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1999

EPA Superfund
Record of Decision:

Ilada Energy Company Site
East Cape Girardeau, IL
9/27/1999

Ilada Energy Company Site, IL

DECLARATION FOR THE RECORD OF DECISION

SITE NAME AND LOCATION

Ilada Energy Company site
East Cape Girardeau, Illinois

STATEMENT OF BASIS AND PURPOSE

This decision document represents the selected remedial action for the Ilada Energy Company site developed in accordance with the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA) and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

This decision is based upon the contents of the administrative record for the Ilada Energy Company site.

The United States Environmental Protection Agency (USEPA), RegionV supports the selected remedy on the Ilada Energy Superfund site. USEPA and Illinois EPA have determined that their response at this site is complete. Therefore, the site now qualifies for inclusion on the Construction Completion List.

DESCRIPTION OF SELECTED REMEDY

No further remedial action is necessary at the Ilada Energy Company site. The earlier removal action has mitigated the environmental risks to a degree that the conditions at the site pose no unacceptable risk of exposure to contaminants of concern.

DECLARATION STATEMENT

It has been determined that no further remedial action is necessary for the purpose of mitigating

Protection Agency (Illinois EPA) in consultation with USEPA Region V that the selected remedy is protective of human health and the environment, attains Federal and State requirements that are applicable or relevant and appropriate for this remedial action (or invokes an appropriate waiver), and is cost-effective.

Because this remedy requires the maintenance of institutional controls to prevent unacceptable exposures from hazardous substances over a long period of time, a review will be conducted by Illinois EPA, in consultation with USEPA, within five years after signature of this Record of Decision to ensure that the remedy continues to provide adequate protection of human health and the environment.

The institutional controls that have been instituted consist of the following:

- Prohibiting the installation of groundwater wells for the purpose of producing potable water, and;
- Prohibiting the use, improvement or maintenance of any type of residential purpose;

William E. Muno, Director
Superfund Division
USEPA - Region V

9/27/99
Date

Thomas V. Skinner, Director
Illinois EPA

9.28.99
Date

SITE NAME, LOCATION, AND DESCRIPTION

The Ilada Energy Company site (the "site") encompasses approximately 17 acres in southern Illinois, south of the town of East Cape Girardeau in the northwest quadrant of Section 32, Township 14 South, Range 3 West. The surrounding area is utilized primarily for agricultural purposes. Farmland borders the site to the northeast, but the remainder is owned by the US Forest Service and used for silvaculture. The area is relatively flat with a ground surface elevation of approximately 330 feet above mean sea level. The site is located within the 100-year floodplain of the Mississippi River on the "dry" side of the 20-foot high flood control levee which is located immediately to the south of the site. A 200-foot wide slough was formed along the south toe of the levee as a result of borrowing material for its construction. This area is swampy during the wet season (approximately Fall through Spring) supporting riparian vegetation consisting of cattails and other aquatic plants. The quarter-mile wide strip between the river and the slough comprises wooded areas, dense brush and ground vegetation, and patches of overgrown, idle cropland.

The main site is surrounded by a locked chain-link fence to restrict access. Prior to the removal action, there were seven structures and twenty-two bulk oil tanks and numerous underground pipelines. All were removed from the site along with the tank contents and the grossly contaminated soil on site. The site is overgrown yearly with native grasses and weeds.

SITE HISTORY AND ENFORCEMENT ACTIVITIES

The site originally consisted of a tank farm built for the U. S. Department of War (DOW) in 1942. The location was selected to take advantage of access provided by the Mississippi River. The facility was operated by Allied Oil Terminal Company as a bulk fuel oil storage/transfer terminal until the early or mid-1950's. Transfer piping ran across the levee towards the river.

After Allied Terminal ceased using the facility in the mid-1950's, the site sat idle until purchased by the Kara Oil Company in 1979. In 1982, it was assigned to Larry Wilson of the Ilada Energy Company (Ilada).

From 1981 to 1983, Ilada operated the tank farm as a waste oil reclamation facility. Additional tanks and structures were added to the facility in that time period.

Several inspections of the facility were conducted by the Illinois EPA and the USEPA in 1982 and 1983. These inspections revealed that Ilada was improperly storing, handling, mixing, and disposing waste oils contaminated with PCBs. Ilada and the USEPA entered into a consent decree and order on January 18, 1983 to correct these deficiencies. Among other action, the order required the removal "forthwith and without delay" of PCB-contaminated materials in accordance with TSCA. It also required Ilada to close all activities relating to the receipt, transportation, storage, handling, use and disposal of PCBs, chemicals, and other wastes. Later

in 1983, the boiler was removed by Ilada as well as some pumps and related equipment from the pump house, and office and laboratory equipment were removed from the Office Building. In 1986, the Illinois EPA installed six groundwater monitoring wells on the site. The site was subsequently proposed for inclusion on the National Priorities List (NPL) pursuant to Section 105 of CERCLA on June 24, 1988. The listing of the site on the NPL was finalized on October 4, 1989. Site visits in 1989 indicated spillage and leakage of oils on the ground near several tanks and tank valves.

In 1989, after Ilada had make no effort to remove PCB materials from the site, a unilateral Administrative Order was issued pursuant to Section 106 of CERCLA. As a result of the Section 106 Order, four of the companies included as PRPs formed the Ilada Energy Company - East Cape Girardeau Group. These companies included Shell Oil Company, Metal Container Corporation, Granite City Steel Division of National Steel, and Emerson Electric Company. The group was then ordered to initiate a Remedial Investigation (RI) to determine the source, nature and extent of the contamination at the site following the removal action.

The final RI was finalized and approved by Illinois EPA in April of 1999. The human health Baseline Risk Assessment (HHRA) and Ecological Risk Assessment (ERA) were finalized and approved by Illinois EPA in July of 1999.

COMMUNITY RELATIONS

The Illinois EPA has been responsible for conducting a community relations program for the site. Concern about the site has remained low, due to its remote location and the fact that on-site groundwater contamination has shown no apparent affect on nearby residential and agricultural wells. Some of the local residents were aware of the environmental problems associated with the site prior to the removal action, but awareness of the potential environmental and public health threats posed by the site is primarily due to regulatory activities and investigations carried out by the Illinois EPA and USEPA.

The community relations program at the Ilada Energy site was designed to allow the nearby communities to learn about and participate in the Superfund remedial process, without disrupting the communities' confidence that the site posed no new or immediate hazards. The community relations plan focused on:

- informing nearby residents, operators of farms and commercial properties, and other interested citizens about the Superfund process, project plans, progress, and problems;
- ensuring that all local, state, and federal officials who have interest in the site are kept informed of the project plans, progress, and problems;
- identifying additional issues, changing concerns, and misconceptions of the affected

community;

- providing accurate and timely information to the news media;
- preventing the development of unrealistic expectations, especially regarding the timing of actions at the site and possible local employment effects of the project;
- providing timely and accurate responses to inquires regarding the project;
- setting up the local repository for project documents and reports. A separate repository was established and maintained to hold the administrative record for this site;
- noticing the nearby residents and potentially affected persons of the proposed plan along with a minimum thirty-day comment period; and
- conducting a public hearing in accordance with section 117(a)(2) of CERCLA.

SCOPE AND ROLE OF RESPONSE ACTION

The proposed response action is No Further Action. The site-wide removal action already conducted is the final action for this site.

SUMMARY OF SITE CHARACTERISTICS

The Remedial Investigation identified and defined the extent of the site impact following the removal action from previous activities associated with site operations. The information generated supported the risk assessment conducted to evaluate the current or potential human health or environmental hazards associated with the site. The following approach was used:

1. Determine the hydrogeologic characteristics of the unconsolidated units beneath the site to evaluate this as a potential migration pathway and the hydrologic and geotechnical parameters that may affect potential groundwater remediation technologies;

2. Determine the nature and extent of any impacted soil remaining at the site following the removal action;

3. Evaluate the nature and extent of any impact in the groundwater;

4. Evaluate the potential for off-site migration of constituents in sediments or surface waters during site flooding events;

5. Compile existing information on plant and animal species in the general vicinity of the site;

6. Prepare a risk assessment to evaluate and quantify the risk to health and the environment of any residual constituents remaining after the completion of the removal action;

7. Perform a topographical survey, locate sampling points, maintain a record of the locations of important features, and prepare base maps for site figures;

8. Survey the number of residents and domestic drinking water wells within two miles of the site; and

9. Assess the nature and amount of the source of the constituents via records search, tank and pipeline sampling, and interviews with former employees of the Ilada Energy Company.

General Conclusions from the Remedial Investigation

All structures used by Ilada Energy, including foundations, tanks, aboveground and buried pipelines (including those south of the levee), debris, and grossly impacted soils were removed as part of the removal action. The only remnants of the tank farm are the repaired seven-foot high perimeter fence, roads, subdued remnants of the six berms around the tank areas, and the former site production water well. Nearly all of the brush and trees were removed during the removal action. Weeds and brush have reestablished a vegetative cover since completion of site activities.

With the exception of a localized pool of subsurface aviation gasoline, no continuing source of constituents associated with site operations remains on the site. The lateral extent of this pool has been fully delineated and is confined to an area of about 50 by 75 feet. This pool was observed in one monitoring well, D12. Subsurface investigation in the area of D12 revealed that the pool is discontinuous and is not present as a contiguous pool of mobile liquid floating on the groundwater. All other materials and potential sources, including grossly impacted surficial soils, were removed during the removal action.

The RI report yielded information regarding the nature and extent of the contamination remaining at the site including the following:

- The site surface and subsurface soils contain generally low levels of Volatile Organic Compounds (VOC's) and Semi-Volatile Organic Compounds (SVOC'S);

- A localized subsurface pocket of Light Non-Aqueous Phase Liquid (LNAPL) composed of aviation gasoline remains from the site's original use as a fuel storage depot

approximately 40 years ago. The lateral extent of this pocket measures approximately 50 by 75 feet, and it is entirely contained on the site; and

- The adjacent properties to the south, east, west, and north are unavailable for future development because they were acquired in 1997 as part of a federal flood control program.

SUMMARY OF SITE RISKS

The removal action conducted between 1989 and 1991 substantially mitigated the health and environmental threats posed by this site. This action resulted in the removal from the site of all tanks and their contents, piping, structures, and grossly contaminated soils. A total of 442,162 gallons of oil and sludge were sent offsite to be burned as waste fuel in cement kilns; 142,700 gallons of PCB contaminated oil and sludge were incinerated at a permitted off-site facility; 865,700 gallons of contaminated water were treated and discharged to the river after testing showed that it met Clean Water Act standards; 1055 cubic yards of soil and miscellaneous debris were disposed offsite as special waste; 637 cubic yards were disposed offsite as demolition debris; fifty cubic yards of PCB-contaminated soil were landfilled at a permitted offsite facility; and 1264 tons of steel were recycled. All wastes were removed from the site and treated or disposed elsewhere.

Human Health Risks

In conducting this assessment, the focus was on the health effects that could result from direct exposure to the contaminants as a result of the soil coming into contact with the skin, from accidental direct ingestion of the soil, or from inhalation of contaminants.

While redevelopment of the site is severely limited by both physical conditions (i.e., frequent flooding) and institutional controls (i.e., state regulations or local ordinances and Declaration of Covenants regarding groundwater usage), an exposure scenario was needed to gauge the risk from the site. The analysis was conducted based upon a commercial/industrial scenario. Under this scenario, commercial/ industrial workers, construction workers, and trespassers could contact environmental media.

One area of potential public concern is a small (50 feet by 75 feet area) area where aviation fuel contamination dating from the mid-1950s is still present. The presence of this area of contamination is not considered to be a threat. Analysis of groundwater flow and the nature of the area of contamination has shown that this contamination has little or no chance to migrate offsite. Restrictions agreed to by the responsible parties requires special safety plans before any construction or excavation is conducted in that or any area of the site. In addition, institutional controls are in place to restrict the use of groundwater at the site.

The RI sampling was performed after the removal action, and the determination of risks at the site was made reflecting conditions present *after* the removal. The corresponding Human Health Risk Assessment was performed using the RI as a source of data. The Human Health Risk Assessment concludes that the excess lifetime cancer risk at the site is 2.2×10^{-6}. This means that if no further action is taken at the site, a person working on the site would increase his or her chances of contracting cancer by approximately one chance in 450,000 as a result of exposure to remaining low levels of contaminants at the site. This number falls well within the range of 10^{-4} to 10^{-6} excess cancer risk that is normally considered acceptable under Illinois programs and U.S. EPA guidance. Based upon evaluation of these findings, the site no longer poses an unacceptable risk.

During the RI, an analysis was conducted to estimate the health and environmental problems that could result from the residual soil and groundwater constituents at the Ilada Energy site after the completion of the removal action at the site. This analysis is commonly known as the Human Health Risk Assessment and Ecological Risk Assessment. The HHRA was completed based on a standard commercial/industrial land use scenario. Under this land use, commercial/industrial workers, construction workers, and trespassers could contact environmental media. The approach for evaluating this potential contact is consistent with the Illinois EPA's Tiered Approach to Corrective Action Objectives (TACO) and USEPA requirements under CERCLA.

Selection of Contaminants of Potential Concern (COPCs)

COPC's in both soil and groundwater were selected based on comparison with local background levels (inorganic constituents only), and detection frequency, prior to comparison to screening levels. Specific information can be located in the HHRA.

Comparison of Local Background

Local background levels as determined by site specific sampling and as provided by Illinois EPA were used to identify constituents that could be eliminated as COPCs because their concentrations are indistinguishable from natural background.

Soils: The comparisons and supporting analysis supports the conclusion that arsenic, aluminum, barium, beryllium, cadmium, chromium, cobalt, cyanide, iron, manganese, nickel, and vanadium are present in soil at levels that are consistent with local background. Therefore, these elements were eliminated from further analysis in the risk assessment. Lead was eliminated only from the subsurface data set based on this comparison.

Groundwater: Background groundwater quality was also evaluated for both inorganic and organic COPCs . Using regional background concentrations for inorganic chemicals, the evaluations showed that aluminum, arsenic, iron, lead, manganese, mercury and thallium were detected in the shallow monitoring wells, at levels that exceeded background levels as reported by the United States Geological Survey (USGS). Inorganic concentrations decreased with depth

and levels similar to those of background were found in the intermediate and deep wells. None of the organic COPCs were eliminated from groundwater consideration based on local background levels.

Frequency of Detection

Dose is dependent, in part, on frequency of contact. USEPA provides that, under appropriate conditions, chemicals detected in less than 5% of the samples may be eliminated from the data set used in the risk assessment. At this site, several constituents detected in a low percentage of samples were eliminated from the data set.

Exposure Assessment

An exposure pathway defines a probable path by which a receptor may come in contact with an affected media (i.e., soil, groundwater). There must be a source, a transport mechanism, a point of contact, and a route of exposure (i.e., inhalation, ingestion, dermal contact.) to constitute a complete exposure pathway. Each of these four necessary items were evaluated. Groundwater use and residential construction have been precluded by a Declaration of Covenant which has been attached to the property deed.

Receptor dose is estimated once potentially complete exposure pathways are identified and representative COPC concentrations are established. The Reasonable Maximum Exposure (RME) scenario for each calculation reflects both the 90th and 95th percentile of the possible exposure. The intent of the RME scenario is to focus the assessment on conservative exposure assumptions that remain reasonable.

- **Sources:** After the Removal Action, only residual constituents remain in the soil and groundwater of the site. These residual constituents were evaluated as potential source areas. In addition, the small area of residual LNAPL was evaluated.

- **Transport Mechanism:** Potential migration pathways for soil and ground water were migration of constituents from soil to groundwater, migration of constituents through groundwater, and migration of constituents from soil to ambient air.

- **Point of Contact:** Two exposure classifications were used for purposes of determining risk: On-site and Off-site exposure classifications. Potential exposure pathways were based upon the hypothetical commercial/industrial use of the property.

- **Route of Exposure:** On-Site: Groundwater use as a drinking water source is precluded by a declaration of covenant on the property and was not evaluated as a complete exposure pathway. However, both direct contact with soil (incidental ingestion, inhalation of dust) and inhalation of vapor from both surface and subsurface soil was evaluated. The two scenarios evaluated are for the on-site scenario for the

commercial/industrial worker and the construction worker.

Off-Site: The only two pathways evaluated as potentially complete for off-site receptors was ingestion of potable groundwater and inhalation of impacted fugitive dust. Property immediately surrounding the site is not available for residential or commercial development due to restrictions placed upon the property by the US Forest Service. In addition, all adjacent property is unsuitable for residential development due to frequent flooding. The closest drinking water wells are located approximately one quarter mile north of the site and is anomalous in that the property is a residence situated on a very limited hill which limits influence from seasonal flooding. Nevertheless, the potential for off-site groundwater to be impacted was evaluated further.

Toxicity Assessment

Medium and chemical-specific criteria were developed for the COPCs whose maximum concentrations exceeded TACO screening levels. These criteria are developed using toxicity values that integrate toxicity and dose (or contact medium concentration).

Carcinogenic Effects: Carcinogens are agents that may induce cancer. Both known and probable carcinogens were evaluated for purposes of this analysis. Numerical estimates of cancer potency known as slope factors (SF) define the cancer risk due to constant lifetime exposure to a set unit of a carcinogen.

Non-Carcinogenic Effects: Reference doses (RfDs) and airborne reference concentrations (RfCs) are toxicity values for non-carcinogenic effects. These values are developed based on the assumption that thresholds exist for non-carcinogenic effects. Generally, RfDs and RfCs are estimates of a daily exposure to the human population that is likely to be without an appreciable risk of negative effects during a lifetime of exposure.

Risk Characterization

Excess lifetime cancer risks are determined by multiplying the intake level with the cancer potency factors These risks are probabilities that are generally expressed in scientific notations (e.g., 1×10^{-6}). An excess lifetime cancer risk of 1×10^{-6} indicates that, as a plausible upper bound, and individual has a one in one million chance of developing cancer as a result of site-related exposure to a carcinogen over a 70-year lifetime under the specific exposure conditions at a site.

Potential concern for noncarcinogenic effects of a single contaminant in a single medium is expressed as the hazard quotient (HQ) (or the ratio of the estimated intake derived from the contaminant concentration in a given medium to the contaminant's reference dose). By adding the HQs for all contaminants within a medium or across all media to which a given population

may reasonably be exposed, the Hazard Index (HI) can be generated. The HI provides a useful reference point for gauging the potential significance of multiple contaminant exposures within a single medium or across media.

Soils:
Potential risks associated with the site were evaluated by comparing the cleanup objectives with representative concentrations of COPCs in these media to calculate hazard quotients for non-carcinogenic effects and cancer risks for carcinogenic effects. Risks and hazards associated with a commercial or industrial use of the site were first evaluated based on a comparison to chemical-specific and media-specific criteria. The results for each were then summed up to provide a better understanding of the site as a whole. Representative constituent concentrations in surface and subsurface soil and groundwater do not exceed risk-based screening criteria for potentially completed pathways on-site.

Potential cancer risks were estimated for each pathway by summing the ratio of the representative concentration in soil with the criteria developed based on an excess lifetime cancer risk of 1.0×10^{-6}. The total risk for the site is 2.2×10^{-6}. The cumulative risk level is within the target range of 1×10^{-4} and 1×10^{-6} established by CERCLA.

The risk of non-cancer effects occurring was estimated by calculation of an HQ for each COPC. Risks were estimated by summing the HQs to provide a hazard index associated with the commercial/industrial use of the site. Chemical specific HQs based on this worker scenario are given in the HHRA. The cumulative HI for the site is 3.6×10^{-2}. Because this value does not exceed the target HI of 1, the risk of non-cancer effect occurring at the site falls within an acceptable range under CERCLA.

Groundwater:
Groundwater impacted by the site is not considered to be a potentially complete pathway for the following reasons:

- Use of on-site groundwater is precluded by a declaration of covenant;
- The nearest drinking water well is north of the site at a distance of approximately 1/4 of one mile north of the site;
- The only property available for development is northeast of the site;
- Vector analysis shows that the resultant groundwater flow direction is toward the Mississippi River and away from potable water supplies; and
- For screening purposes, the maximum concentrations of site COPCs detected on-site were compared to drinking water criteria to address the potential of off-site groundwater

to be adversely impacted. For those chemicals detected above this criteria, calculations indicate that groundwater flowing off-site would diminish to below the screening level within 850 feet of the well where the maximum concentrations were detected. The detected metals concentrations were orders of magnitude lower in shallow wells OD-1 and OD-2 located approximately 250 feet downgradient of the wells where the maximum concentrations on site were detected indicating that shallow groundwater is not highly mobile.

LNAPL Area:
The HHRA draws the conclusion that the LNAPL area does not present an unacceptable risk for a commercial/industrial scenario provided the appropriate administrative controls are instituted at the site:

- Groundwater ingestion is precluded at the site and exposure to groundwater impacted by the LNAPL will not occur. Vector analysis of groundwater flow indicate that the constituents will not impact off-site sources; and

- Site data will be provided to support the development of the appropriate health and safety plan prior to any presumed excavation activities.

Short-Term Exposure to Subsurface Constituents:
Construction workers were included in the analysis, and levels detected on-site did not exceed the applicable media-specific subchronic and chronic criteria. Acute and short term health concerns are to be addressed via a health and safety plan based upon data collected in the RI and prepared under the Occupational Safety and Health Act (OSHA).

ECOLOGICAL ASSESSMENT

An Ecological Risk Assessment (ERA) was conducted at the Ilada Energy Company Site to evaluate the potential threats to ecological receptors associated with COPCs at the site. The areas evaluated were both north and south of the flood control levee, assuming no further reaction beyond the removal action already conducted. The assessment of potential risk to area biota is conducted in a different manner than that of the HHRA. The HHRA addresses individuals while the general intent of the ERA is to protect populations. An exception to this rule is applied when addressing any threatened or endangered species as defined under the Endangered Species Act.

South of the Levee:
The area south of the levee studied the narrow strip of the property south of the flood control levee which was the corridor for the buried pipeline that was removed in 1990. Because part of the corridor south of the levee is designated as a wetland, it was evaluated as a potentially viable aquatic or riparian habitat for key species of wildlife.

Data evaluation/collection efforts identified the following potential constituents of concern in subsurface soil, including:

- Toluene and tetrachloroethene;
- Low and high molecular weight polynuclear aromatic hydrocarbons;
- Bis-2-ethylhexylphthatlate; and
- Tetrachlorodibenzofuran and octachlorodibenzo-p-dioxin.

The potential exposure pathways are based on the following soil and water borne exposures:

- Pathway 1--Ingestion of temporary surface water;
- Pathway 2--Ingestion of contaminated soil/sediment;
- Pathway 3--Dermal contact with contaminated soil/sediment;
- Pathway 4--Ingestion of contaminated prey; and
- Pathway 5--Ingestion of contaminated vegetation.

Five terrestrial species (three birds and two mammals) present in the pipeline corridor area were selected as receptors of concern based on criteria which ensure that no other species are likely to be more exposed to site-related potential COPCs. Calculated values of the HQ for both the avian and mammalian indicator species lie below the 1.0 benchmark. This result indicates that chronic toxicity from the pipeline corridor COPCs found in the soils is not expected.

There is no permanent body of surface water between the flood control levee and the Mississippi River. Temporary pools of surface water in this area were considered to be the most likely exposure pathway, and were evaluated as such. The HQ for each aquatic species was below 1.0.

North of the Levee:
The portion of the site north of the levee differs from the area south of the levee in that it is fenced and on the "dry" side of the levee. Also in contrast to the south side, this area is fenced. The following compounds were identified as COPCs:

- Metals--copper and zinc;
- Volatile organic compounds--chloroform, methylene chloride, toluene, and tetrachloroethene;

- Low and high molecular weight polynuclear aromatic hydrocarbons;
- Three phthalates;
- Hepta- and octachlorinated dioxin/furan congeners;
- PCBs; and
- Endodulfan sulfate and DDT

COPCs were not found in the surface water samples. In addition, there are no permanent population of aquatic receptors north of the flood control levee.

Two representative terrestrial species were selected for the area north of the levee: the earthworm and American robin. Risk analyses for both receptors were performed using measured COPC data and identified potential pathways. All hazard quotients were below 1.0.

Description of "No Further Action" Decision

Capital Cost:	*$0*
Annual Operating Cost:	*$0*
(O&M) Costs:	*$0*
Present Worth (PW)	*$0*
Months to Implement:	*None*

The Superfund program requires that the "No Further Action" alternative be evaluated at every site to establish a baseline for comparison. In the case of the Ilada Energy Superfund site, the Illinois EPA have a pre-existing agreement from the responsible parties that require the removal of all monitoring wells and the old production well from the site along with other remaining miscellaneous debris. No additional action would be required at the site, since the removal action already implemented at the site would be deemed sufficient to meet all cleanup goals.

Documentation of Significant Changes:
The Proposed Plan for the Ilada Energy Superfund site was released for public comment in July 1999. The Proposed Plan identified the "No Further Action" alternative as the preferred and only alternative for the site. Illinois EPA reviewed all written and verbal comments submitted during the public comment period. None were received. It was determined that no significant changes to the remedy, as originally identified in the Proposed Plan, were necessary or appropriate.

RESPONSIVENESS SUMMARY
Ilada Energy Company Superfund Site
East Cape Girardeau, Illinois

Responsiveness Summary Overview

In accordance with CERCLA Section 117, 42 U.S.C. Section 9617, the Illinois Environmental Protection Agency (Illinois EPA) held a public comment period from August 9, 1999 through September 7, 1999, to allow interested parties to comment on the Proposed Plan/Fact Sheet, July 1999, for this site. The Proposed Plan provides for no further remediation beyond that accomplished already during the Removal Action carried out between 1989 and 1991.

The purpose of this Responsiveness Summary is to document the Illinois EPA's efforts to

1) inform the public of the pending decision on this Proposed Plan, to
2) provide the public with a summary of the technical details of the past Removal Action and the current environmental conditions at the site, to
3) inform the public of the ready availability, much more detailed information about the site, in the form of locally available Site Information Repositories and an Administrative Record for the site, to
4) inform the public of the opportunity for interested parties to comment on the Proposed Plan either in person at a locally held Public Hearing or by mail during the public comment period, and to
5) provide the opportunity to comment by holding both the Public Hearing and the 30-day comment period.

Had there been any public comments or questions, this document would provide the Illinois EPA's detailed responses to all questions, concerns, and comments raised during the comment period or the Public Hearing. However, no comments were received regarding the Proposed Plan, and only two people attended the Public Hearing, with both serving only as observers for official bodies or interested parties, and neither offering formal comments.

Site History

The Ilada Energy Company Site is a 16.743 acre abandoned tank farm which formerly had twelve million gallons of tank storage capacity. The facility is located southeast of East Cape Girardeau in a rural setting next to the Mississippi River levee. In the 1980's the site was found to contain oil, sludge, and contaminated water, some of which contained a variety of hazardous and toxic substances including toxic heavy metals, industrial solvents, and PCBs (Polychlorinated Biphenyls).

The site came under Illinois EPA scrutiny in 1982 when an inspection report showed that the Ilada Energy Company was improperly storing, handling, mixing, and disposing of waste oils contaminated with PCBs. Stained soil near several of the tanks prompted several sampling events and installation of several groundwater monitoring wells. These and subsequent sampling events led to its addition to the National Priority List on October 4, 1989 and the subsequent Removal Action.

The 1989 Administrative Consent Order named Emerson Electric Company of St. Louis, MO., Granite City Division of National Steel Corporation, Metal Container Corporation of St. Louis, MO., and Shell Oil Company of Houston Texas as cooperating responsible parties. The consent order binds these parties to perform a Removal Action and conduct a remedial investigation. The Removal Action began in December of 1989 and was completed by March of 1991. Of the original onsite structures, only the repaired fence and the water well remain.

The RI report yielded information regarding the nature and extent of the contamination remaining at the site including the following:

- The site surface and subsurface soils contain generally low levels of Volatile Organic Compounds (VOC's) and Semi-Volatile Organic Compounds (SVOC'S).

- A localized subsurface pocket of aviation gasoline remains from the site's original use as a fuel storage depot approximately 40 years ago. The lateral extent of this pocket measures approximately 50 by 75 feet, and it is entirely contained on the site.

- The adjacent properties to the south, east, west, and north are unavailable for future development because they were acquired in 1997 as part of a federal flood control program.

Scope and Role of Removal Action

The removal action conducted between 1989 and 1991 substantially mitigated the health and environmental threats posed by this site. This action resulted in the removal from the site of all tanks and their contents, piping, structures, and grossly contaminated soils. A total of 442,162 gallons of oil and sludge were sent offsite to be burned as waste fuel in cement kilns; 142,700 gallons of PCB contaminated oil and sludge were incinerated at a permitted off-site facility; 865,700 gallons of contaminated water were treated and discharged to the river after testing showed that it met Clean Water Act standards; 1055 cubic yards of soil and miscellaneous debris were disposed offsite as special waste; 637 cubic yards were disposed offsite as demolition debris; fifty cubic yards of PCB-contaminated soil were landfilled at a permitted offsite facility; and 1264 tons of steel were recycled. All wastes were removed from the site and treated or disposed elsewhere.

Based upon the Risk Assessment performed, the Removal Action undertaken is the final action at the site. The Illinois EPA has determined that no further action is warranted at the Ilada site.

Summary of Site Risks

During the RI, an analysis was conducted to estimate the health and environmental problems that could result if the soil and groundwater contamination at the Ilada Energy site was not addressed any further. This analysis is commonly known as the Baseline Risk Assessment and Ecological Risk Assessment.

In conducting this assessment, the focus was on the health effects that could result from direct exposure to the contaminants as a result of the soil coming into contact with the skin, from accidental direct ingestion of the soil, or from inhalation of contaminants.

While redevelopment of the site is severely limited by both physical conditions (i.e., frequent flooding) and institutional controls (i.e., state regulations or local ordinances and Declaration of Covenants regarding groundwater usage), an exposure scenario was needed to gauge the risk from the site. The analysis was conducted based upon a commercial/industrial scenario. Under this scenario, commercial/ industrial workers, construction workers, and trespassers could contact environmental media.

One area of potential public concern is a small (50 feet by 75 feet area) area where aviation fuel contamination dating from the mid-1950s is still present. The presence of this area of contamination is not considered to be a threat. Analysis of groundwater flow and the nature of the area of contamination has shown that this contamination has little or no chance to migrate offsite. Restrictions agreed to by the responsible parties require special safety plans before any construction or excavation is conducted in that or any area of the site. In addition, institutional controls are in place to restrict the use of groundwater at the site.

The RI sampling was performed after the removal action, and the determination of risks at the site was made reflecting conditions present *after* the removal. The corresponding Baseline Risk Assessment was performed using the RI as a source of data. The Baseline Risk Assessment concludes that the excess lifetime cancer risk at the site is 2.2×10^{-6}. This means that if no further action is taken at the site, a person working on the site would increase his or her chances of contracting cancer by approximately one chance in 450,000 as a result of exposure to remaining low levels of contaminants at the site. This number is much less than the 10^{-4} excess cancer risk that is normally considered acceptable under Illinois programs and U.S. EPA guidance. Based upon evaluation of these findings, the site no longer poses an unacceptable risk.

For comparison, it can be noted that the "background," or pre-existing risk shared by all Americans, of contracting cancer in a lifetime is a probability between one in four and one in three (a 25% to 33% chance). The "excess risk" risk calculated in the Baseline Risk Assessment that would result from exposure to current site conditions thus adds only **two ten-thousandths of a percentage point** to this risk, which U.S. EPA and Illinois EPA guidance considers acceptable.

Final Remedy Decision

The Superfund program requires that the "No Further Action" alternative be evaluated at every site to establish a baseline for comparison. Under this decision, the Illinois EPA has a pre-existing agreement from the responsible parties that requires the removal of all monitoring wells and the old production well from the site. No additional action would be required at the site, since the Removal Action already implemented at the site would be deemed sufficient to meet all cleanup goals.

The selected remedy for the Ilada Energy site is "No Further Action" because the risk level at the site is within the limits accepted by the Illinois EPA and U.S. EPA.

Public Notification, Public Hearing, and Public Comment Period

Prior to making a decision on the final remedy for this site, the Illinois EPA was required to hold a minimum 30-day public comment period to allow the public an opportunity to comment on the Proposed Plan of No Further Action at this site. Illinois EPA prepared a Fact Sheet/Proposed Plan, which included an announcement of the Public Hearing and comment period, and mailed it to all the interested parties on its Contact List for this site. A copy of the Public Notice regarding the Public Hearing and the public comment period was also included in each mailing. In addition to all nearby neighbors of the site, the Contact List contains elected officials in all nearby Illinois towns, County officials, State and Federal elected officials, five newspaper outlets serving the area, three local television stations serving the area, and eight local radio news outlets. In addition to mailing copies of the Fact Sheet and Public Notice to the news outlets, Illinois EPA also faxed copies to the newsrooms, in early August, 1999, prior to the start of the comment period.

Illinois EPA arranged for a large display advertisement, announcing the forthcoming public comment period and Public Hearing, to be published in the Cape Girardeau Southeast Missourian newspaper, the most widely read local daily newspaper for the site area. The ad was published on July 26, August 2, and August 9, 1999, to comply with Illinois EPA regulations regarding public notice for formal hearings, and to assure that interested parties would be aware of the Proposed Plan and the opportunity for public involvement. The Site Information Repositories and Administrative Record for the site were updated, and copies of the Fact Sheet/Proposed Plan were added to both Repositories to make them more widely available to interested parties who might not be on the site Contact List. The Fact Sheet also contained contact information for both the Illinois EPA's Community Relations Coordinator and Project Manager for the site. Aside from a few contacts from news media outlets, Illinois EPA staff had no inquiries about the comment process.

The Public Hearing was held at 7 p.m. on August 26, 1999 at the Bud Pearce Community Center in East Cape Girardeau, Illinois. Only two persons attended the Public Hearing, one from the County Sheriff's office and one contractor for the Responsible Parties at the site. Both attendees were present only as observers and offered no formal comments. No comments were received by mail, fax, or e-mail during the comment period. Illinois EPA staff draw the conclusion that the interested public is satisfied with plans to require no further remediation at this site.

For Further Information

Questions about the hearing process and about access to exhibits should be directed to John Williams, Illinois EPA Hearing officer, Division of Legal Counsel, Illinois EPA, 1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276, or phone at 217/782-5544.

Questions about the Proposed Plan or the Removal Action should be directed to Fred Nika, Project Manger, Bureau of land, Illinois EPA, 1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276 or phone at 217/782-3983.

Questions about the public notification process or this Responsiveness Summary should be directed to Stan Black, Office of Community Relations, Illinois EPA, 1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276, or phone at 217/785-1427.

All documents used by Illinois EPA in formulating the Proposed plan for this site are contained in the Administrative Record for this site, located at the Reference Section, Cape Girardeau Public Library, 711 North Clark Street, Cape Girardeau, Missouri 63701, phone 573/334-5279.

Additional copies of this Responsiveness Summary can be obtained from Stan Black, at 217/785-1427.

Thanks to the Citizens Who Became Involved

On behalf of Director Thomas Skinner and the staff of the Illinois EPA, we would like to thank all who have taken the time to get involved over the years regarding this site.

Signed:_____
Illinois EPA Hearing Officer

Signed:_____
Illinois EPA Project Manager

Signed:_____
Illinois EPA Community Relations Coordinator

Illinois Environmental Protection Agency
1021 North Grand Avenue East
Post Office Box 19276
Springfield, Illinois 62794-9276

Dated:_____, 1999

ADMINISTRATIVE RECORD INDEX
ILADA ENERGY SUPERFUND SITE
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
JULY 12, 1999
UPDATE #1

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), requires the establishment of an Administrative Record upon which the Agency bases its decision when selecting the alternatives for the Remedial Action process.

The Illinois Environmental Protection Agency (IEPA) has compiled the following official Administrative Record Index for the Ilada Energy Superfund Site located in East Cape Girardeau, Illinois. This index as well as the Administrative Record itself will be updated when necessary by the IEPA.

Please contact Stan Black (P.O. Box 19276, 1021 North Grand Avenue, East, Springfield, Illinois 62794-9276, 217/785-1427) for more information on who and where to direct questions concerning this index.

Doc. #	Document Title	Issue Date	Author	# Pages
1	Remedial Investigation/Feasibility Study (RI/FS) Workplan	1-10-90	Dames & Moore (D&M)	545
2	Corr. To D&M: RI/FS Workplan Approval	1-29-90	Stephen Washburn-Illinois Environ-mental Protection Agency (IEPA)	3
3	Health and Safety, Implementation Plans	3-29-90	D&M	71
4	Corr. to Division File-RE: Contact Rule Interp.	8-27-90	Stephen Washburn-IEPA	1
5	Health Assessment	9-26-90	US Dept. Of Health and Human Serv.	13
6	Corr. To Babst, Calland, Clements, and Zomnir-RE: Risk Assessment	10-30-90	Allison Hiltner-United States Environmental Protection Agency (USEPA)	6
7	Minutes of Phase II Scoping Meeting	1-3-91	D&M	5

Doc. #	Document Title	Issue Date	Author	# Pages
8	Notice of Intent to Proceed	1-11-91	D&M	11
9	Corr. to D& M	1-24-91	Allison Hiltner-USEPA	2
10	Corr. to IEPA-RE: RI/FS Oversight	2-1-91	Ecology and Environment (E&E)	7
11	RI/FS Workplan Addendum Phase 2	3-15-91	D&M	217
12	Phase 1 RI/FS Incorporation of IEPA and USEPA Comments	5-3-91	D&M	19
13	Corr. to D&M-RE: Risk Assessment	5-7-91	Allison Hiltner-USEPA	2
14	Approval of RI/FS Workplan Addendum	5-9-91	USEPA	3
15	Approval of Ph. 2 RI/FS Workplan	5-17-91	Stephen Washburn-IEPA	2
16	Corr. to USEPA-RE: Removal Action Completion	12-30-91	Stephen Washburn-IEPA	1
17	Corr. to USEPA & IEPA-RE: Additional Monitoring Well	2-10-92	D&M	1
18	Corr. to USEPA & IEPA-RE: Additional Monitoring Well	2-19-92	D&M	1
19	Corr. to D&M-RE: Notice to Proceed	3-5-92	Stephen Washburn-IEPA	1
20	Corr. To D&M-RE: Free Product Layer	7-2-92	USEPA	1
21	Removal Action Summary Report	7-24-92	D&M	352
22	Documentation Results-Free Product Layer	10-15-92	D&M	15
23	Corr.-RE: Workplan Addendum #4	2-5-93	D&M	2
24	Workplan Addendum #4	2-5-93	D&M	61
25	Replacement Page for Workplan Addendum #4	2-17-93	D&M	2
26	Workplan Addendum #4 Approval	3-1-93	Charlene Falco-IEPA	1
27	Replacement Page Approval	3-2-93	USEPA	1
28	Oversight of Scope of Work (SOW)	10-15-93	Charlene Falco-IEPA	12
29	RI/FS Workplan Addendum #6	12-14-93	D&M	2
30	Notice to Proceed to D&M	3-15-94	Charlene Falco-IEPA	1

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32	Removal Action Completion Documentation	3-10-95	Fred Nika-IEPA	4
33	Corr. to Fred Nika-RE: Final Pollution Report and Completion Report	3-20-95	Kenneth Theisen-USEPA	5
34	Floating Product Layer Identification	9-27-95	D&M	15
35	Corr. to Fred Nika-RE: Floating Layer	12-27-95	USEPA	2
36	Legal Description of Property Surrounding Site	1-18-96	John Varro- US Forest Service	6
37	Evaluation of Composition of Floating Product Layer	7-11-96	Chi Fan-USEPA	2
38	Floating Layer Classification	1-8-97	Fred Nika-IEPA	1
39	Revision #2, RI Report Volumes 1,2, and 3	10-97	D&M	1562
40	Corr. to D&M-RE: Ecological Risk Assessment and RI comments	12-1-98	Fred Nika-IEPA	2
41	Final Volume 1 of RI Report	3-8-99	D&M	143
42	Approval of RI Report	4-19-99	Fred Nika-IEPA	1

ADMINISTRATIVE RECORD INDEX
ILADA ENERGY SUPERFUND SITE
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
AUGUST 2, 1999
UPDATE #2

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The Illinois Environmental Protection Agency (IEPA) has compiled the following official Administrative Record Index for the Ilada Energy Superfund Site located in East Cape Girardeau, Illinois. This index as well as the Administrative Record itself will be updated when necessary by the IEPA.

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42	Approval of RI Report	4-19-99	Fred Nika-IEPA	1
43	Ecological Risk Assessment (ERA) Final	April, 1999	D & M	131
44	Internal Memorandum (Re: ARARs)	6-29-99	Rob Watson -IEPA	3
45	Human Health Risk Assessment (HHRA) Final	July, 1999	D & M	103
46	Proposed Plan/Fact Sheet Final	7-30-99	Fred Nika-IEPA	4
47	Revised Community Relations Plan	8-2-99	Stan Black-IEPA	26
48	Approval Letter for HHRA and ERA	8-2-99	Fred Nika-IEPA	1

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