

Final Environmental Assessment
For
Honeywell International Inc
Electric Drive Vehicle Battery
and Component Manufacturing Initiative Project
Massac County, IL

September 2010



Prepared for:
Department of Energy
National Energy Technology Laboratory

National Environmental Policy Act (NEPA) Compliance Cover Sheet

Proposed Action:

The U.S. Department of Energy (DOE) proposes, through a cooperative agreement with Honeywell International Inc. (Honeywell), to partially fund the construction of a manufacturing plant to produce a critical battery material, lithium hexafluorophosphate (LiPF₆). The plant would be located on a 10-acre parcel, within a 1,010-acre tract of land owned by Honeywell, in an unincorporated area of Massac County, near the City of Metropolis, Illinois. This facility would support the anticipated growth in the Li-ion battery industry and, more specifically, the electric drive vehicle (EDV) industry. If approved, DOE would provide approximately 50 percent of the funding for the project.

Type of Statement: Draft Environmental Assessment

Lead Agency: U.S. Department of Energy; National Energy Technology Laboratory

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Abstract:

DOE prepared this Environmental Assessment (EA) to assess the potential for impacts to the human and natural environment associated with its Proposed Action -- providing financial assistance to Honeywell under a cooperative agreement. DOE's objective is to support the development of the EDV industry in an effort to substantially reduce the United States' consumption of petroleum, in addition to stimulating the United States' economy. More specifically, DOE's objective is to accelerate the development and production of various EDV systems through building or increasing domestic manufacturing capacity for advanced automotive batteries, their components, recycling facilities, and EDV components. This work will enable market introduction of various electric vehicle technologies by lowering the cost of battery packs, batteries, and electric propulsion systems for EDVs through high-volume manufacturing.

Under the terms of the cooperative agreement, DOE would provide approximately 50 percent of the funding for Honeywell to construct a manufacturing plant to produce a critical battery material LiPF₆. The project would produce up to 1500 metric tons of LiPF₆ on an annual basis for high-quality Li-ion batteries. Additionally, the project would create approximately 34 permanent jobs.

The environmental analysis identified that the most notable changes, although minor, to result from Honeywell's Proposed Project would occur in the following areas: air quality and greenhouse gas, noise, geology and soils, surface water and groundwater, vegetation and wildlife, wetlands, solid and hazardous wastes, transportation and traffic, and human health and safety. No significant environmental effects were identified in analyzing the potential consequences of these changes.

Public Participation:

DOE encourages public participation in the National Environmental Policy Act (NEPA) process. This EA was released for public review and comment. The public was invited to provide oral, written, or e-mail comments on this Draft EA to DOE by the close of the comment period on August 11, 2010. Copies of the Draft EA were also distributed to cognizant Federal and State agencies. Comments received by the close of the comment period were considered in preparing the Final EA for the proposed DOE action. Public comments received on the EA and responses are provided in Appendix B. The EA is also available on NETL website at <http://www.netl.doe.gov/publications/others/nepa/ea.html>.

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ACRONYMS

Acronym	Definition
$\mu\text{g}/\text{m}^3$	microgram/per cubic meter
164A	Stoy silt loam
165A	Weir silt loam
ACM	asbestos containing material
AST	aboveground storage tank
AQRV	air quality related value
BMPs	best management practices
C	candidate
CAA	Clean Air Act
CE	categorically excluded
CFR	Code of Federal Regulations
CO	carbon monoxide
CO ₂	carbon dioxide
°F	degrees Fahrenheit
DOE	U.S. Department of Energy
E	endangered
EA	Environmental Assessment
EcoCAT	Ecological Compliance Tool
EDV	electric drive vehicle
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
F ₂	fluorine gas
FONSI	Finding of No Significant Impact
GHG	greenhouse gas
gpd	gallons per day
HAARGIS	Historic Architectural and Archaeology Resource Geographic Information Systems
HAPs	hazardous air pollutants
HF	hydrofluoric acid
Honeywell	Honeywell International Inc.
KOH	potassium hydroxide
LiF	lithium fluoride
Li-ion	lithium-ion
LiPF ₆	lithium hexafluorophosphate
MTW	Metropolis Works Plant
mg/m^3	milligram/per cubic meter
MMtCO ₂ E	million metric tons of CO ₂ equivalent
MT	metric tons
mtpy	metric tons per year

Acronym	Definition
NAAQS	National Ambient Air Quality Standards
NaOH	sodium hydroxide
NEPA	National Environmental Policy Act
NO₂	nitrogen dioxide
NO_x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRC	Nuclear Regulatory Commission
NWI	National Wetland Inventory
O₃	ozone
P	phosphorus
Pb	lead
PF₅	phosphorus pentafluoride
PM	particulate matter
PM₁₀	particulate matter 10 microns or less
PM_{2.5}	particulate matter 2.5 microns or less
POF₃	phosphoryl fluoride
ppm	parts per million
PSD	Prevention of Significant Deterioration
Route	U.S. Route
RCRA	Resource Conservation and Recovery Act
Recovery Act	American Recovery and Reinvestment Act of 2009, Public Law 111-5
RMP	Risk Management Plan
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act
SIP	State Implementation Plan
SO₂	sulfur dioxide
SPCC	Spill Prevention, Control, and Countermeasures
s.f.	square foot/feet
std	standard
SWMU	solid waste management units
SWPPP	Stormwater Pollution Prevention Plan
T	threatened
tpy	tons per year
U.S.	United States
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
U.S. Route	Route
VOC	volatile organic compounds
VT	Vehicle Technologies

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1.0 PURPOSE AND NEED

1.1 Background

The Department of Energy's (DOE or the Department) National Energy Technology Laboratory (NETL) manages the research and development portfolio of the Vehicle Technologies (VT) Program for the Office of Energy Efficiency and Renewable Energy. A key objective of the VT Program is accelerating the development and production of electric drive vehicle (EDV) systems to substantially reduce the United States' consumption of petroleum. Another of its goals is the development of production-ready batteries, power electronics, and electric machines that can be produced in volume economically to increase the use of EDVs.

Congress appropriated funding for the VT Program in the American Recovery and Reinvestment Act of 2009, Public Law 111-5 (Recovery Act) to stimulate the economy and reduce unemployment in addition to furthering the existing objectives of the VT Program. DOE solicited applications for this funding by issuing a competitive Funding Opportunity Announcement (DE-FOA-0000026), Recovery Act - Electric Drive Vehicle Battery and Component Manufacturing Initiative, on March 19, 2009. The announcement invited applications in seven areas of interest:

- Area of Interest 1 – Projects that would build or increase production capacity and validate production capability of advanced automotive battery manufacturing plants in the United States.
- Area of Interest 2 – Projects that would build or increase production capacity and validate production capability of anode and cathode active materials, components (e.g., separator, packaging material, electrolytes and salts), and processing equipment in domestic manufacturing plants.
- Area of Interest 3 – Projects that combine aspects of Areas of Interest 1 and 2.
- Area of Interest 4 – Projects that would build or increase production capacity and validate capability of domestic recycling or refurbishment plants for lithium-ion (Li-ion) batteries.
- Area of Interest 5 – Projects that would build or increase production capacity and validate production capability of advanced automotive electric drive components in domestic manufacturing plants.
- Area of Interest 6 – Projects that would build or increase production capacity and validate production capability of electric drive subcomponent suppliers in domestic manufacturing plants.
- Area of Interest 7 – Projects that combine aspects of Areas of Interest 5 and 6.

The application period closed on May 19, 2009, and DOE received 119 proposals across the seven areas of interest. DOE selected 30 projects based on the evaluation criteria set forth in the funding opportunity announcement; special consideration was given to projects that promoted the objectives of the Recovery Act – job preservation or creation and economic recovery – in an expeditious manner.

This project, proposed by Honeywell International Inc. (Honeywell), was one of the 30 projects that DOE selected for funding. DOE's Proposed Action is to provide \$27.3 million in financial assistance in a cost-sharing arrangement with the project proponent, Honeywell. The total cost of the project is estimated at \$54.6 million.

1.2 Purpose and Need for Department of Energy Action

The overall purpose and need for DOE action pursuant to the VT Program and the funding opportunity under the Recovery Act is to accelerate the development and production of various EDV systems by building or increasing domestic manufacturing capacity for advanced automotive batteries, recycling facilities, and EDV components, in addition to stimulating the United States' economy. This work will enable market introduction of various electric vehicle technologies by lowering the cost of battery packs, batteries, and electric propulsion systems for EDVs through high-volume manufacturing. DOE intends to further this purpose and satisfy this need by providing financial assistance under cost-sharing arrangements to this and the other 29 projects selected under this funding opportunity announcement.

This and the other selected projects are needed to reduce the United States' petroleum consumption by investing in alternative VTs. Successful commercialization of EDVs would support DOE's Energy Strategic Goal of "protect[ing] our national and economic security by promoting a diverse supply and delivery of reliable, affordable, and environmentally sound energy." This project will also meaningfully assist in the nation's economic recovery by creating manufacturing jobs in the United States in accordance with the objectives of the Recovery Act.

1.3 National Environmental Policy Act and Related Procedures

This Environmental Assessment (EA) is prepared in accordance with the National Environmental Policy Act (NEPA), as amended (42 U.S.C 4321), the President's Council on Environmental Quality regulations for implementing NEPA (40 Code of Federal Regulations [CFR] 1500-1508), and DOE's implementing procedures for compliance with NEPA (10 CFR 1021). This statute and the implementing regulations require that DOE, as a Federal agency:

- Assess the environmental impacts of any Proposed Action;
- Identify adverse environmental effects that cannot be avoided, should the Proposed Action be implemented;
- Evaluate alternatives to the Proposed Action, including a No Action Alternative; and
- Describe the cumulative impacts of the Proposed Action together with other past, present, and reasonably foreseeable future actions.

These provisions must be addressed before a final decision is made to proceed with any proposed Federal action that has the potential to cause impacts to the human environment, including providing Federal funding to a project. This EA evaluates the potential individual and cumulative effects of the Proposed Project and the No Action Alternative on the physical, human, and natural environment. The EA is intended to meet DOE's regulatory requirements under NEPA and provide DOE with the information needed to make an informed decision about providing financial assistance.

NEPA requires Federal agencies to take into account the potential consequences of their actions on both the natural and human environments as part of their planning and decision-making processes. To facilitate these considerations, a number of typical actions that have been determined to have little or no potential for adverse impacts are "categorically excluded" (CE) from the detailed NEPA assessment process. Thus, the first step in determining if an action would have an adverse effect on the environment is to assess whether it fits into a defined category for which a CE is applicable. If a CE is applied, the agency prepares a Record of Categorical Exclusion to document the decision and proceeds with the action.

For actions that are not subject to a CE, the agency prepares an EA to determine the potential for significant impacts. If through the evaluation and analysis conducted for the EA process, it is determined that no significant impacts would occur as a result of the action, then the determination would result in a Finding of No Significant Impact (FONSI). The Federal agency would then publish an EA and the FONSI. The NEPA process is complete when the FONSI is executed.

If significant adverse impacts to the natural or human environment are indicated or other intervening circumstances either exist at the onset of a project or are determined through the EA process, an Environmental Impact Statement (EIS) may be prepared. An EIS is a more intensive study of the effects of the Proposed Action, and requires more rigorous public involvement. The agency formalizes its decisions relating to an action for which an EIS is prepared in a Record of Decision (ROD). Following a 30-day waiting period after publication of the Final EIS, the Agency may issue a ROD and then the NEPA process is complete.

1.4 Agency Coordination

DOE conducted informal consultation with the U.S. Fish and Wildlife Service (USFWS), the National Heritage Program, and the State Historic Preservation Office per requirements of Section 7 of the Endangered Species Act, and Section 106 of the National Historic Preservation Act. Copies of the letters are included in Appendix A of this EA.

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2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 Department of Energy's Proposed Action

DOE proposes, through a cooperative agreement with Honeywell, to partially fund the construction of a manufacturing plant to produce a critical battery material, lithium hexafluorophosphate (LiPF₆). The plant would be located on a 10-acre parcel, within a 1,010-acre tract of land owned by Honeywell, in an unincorporated area of Massac County, near the City of Metropolis, Illinois. This facility would support the anticipated growth in the Li-ion battery industry and, more specifically, the EDV industry. If approved, DOE would provide approximately 50 percent of the funding for the project.

2.2 Honeywell's Proposed Project

Honeywell's Proposed Project would involve the construction of a manufacturing plant to produce a critical battery material, LiPF₆. The plant would be located on a 1,010-acre complex occupied by Honeywell in an unincorporated area of Massac County, near the City of Metropolis, Illinois. The existing Honeywell complex includes 16 buildings with 232,571 square feet (s.f.) of building space, of which 150,936 s.f. is manufacturing space. The Proposed Project would be constructed on a 10-acre parcel adjoining an existing 49.1-acre fenced-in restricted area adjacent to the existing Honeywell facility. It would involve the construction of a new 20,000 s.f., four-story high commercial LiPF₆ plant with new process equipment, piping, and feed storage containers; a 2,000 s.f. laboratory and control room; a 2,000 s.f. warehouse; and a 30,000-gallon above ground storage tank (AST). Additionally, underground firewater lines, a new access road, and a railroad extension or spur would be constructed. The access road would either be an extension of an existing road or as a connection to the existing plant entrance road; while the railroad may also be an extension of approximately 100-200 feet or a new railroad spur. Both the construction of the access road and the rail extension or spur would take place within the 1,010-acre proposed project site.

The proposed plant would be the only U.S. plant dedicated to the commercial scale production of LiPF₆. The plant would produce up to 1,500 metric tons (MT) of LiPF₆ on an annual basis using a Honeywell-developed process to prepare high-purity material as required for high quality Li-ion batteries. The production of LiPF₆ would require processing hydrofluoric acid (HF), fluorine gas (F₂), phosphate, and other chemicals in a reactor to generate the LiPF₆ product. This process to produce the LiPF₆ would generate substantially smaller amounts of wastes and byproducts when compared to methods currently employed. The most common methods involve the use of phosphorus chloride to produce phosphorus pentafluoride (PF₅), which reacts with lithium fluoride (LiF) to create LiPF₆. Honeywell's process would use HF, phosphorus (P), and F₂ in a reactor to produce PF₅, and subsequently LiPF₆. The process produces the LiPF₆ in a crystallized form and HF that can then be recycled and reused in the process.

Proposed production process would require the use of hazardous or toxic materials, including F₂, HF, P, LiF and LiPF₆. Of these materials, P and LiF would be new chemicals used at this location (Honeywell, 2009). One new, 30,000-gallon AST would be located outside of the plant to store P. LiF would be stored in containers inside the proposed plant. The plant would store HF in an approximately 2,400-gallon intermediate tank that would be located indoors. The rest of the HF inventory (three, 20,000-gallon tanks) would be located in the existing facility. The HF would be transported from the existing plant to the new plant via an aboveground 2-inch pipeline approximately 800 feet long. A pipeline, up to 12 inches in diameter and approximately 500 feet long, would transport F₂ from the existing plant to the new plant. Other materials would be stored indoors in 55-gallon drums or smaller containers.

The overall project consists of two concurrent phases. Phase I, currently underway, involves the construction of a LiPF₆ Sample Plant in Buffalo, New York. The LiPF₆ from the Sample Plant would be sent to Li-ion battery customers so that the customers are able to calibrate their production plants and be ready to receive LiPF₆ from the proposed Phase II Illinois commercial LiPF₆ plant once in operation. Phase I was determined by DOE to be

categorically excluded from further NEPA review and, therefore, is not discussed further in this EA. This EA only addresses the Phase II Proposed Project.

2.3 General Description and Location

The Proposed Project would be located at the existing Honeywell facility, in the unincorporated area of Massac County, approximately 2 miles northwest of the City of Metropolis, Illinois (Figure 2.3-1). The Proposed Project site would be adjacent to the existing Honeywell Metropolis Works Plant (MTW) that is owned by Honeywell and operated by Honeywell's Specialty Materials Division (Figure 2.3-2). Honeywell's Specialty Materials Division deals in a variety of high-performance materials, including F₂, and electronic materials. MTW began operation in 1958, to satisfy a contract with the U.S. Atomic Energy Commission. Following completion of the contract, the facility was closed in 1964. The facility underwent renovation in 1967, and has operated as a private-sector enterprise since 1968. The MTW is on a 1,010-acre site (with approximately 49 acres within the fence-line).

The proposed site is located at the north, northwest corner of the MTW adjoining the existing facility fence line and is bordered to the northeast and northwest by New River Road, a dirt road that intersects the Honeywell property. The eastern portion of the site is bordered by a drainage swale that parallels the existing facility fence line to the south, where it intersects a stormwater outfall (outfall 005) from the MTW. This outfall discharges to a drainage feature that traverses north and west and forms the southern boundary of the site. The site is densely wooded with underbrush.

2.4 Alternatives

DOE's alternatives to this project consist of the 45 technically acceptable applications received in response to the Funding Opportunity Announcement, Recovery Act - Electric Drive Vehicle Battery and Component Manufacturing Initiative. Prior to selection, DOE made preliminary determinations regarding the level of review required by NEPA based on potentially significant impacts identified in reviews of acceptable applications. A variance to certain requirements in 10 CFR 1021.216 was granted by DOE's General Counsel. These preliminary NEPA determinations and reviews were provided to the selecting official, who considered them during the selection process.

Because DOE's Proposed Action is limited to providing financial assistance in cost-sharing arrangements to projects submitted by applicants in response to a competitive funding opportunity, DOE's decision is limited to either accepting or rejecting the project as proposed by the proponent, including its proposed technology and selected sites. DOE's consideration of reasonable alternatives is therefore limited to the technically acceptable applications and a no-action alternative for each.

2.5 No Action Alternative

Under the No Action Alternative, DOE would not provide funds to this Proposed Project. As a result, this project would be delayed while the applicant seeks other funding sources. Alternatively, the applicant would abandon this project if other funding sources are not obtained. Furthermore, acceleration of the development and production of various EDV systems would not occur or would be delayed. DOE's ability to achieve its objectives under the VT Program and the Recovery Act would be reduced.

Although this and other selected projects might proceed if DOE decided not to provide financial assistance, DOE assumes for purposes of this environmental analysis that the project would not proceed without DOE assistance. If projects did proceed without DOE's financial assistance, the potential impacts would be essentially identical to those under DOE's action alternative (i.e., providing financial assistance that allows the project to proceed). In order to allow a comparison between the potential impacts of a project as implemented and the impacts of not proceeding with a project, DOE assumes that if it were to decide to withhold assistance from a project, the project would not proceed.

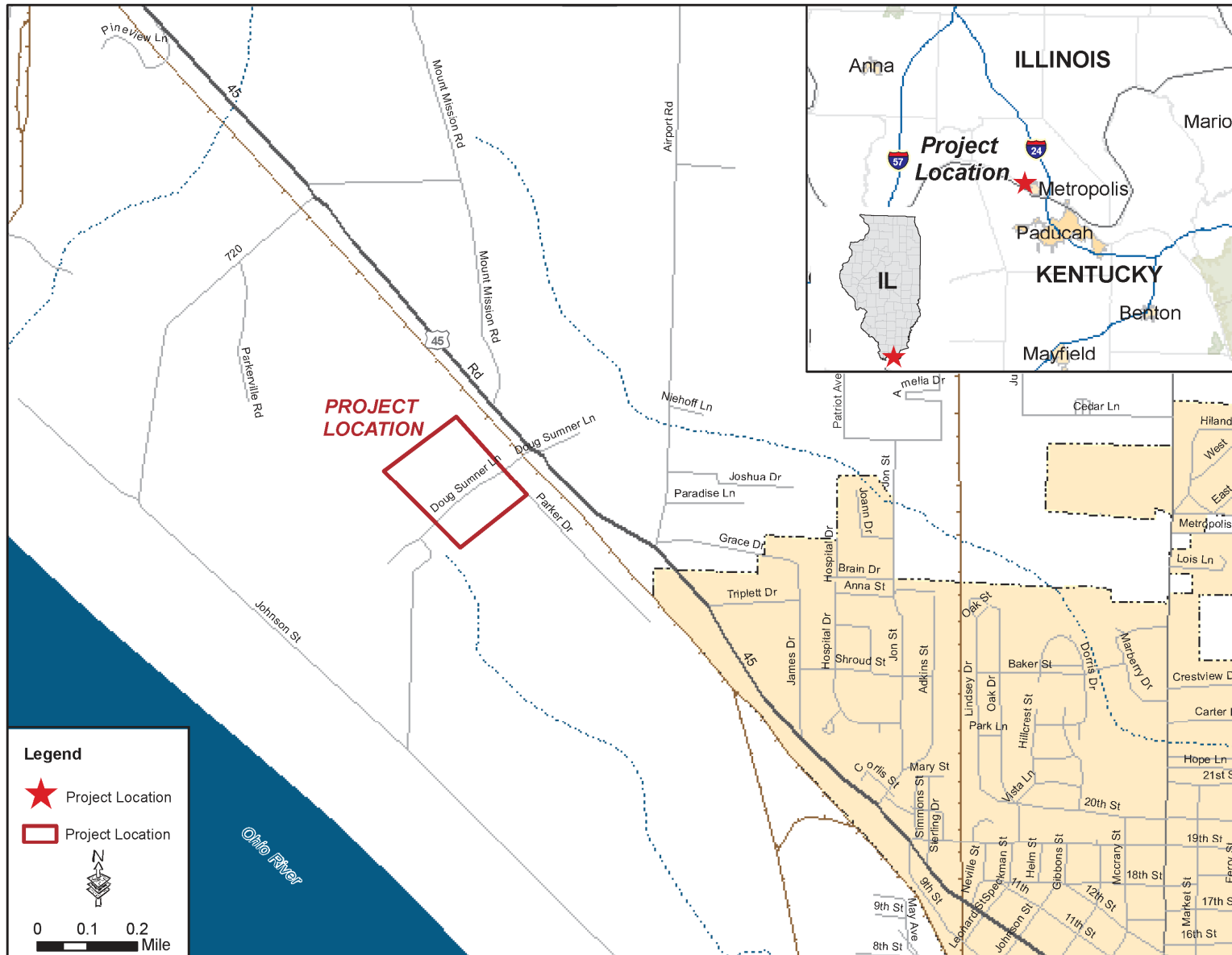


Figure 2.3-1. Regional Location Map



Figure 2.3-2. Site Location Map

2.6 Alternatives Considered by Honeywell

Honeywell’s Engineering Project Development Team conducted an extensive alternatives analysis using selection criteria to choose a location for their project. These criteria, among other items, helped them identify and evaluate synergies in each candidate sites: production processes, strategic materials used in the existing processes, opportunities for backward integration, regional employment profile, availability of existing utilities, and process safety capabilities and infrastructure. Originally, site alternatives were considered outside of the United States; however, the Metropolis Honeywell site was identified as the preferred site based on the selection criteria.

2.7 Summary of Environmental Consequences

Table 2.7-1 provides a summary of the environmental, cultural, and socioeconomic impacts of the No Action Alternative and the Proposed Project.

Table 2.7-1. Summary of Environmental, Cultural, and Socioeconomic Impacts

Impact Area	No Action Alternative		Proposed Project	
	Construction	Operations	Construction	Operations
Land Use	Negligible	Negligible	Negligible	Negligible
Meteorology	Negligible	Negligible	Negligible	Negligible
Socioeconomics (Population and Housing)	Negligible	Negligible	Negligible	Negligible
Socioeconomics (Taxes, Revenue, Economy, Employment)	Negligible	Negligible	Minor Beneficial	Minor Beneficial
Environmental Justice	Negligible	Negligible	Negligible	Negligible
Visual Resources	Negligible	Negligible	Negligible	Negligible
Cultural Resources	Negligible	Negligible	Negligible	Negligible
Floodplains	Negligible	Negligible	Negligible	Negligible
Utilities and Energy Use	Negligible	Negligible	Negligible	Negligible
Air Quality	Negligible	Negligible	Minor	Minor
Greenhouse Gases	Negligible	Moderate	Minor	Beneficial
Noise	Negligible	Negligible	Minor	Minor
Geology and Soils	Negligible	Negligible	Minor	Negligible
Surface Water and Groundwater	Negligible	Negligible	Minor	Minor
Vegetation and Wildlife	Negligible	Negligible	Minor	Negligible
Wetlands	Negligible	Negligible	Minor	Negligible
Solid and Hazardous Wastes	Negligible	Negligible	Negligible	Minor
Transportation and Traffic	Negligible	Negligible	Minor	Minor
Human Health and Safety	Negligible	Negligible	Negligible	Minor

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3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

Chapter 3 provides a description of the affected environment (existing conditions) at the project site and a discussion of the environmental consequences of the No Action Alternative and the Proposed Project. Additionally, cumulative impacts and mitigation measures are discussed where appropriate. The methodology used to identify existing conditions and to evaluate potential impacts on the physical and human environment involved the following: review of the Environmental Questionnaire and the Project Narrative prepared by Honeywell (Honeywell, 2010); review of other documentation provided by Honeywell; searches of various environmental databases; agency consultations; and a site visit conducted on January 26, 2010.

3.1 Resource Areas Dismissed from Further Consideration

DOE has determined that various resources would either not be affected or would sustain negligible impacts from the Proposed Project and do not require further evaluation. They include land use, meteorology, socioeconomics, environmental justice, visual resources, cultural resources, floodplains, and utilities and energy; therefore, these resource areas are briefly discussed in this section of the EA and will not be evaluated further.

Land Use: The property is located in an unincorporated area of Massac County. Massac County does not have a zoning ordinance. Construction permits, however, would be necessary from Massac County and development plan approval would be required by the City of Metropolis. Although the land would no longer be vacant, the use would be consistent with the surrounding property.

Meteorology: Massac County lies along the southernmost part of Illinois, which is a humid subtropical climate with moderate winters and warm, dry summers. Daily average highs and lows range from lows of about 25° Fahrenheit (°F) to highs of approximately 90° F. Winter months (November through March) are the coolest with average monthly low temperatures ranging from 29° to 38°F and high temperatures range from 42° to 58°F. The warmest months are the summer months of June through September. During those months average monthly low temperatures range from 59° to 68°F and high temperatures range from 82° to 90°F. The highest average annual monthly precipitation is approximately 4.76 inches, typically occurring in July. August is typically the driest month with average rainfall of 3.0 inches (Intellicast, 2010). Extreme temperatures in Massac County are rare. Days with maximum temperature above 90°F occur only 5 to 15 times per year on average, and days that remain below zero degrees occur only about once every 25 years. Due to the geographical location, severe weather events, such as hurricanes or tornadoes are not likely to occur, and therefore, would have no impact on the plant operations.

Socioeconomics: The Proposed Project would result in approximately 34 permanent jobs when the plant is fully operational. It is assumed that the majority of the workforce would be drawn from local candidates; therefore, no increase in population or need for housing is anticipated.

Under the Proposed Project, taxes would continue to be paid on the property. Construction workers, approximately 104, employed for the construction period are assumed to be currently employed, and residing and paying taxes in the Massac County area. Increased sales transactions for the purchase of materials and supplies would generate some additional revenues for local and state governments, which would have a minor positive impact on taxes and revenue.

Secondary jobs may result from the increased economic activity stimulated by the Proposed Project. Additional retail services and business employment may result from the Proposed Project through a multiplier effect, yielding additional sales and income tax revenues for local and state governments. Secondary jobs would have a minor beneficial impact.

The Proposed Project would not result in direct impacts to community facilities, services, school systems, or emergency services of Massac County because significant numbers of employees are not anticipated to relocate as a result of the Proposed Project.

Environmental Justice: The Proposed Project was evaluated in accordance with *Executive Order 12898 Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. While there are minority and low-income populations in the area, the Proposed Project would not have a disproportionately adverse impact on these groups.

Visual Resources: The proposed site is located at the north corner of the existing facility and is substantially surrounded by forest. The surrounding topography is generally flat. Existing industrial buildings are located to the south of the proposed site. The Proposed Project would be located adjacent to extant industrial buildings and would be well screened by existing trees to the north and west.

Impacts to identified views and vistas were determined based on an analysis of the existing quality of the landscape views, the sensitivity of the view, and the anticipated relationship of the scale and massing of the proposed building to the existing visual environment. Although the new construction would be noticeable, the scale and massing of the building would be consistent with the buildings in the surrounding industrial area and no adverse impacts would occur.

Cultural Resources: There are no known historic structures within the proposed project site or Area of Potential Effect. The nearest structures to the plant are over 1,600 feet to the north. According to the Historic Architectural and Archaeology Resource Geographic Information Systems (HAARGIS), there is a surveyed structure about 1,600 feet northeast of the plant on Doug Sumner Road for which National Register eligibility has not been determined. Another undetermined structure is located about 1,500 feet southeast of this structure, also about 1,600 feet northeast of the existing plant and about 2,000 feet east of the Proposed Project. Several structures beyond these to the north and east are also listed as “undetermined.” Although Honeywell states that there are structures at the existing facility over 50 years of age, the high level of security needed due to the Nuclear Regulatory Commission license limits the ability to obtain information about the structures within the existing facility. DOE has made a finding of no adverse effects to historic structures for this undertaking.

The Proposed Project would be located on a 10-acre site that has indications of previous soil disturbance, although soils within the site are currently protected by vegetative cover (see Section 3.2.3). The site is a mixture of wooded area and grassland. Although no known archeological sites were found within the vicinity of the Proposed Project during a search of HAARGIS, DOE recommended that a determination for archeological resources be performed. Consequently, a Phase I Cultural Resource Survey and Assessment was performed on March 11, 2010 (American Resources Group, Ltd., 2010). Based on the survey, no cultural resources were found and no further work was recommended. On June 3, 2010, the Illinois State Historic Preservation Office determined that no significant historic, architectural, and archaeological resources are located in the project area (see Appendix A).

Floodplains: The Federal Emergency Management Agency, Flood Insurance Rate Map, Map Number FM1704670075B, does not indicate the presence of active floodplains within the project site.

Utilities and Energy Use: The Honeywell facility currently receives its water supply from onsite wells. During construction for the Proposed Project, utilities would be supplied by existing services at the facility, which would not be adversely impacted by the small increases in demand. During operations, the Proposed Project would consume approximately 5,600 gallons per day (gpd) of water for process use and human consumption (Honeywell, 2010b). This demand would have no effect on the Metropolis water utility as it would be generated from a private well on site. Although the Proposed Project is within the service district of the Metropolis Water Treatment Plant (City of Metropolis, 2010), the proposed plant would process wastewater on site at an

approximate rate of 5,600 gpd through a private treatment system. Therefore, there would be no impacts on local water and wastewater utilities.

The existing facility currently uses approximately 6,700,000 kilowatt-hours per month and is located within the electric power service area of MidAmerican Energy Company, which covers 10,600 square miles spanning portions of three states including Iowa, Illinois, and South Dakota. The company operates multiple generating plants ranging from coal-fired plants to wind generating stations and has a net generating capacity of 5,361 megawatts (Mid American Energy, 2010). The Honeywell facility would have an estimated power consumption of approximately 15,800 kilowatt hours per day (Honeywell, 2010). This would mean a 7.5 percent increase in consumption over the facility’s current electricity use, representing a very small fraction of the generating capacity of Mid American Energy. Therefore, the impacts on electrical utilities would be negligible.

The Proposed Project is located within the service area of United Cities Gas Company, which is a division of Atmos Energy. Atmos Energy distributes natural gas to a service area spanning 12 states. Natural gas would be used for steam production at the proposed plant addition. The proposed natural gas consumption would be approximately 34 million British Thermal units per day. This demand represents a fraction of 1 percent of Atmos Energy’s overall capacity. Therefore, the impacts on the natural gas utility would be negligible.

3.2 Resource Areas Considered Further

Environmental resource areas considered further regarding the potential impacts of the Proposed Project include air quality and greenhouse gases (GHGs), noise, geology and soils, surface water and groundwater, vegetation and wildlife, wetlands, solid and hazardous waste, transportation and traffic, and human health and safety.

3.2.1 Air Quality and Greenhouse Gas

Air Quality Management

The purpose of the air quality analysis is to determine whether emissions from a proposed new or modified source of air pollution, in conjunction with emissions from existing sources, would cause or contribute to the deterioration of the air quality in the area. The Clean Air Act (CAA) requires the U.S. Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. NAAQS include two types of air quality standards (40 CFR 50.1(e)). Primary standards protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly. Secondary standards protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings. EPA has established NAAQS for six principal pollutants, which are called “criteria pollutants”: ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), particulate matter (PM), particulate matter 10 microns or less (PM₁₀), particulate matter 2.5 microns or less (PM_{2.5}), sulfur dioxide (SO₂) and lead (Pb). A State’s air-quality regulations may further regulate concentrations of the criteria pollutants. Table 3.2.1-1 lists the NAAQS and Illinois Ambient Air Quality Standards.

Table 3.2.1-1. National and Illinois Ambient Air Quality Standards

Pollutant	Standard	Averaging Time	Standard Type
CO	35 ppm (40 mg/m ³)	1-hour	Primary
	9 ppm (10 mg/m ³)	8-hour	
Pb	0.15 µg/m ³	Rolling 3-Month Average ⁽¹⁾	Primary and Secondary
	1.5 µg/m ³	Quarterly Average	

Table 3.2.1-1. National and Illinois Ambient Air Quality Standards (continued)

Pollutant	Standard	Averaging Time	Standard Type
NO ₂ ⁽²⁾	0.053 ppm (100 µg/m ³)	Annual (Arithmetic Mean)	Primary and Secondary
	0.100 ppm	1-hour	Primary
	0.053 ppm (100 µg/m ³)	1-hour	Secondary
PM _{2.5}	35 µg/m ³	24-hour	Primary and Secondary
	15.0 µg/m ³	Annual (Arithmetic Mean)	
PM ₁₀	150 µg/m ³	24-hour	Primary and Secondary
	50 µg/m ³	Annual (Arithmetic Mean) ⁽³⁾	Primary and Secondary
SO ₂	0.5 ppm (1300 µg/m ³)	3-hour	Secondary
	0.14 ppm	24-hour	Primary
	0.03 ppm	Annual (Arithmetic Mean)	
O ₃	0.12 ppm	1-hour ⁽⁴⁾	Primary and Secondary
	0.075 ppm (2008 std)	8-hour ⁽⁵⁾	
	0.08 ppm (1997 std)	8-hour ⁽⁶⁾	

(1) Final rule signed October 15, 2008

(2) Standard become effective January 22, 2010.

(3) This is an Illinois standard.

(4) As of June 15, 2005. 1-hour O₃ was revoked in all areas, although some areas have continuing obligations under that standard ("anti-backsliding").

(5) EPA is in the process of reconsidering these standards, which were set in March 2008.

(6) The 1997 standard and its implementation rules would remain in place as EPA undertakes rulemaking to address the transition to the 2008 standard.

µg/m³ – microgram/per cubic meter; mg/m³ – milligram/per cubic meter; ppm – parts per million; std – standard.

Source: EPA, 2010a and IPCB, 2010

To determine compliance with the NAAQS, emissions of criteria pollutants from a new or modified source(s) are modeled to determine their air dispersion concentrations. In addition to the six criteria pollutants outlined in the CAA, several other substances raise concerns with regard to air quality and are regulated through the CAA Amendments of 1990. These substances include hazardous air pollutants (HAPs) and toxic air pollutants (such as metals, nitrogen oxides (NO_x), and volatile organic compounds (VOCs). NO_x and VOCs are precursors for O₃.

Areas that meet the air quality standard for the criteria pollutants are designated as being in attainment. Areas that do not meet the air quality standard for one or more of the criteria pollutants are designated as being in nonattainment for that standard. The CAA requires nonattainment states to submit to the EPA a State Implementation Plan (SIP) for attainment of the NAAQS (40 CFR 51.166; 40 CFR 93). Maintenance areas are those that at one point had not met the NAAQS but are currently maintaining the standards through the requirements in the SIP.

The 1990 Amendments to the CAA require Federal actions to show conformance with the SIP. Federal actions are those projects that are funded by Federal agencies and include the review and approval of a Proposed Action through the NEPA process. Conformance with the SIP means conformity to the approved SIP's purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of such standards (40 CFR 51 and 93). The need to demonstrate conformity is applicable only to nonattainment and maintenance areas.

Class I Areas and Sensitive Receptors

For areas that are already in compliance with the NAAQS, the Prevention of Significant Deterioration (PSD) requirements provide maximum allowable increases in concentrations of pollutants, which are expressed as increments (40 CFR 52.21). Allowable PSD increments currently exist for three pollutants: SO₂, NO₂, and PM₁₀ (Table 3.2.1-2).

Table 3.2.1-2. Allowable Prevention of Significant Deterioration Increments ($\mu\text{g}/\text{m}^3$)

Pollutant-- Averaging Period	Class I Area	Class II Area
SO ₂ --3-Hour	25	512
--24-Hour	5	91
--Annual	2	20
NO ₂ --Annual	2.5	25
PM ₁₀ --24-Hour	8	30
--Annual	4	17

Source: 40 CFR 52.21(c)

One set of allowable increments exists for Class II areas, which covers most of the United States and another set of more stringent allowable increments exists for Class I areas. Because of their pristine environment, Class I areas require more rigorous safeguards to prevent deterioration of their air quality. For the purposes of PSD review, the Federal government has identified mandatory Class I areas, which are defined in the CAA as the following that were in existence as of August 7, 1977: national parks over 6,000 acres, national wilderness areas and national memorial parks over 5,000 acres, and international parks (NPS, 2009a). In general, proposed projects that are within 62 miles of Class I areas must evaluate impacts of the project on air quality related values (AQRVs) such as visibility, flora/fauna, water quality, soils, odor, and any other resources specified by the Federal Land Manager (NPS, 2009b).

Areas that are not in attainment with NAAQS are subject to the Nonattainment New Source Review. Overall, for the purposes of air quality analysis, any area to which the general public has access is considered a sensitive receptor site, and includes residences, day care centers, educational and health facilities, places of worship, parks, and playgrounds.

Greenhouse Gases

GHGs are pollutants of concern for air quality and climate change. GHGs include water vapor, carbon dioxide (CO₂), methane, NO_x, O₃, and several chlorofluorocarbons. Water vapor is a naturally occurring GHG and accounts for the largest percentage of the greenhouse effect. Next to water vapor, CO₂ is the second-most abundant GHG and is typically produced from human-related activities. The largest source of CO₂ emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, industrial facilities and other sources. Additionally, a number of specialized industrial production processes and product uses such as mineral production, metal production and the use of petroleum-based products can also lead to CO₂ emissions. The manufacturing of Li-ion battery materials can produce CO₂ emissions.

Although regulatory agencies are taking actions to address GHG effects, there are currently no state or Federal standards or regulations limiting CO₂ emissions and concentrations in the ambient air. In response to the *FY2008 Consolidated Appropriations Act* (House Resolution 2764; Public Law 110–161), EPA issued the *Final Mandatory Reporting of Greenhouse Gases Rule* (GHG Reporting Rule), which became effective on January 1, 2010. The GHG Reporting Rule requires annual reporting of GHG emissions to EPA from large sources and suppliers in the United States, including suppliers of fossil fuels or industrial GHGs; manufacturers of vehicles and engines; and facilities that emit greater than 25,000 metric tons per year (mtpy) (27,558 tons per year [tpy]) each of CO₂ and other GHGs. The intent of the rule is to collect accurate and timely emissions data to inform future policy decisions and programs to reduce emissions, as well as fight against the effects of climate change.

Additionally, on September 30, 2009, EPA proposed, under the CAA, new thresholds for GHG that would require that facilities subjected to the New Source Review and Title V operating permit programs to obtain permits and would cover nearly 70 percent of the nation’s largest stationary source GHG emitters—including power plants,

refineries, and cement production facilities, while shielding small businesses and farms from permitting requirements. The proposed thresholds are currently being reviewed by Congress.

3.2.1.1 Affected Environment

Air Quality

The Illinois Environmental Protection Agency (Illinois EPA), Bureau of Air, is responsible for improving air quality and monitoring air quality for each of the criteria pollutants and assessing compliance. Additionally, the Illinois EPA, Bureau of Air proposes appropriate regulations to the Illinois Pollution Control Board, which promulgates the rules governing ambient air quality in the State of Illinois, under Title 35 of the Illinois Administrative Code, Parts 201 through 291. Massac County is in attainment for all criteria air pollutants, including the previous 1-hour ozone and the new 8-hour ozone standards (EPA 2009; EPA, 2010a); therefore, DOE does not need to demonstrate conformity with the state's SIP for this project.

Current Air Emissions

Honeywell currently operates a nuclear specialty and an industrial inorganic chemical manufacturing plant at its facility via a Title V Major Source Permit issued by the Illinois EPA (Honeywell, 2007; Illinois EPA, 2003). The permit, Permit No. 96030014, applies to the equipment used and material handling activities in the facility and includes fugitive emissions. A Title V Major Source Permit is granted to a facility that has the potential to emit more than 100 tpy of any of the 6 criteria pollutants, or more than 10 tpy of any single HAP or more than 25 tpy of any combination of HAPs. The Honeywell facility is a Title V facility because of its potential emissions of SO₂ and HAPs (Illinois EPA, 2003). The existing Honeywell facility is also currently licensed to operate by the Nuclear Regulatory Commission; therefore, it is not subject to the National Emissions Standards for Hazardous Air Pollutants for radionuclides (Illinois EPA, 2003). Table 3.2.1-3 below provides the permitted emissions of regulated pollutants for current operations at the Honeywell facility.

Table 3.2.1-3. Permitted Emissions for Current Honeywell Operations

Pollutant	Source-wide Emissions Limitations (tpy) for Current Operations
NO _x	53.93
SO ₂	421.63
VOC	25.96
PM	33.69
HAP	20.33

Source: Honeywell, 2007 and Illinois EPA, 2003

The Honeywell facility currently produces 212,965 mtpy (234,753.73 tpy) of CO₂: energy consumption (i.e., electricity and fossil fuel use) accounts for 21 percent (i.e., 43,866 mtpy [48,353.98 tpy]) and the manufacturing process accounts for 79 percent (i.e., 169,099 mtpy [186,399.74 tpy]) (Honeywell, 2010). Further discussions of impacts from the emissions of pollutants from the Proposed Project are in Section 3.2.1.2.2.

3.2.1.2 Environmental Consequences

3.2.1.2.1 No Action Alternative

The No Action Alternative is treated in this EA as the "No-Build" Alternative. That is, under the No Action Alternative, DOE would not provide funding for the project, and Honeywell would not proceed with the Proposed Project. Current emissions would continue unchanged.

With the No Action Alternative, DOE would not fully meet its goal of supporting U.S.-based manufacturing to produce advanced EDV batteries and components. With reduced DOE funding, industries may be less willing to

invest in the advanced technology that would help increase production of these batteries, especially the Li-ion batteries and their components. Without alternative fuel sources for automobiles, the United States would continue its dependence on and consumption of petroleum and other fossil fuels. Consequently, the current trends of increased CO₂ concentrations in the Earth's atmosphere will continue, increasing the effect on climate change.

3.2.1.2.2 Proposed Project

Construction

The Honeywell facility is located on a 1,010-acre tract of land. Currently, the existing plant operating area is a developed, fenced-in restricted area of 49.1 acres in the north central portion of the site. The Proposed Project would be built on approximately 10 acres of the remaining undeveloped tract, which would result in new land disturbance (Honeywell, 2010; Honeywell, 2010a).

During the construction process, equipment used to construct the proposed plant would intermittently emit quantities of five criteria air pollutant: CO, NO_x, SO₂, PM₁₀, and VOC. In addition to tailpipe emissions from heavy equipment, ground surface disturbances during excavation and grading activities could potentially generate fugitive dust. Fugitive dust, such as dirt stirred up from construction sites, can affect both environmental quality and public health. The type and severity of the effects depend in large part on the size and nature of the dust particles. The types of effects that can occur to humans include inhalation of fine particles that can then accumulate in the respiratory system causing various respiratory problems including persistent coughs, wheezing, eye irritations, and physical discomfort. Construction personnel would implement appropriate mitigation measures, such as applying water to exposed surfaces or stockpiles of dirt, when windy or dry conditions promote problematic fugitive dust emissions. Adhering to mitigation measures and Best Management Practices (BMPs) would reduce the adverse impacts from fugitive dust emissions. DOE expects the overall impacts from fugitive dust emissions would be temporary in duration and of minor intensity.

Exhaust emissions from equipment used in construction, coupled with likely fugitive dust emissions, could cause minor, short-term degradation of local air quality. DOE expects the overall impacts to air quality from the construction of the Proposed Project would be short-term and minor.

Operations

Because the plant design for the Proposed Project is in the initial stages, the actual emissions are currently unknown. However, based on general knowledge and the type of technology that is being proposed for use in the Proposed Project, DOE does not expect that emissions would increase significantly beyond current emissions from Honeywell's existing facilities. Table 3.2.1-4 below provides expected air emissions from operations of the proposed plant. Emissions are estimated based on the planned capacity for production of LiPF₆ and a 95 percent efficiency of the process control devices. For the Proposed Project, the plant plans to control emissions using dust collectors and potassium hydroxide (KOH) scrubbers, which have similar efficiencies to existing units.

Table 3.2.1-4. Potential Emissions (tpy) from the Proposed Honeywell LiPF₆ Plant Operations

Pollutant	Proposed Operations Potential Emissions Rate
CO	0.57
NO ₂	0.34
SO ₂	0.04
PM ₁₀	3.1
HF	2.5
P	0.1

Table 3.2.1-4. Potential Emissions (tpy) from the Proposed Honeywell LiPF₆ Plant Operations (continued)

Pollutant	Proposed Operations Potential Emissions Rate
F ₂	0.02
PF ₅	0.42
POF ₃	0.01
LiF	0.18
LiPF ₆	5.0
CO ₂	799

Source: Honeywell, 2010a

F₂– fluorine gas; PF₅– phosphorus pentafluoride; POF₃ – phosphoryl fluoride; LiF – lithium fluoride; LiPF₆, lithium hexafluorophosphate

The new manufacturing operations of the Proposed Project would require a modification of the facility’s Title V permit to include all new air pollution sources. Emissions in Table 3.2.1-4 would not exceed the permitted source-wide limitations provided in Table 3.2.1-3. The current Metropolis plant is a major source of HAP and SO₂ and has a Title V permit issued by the Illinois EPA. The Proposed Project would require a construction permit and a minor modification to add the new emissions points. No major New Source Review would be required. The changes would be accomplished under the current minor New Source Review process with IEPA. The facility is in compliance with its air operating permit, and there are no barriers to impede future compliance.

DOE would not be required to demonstrate SIP conformity because the Proposed Project is in an area that is meeting all NAAQS (40 CFR 93.153(d) (1)). There are no Federal mandatory Class I areas within Illinois and none within 62 miles of the Proposed Project location; therefore, a PSD increment and AQRV analysis for Class I area would not be required. All other areas within the Illinois border would be considered Class II.

Sensitive receptors within 1.5 miles of the Honeywell facility include a church and a school. A State park is approximately 3 miles to the southeast of the Proposed Project. These sensitive receptors would not notice the new emissions because emissions into the atmosphere would be small. The existing Honeywell facility has demonstrated in its air operating permits that dispersion of air pollutants would not cause a significant deterioration of the surrounding air quality. Because of their geographical location, severe weather events that would stop the proposed plant operations are not likely to occur.

Overall, the Proposed Project would have a minor adverse impact on air quality. Although air emissions from the proposed plant are measurable, they would result in minimal consequences because of the proposed plant’s operating control devices that would be used to limit emissions, and actual emissions would remain below the current permit limit.

Carbon Footprint

In 2003, Illinois’s GHG emissions were 274.9 million metric tons of CO₂ equivalent (MMtCO₂e) ranking it the fifth highest GHG emitting state (WRI, 2007) and representing a 15.8 percent increase from 1990 levels. The 2003 emissions from Illinois were about 4.1 percent of total United States’ GHG emissions, which exceeded 6,978 MMtCO₂e. Of the GHG emissions from Illinois in 2003, 85 percent was CO₂. The primary source of CO₂ pollution was the burning of fossil fuels, such as coal (at power plants serving the state), gasoline, diesel, and natural gas. There were various types of emissions from industrial processes, residential, commercial, agricultural, and transportation sectors.

The CO₂ emissions from the proposed LiPF₆ plant are expected to be low. However, they would be reported along with the CO₂ emissions from existing operations, which currently exceeds the 25,000 mtpy of CO₂ threshold that would trigger reporting under the *Final Mandatory Reporting of Greenhouse Gases Rule*.

The manufacture of EDV batteries and components would increase production of EDVs in the United States. EDVs emit no tailpipe pollutants. Therefore, they potentially can provide significant air quality benefits to targeted regions (DOE, 1999). Overall, there would be beneficial impacts on climate change as the Proposed Project would help the viability of the commercial market for EDVs, thereby reducing the carbon footprint of the transportation sector.

3.2.1.3 Cumulative Impacts

Other than the Proposed Project, no other projects are planned in the area of concern. No reasonably foreseeable actions have been identified that would interact with the Proposed Project to generate cumulative adverse impact to air quality.

3.2.1.4 Proposed Mitigation Measures

During construction, typical mitigation measures to minimize air quality issues caused by fugitive dust and tailpipe emissions would include the following:

- Require all construction crews and contractors to comply with the state regulations for fugitive dust control during construction.
- Maintain the engines of construction equipment according to manufacturers' specifications.
- Minimize the idling of equipment while the equipment is not in use.
- Implement reasonable measures, such as applying water to exposed surfaces or stockpiles of dirt, when windy or dry conditions promote problematic fugitive dust emissions.

Adhering to these BMPs would minimize any fugitive dust emissions and engine exhaust emissions during construction.

During operations of the Proposed Project, State regulatory authority over air emissions would ensure that the facility continues to meet the requirements of its air operating permit. Because of the control devices used on the equipment and BMPs employed at the facility, actual emissions are expected to be held well below permit limits.

3.2.2 Noise

3.2.2.1 Affected Environment

The proposed site is located in a rural/light industrial area bordered by the Ohio River to the southwest, U.S. Route (Route) 45 to the northeast, an industrial coal blending plant to the northwest, and privately owned development land to the east (Honeywell, 2010).

The nearest sensitive receptors are the homes across Route 45, with the nearest receptor approximately 0.25 miles from the existing Honeywell facility and proposed site. Numerous churches and schools are located in the City of Metropolis. The nearest church and nearest school are located approximately 0.6 mile and 1.3 miles, respectively, north of the proposed plant. There are numerous other churches and schools located in the City of Metropolis, less than approximately 2 miles to the southeast. Fort Massac State Park is approximately 3 miles to the southeast (EPA, 2010c).

The site is located within the vicinity of various existing noise sources that contribute to the baseline noise level, including the railroad that borders the northeastern edge of the property, the Metropolis Municipal Airport located less than 0.3 mile to the northeast from the proposed plant, and the other industrial facilities in the area. There is also constant truck and vehicle traffic on Route 45 adjacent to the site. There are approximately 4,800 vehicles, including 475 trucks, that pass by the site on Route 45 daily (ILDOT, 2010).

In addition to generating truck and privately-owned vehicle traffic, the existing facility currently adds to local noise levels due to its existing building mechanical equipment, including outdoor components to building ventilation systems, numerous fans, air coolers, air compressors, pumps, and pneumatic conveying systems.

3.2.2.2 Environmental Consequences

3.2.2.2.1 No Action Alternative

Under the No Action Alternative, construction and operations would not occur; therefore, no changes in noise emissions would occur.

3.2.2.2.2 Proposed Project

Construction

Short-term but measurable adverse impacts to noise are expected during the construction phase of the Proposed Project involving construction of the proposed plant with and the installation of the process equipment and piping, and feed storage containers within the plant, a new access road, a railroad extension or spur, and a 30,000-gallon AST. (Honeywell, 2010). During the construction phase, noise levels would be localized, intermittent, and temporary. Increases in noise levels during construction would mainly result from the use of heavy construction equipment and delivery trucks, as well as the increased traffic due to construction workers accessing the site. The typical noise levels at any construction site would be expected to be within the range of 75 to 90 decibels. Construction noise levels onsite would primarily be limited to the immediate vicinity of the project site. The construction is expected to last for approximately 12 months.

Operations

The main sources of noise during operations would be from truck and employee-vehicle traffic and from the new mechanical equipment. The proposed plant would have outdoor heating, ventilation, and air conditioning components including a building scrubber with fans, a cooling tower with a fan, and several outdoor pumps. The new process equipment at the proposed plant would be located indoors. Because this Proposed Project is an addition to an existing industrial facility that currently has truck and personal-vehicle traffic, and currently has numerous outdoor building mechanical systems (including fans, coolers, compressors, pumps and conveying systems), any increase in ambient noise levels resulting from operations of the Proposed Project would be minor from the perspective of any sensitive receptors in the surrounding community. Furthermore, there are other existing comparable and periodically louder noise sources in the vicinity; therefore, the impact would be minor. The nearest sensitive receptors are currently exposed to noise from the railroad, Route 45, the Metropolis Municipal Airport, and other industrial operations, all within a distance of less than a half mile from the site.

3.2.2.3 Cumulative Impacts

Other than the Proposed Project, no other projects are planned in the area of concern. No reasonably foreseeable noise-related actions have been identified that would interact with the Proposed Project to generate cumulative adverse impacts to noise.

3.2.2.4 Proposed Mitigation Measures

No mitigation measures would be required for noise.

3.2.3 Geology and Soils

3.2.3.1 Affected Environment

Two geological landforms are present within the project site, loess hills and flats. Loess hills are landforms formed by material transported and deposited by wind and consisting dominantly of silt-sized particles. Flats are characterized by an area with little to no terrain relief (NRCS, 2009). The Massac County Soil Survey (NRCS,

2009) indicates two soil types within proximity to the project site. These include Stoy silt loam (164A) and Weir silt loam (165A). Table 3.2.3-1 contains the properties of each soil unit and their respective geological landform.

Table 3.2.3-1. Project Site Soils

Soil Unit	Geologic Landform	Slope (percent)	Flooding Frequency	Hydric Rating	Commercial Building Construction
164A	Loess Hills	0-2	None	Partially hydric	Somewhat limited
165A	Flats	0-2	None	All hydric	Very limited

Source: NRCS, 2009

As shown in Table 3.2.3-1 soils within the project site are not prone to flooding. A “none” frequency rating means that flooding is not probable; the chance of flooding is nearly 0 percent in any year and flooding occurs less than once in 500 years. In addition, the 164A soil unit is recognized as partially hydric and the 165A soil unit is recognized as all hydric.

Hydric soils are defined by the National Technical Committee for Hydric Soils as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part, and under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation. Hydric soils can pose limitations to construction, however, they can also be indicative of wetlands (see Section 3.2.6). A "partially hydric" rating indicates that at least one component of the map unit is rated as hydric, and at least one component is rated as not hydric.

The 164A soils within the project site are somewhat limited (primarily due shrink-swell) for commercial building construction (e.g., structures typically less than three stories high and lacking basements). The 165A soils are very limited (due to ponding, depth to saturated zone and shrink-swell potential). The construction ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs (i.e., depth to a water table, ponding, flooding, subsidence, shrink-swell potential, and compressibility). “Somewhat limited” indicates that the soil has features that are moderately favorable for the specified use and limitations can be overcome or minimized by special planning, design, or installation. In addition, fair performance and moderate maintenance can be expected. "Very limited" indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

The January 26, 2010, site visit confirmed the soils within the project site were protected by forested vegetative cover. The young age of forest stand and the presence of periodic depressions and gravel/rocky mounding suggest that the site may have been previously disturbed.

3.2.3.2 Environmental Consequences

3.2.3.2.1 No Action Alternative

Under the No Action Alternative, plant construction and operations would not occur; therefore, no additional impacts would occur to existing geology and soil resources.

3.2.3.2.2 Proposed Project

Construction

Under the Proposed Project, a direct permanent adverse impact would occur to the approximate 10 acres of soils associated with the project site. These soils would be graded for construction of the Proposed Project, which

would require paving and establishment of impervious surface to support the plant and associated infrastructure (i.e., entrance roads, parking, and stormwater management). These impacts, however, would be localized and minor. BMPs such as sediment control devices and seeding or sodding of temporarily disturbed areas following construction would reduce the potential for adverse indirect impacts such as soil erosion. As stated within Section 3.2.3.1, 165A soils within the project site of the Proposed Project are very limited for commercial building construction due to due to ponding, depth to saturated zone and shrink-swell potential; however, Honeywell would address this constraint during site engineering and grading to overcome these limitations.

Operations

Operations of the site would have no impacts to either geology or soil resources. Manufacturing would occur within the proposed plant and the product would be transferred offsite using existing road infrastructure.

3.2.3.3 Cumulative Impacts

Industrial and rural uses adjacent to the project site have caused localized and adverse disturbances to soils. In addition, 49.1 acres of the existing 1,010-acre property have been developed; therefore, a large portion of the property owned by Honeywell remains undeveloped and soils are protected by existing vegetative cover. No other development projects have been identified within the 1,010-acre property or within the surrounding areas. Therefore, overall adverse cumulative impacts to soils and geology would be minor.

3.2.3.4 Proposed Mitigation Measures

Soils would be stabilized following construction to minimize erosion and offsite impacts.

3.2.4 Surface Water and Groundwater

3.2.4.1 Affected Environment

3.2.4.1.1 Surface Water

The project site is located in the Lower Ohio watershed (Hydrologic Unit Code 5140206), which contains approximately 330 miles of streams and 628 acres of lakes, ponds, and reservoirs. In 2004, in terms of water quality, approximately one-half of all the streams in the watershed were considered impaired, as were 100 percent of the lakes, ponds, and reservoirs (BouFajreldin and Flint, undated). The project site is located approximately 0.6 miles northeast of the Ohio River. The Ohio River is formed by the confluence of the Allegheny and Monongahela Rivers at Pittsburgh, Pennsylvania and ends approximately 900 miles downstream at Cairo, Illinois, where it flows into the Mississippi River (Ohio Historical Society, 2010). In the area of the project site, the Ohio River is listed as impaired for mercury, polychlorinated biphenyls, and for an “unknown cause” (EPA, 2010d). There are three small streams near the boundary of the existing facility that drain to the Ohio River: one to the east, one to the south, and one to the west, which would be just south of the Proposed Project.

The existing facility has four surface impoundments that store calcium chloride sludge. Each impoundment has an ethylene propylene diene monomer liner to prevent environmental contamination.

The existing facility discharges process wastewater, non-contact cooling water, boiler blowdown, sanitary wastes, and stormwater to the Ohio River, following onsite treatment, at a maximum rate of approximately 4,000,000 gpd. This discharge is performed in accordance with a National Pollutant Discharge Elimination System (NPDES) permit authorized by the Illinois EPA (Permit Number IL0004421). At the existing facility, stormwater is captured and transported through concrete channels and sewer lines to an outfall structure before discharging to the Ohio River. The risk of contamination to surface waters from stormwater runoff is minimized through the implementation of a Stormwater Pollution Prevention Plan (SWPPP) prepared in accordance with the NPDES permit, which outlines a variety of pollution control measures employed at the Honeywell facility including, but not limited to, secondary containment for chemical storage areas and areas subject to runoff. In addition, the Honeywell facility operates under a Spill Prevention, Control, and Countermeasures (SPCC) Plan, which

addresses spill prevention of oils and related products and guides the avoidance, minimization, and response to pollutant spills.

3.2.4.1.2 Groundwater

The project site is within the Mississippi embayment aquifer system, which is present in parts of Alabama, Arkansas, Florida, Illinois, Kentucky, Louisiana, Mississippi, Missouri, and Tennessee. These aquifers consist of unconsolidated to semi consolidated sediments that range in age from Late Cretaceous through late Eocene. They are a major source of freshwater. In the Illinois and western Kentucky area, six aquifers and two confining units compose the Mississippi embayment aquifer system. The project site, and most of Massac County, is underlain by the McNairy-Nacatoch aquifer, which consists of sands of Cretaceous age and, in the area, is approximately 200 feet thick. Wells completed in the McNairy-Nacatoch aquifer commonly yield from 72,000 to 720,000 gpd, but yields might exceed 1.4 million gpd (USGS, 1995). In addition, the estimated potential yields of sand and gravel aquifers in the area of the project site are among the greatest in Illinois, ranging from 300,000 to 5,000,000 gpd per square mile (Wehrmann et. al., 2003).

The existing Honeywell facility obtains process and potable water from three onsite groundwater wells, two of which yield potable-quality water. There are several sets of monitoring wells onsite that are used to obtain information on groundwater quality in accordance with Resource Conservation and Recovery Act (RCRA) Part B permitting requirements associated with the calcium chloride sludge impoundments (Permit Number 1278540002).

3.2.4.2 Environmental Consequences

3.2.4.2.1 No Action Alternative

Under the No Action Alternative, the existing facility and features and characteristics of surface and groundwater would continue to exist as they currently do; therefore, no impacts would be expected.

3.2.4.2.2 Proposed Project

Surface Water

Construction

There are no surface waters within the footprint of proposed development that could be affected by construction of the Proposed Plant. There is a small stream just south of the project site that could experience minor impacts during construction from sedimentation caused by earth disturbing activities, which could also cause downstream impacts to the Ohio River. These impacts would be minimized through the implementation of standard construction BMPs (e.g., the use of sediment fencing to control offsite transport of sediment).

A minor potential for surface water contamination from construction equipment leaks would also exist; however, adherence with the facility's SWPPP (which would be modified to accommodate the Proposed Project) and SPCC Plan would minimize this risk.

Operation

Operation of the proposed plant would cause an increase in treated process wastewater discharges to the Ohio River by 5,600 gpd, which would represent a less than 1 percent increase in the current maximum discharge of 4,000,000 gpd. In addition, stormwater discharges would increase as a result of the increase in impervious surfaces. The relatively small increase in discharge could cause minor impacts to the water chemistry and temperature of the Ohio River, which, as stated in Section 3.2.4.1, is considered an impaired water. Impacts would be minimized through adherence with the facility's NPDES permit and associated SWPPP, which would be modified to accommodate the proposed plant. The NPDES permitting includes limits on the chemical composition and temperature of discharged water; thus, providing a regulatory mechanism to limit impacts.

During operations, accidental spills of toxic substances, such as petroleum products, could be a potential source of surface water contamination. A minor potential for surface water contamination would exist; however, adherence with the facility's SWPPP (which would be modified to accommodate the proposed plant) and SPCC Plan would minimize this risk.

Groundwater

Construction

During construction, there would be a minor potential for groundwater contamination to occur from the operation and maintenance of construction vehicles and equipment (e.g., accidental fuel spills). The potential for contamination to occur would be minimized through the implementation of the facility's SWPPP (which would be modified to accommodate the Proposed Project) and SPCC Plan.

Operation

Operation of the proposed plant would increase the facility's water needs by 5,600 gpd, which would be accommodated through the existing onsite wells. No specific information on groundwater levels in the immediate vicinity of the project site is available; however, groundwater aquifers in the area are generally an abundant resource; therefore, minor impacts on groundwater levels would be expected.

During operations accidental spills of toxic substances, such as petroleum products, could be a potential source of groundwater contamination. As stated above, the potential for contamination to occur would be minimized through the implementation of the facility's SWPPP (which would be modified to accommodate the proposed plant) and SPCC Plan; therefore, a minor potential for groundwater contamination to occur would be expected.

3.2.4.3 Cumulative Impacts

Industrial and rural uses adjacent to the project site are likely to have caused adverse impacts to the Ohio River and other local surface waters through degradation of water quality. In addition, 49.1 acres of the existing 1,010-acre property owned by Honeywell in Massac County have been developed; therefore, a large portion of the property remains undeveloped, but could be developed in the future. No other projects have been identified within the 1,010-acre property or within the surrounding areas. New developments could cause further surface water degradation, most likely through sedimentation during construction, an increase in industrial discharges, and an increase in agricultural runoff. In addition, additional groundwater withdrawals in the area would reduce groundwater levels; however, groundwater is relatively abundant in the area. Overall, minor cumulative adverse impacts would be the expected contribution of the Proposed Project.

3.2.4.4 Proposed Mitigation Measures

No mitigation measures would be required.

3.2.5 Vegetation and Wildlife

3.2.5.1 Affected Environment

Vegetation

A January 26, 2010, visit to the project site revealed the majority of the site (approximately 10 acres) contained early successional forest with tree heights under 20 feet and diameter at breast height predominantly 4 inches or less. This forest stand had a combination of ash (*Fraxinus sp.*), maple (*Acer sp.*), poplar (*Populus sp.*) and elm (*Ulmus sp.*). As discussed in Section 3.2.3.1, the area showed signs of previous disturbance, as indicated by depressions and piles of gravel and rock. The groundcover and understory layer was dominated by Asiatic tearthumb (*Polygonum perfoliatum*), an invasive plant species. This species is commonly found in roadsides, ditches, rights-of-way, vacant lots, clearcuts and young tree farms, and other disturbed habitats.

Wildlife

No wildlife species were observed within the project site during the January 26, 2010, site visit. Common wildlife species within the region that utilize the forested habitat includes white-tailed deer (*Odocoileus virginianus*), red foxes (*Vulpes vulpes*), raccoons (*Procyon lotor*), squirrels (*Sciurus niger*), and various other small mammal species such as white-footed mice (*Peromyscus Leucopus*) and shrews (*Sorex sp.*).

3.2.5.2 Environmental Consequences

3.2.5.2.1 No Action Alternative

Under the No Action Alternative, plant construction and operations would not occur; therefore, no impacts would occur to vegetation and wildlife.

3.2.5.2.2 Proposed Project

Informal coordination letters were sent to both the USFWS and the Illinois Natural Heritage Program to verify the project would have no impact on any Federally- or State-listed threatened, endangered, or candidate species, or critical habitat within the vicinity of the Proposed Project. In a letter dated December 4, 2009, the USFWS provided a list of species, which have ranges that encompass the project site and also provided the typical habitat of these species (see Appendix A). Table 3.2.5-1 summarizes the list of species provided by the USFWS, along with ranges that indicate the potential for the species. The table also provides the likelihood of the species occurring within the project site based on project site habitat characteristics and the species preferred habitat. In addition, in an e-mail dated February 24, 2010, the Illinois Natural Heritage Program indicated no known sensitive resources occur within the vicinity of the project location (see Appendix A). Besides informal coordination letters, the Illinois Department of Natural Resources Ecological Compliance Tool (EcoCAT) was accessed on February 8, 2010, to determine the potential for occurrence of endangered or threatened species, Illinois Natural Areas Inventory Sites, dedicated Illinois Nature Preserves, and registered Land & Water Reserves in the vicinity of the project site. EcoCAT identified the presence of six protected species located within the vicinity of the project site (see Table 3.2.5-1). No Illinois Natural Areas Inventory Sites, dedicated Illinois Nature Preserves, and registered Land & Water Reserves were identified within EcoCAT near the project site. As shown in Table 3.2.5-1, the habitat for these species is unlikely; therefore, additional surveys for rare, threatened, or endangered species are not warranted.

Table 3.2.5-1. Protected with Potential to Occur within the Project Site

Common Name	Latin Name	Federal/ State Status	Habitat	Project site Characteristics and Likelihood of Occurrence
Mammals				
Indiana bat	<i>Myotis sodalis</i>	E	Caves, mines; small stream corridors with well developed riparian woods; upland and bottomland forests	Habitat not present within project site. Although forested, the age of the stand is too young to support suitable roosting habitat.
Birds				
Least tern	<i>Sterna antillarum</i>	E	Bare alluvial and dredge spoil islands	Habitat not present within project site.
Invertebrates				
Fat pocketbook	<i>Potamilus capax</i>	E	Rivers	Habitat not present within project site.
Orange-footed pearl mussel	<i>Plethobasus cooperianus</i>	E	Rivers	Habitat not present within project site.

Table 3.2.5-1. Protected with Potential to Occur within the Project Site (continued)

Common Name	Latin Name	Federal/ State Status	Habitat	Project site Characteristics and Likelihood of Occurrence
Pink mucket	<i>Lampsilis abrupta</i>	E	Rivers	Habitat not present within project site.
Sheepnose	<i>Plethobasus cyphus</i>	C	Rivers	Habitat not present within project site.
Spectaclecase	<i>Cumberlandia monodonta</i>	C	Rivers	Habitat not present within project site.
EcoCAT Database Additional Species				
Osprey	<i>Pandion haliaetus</i>	E	Nest in large trees, on rock formations, or artificial structures.	Habitat not present within project site. Although forested, the age of the stand is too young to support suitable nesting habitat.
Rabbitsfoot mussel	<i>Quadrula cylindrica</i>	E	Rivers	Habitat not present within project site.
Fat pocketbook mussel	<i>Potamilus capax</i>	E	Rivers	Habitat not present within project site.
Butterfly mussel	<i>Ellipsaria lineolata</i>	T	Rivers	Habitat not present within project site.
Ebonys shell mussel	<i>Fusconaia ebena</i>	T	Rivers	Habitat not present within project site.
Elephant-ear mussel	<i>Elliptio crassidens</i>	T	Rivers	Habitat not present within project site.

C=candidate ; E= endangered; T=threatened

Vegetation

Construction

Under the Proposed Project, a direct adverse impact would occur to vegetation from the loss of up to 10 acres of early successional forest. Construction activities associated with the Proposed Project would require site grading and removal of vegetation. This vegetation community, however, would not be considered rare or of high value within the region; therefore, overall impacts from construction would be minor. Following construction, those areas temporarily disturbed within the 10-acre site would be either seeded or sodded with grass and maintained as grassy areas.

Operations

Other than maintenance of grass areas surrounding the Proposed Project, operations of the plant are not anticipated to cause adverse impacts to vegetation.

Wildlife

Construction

Under the Proposed Project, an indirect adverse impact would occur to wildlife from the loss of approximately 10 acres of early successional forested habitat. Construction activities associated with the Proposed Project would require site grading and removal of vegetation. Wildlife utilizing this area would likely move to similar habitat available adjacent to the site. Noise from construction activities would have the potential to temporarily disturb wildlife species within proximity to the project site. Use of sediment erosion control measures, and adherence with the existing facility's SWPPP and SPCC Plan (see Section 3.2.4.2) would reduce the potential for indirect impacts from construction on aquatic habitat within the Ohio River to minor or negligible.

Operations

Operation of the plant is not anticipated to create additional disturbance to wildlife other than the mowing of established grassy areas. Adherence with the facility's SWPPP and SPCC Plan (see Section 3.2.4.2) would reduce the potential for indirect impacts from operations on aquatic habitat within the Ohio River to minor or negligible.

3.2.5.3 Cumulative Impacts

Industrial and rural uses adjacent to the project site have caused localized and adverse disturbances to vegetation and wildlife. In addition, 49.1 acres of the existing 1,010-acre property owned have been developed; therefore a large portion of the property remains undeveloped and support a variety of vegetation communities and habitat for wildlife. No other projects have been identified within the 1,010-acre property or within the surrounding areas. Therefore, overall adverse cumulative impacts to vegetation and wildlife would be minor.

3.2.5.4 Proposed Mitigation Measures

No mitigation measures would be required for vegetation and wildlife.

3.2.6 Wetlands

3.2.6.1 Affected Environment

National Wetland Inventory (NWI) mapping does not indicate the presence of wetlands within the project site. NWI mapping indicates the presence of two wetland types adjacent to the project site (to the southwest), both of which excavated ponds are used by the existing industrial operations at the facility. According to the Massac County Soil Survey, hydric soils have the potential to be located within the 164A soil mapping unit and the 165A unit is recognized as entirely hydric (see Section 3.2.3.1). These areas of hydric soils have the potential to contain wetland areas. Due to the potential presence of wetlands, a wetlands determination and delineation was conducted on March 22nd and 23rd, 2010 within the project site. The findings included two non-jurisdictional wetlands (isolated) totaling approximately 0.21 acres and one jurisdictional wetland (regulated under Section 404 of the Clean Water Act), approximately 0.37 acres (Andrews Engineering, Inc., 2010). The U.S. Army Corps of Engineers (USACE) provided an approved jurisdictional determination regarding findings of the wetland delineation in a letter dated June 7, 2010 (see Appendix A). Figure 3.2.6-1 shows the locations of the wetlands. The jurisdictional wetland extends offsite to the south and ultimately drains into the Ohio River.

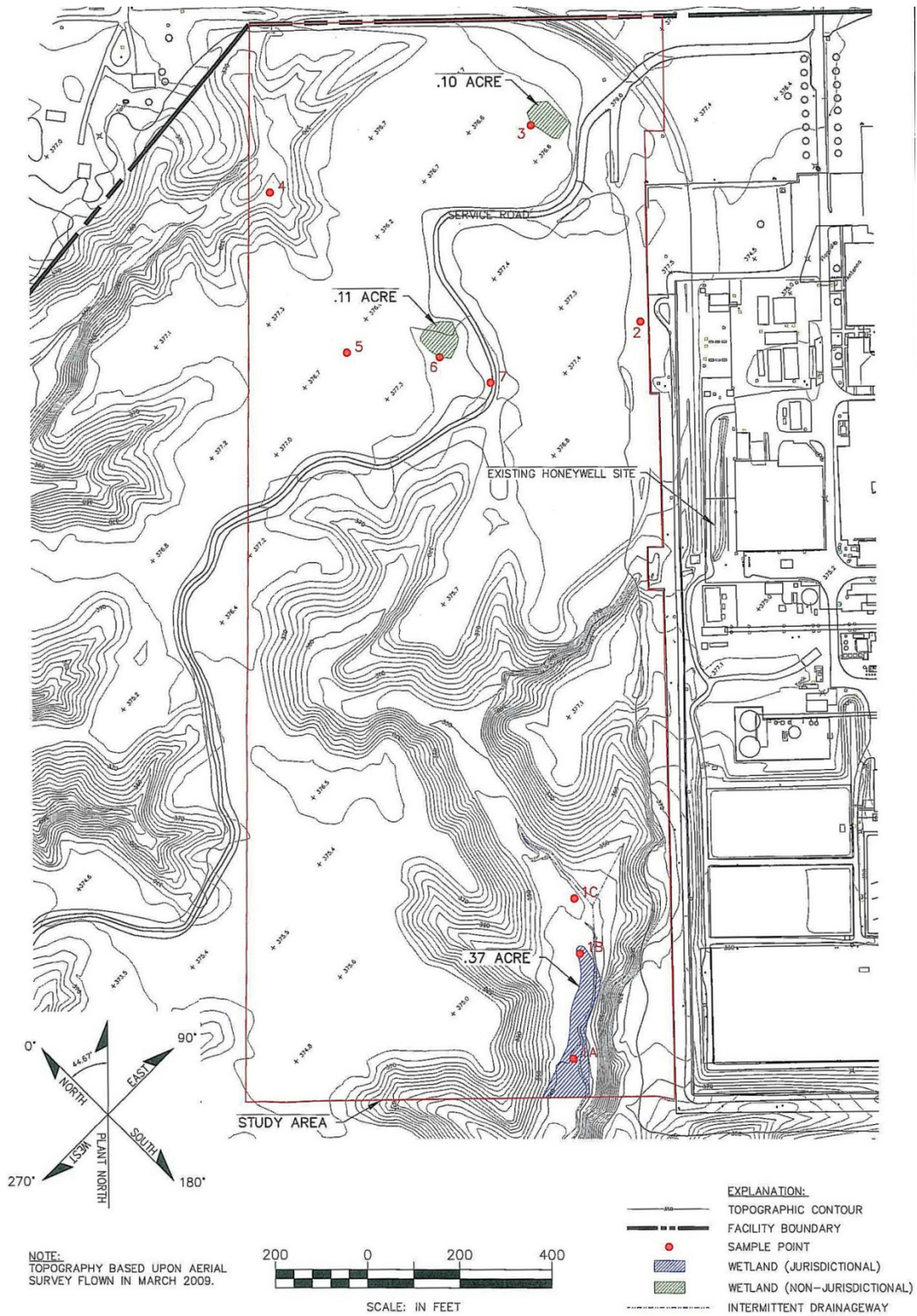
3.2.6.2 Environmental Consequences

3.2.6.2.1 No Action Alternative

3.2.6.2.2 Proposed Project

Construction

Construction of the Proposed Project could result in the unavoidable loss of isolated and jurisdictional wetlands. Any unavoidable disturbance to the 0.37-acre jurisdictional wetland or associated stream channel (considered jurisdictional "waters of the U.S." by the USACE) would require permitting with the USACE (see Appendix A). Although the USACE does not regulate the approximate 0.21 acres of isolated wetlands, the Illinois Department of Natural Resources would regulate isolated wetlands under the Illinois Interagency Wetland Policy Act of 1989. This Act has a goal of "no overall net loss of the State's existing wetland acres or their functional value." Impacts to these isolated wetlands would, therefore, require permitting with the Illinois Department of Natural Resources. Honeywell would comply with any mitigation stipulations required as part of the Section 404 permitting process by the USACE and the Illinois Department of Natural Resources. Although direct impacts may occur as a result of construction of the Proposed Project, overall adverse impacts to wetland resources would be minor and localized through adhering to mandatory Federal and State permitting requirements.



Source: Andrews Engineering, Inc., 2010

Figure 3.2.6-1. Project Site Wetlands

Operations

Operation of the Proposed Project is not anticipated to create additional disturbances to wetlands; all operations would be conducted on developed surfaces (also see Section 3.2.4 for stormwater management).

3.2.6.3 Cumulative Impacts

Other than the Proposed Project, no other projects are planned in the area of concern. No reasonably foreseeable actions have been identified that would interact with the Proposed Project to generate cumulative adverse impacts to wetlands.

3.2.6.4 Proposed Mitigation Measures

Final site design of the Proposed Project would determine whether wetland resources displayed on Figure 3.2.6-1 would be impacted by the Proposed Project. In the event of wetland disturbance, Honeywell would comply with any mitigation stipulations required as part of the Section 404 permitting process by the USACE and the Illinois Department of Natural Resources.

3.2.7 Solid and Hazardous Wastes

3.2.7.1 Affected Environment

Honeywell's existing facility produces various inorganic chemicals, including the conversion of uranium ore concentrates into uranium hexafluoride; production of sulfur hexafluoride; production of antimony pentafluoride; production of iodine pentafluoride; production of gaseous F₂ and liquified F₂; and, recovery of calcium fluoride from wastewater treatment operations (Illinois EPA, 2008). The Emergency Planning and Community Right-To-Know Act, also known as Superfund Amendments and Reauthorization Act (SARA) Title III Toxic Chemical Release Inventory Reporting, Section 313 requires manufacturing facilities to submit an annual toxic chemical release report if they manufacture, process, or use specified chemicals in amounts greater than threshold quantities. This report, commonly known as Form R, covers releases and transfers of toxic chemicals to various facilities and environmental media, and allows EPA to compile the national Toxic Release Inventory database. The Honeywell facility submits Form Rs for 14 materials, including ammonia, ammonium sulfate, antimony compounds, dichlorodifluoromethane, dichlorodifluoroethane, ethylene glycol, F₂, hydrochloric acid, HF, Pb, mercury, sodium hydroxide, sodium sulfate, and sulfuric acid (EPA, 2010e). In addition to these chemicals, other materials used include HF, KOH, uranium oxide, sulfur, iodine, calcium hydroxide, and potassium hydrofluoride.

The facility is located in EPA Region 5 and operates as a large-quantity generator of hazardous waste (EPA Identification number ILD006278170), which means the facility generates more than 2,200 pounds or more of hazardous waste or more than 2.2 pounds of acute hazardous waste per calendar month. The Illinois EPA, Pollution Control Board, implements Illinois' hazardous waste management and solid waste programs and enforces the hazardous and non-hazardous waste management rules. Hazardous waste activities must comply with Title 35 of the Illinois Administrative Code, as well as all applicable Federal regulations under 40 CFR 260-268, 273, and 279 and 29 CFR 1910. In addition, for radioactive wastes, the facility must comply with a Nuclear Regulatory Commission Materials License and all applicable requirements of the Atomic Energy Act.

Based on Honeywell's most recent Annual Hazardous Waste Report, the following hazardous wastes were generated in 2008: used oil, waste adhesives, waste paint and paint thinner, paint chips, broken fluorescent light tubes, waste sodium hydroxide solution, caustic and acidic solutions from production activities, aerosol cans, plant trench mud from equipment clean out, and shot blast (Honeywell, 2009a). Wastes are collected and hauled offsite by licensed contractors for treatment, disposal, or recycling. Certain hazardous wastes are stored in permitted storage areas prior to offsite disposal or, in the case of certain historic wastes, onsite recycling.

The Honeywell facility operates under a RCRA Part B Hazardous Waste Management Facility Permit (Part B Permit). The Part B Permit was issued on February 3, 2003, modified on July 15, 2008, and expires on March 11, 2013 (Illinois EPA, 2008). Under its Part B Permit, Honeywell can store up to 3,960 gallons of hazardous waste

as specified in their permit and up to 440,000 gallons of KOH sludges and sodium hydroxide (NaOH) sludges in the permitted KOH/NaOH muds container storage area. The facility manages four onsite surface impoundments for the storage of calcium fluoride sludge generated from the treatment of wastewater. The impoundments are referred to as Ponds B, C, D, and E. Each impoundment has a 0.060-inch thick ethylene propylene diene monomer liner, with a network of 4-inch perforated polyethylene pipes in 8-inch trenches, backfilled with crushed stone and smooth pebbles. Ponds B, C and E are no longer in use. Pond D is used for additional clarification of treated wastewater. Honeywell intends to close the ponds in place in the future in accordance with Illinois and NRC requirements. The facility is not permitted to accept waste from offsite sources.

A RCRA Facility Assessment completed by EPA in 1986, identified 15 solid waste management units (SWMUs) at the Honeywell property. EPA determined four of the SWMUs had the potential for a release. These units are the landfill, two uranium ponds, and the site of the Old Wood Treater (Creosoter) Facility Kickback Area. The location of these SWMUs is in the southern portion of the Honeywell property. The RCRA Facility Assessment concluded the remaining 11 SWMUs required no further action. Further investigation of the other four SWMUs determined the two uranium ponds require no further action, and the landfill and the Old Wood Treater (Creosoter) Facility Kickback Area should continued to be monitored for groundwater impact and cap maintenance (Illinois EPA, 2008). In addition, the Illinois EPA may require remediation at the Old Wood Treater (Creosoter) Facility Kickback Area; however, it is not known at this time what, if any, remediation will be required. The Part B Permit identifies appropriate inspections, operations, and monitoring requirements that Honeywell must adhere to, including groundwater monitoring, maintenance and monitoring of cap, emergency repairs, and contingency planning to ensure no releases to the environment occur.

In accordance with its Part B Permit, the facility conducts quarterly groundwater monitoring. There are 10 groundwater monitoring wells onsite, including seven downgradient wells and two upgradient wells that monitor for contaminants in groundwater, and a third upgradient well is used to determine groundwater surface elevation. Groundwater monitoring results are submitted to the Illinois EPA in accordance with their RCRA Part B Permit conditions (Illinois EPA, 2008). Based on groundwater sampling results for 2009 and the first quarter in 2010, contaminant concentrations were not increasing in groundwater (Honeywell, 2010).

There are no underground storage tanks located at the facility. The facility has nine ASTs that store anhydrous ammonia (two ASTs), anhydrous HF (three ASTs), sulfuric acid (one AST), sodium hydroxide (one AST), sulfur (one AST), and KOH (one AST) (Honeywell, 2009b). The facility stores calcium hydroxide in an outdoor silo. Other materials are stored in drums or other containers indoors at the facility. In addition, the facility operates a fueling station that is equipped with three ASTs containing No. 2 fuel oil (500 gallons), diesel fuel (500 gallons) and gasoline (1,000 gallons) (Honeywell, 2009a). There is no known polychlorinated biphenyl-containing equipment onsite. There are areas in the existing facility where asbestos-containing material (ACM) and Pb-based paint are reported to be present (Honeywell, 2010).

The site is not listed on the EPA's National Priority List, which designates high-priority cleanup sites under the Comprehensive Environmental Response Compensation and Liability Act, more commonly known as the Superfund Program.

3.2.7.2 Environmental Consequences

3.2.7.2.1 No Action Alternative

Under the No Action Alternative, the facility would continue its current operations and would generate the same types and quantities of hazardous and non-hazardous wastes. Wastes would continue to be collected and transported for off-site disposal or recycling in accordance with applicable Federal, state and local regulations. The facility would continue to maintain and monitor its SWMUs and would continue to use the onsite surface impoundments for the storage of waste in accordance with its Part B Permit conditions.

3.2.7.2.2 Proposed Project

Construction

The Proposed Project would be newly constructed on undeveloped land adjacent to the existing facility. As described above, the facility operates under a Part B Permit. Construction of the proposed plant would be located north of the existing facility and would not be located in areas where SWMUs, the landfill or the Old Wood Treater (Creosoter) Facility Kickback Area are located. Therefore, no impact to these areas would occur.

Construction of the new building would likely generate solid waste from building materials. These materials could be land-filled off site at a permitted solid waste landfill. Solid waste and sanitary waste generated during construction activities would be limited to common construction-related waste streams. In-state or out-of-state landfills or recycling facilities would have the capability and capacity to accept these wastes. No demolition of structures would be required; therefore, there would not be an impact to existing structures where ACM and Pb-based paint are present.

Solid waste and sanitary waste generated during construction would be limited to common construction-related waste streams. In state or out-of-state landfills or recycling facilities would have the capability and capacity to accept these wastes.

Operations

Proposed operations would require the use of hazardous or toxic materials, including F₂, HF, P, LiF and LiPF₆. Of these materials, P and LiF would be new chemicals used at this location (Honeywell, 2009). One new, 30,000-gallon AST would be located outdoors to store P. LiF would be stored in containers inside the proposed plant. The plant would store HF in an approximately 2,400-gallon intermediate tank that would be located indoors. The rest of the HF inventory (three, 20,000-gallon tanks) would be located in the existing facility. The HF would be transported from the existing plant to the new plant via an aboveground 2-inch pipeline approximately 800 feet long. A pipeline, up to 12 inches in diameter and approximately 500 feet long, would transport F₂ from the existing plant to the new plant (Honeywell, 2010). Other materials would be stored indoors in 55-gallon drums or smaller containers.

The proposed plant would generate less than 5 tpy of solid waste and is estimated to generate 15,800 gpd of spent caustic material (5 percent KOH and the rest potassium fluoride and residual trace elements) from the exhaust vent emission scrubber once operational. The spent caustic would be sent offsite for treatment and disposal (Honeywell, 2010). Waste materials would be sent offsite for recycling, or treated and disposed of at a hazardous waste disposal facility or landfill. As a large-quantity generator of hazardous waste, the facility is required to have a Preparedness and Prevention Program and a RCRA Contingency Plan in accordance with 40 CFR 262.34(a)(4) and to train its employees on the safe and proper handling of hazardous waste. These existing Honeywell plans and training would be expanded to include the new plant. The plans would include an evaluation of alternatives to eliminate, reduce, or minimize the amounts of hazardous materials used and hazardous wastes generated and procedures to take in the event of a release. The existing facility must also adhere to conditions of its Part B Permit to ensure the maintenance and monitoring of the onsite SWMUs to ensure that no release to the environment from these areas occurs.

3.2.7.3 Cumulative Impacts

Other than the Proposed Project at the Honeywell facility, no other projects are planned in the area of concern. Therefore, no reasonably foreseeable actions have been identified that would interact with the Proposed Project to generate cumulative adverse impacts.

3.2.7.4 Proposed Mitigation Measures

During construction, preventative measures such as providing fencing around the construction site, establishing contained storage areas, and controlling the flow of construction equipment and personnel would reduce the

potential for a release to occur. In the event that a release occurs, immediate action would be taken to contain and clean up the released material in accordance with Federal, State, and local regulations.

During operations, adoption of safety and emergency response plans to include the new processes and the safe handling and storage of chemicals at the site as well as employee training limit the potential for a release at the plant.

3.2.8 Transportation and Traffic

3.2.8.1 Affected Environment

The proposed site is in a rural to light industrial area approximately 2 miles northwest of the City of Metropolis, Massac County, Illinois. The Proposed Project site would be located on Honeywell property and would be adjacent to the existing MTW.

The perimeter of the property is formed by the Ohio River to the southwest, Route 45 to the northeast, an industrial coal blending plant to the northwest, and privately-owned development land to the east (Honeywell, 2009 EQ). The railroad runs northwest-southeast adjacent to Route 45 along the northern border of the site.

The property is located on Route 45 (Ohio River Scenic Byway) approximately 5 miles west from Interstate 24. Route 45 is a major northwest – southeast thoroughfare to and from Metropolis. The nearest east-west arterials are Country Club Road (Highway 13) located about 1.7 miles north of the site, which travels east from Route 45; and Joppa Road (County Road 5) located about 3 miles north of the site, which travels west from Route 45. County Road 900 travels north from its intersection with Route 45 directly across from the MTW site. Highway 1 (North Avenue) travels north off of Route 45 from the City of Metropolis, located about 2 miles south from the site. County Road-720 N/Johnson Street borders the property along the southwest parallel to the Ohio River. Local onsite roads transverse through the perimeter of the MTW site allowing access to the facilities.

The property is accessed from Route 45 by either New River Road or Doug Sumner Lane, which both run toward the southwest directly into the north and central east portions of the MTW property. The majority of the truck traffic accesses the site via Interstate 24 and Route 45. Approximately 300 total vehicles access the site during the weekdays, and approximately 150 during the weekends. The current Average Daily Traffic count on Route 45 at the property location is 4,800 vehicles, which includes 475 trucks (ILDOT, 2010).

3.2.8.2 Environmental Consequences

3.2.8.2.1 No Action Alternative

Under the No Action Alternative, construction and operations would not occur, therefore, no impacts would occur to transportation and traffic.

3.2.8.2.2 Proposed Project

Construction

Short-term but measurable adverse impacts to traffic are expected during the construction phase of the Proposed Project involving construction of the new plant the installation of the process equipment and piping, storage tanks, a new access road, a railroad extension or spur, and a 30,000 AST (Honeywell, 2010).

It is anticipated that approximately 50 construction workers would access the site during the construction phase. Construction-related vehicles would add to existing local traffic and would potentially cause minor congestion, higher traffic noise, and increased vehicle emissions along the routes. Construction worker traffic would occur primarily at the beginning and ending of the workday. Construction delivery truck traffic would be sporadic throughout the day, arriving with equipment or materials likely 10 times per week during the course of the project. The roads most impacted would be Route 45 and Interstate 24. Construction impacts to existing

transportation resources would be minor, temporary and localized (i.e., limited to proximity of the project site), and can be accommodated through the existing road network. No aspect of the construction phase is anticipated to force temporary road closures or detours. The construction would be expected to last for approximately 12 months.

Operations

The Proposed Project would be expected to result in an increase of less than two trucks per week in and out of the property after the new plant is in operation. This additional truck traffic is less than half of 1 percent of the current truck traffic on the road, and therefore would generate a negligible impact. The additional trucks would use the established truck routes currently in place. The additional truck trips to the site would be easily accommodated within the existing roadway and intersection network.

The Proposed Project would generate a minor long-term increase in privately-owned vehicle traffic due to the hiring of approximately 34 additional permanent employees. The proposed plant would operate 24 hours a day, 7 days a week. The new workers would be split among operation shifts, thus reducing the impact on traffic. The additional vehicle traffic would be less than 1 percent of the current Annual Daily Traffic count on the road, and therefore would generate a negligible impact. Proposed Project is an addition to an existing industrial facility that currently operates production equipment and has existing truck and personal-vehicle traffic, therefore, this small increase in vehicle traffic would have only a minor impact to the surrounding community.

3.2.8.3 Cumulative Impacts

Other than the Proposed Project, no other projects are planned in the area of concern. No reasonably foreseeable actions have been identified that would interact with the Proposed Project to generate cumulative adverse impacts to transportation and traffic.

3.2.8.4 Proposed Mitigation Measures

No mitigation measures would be required for transportation and traffic.

3.2.9 Human Health and Safety

3.2.9.1 Affected Environment

The handling and storage of chemicals used in the manufacturing process at the existing Honeywell facility have inherent risks that require management. The principal hazards are associated with the handling and storage of chemicals, primarily F₂, HF, and anhydrous ammonia. F₂ reacts with water, nitric acid, oxidizers, and organic compounds. It reacts violently with most combustible materials with the exception of the process equipment and containers in which it is stored and shipped. F₂ is corrosive and irritating to the eyes and skin, causing burns. If inhaled, F₂ will cause excessive irritation to the lungs that can cause acute pneumonitis and pulmonary edema, which could be fatal. Exposure to HF at high levels or in combination with skin contact can cause death from irregular heartbeat or from fluid buildup in the lungs. Contact with skin, even in low amounts, can be fatal, although skin contact with HF may cause no immediate signs of exposure. Exposure to anhydrous ammonia will cause irritation and chemical burns to eyes, ears, nose, throat, bronchia, lungs, any moist skin.

In accordance with 40 CFR Part 68, an owner or operator of a stationary source that has more than a threshold quantity of a regulated substance in a process is required to prepare a Risk Management Plan (RMP). The existing facility has a RMP in place that is updated and revised as necessary and submitted to the EPA in accordance with 40 CFR Part 68. In accordance with the regulations set forth in 40 CFR Part 68, Honeywell has an Accidental Release Prevention and Emergency Response Program in place that includes a RMP, emergency response and mitigation if an accidental release should occur, and notification to public officials in the event of an emergency. The facility must also perform regular hazard assessments for chemicals included in its RMP.

Honeywell has trained employees knowledgeable of these and other materials used at the facility. Employees are trained on the hazards of handling materials, appropriate personal protective equipment for each material and chemical-specific emergency response procedures. Training includes procedures for the safe handling to manufacture, process, store, and transport the materials as well as actions to follow in the event of a release in a manner that minimizes the impact on the health and safety of workers, the community, and the environment (Honeywell, 2010).

The potential for exposure to onsite chemicals is primarily contained within buildings and secured areas of the property. The facility is equipped with a security checkpoint and identification verification is required for all visitors to the site. The property is secured with a chain-link fence and is manned 24 hours a day. The existing facility has emergency response equipment and a safety program that includes operations, employee training, and safe handling of equipment and materials. The facility conducts periodic health assessments and industrial hygiene monitoring to evaluate and minimize the potential for exposure to employees. The facility is licensed to operate by the Nuclear Regulatory Commission and therefore, must adhere to additional regulatory regulations and agency oversight.

3.2.9.2 Environmental Consequences

3.2.9.2.1 No Action Alternative

3.2.9.2.2 Proposed Project

Construction

The Proposed Project would involve new construction on undeveloped land adjacent to the existing facility. As described above, construction of the proposed plant would be located north of the existing facility and would not be located in areas where historical contamination or remediation has occurred; therefore, no impact to these areas would occur.

Construction workers would follow safety standards applicable to the construction site hazards to protect the health and safety of workers. No impact related to health and safety would occur under Honeywell's Proposed Project from construction of the Proposed Project.

Operations

Materials to be used and stored at the plant, as described in Section 3.2.7.2, would be similar to what is currently used at the plant. However, the Proposed Project would introduce two new chemicals, P and LiF. P would be stored in a 30,000-gallon AST stored under a water blanket that would be located outdoors. The primary risk associated with the 30,000-gallon AST of P would be spontaneous combustion upon exposure to air, and in the event of a fire would produce irritating or toxic smoke; contact to the skin or eyes would cause burns. Exposure to LiF would cause skin and eye irritation; inhalation of dust can be toxic to lungs and mucous membranes. Neither P nor LiF are regulated toxic substances under 40 CFR Part 68; therefore, these chemicals would not be included in the facility's RMP. As previously described, the facility has a RMP in place. The risk for a release from the Proposed Project would not increase the potential for exposure to offsite receptors from what currently exists at the existing facility. Honeywell may have to revise its RMP and emergency response plan to incorporate the new plant.

The health and safety plans in place address potential hazards associated with handling materials as well as the emergency response actions to be followed in the event of a release, and spill containment and control if a spill of a liquid material should occur. The facility's security procedures prevent unauthorized access to the property. Any new safety and security issues associated with the proposed plant would be incorporated into Honeywell's existing plans. In addition, prior to startup, a hazard assessment would be performed for any new materials proposed to be used, to ensure that appropriate procedures and equipment would be provided to protect workers and appropriate employee training performed before handling of these materials.

Because hazardous materials and resulting wastes would be handled onsite, the potential risk of exposure would be greatest for Honeywell employees, who would be trained in proper safety procedures. The risk of exposure to the general population would be similar to what currently exists. Health and safety risks associated with onsite processes would be addressed in procedures developed to guide the safe handling of materials and waste. The principal hazards associated with plant operations (exposure to from chemical handling and equipment operation) would be contained within buildings and secure areas of the property. The facility's existing safety plan would be modified to address any new safety hazards and would specify appropriate training on proper procedures and safety practices. With appropriate safety procedures in place and the use of personal protective equipment, the potential for an impact to the health and safety of workers would be minor.

In comparison to risks associated with existing processes as described above, the additional processes and facilities would cause a minor relative increase in risks to human health and safety, primarily affecting plant employees.

Because critical hourly or daily functions of strategic importance to the national economy are not reliant on plant operations, the Honeywell facility is not considered a potential target for intentional destructive acts. Although the supply of produced compounds could be interrupted temporarily by a destructive act, the interruption would be relatively brief and would not be expected to have lasting effects on the economy. The plant is secured against public access and buffered by distance from residential areas. The potential for impacts of an intentional destructive act on human health and safety would be reduced through implementation of procedures in the Safety Plan.

3.2.9.3 Cumulative Impacts

Other than the Proposed Project, no other projects are planned in the area of concern. Therefore, no foreseeable actions have been identified that would interact with the Proposed Project to generate cumulative adverse impacts to human health and safety.

3.2.9.4 Proposed Mitigation Measures

During construction, safety measures such as establishing contained storage areas, and controlling the movement of construction equipment and personnel would reduce the potential for an accident to occur. There would be safety awareness training for construction workers on the chemical hazards present at the site and emergency procedures to follow in the event of an accidental release, particularly for F₂, HF and anhydrous ammonia.

During operations, mitigation measures would include appropriate training of all employees in the safe handling and storage of chemicals onsite, including newly introduced chemicals (P and LiF) that would be used at the proposed plant.

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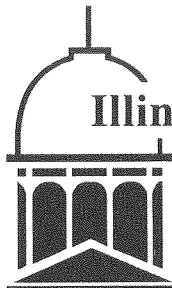
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Appendix A
Agency Consultation

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Illinois Historic Preservation Agency

1 Old State Capitol Plaza • Springfield, Illinois 62701-1512 • www.illinois-history.gov

Massac County PLEASE REFER TO: IHPA LOG #035031910
Metropolis
West side of US 45 Section: 34 Township: 15S Range: 4E
ARG-CRM 1700
50.0-acre parcel - Honeywell International

June 3, 2010

Mr. Sean Chisek, P.E.
Andrews Environmental Engineering Inc.
3535 Mayflower Boulevard
Springfield, Illinois 62711

Dear Sir:

Acre(s): 50.0 Site(s): 0
Archaeological Contractor: ARG/Titus

Thank you for submitting the results of the archaeological reconnaissance. Our comments are required by Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations, 36 CFR 800: "Protection of Historic Properties".

Our staff has reviewed the archaeological Phase I reconnaissance report performed for the project referenced above. The Phase I survey and assessment of the archaeological resources appear to be adequate. Accordingly, we have determined, based upon this report, that no significant historic, architectural, and archaeological resources are located in the project area.

Please submit a copy of this letter with your application to the state or federal agency from which you obtain any permit, license, grant, or other assistance. Please retain this letter in your files as evidence of compliance with Section 106 of the National Historic Preservation Act of 1966, as amended.

Sincerely,

Anne E. Haaker
Deputy State Historic
Preservation Officer

AEH

cc: Jesse Garcia, DoE
 Brian O'Leary, Honeywell Corporation
 Steve Titus, American Resources Group, Ltd.

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United States Department of the Interior

FISH AND WILDLIFE SERVICE

Marion Illinois Suboffice (ES)
8588 Route 148
Marion, IL 62959
(618) 997-3344

December 4, 2009

Ms. Robin Griffin
Potomac-Hudson Engineering
7830 Old Georgetown Road, Suite 220
Bethesda, MD 20814

Dear Ms. Griffin:

This is in response to a November 3, 2009, letter from the Department of Energy (DOE) requesting information on any federally threatened, endangered, or candidate species, or critical habitat that may be present in the vicinity of a proposed American Reinvestment and Recovery Act (ARRA) funded project to be located near the city of Metropolis, Massac County, Illinois. The proposed project involves the construction and operations of an Electric Drive Vehicle Battery and Component Manufacturing Facility within the Honeywell International Incorporated Industrial Park. These comments are provided under the authority of and in accordance with the provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.); the Endangered Species Act of 1973, as amended; and, the National Environmental Policy Act.

To facilitate compliance with Section 7(c) of the Endangered Species Act of 1973, as amended, Federal agencies are required to obtain from the Fish and Wildlife Service (Service) information concerning any species, listed or proposed to be listed, which may be present in the area of a proposed action. Therefore, we are furnishing you the following list of species which have ranges that include the project area and have included background information for each species in an attachment:

<u>Classification</u>	<u>Common Name (Scientific Name)</u>	<u>Habitat</u>
Endangered	Indiana bat (<i>Myotis sodalis</i>)	Caves, mines; small stream corridors with well developed riparian woods; upland and bottomland forests
Endangered	Least tern (<i>Sterna antillarum</i>)	Bare alluvial and dredge spoil islands

Endangered	Fat pocketbook (<i>Potamilus capax</i>)	Rivers
Endangered	Orange-footed pearlymussel (<i>Plethobasus cooperianus</i>)	Rivers
Endangered	Pink mucket (<i>Lampsilis abrupta</i>)	Rivers
Candidate	Sheepnose (<i>Plethobasus cyphus</i>)	Rivers
Candidate	Spectaclecase (<i>Cumberlandia monodonta</i>)	Rivers

There is no designated critical habitat in the project area at this time.

Thank you for the opportunity to provide information concerning threatened and endangered species. We are unaware of any significant fish and wildlife resources or their habitats being located within the industrial park. However, the area surrounding the industrial park is heavily forested and the site is adjacent to the Ohio River and its associated floodplain. These habitats can be important to threatened, endangered and rare species, migratory birds and other important species of fish and wildlife. As such, the environmental analysis should consider the indirect and cumulative effects of the project, if any, on fish and wildlife resources. We look forward to reviewing the Draft Environmental Assessment regarding the proposed action. If you have any questions, please contact Matt Mangan of my staff at (618) 997-3344, ext. 345.

Sincerely,

/s/ Joyce A. Collins

Joyce A. Collins
Assistant Field Supervisor

Attachment

Cc: US Department of Energy, c/o: Pierina N. Fayish

FEDERALLY LISTED THREATENED AND ENDANGERED SPECIES INFORMATION FOR MASSAC COUNTY, ILLINOIS

The endangered **Indiana bat** (*Myotis sodalis*) has been noted as occurring in several Illinois and Missouri counties. Indiana bats are considered to potentially occur in any area with forested habitat. Indiana bats migrate seasonally between winter hibernacula and summer roosting habitats. Winter hibernacula include caves and abandoned mines. Females emerge from hibernation in late March or early April to migrate to summer roosts. Females form nursery colonies under the loose bark of trees (dead or alive) and/or in cavities, where each female gives birth to a single young in June or early July. A maternity colony may include from one to 100 individuals. A single colony may utilize a number of roost trees during the summer, typically a primary roost tree and several alternates. Some males remain in the area near the winter hibernacula during the summer months, but others disperse throughout the range of the species and roost individually or in small numbers in the same types of trees as females. The species or size of tree does not appear to influence whether Indiana bats utilize a tree for roosting provided the appropriate bark structure is present. However, the use of a particular tree does appear to be influenced by weather conditions, such as temperature and precipitation.

During the summer, Indiana bats frequent the corridors of small streams with well-developed riparian woods, as well as mature bottomland and upland forests. It forages for insects along stream corridors, within the canopy of floodplain and upland forests, over clearings with early successional vegetation (old fields), along the borders of crop lands, along wooded fence rows, and over farm ponds and in pastures. It has been shown that the foraging range for the bats varies by season, age and sex and ranges up to 81 acres (33 ha). To avoid impacting the species, tree clearing activities should not occur during the period of April 1 to September 30. If a proposed action occurs within a 5-mile radius of a winter hibernacula, tree clearing should be prohibited from April 1 to November 15. If it is necessary to clear trees during this time frame, mist net surveys may be necessary to determine if Indiana bats are present. A search for this species should be made prior to cave impacting activities.

The **least tern** (*Sterna antillarum*) is listed as endangered and occurs in several Illinois counties along the Mississippi and Ohio Rivers. It nests on bare alluvial or dredge spoil islands and sand/gravel bars in or adjacent to rivers, lakes, gravel pits and powerplant cooling ponds. It nests in colonies with other least terns and sometimes with the piping plover. This species forages in shallow water areas along the river and in backwater areas, such as side channels and sloughs. Foraging habitat must be located in close proximity to nesting habitat.

The **fat pocketbook** (*Potamilus capax*) is listed as endangered and occurs in the Ohio, Wabash and Little Wabash Rivers within several Illinois counties. This species utilizes sand substrates and may be found individually or in beds with other species. Instream activities in these rivers will typically require a mussel survey (including dive surveys) to determine if fat pocketbooks are present.

The **orange-footed pearl mussel** (*Plethobasus cooperianus*) is listed as endangered and occurs in the Ohio River in Massac and Pulaski counties and may potentially occur in other Illinois counties bordering the Ohio River. This species inhabits gravel or mixed sand and gravel

substrates. Instream activities in the Ohio River will typically require a mussel survey to determine if orange-footed pearly mussels are present.

The **pink mucket** (*Lampsilis abrupta*) is listed as endangered and occurs in the Ohio River in Massac County and may potentially occur in other Illinois counties bordering the Ohio River. This species inhabits gravel and sand substrates in moderate to fast-flowing water. Instream activities in the Ohio River will typically require a mussel survey to determine if pink mucket pearly mussels are present.

The **sheepnose** (*Plethobasus cyphus*) is a federal candidate species that occurs in the Ohio River. This species inhabits medium to large rivers and utilizes gravel and mixed sand and gravel substrates.

The **spectaclecase** (*Cumberlandia monodonta*) is a federal candidate species that occurs in the Ohio River.

Robert Naumann

From: Robin Griffin
Sent: Thursday, February 25, 2010 8:40 AM
To: Debra Walker; Robert Naumann; Rachel M. Spangenberg
Subject: FW: NHP map request e_mail 12_14_09.pdf - Adobe Acrobat Standard

From Robin's email being sent by Rachel

From: Kieninger, Tara [Tara.Kieninger@Illinois.gov]
Sent: Wednesday, February 24, 2010 4:00 PM
To: Robin Griffin
Subject: RE: NHP map request e_mail 12_14_09.pdf - Adobe Acrobat Standard

Dear Robin,

I apologize for the delayed response. We have been swamped with requests and other project deadlines. I checked the location again and there are no sensitive resources within the vicinity of the project location.

Please be aware that the Natural Heritage Database cannot provide a conclusive statement on the presence, absence, or condition of significant natural features in Illinois. The Department of Natural Resources can only summarize the existing information known to us at the time of the request. This report should not be regarded as a final statement on the area being considered, nor should it substitute for field surveys required for environmental assessments.

This letter is separate from the Illinois Department of Natural Resources consultation requirement under the Illinois Endangered Species Act (530 ILCS 10/11) and the Illinois Natural Areas Preservation Act (525 ILCS 30/17). For more information on this process, please contact the Illinois Department of Natural Resources, Division of Ecosystems and Environment, at One Natural Resources Way, Springfield, Illinois 62702-1271 or by telephone at (217)785-5500.

Please Note: data from the Illinois Natural Heritage Database is updated with new information on a daily to quarterly basis depending on the dataset involved. It is your responsibility to request data updates should your project's timeline warrant it. The majority of requests are answered within 2 weeks of their receipt. Please plan ahead to allow ample time for receipt of the data.

For Future Note:

Information related to the vicinity of a project site can be elicited from the EcoCAT (Ecological Compliance Assessment Tool) public website by submitting an "Information Request" or by initiating the Endangered Species Consultation Process there. Results are instantaneous. EcoCAT can be used to discover if known records of endangered or threatened species, Illinois Natural Areas Inventory (INAI) Sites, dedicated Illinois Nature Preserves, or registered Land & Water Reserves exist "in the vicinity." A report will be generated that summarizes those sensitive resources.

Go to the IDNR Agency web page: <http://www.dnr.state.il.us>. Click the EcoCAT icon link on the lower left side of the website and follow the instructions. EcoCAT will not provide exact locations for sensitive resources, but it will inform you if any of these resources are in the vicinity of your project site, either within or just outside the footprint of the project site that you draw.

Lists of endangered or threatened species, Illinois Natural Areas Inventory (INAI) sites, and lands protected by the Illinois Nature Preserves Commission (INPC) for each county are provided on our webpage: <http://dnr.state.il.us/conservation/naturalheritage/inhd.htm>. Be sure to check back quarterly for updates to this list.

Tara Kieninger

Illinois Natural Heritage Database
Illinois Dept of Natural Resources
One Natural Resources Way
Springfield, IL 62702
(217)782-2685
(217)785-2438 - fax
tara.kieninger@illinois.gov

From: Robin Griffin [mailto:robin.griffin@phe.com]
Sent: Monday, February 08, 2010 2:08 PM
To: Kieninger, Tara
Subject: RE: NHP map request e_mail 12_14_09.pdf - Adobe Acrobat Standard

Hi Tara,
Thanks for responding so quickly. Attached is the site location map.

Thanks,
Robin

From: Kieninger, Tara [mailto:Tara.Kieninger@Illinois.gov]
Sent: Monday, February 08, 2010 2:03 PM
To: Robin Griffin
Subject: RE: NHP map request e_mail 12_14_09.pdf - Adobe Acrobat Standard

Here is the message I sent Pierina on 12/16/09....Note that our database is updated on a daily basis, so it would be best if you sent me the location for the project so that I can run it through our database again.

Tara Kieninger

~~~~~

Dear Peiri,

According to the Natural Heritage Database, there are no endangered & threatened species, Illinois Natural Areas Inventory (INAI) sites, or Illinois Nature Preserves Commission (INPC) properties in the project area. However, the following resources exist within 1 mile of the project boundaries:

*Elliptio crassidens* – elephant-ear mussel  
*Fusconaia ebena* – ebonyshell mussel  
*Halesia Carolina* – Carolina silverbell  
*Helianthus angustifolius* – narrow-leaved sunflower  
*Pandion haliaetus* – osprey  
*Potamilus capax* – fat pocketbook mussel

Please be aware that the Natural Heritage Database cannot provide a conclusive statement on the presence, absence, or condition of significant natural features in Illinois. The Department of Natural Resources can only summarize the existing information known to us at the time of the request. This report should not be regarded as a final statement on the area being considered, nor should it substitute for field surveys required for environmental assessments.

This letter is separate from the Illinois Department of Natural Resources consultation requirement under the Illinois Endangered Species Act (530 ILCS 10/11) and the Illinois Natural Areas Preservation Act (525 ILCS 30/17). For more information on this process, please contact the Illinois Department of Natural Resources, Division of Ecosystems and Environment, at One Natural Resources Way, Springfield, Illinois 62702-1271 or by telephone at (217)785-5500.

**Please Note:** data from the Illinois Natural Heritage Database is updated with new information on a daily to quarterly basis depending on the dataset involved. It is your responsibility to request data updates should your project's timeline warrant it. The majority of requests are answered within 2 weeks of their receipt. Please plan ahead to allow ample time for receipt of the data.

**For Future Note:**

Information related to the vicinity of a project site can be elicited from the EcoCAT (Ecological Compliance Assessment Tool) public website by submitting an "Information Request" or by initiating the Endangered Species Consultation Process there. Results are instantaneous. EcoCAT can be used to discover if known records of endangered or threatened species, Illinois Natural Areas Inventory (INAI) Sites, dedicated Illinois Nature Preserves, or registered Land & Water Reserves exist "in the vicinity." A report will be generated that summarizes those sensitive resources.

Go to the IDNR Agency web page: <http://www.dnr.state.il.us>. Click the EcoCAT icon link on the lower left side of the website and follow the instructions. EcoCAT will not provide exact locations for sensitive resources, but it will inform you if any of these resources are in the vicinity of your project site, either within or just outside the footprint of the project site that you draw.

Lists of endangered or threatened species, Illinois Natural Areas Inventory (INAI) sites, and lands protected by the Illinois Nature Preserves Commission (INPC) for each county are provided on our webpage:

<http://dnr.state.il.us/conservation/naturalheritage/inhd.htm>. Be sure to check back quarterly for updates to this list.

Let me know if you have any questions.

Tara Kieninger  
Database Program Manager  
Illinois Natural Heritage Database  
Illinois Dept of Natural Resources - ORC  
One Natural Resources Way  
Springfield, IL 62711  
(217)782-2685  
(217)785-2438 (fax)  
[tara.kieninger@illinois.gov](mailto:tara.kieninger@illinois.gov)

---

**From:** Robin Griffin [<mailto:robin.griffin@phe.com>]  
**Sent:** Monday, February 08, 2010 12:00 PM  
**To:** Kieninger, Tara  
**Subject:** NHP map request e\_mail 12\_14\_09.pdf - Adobe Acrobat Standard

Hi Tara, I just left you a voicemail as well. We have not received our response for the attached project in Metropolis, IL. Could you please send me a duplicate when you get a chance?

Thanks,

**Robin W. Griffin** | Project Manager  
Potomac-Hudson Engineering, Inc.  
7830 Old Georgetown Road, Suite 220  
Bethesda, MD 20814  
Main: 301-907-9078 ext. 3010  
[robin.griffin@phe.com](mailto:robin.griffin@phe.com) | [www.phe.com](http://www.phe.com) **ZweigWhite**  
**Hot Firm Award Winner | 2008**



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**DEPARTMENT OF THE ARMY**  
U.S. ARMY ENGINEER DISTRICT, LOUISVILLE  
CORPS OF ENGINEERS  
REGULATORY BRANCH, WEST SECTION  
P.O. Box 489  
NEWBURGH, INDIANA 47629-0489  
FAX: (812) 858-2678  
<http://www.lrl.usace.army.mil>

June 7, 2010

Operations Division  
Regulatory Branch (South)  
ID No. LRL-2010-467-dah

Gene Thomas  
Honeywell International, Inc.  
101 Columbia Road  
Morristown, NJ 07962

Dear Mr. Thomas:

This is in regard to the wetlands determination delineation report dated April, 2010 submitted on behalf of Honeywell International, Inc., concerning a proposal to expand the existing facility.

The U. S. Army Corps of Engineers exercises regulatory authority under Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) and Section 404 of the Clean Water Act (33 USC 1344) for certain activities in "waters of the United States (U.S.)". These waters include all waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce.

The specific isolated Sites 3 and 6 in question do not appear to be used or be susceptible to use in interstate or foreign commerce. As such, these open water with forested wetland fringe are not considered to be a "water of the U.S.". Therefore, a Department of the Army permit is not required in this instance. There are jurisdictional waters on the site, specifically Sites 1A and 1B and the stream channel that occurs within the wetland area. If your project extends down and impacts Sites 1A and 1B, a Section 404 permit may be necessary.

This jurisdictional determination is valid for a period of five (5) years from the date of this letter unless new information warrants revision of the determination before the expiration date. However, this determination does not relieve you of the responsibility to comply with applicable state law. We urge you to contact the Illinois Environmental Protection Agency, Bureau of Water, Watershed Management Section, 1021 North Grand Avenue East, Springfield, Illinois 627941 to determine the applicability of state law to your project.

Our comments on this project are limited to only those effects which may fall within our area of jurisdiction and thus do not obviate the need to obtain other permits from state or local agencies. Lack of comments on

other environmental aspects should not be construed as either concurrence or nonconcurrence with stated environmental effects.

This letter contains an approved jurisdictional determination for your subject site. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal this determination, you must submit a completed RFA form to the Lakes and Rivers Division Office at the following address:

Ms. Pauline Thorndike  
Great Lakes and Ohio River Division  
CELRD-PDS-O  
550 Main Street, Room 10032  
Cincinnati, OH 45201-3222  
(513) 684-6212

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR Part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by August 7, 2010.

It is not necessary to submit an RFA form to the Division office if you do not object to the determination in this letter.

If we can be of any further assistance, please contact us by writing to the above address, ATTN: CELRL-OP-FW, or call me at 812.842.0250. Any correspondence on this matter should refer to our ID Number LRL-2010-467-dah.

Sincerely,



Devetta Hill  
Regulatory Specialist  
Regulatory Branch

Copy furnished:

Paul Brown, Andrews Engineering, Inc.  
Illinois Environmental Protection Agency

dah/OP-FS/isolated-IL-noperm.doc

## **Appendix B**

**Public Comments on the Draft Environmental Assessment and Responses from the  
Department of Energy and Honeywell International Inc.**

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# ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276 • (217) 782-2829  
James R. Thompson Center, 100 West Randolph, Suite 11-300, Chicago, IL 60601 • (312) 814-6026

PAT QUINN, GOVERNOR

DOUGLAS P. SCOTT, DIRECTOR

217-782-0547

July 20, 2010

Mr. Jesse P. Garcia  
NEPA Document Manager  
National Energy Technology Laboratory  
3610 Collins Ferry Road  
P O Box 880  
Morgantown, WV 26507

Dear Mr. Garcia:

Thank you for the opportunity to review the draft environmental assessment for the proposed Electric Drive Vehicle Battery and Component Honeywell Plant in Massac County, Metropolis, Illinois.

The Agency has no objections to the project; however, a permit may be required from the Division of Water Pollution Control for any sanitary sewers to serve this project. A construction site activity stormwater NPDES permit will also be required from the Division of Water Pollution Control for more than one acre being disturbed during construction. You may contact Al Keller with questions involving the DWPC permits, 217-782-0610.

A permit will be required from the Division of Public Water Supplies for any proposed water mains and/or elevated water storage tank to serve this plant. You may contact, Jerry Kuhn, 217-782-9470 with questions or concerns.

A permit will most likely be required from the Bureau of Air. Questions or comments may be directed to Ed Bakowski, 217-782-2113.

Solid and hazardous waste must be properly disposed of or recycled.

If a review is needed in the future, please submit to:

Illinois Environmental Protection Agency, Office of the Deputy Director, 1021 North Grand Avenue East, P O Box 19276 **Attn: DiAnne Schuerman, MC #1, Springfield, IL 62794-9276.**

Sincerely,

Lisa Bonnett  
Acting Deputy Director

Rockford • 4301 N. Main St., Rockford, IL 61103 • (815) 987-7760

Elgin • 595 S. State, Elgin, IL 60123 • (847) 608-1131

Bureau of Land - Peoria • 2620 N. University St., Peoria, IL 61614 • (309) 693-5462

Collinsville • 2009 Mall Street, Collinsville, IL 62234 • (618) 346-5120

Des Plaines • 9511 W. Harrison St., Des Plaines, IL 60016 • (847) 294-4000

Peoria • 5415 N. University St., Peoria, IL 61614 • (309) 693-5463

Champaign • 2125 S. First St., Champaign, IL 61820 • (217) 278-5800

Marion • 2309 W. Main St., Suite 116, Marion, IL 62959 • (618) 993-7200

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

AUG 13 2010

REPLY TO THE ATTENTION OF:

E-19J

Jesse Garcia  
Department of Energy NEPA Document Manager  
U.S. Department of Energy, National Energy Technology Laboratory  
3610 Collins Ferry Road, P.O. Box 880  
Morgantown, West Virginia 26507

**RE: Comments on the Draft Environmental Assessment for Honeywell International, Incorporated Electric Drive Vehicle Battery and Component Manufacturing Initiative Project in Metropolis, Massac County, Illinois**

Dear Mr. Garcia:

Under the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations, and Section 309 of the Clean Air Act, U.S. Environmental Protection Agency (EPA) reviews and comments on major federal actions. Typically, these reviews focus on Environmental Impact Statements (EIS), but we also have the discretion to review and comment on other environmental documents prepared under NEPA if interest and resources permit. EPA has reviewed the Draft Environmental Assessment (EA) for the above project, proposed for Metropolis, Illinois. This letter provides our comments on that document and possible impacts related to the proposed project.

The purpose and need for this American Reinvestment and Recovery Act (ARRA) project is to help create national capacity of new electric energy power sources for automotive Electric Drive Vehicle (EDV) systems. Specifically, this proposed facility will manufacture lithium-ion battery chemical materials and contribute toward stimulating the nation's economy. A variance was granted by the Department of Energy (DOE) General Counsel regarding alternative requirements for NEPA in CFR 1021.216. DOE will either accept or reject each proposal application, so only the applicant proposal and a no-action alternative are considered in this EA.

The current proposal is to annex the existing Metropolis, Illinois Honeywell 49.1-acre plant by adding an approximately 10 acre facility northwest and adjacent to this plant. This would be within the company's larger 1,010 acre landholdings of mostly undeveloped land at this location. Our comments below address possible direct, indirect, and cumulative impacts of the proposal to air, soil, and surface waters.

This EA acknowledges natural resource impacts have already occurred as the result of previous industrial activities at Metropolis's existing manufacturing facilities. We are aware of

State of Illinois enforcement actions over the past several years including Clean Air Act (CAA), Resource Conservation and Recovery Act (RCRA) and Clean Water Act (CWA) violations.

### **Soil Impacts and Air Impacts**

Because of these state enforcement actions we made inquiry regarding their impact for this proposal. The proposed site for plant expansion has no history of industrial activity or contamination. The RCRA and CAA violations were within the existing plant site and did not involve this proposed adjacent site. It is our understanding that the State's enforcement action(s) for these violations have been or are being resolved and do not impose any restrictions for this proposed plant expansion.

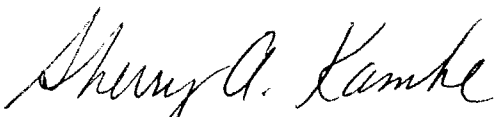
Toxic air releases as proposed in this EA would be in such small amounts per year, e.g. eight at less than 0.57 tons per year (tpy) and three less than 5 tpy, that their total sum does not reach a critical level. EPA and Illinois EPA have determined that this new facility will not exceed permissible emission standards, and will not endanger the health and well being of the environment or people in the area of the facility.

### **Water Impacts**

There are three small wetland areas (0.10, 0.11 and 0.37 acres) on the proposed 10 acre site, of low functional and floristic quality. Mitigation consistent with U.S. Army Corps permitting requirements will be provided, but are not specified in the EA. We recommend wetland mitigation be discussed in the EA at least at a conceptual level. We further recommend that Honeywell use sustainable and green design to reduce environmental impacts in the planning and design of this site, such as stormwater management. We also recommend such green infrastructure principles to enhance conservation of energy and other water usage impacts.

Thank you for the opportunity to comment on this EA document. We request that DOE provide us with all further NEPA documents for this project. If you have any questions on our comments, please contact me or my staff member Norm West by phone at (312) 353-5692 or by e-mail at: west.norman@epa.gov.

Sincerely,

*for* 

Kenneth A. Westlake  
Chief, NEPA Implementation Section  
Office of Enforcement and Compliance Assurance



**DOE and Honeywell Responses to Comments on Draft Environmental Assessment for Electric Drive Vehicle Battery Component Manufacturing Initiative Project for Honeywell International Inc.**

| Comment Number                                         | Public Comments on Honeywell EA                                                                                                                                                                                                                                       | DOE Response                                                                                                                                                                                                                                                                                                                                                                                                                                              | Honeywell Response       |
|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| <i>Illinois Environmental Protection Agency (IEPA)</i> |                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                          |
| 1                                                      | The Agency has no objections to the project; however, a permit may be required from the Division of Water Pollution Control for any sanitary sewers to serve this project.                                                                                            | No new sanitary sewers would be required for the project; however, if it was determined that new sanitary sewers were needed, Honeywell would coordinate with IEPA regarding a permit.                                                                                                                                                                                                                                                                    | Agree with DOE Response. |
| 2                                                      | A construction site activity stormwater NPDES permit will also be required from the Division of Water Pollution Control for more than one acre being disturbed during construction. You may contact Al Keller with questions involving the DWPC permits 217-782-0610. | As presented in Section 3.2.4.1.1. of the EA: The facility has a National Pollutant Discharge Elimination System (NPDES) permit granted by the Illinois EPA (Permit Number IL0004421). In Section 3.2.4.4.2., impacts would be minimized through adherence with the facility’s NPDES permit and associated SWPPP, which would be modified to accommodate the proposed plant.                                                                              | Agree with DOE Response. |
| 3                                                      | A permit will be required from the Division of Public Water Supplies for any proposed water mains and/or elevated water storage tank to serve this plant. Please contact Jerry Kuhn 217-782-9470 with questions or concerns.                                          | No new water mains and/or elevated water storage tanks would be required for the project, however if it was determined that new sanitary sewers were needed, Honeywell would coordinate with IEPA regarding a permit.                                                                                                                                                                                                                                     | Agree with DOE Response. |
| 4                                                      | A permit will most likely be required from the Bureau of Air. Questions or comments may be directed to Ed Bakowski 217-782-2113.                                                                                                                                      | As presented in Section 3.2.1.2.2 of the EA: “The new manufacturing operations of the Proposed Project would require a modification of the facility’s Title V permit to include all new air pollution sources. The current Metropolis plant is a major source of HAPs and SO <sub>2</sub> and has a Title V permit issued by the Illinois EPA. The Proposed Project would require a construction permit and a minor modification to add the new emissions | Agree with DOE Response. |

**DOE and Honeywell Responses to Comments on Draft Environmental Assessment for Electric Drive Vehicle Battery Component Manufacturing Initiative Project for Honeywell International Inc.**

| Comment Number                                             | Public Comments on Honeywell EA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | DOE Response                                                                                                                                                                                        | Honeywell Response       |
|------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
|                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | points. No major New Source Review would be required. The changes would be accomplished under the current minor New Source Review project with EPA.”                                                |                          |
| 5                                                          | Solid and hazardous waste must be properly disposed of or recycled.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | All solid and hazardous wastes would be properly disposed of or recycled. In-state or out-of-state landfills or recycling facilities would have the capability and capacity to accept these wastes. | Agree with DOE Response. |
| <b><i>U.S. Environmental Protection Agency (USEPA)</i></b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                     |                          |
| 6                                                          | This EA acknowledges natural resource impacts have already occurred as the result of previous industrial activities at Metropolis's existing manufacturing facilities. We are aware of State of Illinois enforcement actions over the past several years including Clean Air Act (CAA), Resource Conservation and Recovery Act (RCRA) and Clean Water Act (CWA) violations. Because of these state enforcement actions we made inquiry regarding their impact for this proposal. The proposed site for plant expansion has no history of industrial activity or contamination. The RCRA and CAA violations were within the existing plant site and did not involve this proposed adjacent site. It is our understanding that the State's enforcement action(s) for these violations have been or are being resolved and do not impose any restrictions for this proposed plant expansion. | Comment noted.                                                                                                                                                                                      | Agree with DOE Response. |

**DOE and Honeywell Responses to Comments on Draft Environmental Assessment for Electric Drive Vehicle Battery Component Manufacturing Initiative Project for Honeywell International Inc.**

| Comment Number | Public Comments on Honeywell EA                                                                                                                                                                                                                                                                                                                                                                                                                  | DOE Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Honeywell Response                                                                                                                                      |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7              | <p>Toxic air releases as proposed in this EA would be in such small amounts per year, e.g. eight at less than 0.57 tons per year (tpy) and three less than 5 tpy, that their total sum does not reach a critical level. EPA and Illinois EPA have determined that this new facility will not exceed permissible emission standards and will not endanger the health and well being of the environment or people in the area of the facility.</p> | <p>Comment noted.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <p>Agree with DOE Response.</p>                                                                                                                         |
| 8              | <p>There are three small wetland areas (0.10, 0.11 and 0.37 acres) on the proposed 10 acre site of low functional and floristic quality. Mitigation consistent with U.S. Army Corps permitting requirements will be provided, but are not specified in the EA. We recommend wetland mitigation be discussed in the EA at least at a conceptual level.</p>                                                                                        | <p>As stated on page 27, Section 3.2.6.2.2, of the Draft EA there is a potential for the unavoidable loss of isolated and jurisdictional wetlands; as wetlands have been identified within the study area site. The construction engineering limits of disturbance, however, have not been determined; therefore the wetland impact (if any) cannot be quantified, nor specific mitigation requirements be anticipated within the EA document.</p> <p>The following text has been added to the FONSI to explain the likely sequence of mitigation based on the EPA’s and USACE’s 2008 Wetlands Compensatory Mitigation Rule: <i>“Although final engineering design within the 10-acre site has not been completed, and acreage of wetland disturbance (if any) cannot be determined, Honeywell would comply with any mitigation stipulations required as part of the Section 404 permitting process by the USACE and the Illinois Department of Natural Resources.</i></p> | <p>Agree with DOE Response.</p> <p>The wetlands survey actually covered 20-30 acres to ensure Honeywell could find 10 clear acres for construction.</p> |

**DOE and Honeywell Responses to Comments on Draft Environmental Assessment for Electric Drive Vehicle Battery Component Manufacturing Initiative Project for Honeywell International Inc.**

| Comment Number | Public Comments on Honeywell EA                                                                                                                                                                                                                                                                             | DOE Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Honeywell Response                                                                                                                 |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
|                |                                                                                                                                                                                                                                                                                                             | <p><i>This mitigation would likely follow the EPA and USACE Wetlands Compensatory Mitigation Rule which outlines standards clearly affirming the requirement for permit applicants to adhere to the “mitigation sequence” of “avoid, minimize and compensate” wetland impacts. Honeywell would demonstrate through the permitting process how wetland impacts were avoided and minimized; compensation for unavoidable impacts (in the form of restoration, enhancement, establishment, or preservation) would then be considered using a watershed approach. The USACE District engineer would specify the appropriate ratio of compensatory mitigation (typically 1:1 or greater) and form of compensation for any unavoidable losses to wetlands during the permitting process.”</i></p> |                                                                                                                                    |
| 9              | <p>We further recommend that Honeywell use sustainable and green design to reduce environmental impacts in the planning and design of this site, such as stormwater management. We also recommend such green infrastructure principles to enhance conservation of energy and other water usage impacts.</p> | <p>Honeywell would make all efforts to use sustainable and green design and green infrastructure principles.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p>Honeywell would evaluate sustainable and green alternatives during the design and infrastructure planning for the facility.</p> |



