

Brownfield Redevelopment Evaluation of the NRG Coal Plant at Romeoville, Illinois

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The purpose of this memorandum is to assess existing site conditions and identify remediation recommendations and potential implementation strategies for the Will County Electric Generating Station – a coal-fired power station owned and operated by NRG Energy (NRG plant) in Romeoville, Illinois. As clarified in conference calls on July 27, 2016 and August 18, 2016, this memorandum will also summarize the brownfield process and associated funding sources and mechanisms.

As specified in the February 24, 2016 contract, readily available reports from third parties were used for this memorandum. In addition, information available from government sources and correspondence with NRG representatives and former employees were used. CH2M assumes that information provided from third party, government sources, and NRG representatives is accurate, complete, reliable, non-infringing and fit for the intended purpose; no field investigations were completed to determine existing site conditions.

Background

The Village of Romeoville is currently working on a new comprehensive plan that will serve as a blueprint for the future of the village. A significant change that occurred since the last update to the village's comprehensive plan in 2001 is the proposed decommissioning of the NRG plant owned and operated by NRG Energy (formerly Edison's Midwest Generation). Decommissioning will involve the disassembly of the facility's structures. The facility and its possible decommissioning raises planning, redevelopment, and associated environmental contamination concerns for the village's comprehensive plan.

The NRG plant was built by Commonwealth Edison (Com Ed) in the 1950s and electrical generating capacity was expanded in the 1960s. Com Ed sold the plant in 1999, and NRG bought them out of bankruptcy in 2014. As reported in Crain's Chicago Business on December 9, 2015, NRG Energy stated its intent to close its final coal fired power generation unit (Unit 4) in May 2018; Units 1 and 2 were closed in 2010 and Unit 3 was closed in 2015.

A 2010 report related to a leaking underground storage tank incident stated that the site is approximately 200 acres in size. The surrounding area contains undeveloped park land, industrial sites, and sparse residential properties.

Mr. Michael Sommer of NRG was contacted on August 18, 2016 regarding the status of the NRG plant. He noted that it was NRG's intent to look for ways to keep the Romeoville facility in service, but that at this time the anticipated closure date for Unit 4 was 2020. Closure will depend on market conditions.

Site background, environmental data, and confirmation of the current closure plans for the facility were requested from Mr. Sommer. As of September 15, 2016, no information has been received.

Mr. David Venn, who worked at the NRG plant for 30 years, provided additional information on the operational history of the facility. The facility is between the Des Plaines River and the Chicago Sanitary and Ship Canal. Units 1 and 2 were decommissioned and the turbines removed with the boilers remaining at the site; the status of the decommissioning of Unit 3 was not known. Unit 4 is the largest coal fired power generator at the facility, generating over 500 megawatts. The plant contains asbestos, approximately 40 percent of which was removed and rest was encapsulated. Asbestos is a health concern that would be managed during building modification or demolition. The facility also has transformers, which is an environmental concern due to the potential release of transformer oil that historically has contained polychlorinated biphenyls (PCBs). Flyash and bottom ash (coal ash) from the facility was spread on the ground in the southern portion of the site. Trains in the area are limited to 5 miles per hour due to the emerald dragonfly, which Mr. Venn said was an endangered species that is present in the area. Other wildlife reported at the site are fox, deer, and bald eagles. The bald eagle was removed from the endangered species list in 2007, but is protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Act. Endangered and threatened species should be considered by the Village of Romeoville when evaluating redevelopment options.

Existing Site Conditions

U.S. Environmental Protection Agency and Illinois Environmental Protection Agency Database Search

United States Environmental Protection Agency (USEPA) and Illinois Environmental Protection Agency (Illinois EPA) environmental databases were reviewed to identify environmental data associated with the NRG Energy coal facility in Romeoville. Environmental records show the site had a leaking underground storage tank (LUST) release. Other environmental database results that were identified, but are not material, were records that show the site was a small quantity generator of hazardous waste and air emission records.

The 2010 *Corrective Action Completion Report* for the LUST incident provided some site background. In addition, the report states that limestone bedrock was encountered between 3.5 to 9.5 feet below ground surface, and that overlying soils were fill. Impacted soil was removed during UST removal and the incident received a No Further Remediation letter from the Illinois EPA in 2010.

Available information from this LUST release indicates that remediation associated with the petroleum release from the underground storage tank is complete. However, this LUST investigation does not characterize the approximately 200 acre site and other environmental concerns may be present at this 60 year old industrial facility.

See the Reference section below for links to specific databases reviewed.

Coal Ash

Coal ash is a byproduct of combustion at coal power plants. Coal ash is typically disposed of in off-site landfills or surface impoundments, but contaminants can migrate to groundwater, become airborne, or impact surface water – all of which can cause health effects to humans and the environment. The USEPA has documented that coal ash contains metal contaminants such as mercury, cadmium, arsenic, and thallium and also radionuclides such as radium. Federal regulations were published in 2015 on the disposal and management of coal ash. Regulations on inactive surface impoundments of coal ash will become effective in October 2016. Regulations address groundwater contamination and fugitive dust

emissions associated with coal ash disposal; regulations also restricts disposal near aquifers and wetlands.

Coal ash spreading at the southern portion of the facility is documented. Therefore, the Village of Romeoville should continue to track the NRG plant status and become actively engaged with the plant owners if, or when, the decision is made to close the NRG plant.

See the *Reference* section below for links to USEPA's Coal Ash Contamination Background and Disposal Rule.

Redevelopment and Remediation Recommendations

Due to the limited information available on the existing site conditions, no redevelopment or remediation recommendations can be made.

Brownfield Redevelopment Process

No brownfield sites within the community were identified for evaluation by Teska Associates, Inc., the Village or Romeoville, or CH2M. The following discussion is an overview of the brownfield redevelopment process.

As defined by the USEPA, a brownfield is a property where the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Examples of a brownfield property are a Superfund site, operating waste disposal site, petroleum facility or an abandoned industrial site.

Municipalities have an interest in returning properties with actual or perceived contamination to productive use but may lack the expertise or resources to locate funding, technical resources, and resolve legal concerns. The USEPA and Illinois EPA have brownfield programs to assist municipalities to clean up and redevelop contaminated properties.

- *USEPA Brownfields Program:* The USEPA supports brownfield redevelopment with brownfield assessment grants, revolving loan fund grants, brownfield-related job training, and area-wide planning grants to support communities to plan and implement brownfield cleanup and property redevelopment. Funds are available for site assessment (\$200,000), cleanup (\$200,000 to \$1,000,000) and community health and training (\$200,000). The USEPA also provides guidance and background on brownfields. Additional information on competitive grant funding from USEPA is provided in the link, below.
- *Illinois EPA Brownfields Program:* The Illinois EPA has the Brownfield Assistance Program to provide grants, loans, and technical information to support communities to promote redevelopment. The maximum Illinois municipal brownfield redevelopment grant is \$240,000, and the maximum Illinois brownfield redevelopment loan is \$500,000. Further information on the IEPA brownfield program is provided, below.

Other Land Revitalization Programs

The USEPA has additional programs that promote land revitalization. A summary is provided below and links are cited in the *References* section:

- Superfund— established to address abandoned hazardous waste sites (Superfund is also known as the Comprehensive Environmental Response, Compensation, and Liability Act)
- Underground Storage Tanks (USTs) – leaking USTs can contaminate soil and groundwater, which is the source of drinking water for half of all Americans
- Resource Conservation and Recovery Act (RCRA) – establishes the framework for ‘cradle to grave’ management of hazardous and non-hazardous waste

References

NRG to Shutter, Repower Illinois Coal Unit in Modernization Bid (8/21/2014):

<http://www.powermag.com/nrg-to-shutter-repower-illinois-coal-units-in-modernization-bid/>

Days Appear Numbered for Last Remaining Coal Plant in Romeoville (12/9/2015):

<http://www.chicagobusiness.com/article/20151209/NEWS11/151209785/days-appear-numbered-for-last-remaining-coal-plant-in-romeoville>

Romeoville Receives Grant for New Comprehensive Plan:

<http://www.romeoville.org/ArchiveCenter/ViewFile/Item/331>

USEPA Brownfields Program

<https://www.epa.gov/brownfields>

USEPA Superfund Program (CERCLA)

<http://www.epa.gov/superfund/index.htm>

USEPA Underground Storage Tank Program

<http://www.epa.gov/OUST/index.htm>

Resource Conservation and Recovery Program (RCRA)

<http://www.epa.gov/compliance/cleanup/rcra/index.html>

Illinois EPA Brownfields Assistance Program

<http://www.epa.illinois.gov/topics/cleanup-programs/brownfields/index>

USEPA Coal Ash Contamination Background and Disposal Rule:

<https://www.epa.gov/coalash/frequent-questions-about-coal-ash-disposal-rule>

https://www.epa.gov/sites/production/files/2015-03/documents/CCR_webinar_slides_508.pdf

Databases

USEPA Environmental Databases

- Resource Conservation and Recovery Act (RCRA):
<http://www.epa.gov/enviro/facts/rcrecinfo/search.html>
- RCRA Status by City: <http://epadata.epa.state.il.us/land/rcrec/byCity.asp>
- Superfund (CERCLA): <https://www.epa.gov/enviro/cerclis-search>
- Cleanup Under Superfund: <https://www.epa.gov/superfund>

Illinois Environmental Databases

- Illinois Environmental Databases: <http://epa.illinois.gov/topics/cleanup-programs/bol-database/index>
- Illinois Site Remediation Program (SRP): <http://epadata.epa.state.il.us/land/srp/>
- Illinois Bureau of Land: <http://epadata.epa.state.il.us/land/inventory/>
- Illinois Environmental Management Agency (Leaking Underground Storage Tank [LUST]):
http://epadata.epa.state.il.us/land/ust/LIT-Select.asp?BL_ID=1970905001
- Illinois Brownfields: <http://epadata.epa.state.il.us/land/brownfields/>
- Illinois Redevelopment Database: <http://epadata.epa.state.il.us/land/ose/index.asp>
- State Response Action Program: <http://epadata.epa.state.il.us/land/ssu/>