiguous to an already developed area where active utilities and currently used roads are readily accessible.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Note to Specialist :

None Given.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: Kristin Kerwin Date: 4/12/2011
NEPA Compliance Officer

FIELD OFFICE MANAGER DETERMINATION

☐ Field Office Manager review required

NCO REQUESTS THE FIELD OFFICE MANAGER REVIEW FOR THE FOLLOWING REASON:

☐ Proposed action fits within a categorical exclusion but involves a high profile or controversial issue that warrants Field Office Manager's attention.
☐ Proposed action falls within an EA or EIS category and therefore requires Field Office Manager's review and determination.

BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :

Field Office Manager's Signature: _____ Date: _____
Field Office Manager

RECIPIENT:Solazyme, IncSTATE:IL

PROJECT TITLE :Solazyme Integrated Biorefinery (SzIBR): Diesel Fuels from Heterotrophic Algae

Funding Opportunity Announcement NumberProcurement Instrument NumberNEPA Control NumberCID Number
DE-EE0000096EE0002877GFO-0002877-002EE2877

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Order 451.1A), I have made the following determination:

CX, EA, EIS APPENDIX AND NUMBER:
Description:

B3.6 Siting, construction (or modification), operation, and decommissioning of facilities for indoor bench-scale research projects and conventional laboratory operations (for example, preparation of chemical standards and sample analysis); small-scale research and development projects; and small-scale pilot projects (generally less than two years) conducted to verify a concept before demonstration actions. Construction (or modification) will be within or contiguous to an already developed area (where active utilities and currently used roads are readily accessible).
A9 Information gathering (including, but not limited to, literature surveys, inventories, audits), data analysis (including computer modeling), document preparation (such as conceptual design or feasibility studies, analytical energy supply and demand studies), and dissemination (including, but not limited to, document mailings, publication, and distribution; and classroom training and informational programs), but not including site characterization or environmental monitoring.

Rational for determination:
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of the surrounding areas will occur.

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CX A9 and B3.6 apply to this project as it includes information gathering, data analysis, conceptual design, laboratory- and pilot- scale research and development activities. All construction and modification of existing facilities will occur within or contiguous to an already developed area where active utilities and currently used roads are readily accessible.

NEPA PROVISION

DOE has made a final NEPA determination for this award
Insert the following language in the award:

Note to Specialist :
None Given.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: Kristin Kerwin Date:4/12/2011
NEPA Compliance Officer

FIELD OFFICE MANAGER DETERMINATION

Field Office Manager review required

NCO REQUESTS THE FIELD OFFICE MANAGER REVIEW FOR THE FOLLOWING REASON:

Proposed action fits within a categorical exclusion but involves a high profile or controversial issue that warrants Field Office Manager's attention.
Proposed action falls within an EA or EIS category and therefore requires Field Office Manager's review and determination.

BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :

Field Office Manager's Signature: Date:
Field Office Manager

R&D Laboratory
Environmental Impact Questions

In order to receive Federal financial assistance, proposed projects must be reviewed under the National Environmental Policy Act (NEPA) for potential environmental impacts. For research and development activities, the following questions must be sufficiently answered before the review can be completed. Please add as much detail as possible.

Solazyme is proposing to build, operate and optimize a pilot-scale **S**ola**z**yme **I**ntegrated **B**io**r**efinery (SzIBR). The scope of the proposed project encompasses (i) building, operating and optimizing a pilot-scale integrated biorefinery, (ii) growing oil-producing algae in fermentation vessels on sugars derived from a range of feedstocks, (iii) extracting and purifying oil from the algae, (iv) refining the algal oil to standard liquid transportation fuels including biodiesel and renewable diesel, (v) optimizing parameters at both laboratory and pilot scale, and (vi) gathering data to assist in the design of subsequent demonstration and commercial facilities.

The SzIBR project will use existing laboratories, industrial, and manufacturing facilities to demonstrate the feasibility of an integrated biorefinery. Pilot-scale fermentation and downstream processing to algal oil will occur at the Solazyme Manufacturing I, LLC (Solazyme - Peoria) biomanufacturing facility in Peoria, Illinois, previously owned by PMP Fermentation Products, Inc. During set up of the pilot-scale equipment, Solazyme will optimize fermentation processes at their preexisting and fully permitted laboratory facilities in South San Francisco, California (Solazyme-SSF). During the later phases of the pilot-scale project, EX 4 will be generated by an existing and fully permitted facility in York, Nebraska and an existing and fully permitted pilot manufacturing facility located in EX 4 and owned and operated by EX 4 The SzIBR project will utilize existing refining facilities for conversion of the algal oil produced at Solazyme-Peoria to biodiesel and renewable diesel.

The majority of the project activities will occur at the Solazyme-SSF laboratory facility in South San Francisco, California and the Solazyme-Peoria facility in Peoria, Illinois. In addition, new equipment will be installed at the EX 4 facility. The following R&D Laboratory Environmental Impact Questions addresses these three facilities.

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1. Please provide and describe the location of the facility or facilities where lab work will take place.

Laboratory activities will occur at the **Solazyme-SSF facility** located at 225 Gateway Blvd, South San Francisco, California, 94080. Solazyme will utilize feedstock supplies delivered to its preexisting and fully permitted laboratory facility in South San Francisco, California to optimize fermentation processes. Work at this laboratory facility will only include ordinary, on-going laboratory activities and no algal oil to fuel refining will occur at this location. This is an existing industrial area.

Fermentation and algal oil extraction and purification activities will occur at the **Solazyme-Peoria facility**, which is located on Parcel 2 at 900 N.E. Adams Street, Peoria, Illinois 61603. This is an existing fermentation products manufacturing facility located within the City of Peoria. No algal oil to fuel refining will occur at this location.

Project partner EX4 will be installing pilot scale equipment at its existing facility in order to provide EX4 for algal growth. The facility is located at EX4 . The facility is located in an industrial area. No algal oil to fuel refining will occur at this location.

2. What type of safety protocols are in place in the areas where work will take place? Who monitors these? Internally and externally? Are the safety protocols subject to OSHA or other standards? Please describe all safety and environmental protocols and standards related to this project.

Solazyme-SSF

Solazyme-SSF has a fully developed safety and environmental program and is committed to protecting employee health and the environment as well as complying with all applicable laws and regulations. Solazyme-SSF accomplishes this commitment through the implementation of OSHA compliant safety policies and procedures. These protocols include: a Hazardous Materials Business Plan compliant with the California Health and Safety Code, an Injury and Illness Prevention Program, a Laboratory Chemical Hygiene Plan as well as a Radiation Safety Program and License. These programs are monitored internally by Solazyme and externally by the California Department of Health. These programs include provisions to identify and prevent safety and health hazards, inspection protocols, safety training, communication and record keeping protocols, emergency action planning, fire prevention and planning, personal protective equipment use, and hazardous substance handling procedures. Environmental practices relate to adhering to existing environmental permits including waste handling procedures for the facility.

Solazyme-Peoria

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Solzyme-Peoria is committed to protecting employee health, following safety protocols, and complying with all applicable safety and environmental laws and regulations. This shall be accomplished through the implementation of OSHA and EPA-compliant policies and procedures. These policies and procedures shall include (but shall not be limited to): Hazardous Work Permits, Hazard Communication, Safety Incident Reporting and Investigation, Safety Shower/Eyewash Stations, Biosafety, Portable and Fixed Ladders, Scaffolds, Job Safety Assessments, Internal Safety Assessments (Audits), Contractor Safety Management, Personal Protective Equipment, Laboratory Spill Response, Fork Lift Trucks, Hearing Protection, Respiratory Protection, Process Safety Management, Fall Protection, Lockout Tag-out, and Emergency Evacuation. All affected employees shall be trained on the requirements of these procedures prior to starting work at the facility and again when changes are made and/or per the site's training schedule. Solazyme-Peroia shall have an environmental team that will monitor the work at the facility to ensure compliance with its environmental permits and regulations. The Solazyme-Peoria facility, an existing manufacturing facility previously operated by PMP Fermentation Products, Inc, has environmental permits for ground water withdrawal, storm and contact/non-contact water discharge, contracted wastewater discharge with Greater Peoria Sanitary District (GPSD), hazardous materials storage, solid waste handling, and air emissions as well as other required permits, all of which will be modified as necessary during the course of ownership transfer of the facility to Solazyme.

EX 4 has an established safety program and is committed to protecting employee health, following established safety protocols, and complying with all applicable laws and regulations. This is accomplished through the implementation of OSHA compliant safety policies and procedures. EX 4 has a staff of research chemists for laboratory analysis, as well as production personnel for pilot plant equipment operation. All personnel are trained in Standard Industry Practices (SIP), modified as necessary by specific manufacturers' instructions along with California OSHA safe operating practices. EX 4 internally monitors compliance with SIP and is periodically audited. Safety protocols applicable to the proposed project will include MSDS handling of dusty and chemical materials, Operation of Equipment - EX 4

Environmental practices relate to adhering to existing air permits, dust and vapor emissions per Conditional Use Permit (CUP) requirements and EPA Identification of Hazardous wastes along with California Integrated Waste Management Board Title 22 identification and solid waste disposal criteria.

3. How are the gases, chemicals, heavy metals, etc., handled, stored and disposed?

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Solazyme-SSF

Solazyme utilizes protocols outlined in its Laboratory Chemical Hygiene Plan and Hazardous Materials Business Plan to properly handle, store, and dispose of gases, chemicals, and heavy metals. Specific protocols include monitoring use and disposal of chemicals used in the lab, conducting audits, correcting deficiencies, and maintain appropriate documentation of chemical use and disposal, identifying adequate protective measures, and conducting training for lab employees. Chemical flume hoods are used when working with volatile substances and fire extinguishers are available throughout the laboratory. Emergency eye wash stations and safety showers are available within a 10 second walk of any area of expected exposure. Solazyme has a stringent set of administrative and safety controls for the procurement, distribution, and storage of chemicals which are outlined in the Laboratory Chemical Hygiene Plan.

Solazyme-Peoria

Solazyme-Peoria shall establish procedures to handle, store, and dispose of manufacturing waste. The facility shall also establish procedures to review every raw material, product, and/or byproduct used prior to it entering the site including gases, chemicals, and raw materials. As an operating facility, Solazyme-Peoria shall also conduct a detailed environmental review of new processes prior to implementation. These processes are used to adequately plan for the handling and storage of gases and chemicals that might be generated from the process. Part of this review shall be to characterize (for disposal) any wastes and/or byproducts that will be generated by the process. Prior to disposal, a contracted laboratory shall be used to perform any testing requested by the disposal facility or authority.

EX 4 has specific protocols in place to properly handle, store, and dispose of gases, chemicals, and heavy metals. Industrial gases used on site such as hydrogen or welding gases are stored in an area approved by the Fire Department in approved metal cylinders. No gases are anticipated to be used by EX 4 as part of the SzIBR. Bulk, dry or wet chemicals are categorized, visually labeled and stored in an area approved and inspected by the Fire Department. Chemicals to be used by EX 4 in the SzIBR include Powdered metals are sometimes used in very small quantities for catalyst development or remediation calibration. Metals are also dissolved from equipment during processing. All metal wastes are formed into hydroxides during neutralization and disposed of by the appropriate methods prescribed by leaching test limits. Metal wastes have historically demonstrated sufficiently low gypsum content to be acceptable for agricultural disposal. EX 4 anticipates landfilling all metal wastes, which is only required for wastes with higher gypsum content.

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4. What type of safety equipment is in place for the facilities (i.e. fume hoods, alarms, scrubbers, etc...)?

Solazyme-SSF

Solazyme-SSF follows a safety protocol that outlines the necessary safety equipment to be used at the facility. Solazyme-SSF is committed to providing a safe working environment for its employees by employing various safety mechanisms. Chemical flume hoods are used when working with volatile substances and fire extinguishers are available throughout the laboratory. Emergency eye wash stations and safety showers are available within a 10 second walk of any area of expected exposure. Personal protective equipment available at the laboratory includes safety glasses, protective gloves, safety shoes, and respiratory equipment. Other safety equipment on-site includes fire alarms, telephones for emergency use, respiratory protection and ventilation, and first-aid kits.

Solazyme-Peoria

Solazyme is committed to providing a safe working environment for its employees by employing various safety mechanisms. Solazyme-Peoria shall provide personal protective equipment to all employees, including but not limited to, safety glasses, steel-toed shoes, face shields, respiratory protection, hearing protection, and chemical resistant gloves and aprons. Protective equipment requirements shall be determined by the site safety department when new chemicals are brought on-site. Portable fire extinguishers and safety eyewash / showers shall be provided throughout the facility and all employees shall be trained on their use. Additionally, the site is equipped with automatic sprinkler protection and a fire alarm system. All fire protection systems shall be inspected and maintained per National Fire Protection Association (NFPA) and state Fire Marshall (FM) recommendations.

Ex 4 is committed to providing a safe working environment for its employees by employing various safety mechanisms. Fume hoods and ventilation through approved scrubbers are used when working with volatile chemicals. No volatile chemicals are anticipated to be used by Ex 4 in the SzIBR. Emergency medical equipment, including eye wash, safety showers and cardiac units, are on-site and personnel are trained to use it.

5. What permits are <u>in place</u> for the facility for this type of work? Please list.

Solazyme-SSF

The Solazyme-SSF laboratory facility operates under a Hazardous Materials Business Plan compliant with the California Health and Safety Code as well as a Radioactive Materials License from the California Department of Health.

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(End of notice).

Solazyme-Peoria

The Solazyme-Peoria facility, an existing manufacturing facility previously operated by PMP Fermentation Products, Inc, has environmental permits for ground water withdrawal, water discharge, hazardous and chemical materials storage, and air emissions. Modification of the existing permits will be required when ownership of this facility is transferred to Solazyme. A Clean Air Act Permitting Process (CAAPP) permit for a minor emission source is required for implementation of the SzIBR at Solazyme-Peoria. Notifications for the type of wastewater effluent discharges will be required as outlined in the existing permit and governmental authorities.

EX 4

The facility is permitted for the chemical production and R&D proposed under the CUP permit noted in question number two, and is located in an area zoned Heavy Industrial. Air permits for fume hoods and operating permits for boilers, pressurized air tanks, and a compressor are permitted through the State of California. The Fire Department regulates and inspects the facility regularly for adherence to State-required chemical storage requirements, handling, containment and disposal procedures.

6. What permits <u>are needed or will be acquired</u> for this type of work? Please list.

The Solazyme-Peoria facility is currently operating under a Title V Operating Permit for its air emissions. The construction and initial operation of the proposed SzIBR project at Solazyme-Peoria will require a new construction and operation permit for a minor source under the Clean Air Act Permitting Process (CAAPP), from the Illinois Environmental Protection Agency (IEPA). In addition, Solazyme-Peoria will apply for its own stormwater and non-contact cooling water discharge permit under NPDES. No additional permits will be required to conduct the SzIBR project.

7. How is liquid effluent handled and discharged?

Solazyme-SSF

Project activities at the Solazyme laboratory facility will generate less than of liquid effluent each EX4 This liquid effluent will be disposed of in the public treatment system.

Solazyme-Peoria

The project will produce approximately EX 4 of post processing waste water at the Solazyme-Peoria facility . The liquid effluent will be a byproduct of the biomass recovery process and will be discharged to the Greater Peoria Sanitary District (GPSD) waste water treatment plant. Stormwater and non-contact cooling water will be discharged under a NDPES discharge permit. The wastewater discharges associated with this project are well below the current discharge levels from the facility EX 4 and are inconsequential with regard to the capacity of the GPSD waste water treatment plant EX 4

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Applied Power Concepts
Liquid effluent will be contained, neutralized and tested prior to disposal in the city sewer per existing service agreement.

8. How is toxic waste handled, stored, and disposed?

Solazyme-SSF
Toxic waste handling is managed through the site's Hazardous Materials Business Plan, which is required by the California Health and Safety Code. Additionally, training on chemical hazards and proper handling is provided during periodic hazard communication and process specifics training.

The laboratory facility uses a contractor, All Chemical Disposal, Inc. to properly dispose of hazardous and toxic waste materials at a permitted and regulated hazardous waste facility.

Solazyme-Peoria
Toxic waste handling shall be managed through the site's Hazard Communication and Biosafety program. This program shall require that every material be reviewed by the site safety department prior to use. The site shall implement procedures to review every raw material, product, and/or byproduct used prior to it entering the site. Solazyme-Peoria shall also conduct a detailed environmental review of new processes prior to implementation. Part of this review shall be to characterize (for disposal) any wastes and/or byproducts that will be generated by the process. Prior to disposal, a contracted laboratory shall be utilized to perform any testing requested by the disposal facility.

Ex 4

Toxic waste handling is managed through the site's Hazard program, which is required by the California Health and Safety Code. No toxic waste is expected to be generated by Ex 4 in the SzIBR. Solid wastes consisting of pH neutral lignin and gypsum cakes will be disposed of at the Ex 4 Class III landfills. Note that these solid wastes are qualified for Class IV disposal as non-hazardous, non-putrefying gypsum or wood residues.

9. Will the work being done create any air pollutants? If so please explain how these are regulated, handled, disposed, or mitigated.

Solazyme-SSF
Fermentation optimization activities at the Solazyme laboratory facilities will not create any air pollutants.

Solazyme-Peoria

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The SzIBR will emit a relatively small amount of air emissions from natural gas combustion as well as small amounts of volatile organic compound (VOC) and particulate emissions from the process operations. The Solazyme-Peoria facility is currently operating under a Title V Major Source Air Permit. However, a new (CAAPP) permit for a minor emission source from the IEPA will be sought for the facility as part of the SzIBR project. This new permit will replace the Title V permit.

Ex 4

A small amount of steam will be generated to process Ex 4 Ex 4 . Small amounts of organic vapors generated are collected and scrubbed prior to atmospheric disposal per city site permits; no site source limits are exceeded or anticipated to be exceeded in pilot plant operation. The natural gas fired boilers are permitted for the anticipated emissions.

10. Are Genetically Modified Organisms (GMOs) being used? If so please describe how these will be transported, stored, handled and disposed? How are these classified by the USDA Animal and Plant Health Inspection Service (APHIS)?

The algae used for the SzIBR will be genetically modified organisms. They will be transported, stored, handled and disposed of in accordance with federal, state, and local laws. The organism will be transported from Solazyme-SSF to Solazyme-Peoria contained within biological grade vials on dry ice. Genetically modified organisms used for the SzIBR project are classified as Biosafety Level 1 (no or negligible risk).

11. Will prototypes be tested in a separate location, if so, please describe the location and answer questions #1-9?

No prototypes will be tested in a location separate from those described above.

12. Are subcontractors being used for some of the work? If so please answer Questions #1-11 for work being completed by subcontractors.

No subcontractors will be used for any additional R & D lab work.

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U.S. DEPARTMENT OF ENERGY
EERE PROJECT MANAGEMENT CENTER
NEPA DETERMINATION

RECIPIENT: Solazyme, Inc **STATE:** CA

PROJECT TITLE : Solazyme Intergrated Biorefinery Project

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000096	DE-EE0002877	GFO-10-378	GO2877

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Order 451.1A), I have made the following determination:

CX, EA, EIS APPENDIX AND NUMBER:

Description:

B3.6 Siting, construction (or modification), operation, and decommissioning of facilities for indoor bench-scale research projects and conventional laboratory operations (for example, preparation of chemical standards and sample analysis); small-scale research and development projects; and small-scale pilot projects (generally less than two years) conducted to verify a concept before demonstration actions. Construction (or modification) will be within or contiguous to an already developed area (where active utilities and currently used roads are readily accessible).

Rational for determination:

DOE is proposing to provide federal funds to Solazme to build, operate and optimize a pilot-scale integrated biorefinery. The proposed project will be located at the Cherokee Pharmaceuticals, LLC existing commercial biomanufacturing facility in Riverside, Pennsylvania. It will use existing fermentation capacity, as well as supporting infrastructure such as utility hookups and water treatment facilities available at the site. All modifications will be within an already developed area where active utilities and currently used roads are readily accessible. The new 6-inch diameter natural gas pipeline will be installed through a previously disturbed area (graded parking lot) and will be buried at the DOT mandated depth of 4 ft from ground surface. The lot will be graded again after installation. No modifications will be required at any of the other facilities involved in the proposed project. The organisms used for this project are exempted under TSCA.

There would be no or negligible impacts to odor, traffic, hazardous waste, solid waste, bio resources, cultural resources, wetlands, or other sensitive resources. There will be no land use impacts, as the project will be located in an area already producing fermented products. An air quality plan or air permit exemption is required from the Pennsylvania Department of Environmental Protection, Bureau of Air Quality

CX B3.6 applies to the Budget Period 2.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Note to Specialist :

Solazyme is in the process of obtaining either an air quality plan approval or air permit exemption from the Pennsylvania Department of Environmental Protection, Bureau of Air Quality. Until this process is complete, Solazyme shall not begin construction or operate the facility.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: Kristin Kerwin Date: 5/5/2010

NEPA Compliance Officer

FIELD OFFICE MANAGER DETERMINATION

June 8, 2010

Ms. Sarah Larkin McQuaid, Ph.D., P.M.P.,
Associate Director Program Management
Solazyme, Inc.
561 Eccles Ave.
South San Francisco, CA 94080-1906

Dear Dr. McQuaid:

SUBJECT: Clarification of Terms in the Requirements for Contingency Funds for Integrated Biorefinery Projects under Award No. DE-EE0002877, "Recovery Act – Solazyme Integrated Biorefinery (SZIBR): Diesel Fuels from Heterotrophic Algae"

This letter is to clarify the meaning of the term "dedicated," as used in the Appendix to Special Terms and Conditions, Paragraph 34, Requirements for Contingency Funds for Integrated Biorefinery Projects (hereafter "Appendix"), as applied to the Solazyme, Inc. Biorefinery Project. Specifically, the Appendix states that "Contingency Funds must be: a) liquid, b) immediately available, and c) unrestricted funds that are dedicated to the project."

DOE intends that the term "dedicated," as used above in clause c) and elsewhere in Paragraph 34 of the Special Terms and Conditions means that the "Contingency Funds" are "available for use in" the project. The term "dedicated" is not intended to mean a strict segregation or restriction of the Contingency Funds from Recipient's other cash and investment balances. Instead, the term is intended to convey that, should cost overruns materialize in Budget Period 2, the Recipient has agreed that contingency funds are available to cover a minimum of 25% of total Budget Period 2 costs. The requirement that liquid, immediately available, and unrestricted Contingency Funds be "dedicated" to the project may be met so long as the Recipient's unencumbered cash and investment balances, as evidenced by account statements and certification by an executive officer pursuant to Appendix paragraph C.3.a., are sufficient and available to cover the required contingency for the project.

In addition, as provided in the Appendix, where Recipient demonstrates that it has adequately controlled for project performance risk, opportunities, and uncertainties, DOE, at Recipient's reasonable request, will assess the reduced risk profile and, if appropriate, reduce the effective Contingency Funds requirement.

Should you have additional questions or concerns, please contact Christy Sterner, Project Officer, at (303) 275-4720 or christy.sterner@go.doe.gov or Molly Hames, Grants and Agreements Specialist, at (303) 275-4864 or molly.hames@go.doe.gov.

Sincerely,

Melissa Wise
Contracting Officer

Department of Energy
Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3393

June 8, 2010

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Associate Director Program Management
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Sincerely,

Melissa Wise

Melissa Wise
Contracting Officer