Cause No. 46038

On Behalf of Petitioner,
DUKE ENERGY INDIANA, LLC

VERIFIED DIRECT TESTIMONY OF JEFFREY T. KOPP

Petitioner's Exhibit 11

April 4, 2024

DIRECT TESTIMONY OF JEFFREY T. KOPP
SENIOR MANAGING DIRECTOR OF 1898 & CO.
ON BEHALF OF DUKE ENERGY INDIANA, LLC
BEFORE THE INDIANA UTILITY REGULATORY COMMISSION

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Jeffrey (Jeff) T. Kopp, and my business address is 9400 Ward Parkway, Kansas City, Missouri 64114.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by 1898 & Co., which is the consulting group within Burns & McDonnell Engineering Company, Inc. ("1898 & Co."), as the Senior Managing Director of the Energy & Utilities Consulting Department. Burns & McDonnell is a consulting engineering firm and has been in business since 1898, serving multiple industries including the electric power industry. In 2023, Burns & McDonnell was rated No. 7 overall of the Top 500 Design Firms by the Engineering News Record ("ENR"). Burns & McDonnell was rated as the No. 1 engineering design firm in the United States serving the electric power industry by ENR in 2023.

1898 & Co. and Burns & McDonnell has vast experience in both preparation of dismantlement/decommissioning studies and executing construction and demolition projects, including hundreds of construction projects totaling more than $3 billion dollars of construction in 2022 alone. In order to execute over $3 billion dollars of construction projects on an annual basis, Burns

& McDonnell has to win this work through competitive bidding processes, which requires us to have the ability to accurately prepare cost estimates.

Our long history, large market presence, and top industry rankings demonstrate our ability to effectively and accurately estimate costs. In addition, we have worked with demolition contractors over the years to refine our estimating process for dismantlement studies and to align our estimates.

Q. PLEASE BRIEFLY DESCRIBE YOUR DUTIES AS THE SENIOR MANAGING DIRECTOR OF THE ENERGY AND UTILITIES CONSULTING DEPARTMENT OF 1898 & CO.

A. I am a professional engineer registered in the states of Indiana, Illinois, Florida, and Missouri with 22 years of experience consulting to electric utilities. I have been involved in numerous decommissioning studies and served as project manager or project director on the majority of them. I have helped prepare decommissioning studies on all types of power plants utilizing various technologies and fuels.

As the Senior Managing Director at 1898 & Co., I oversee a group of more than 250 engineers and consultants who provide consulting services to clients primarily in the electric power generation and electric power transmission industries, but also to other industrial and commercial clients. The services provided by this group of engineers and consultants include decommissioning cost studies, independent engineering assessments of existing power generation assets, economic evaluations of capital expenditures, new power generation development and evaluation, electric and water rate analysis, electric transmission planning, generation resource planning, renewable power development, and other related engineering and economic assessments.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE.

A. I have a Bachelor’s Degree in Civil Engineering from the University of Missouri – Rolla (now the Missouri University of Science and Technology) and a Master of Business Administration from the University of Kansas. In my role as a group manager, project manager, and project engineer, I have worked on and have overseen consulting activities for coal, natural gas, wind, solar, hydroelectric, and biomass power generation facilities and energy storage facilities.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS CASE?

A. I am testifying on behalf of Duke Energy Indiana, LLC (“Duke Energy Indiana” or “Company”).

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY IN THIS PROCEEDING?

A. The purpose of my direct testimony is to describe and support Duke Energy Indiana’s “Decommissioning Cost Estimate Study” (“Decommissioning Study”) for its electric generating units, as prepared by 1898 & Co. The Decommissioning Study report is attached to my testimony as Petitioner’s Attachment 11-A (JTK). The Decommissioning Study is an update of a prior study that I prepared for Duke

Energy Indiana to support their filing in Indiana Utility Regulatory Commission ("IURC" or "Commission") Cause No. 45253.

II. DUKE ENERGY INDIANA'S DECOMMISSIONING STUDY

Q. DID 1898 & CO. PERFORM A STUDY FOR DUKE ENERGY INDIANA AT ITS REQUEST AS TO THE COST OF DEMOLISHING ITS GENERATING STATIONS?

A. Yes, it did.

Q. WHY IS IT NECESSARY TO FULLY DEMOLISH A GENERATING STATION AT THE END OF ITS USEFUL LIFE?

A. There are a number of reasons. First, in order to reuse the land, the structures and facilities would need to be removed. Also, there is a safety concern and therefore a potential public risk if security is not maintained at the structures. If the abandoned structures are not dismantled, the structures will deteriorate if not maintained. Some of the structures, stacks for example, could collapse causing damage. Environmental remediation of potential health hazards (such as asbestos), also requires proper removal and disposal of equipment. It is prudent practice to fully demolish a retired power plant.

Q. WHY IS IT PRUDENT PRACTICE TO FULLY DEMOLISH A RETIRED POWER PLANT?

A: As I indicated above, there are multiple reasons the equipment and structures will need to be fully demolished and site remediation activities performed. The alternative to full demolition is to retire a plant in place. During the time a plant is in a "retired in place condition", there are carrying costs that include, but are not limited to, maintaining operation of Federal Aviation Administration ("FAA") warning lights on stacks, site security, maintaining liability insurance and environmental permits, structural inspections of stacks, and monitoring and maintenance of any encapsulated friable asbestos containing material (if not remediated). All these costs would be necessary to maintain a safe site and comply with applicable regulations. In addition to these costs, there are liabilities that need to be managed, including but not limited to, integrity of structures, personnel safety, site access, and scrap theft. It is not realistic to manage these liabilities in perpetuity.

In my experience, I have found that retiring in place is not a cost-effective long-term solution when the carrying costs are taken into account. When we have prepared cost estimates to evaluate these options, we have found that typically in five to seven years more money will be spent on carrying costs during the time a unit is in a retired in place condition than would have been spent to fully demolish equipment and structures and perform site remediation activities. Furthermore, the equipment and structures cannot remain in perpetuity and will be required to be torn down at a future date.

Q. PLEASE SUMMARIZE THE RESULTS OF THE DECOMMISSIONING STUDY PREPARED FOR THE COMPANY.

A. The Company retained 1898 & Co. to provide it with a recommendation regarding the estimated total cost, in 2023 dollars, of decommissioning and dismantling each Company-owned generation or battery unit at the end of its useful life, as well as the total cost of decommissioning and dismantling the common facilities at these generating plants. The total decommissioning and dismantlement cost as determined by 1898 & Co., and reflected in the Decommissioning Study, was net of salvage value for scrap materials at each plant.[1] The estimated total net decommissioning and dismantlement cost for Duke Energy Indiana's generation facilities included in the study is $859,231,300 in 2023 dollars.

Q. WHAT PLANTS DID 1898 & CO. EVALUATE IN THE 2023 DECOMMISSIONING COST STUDY?

A. For purposes of the Decommissioning Study, we evaluated each of the following Duke Energy Indiana electric generating plants or battery energy storage systems (collectively, the "Plants"):

- B-Line Heights
- Camp Atterbury Battery
- Camp Atterbury Solar
- Cayuga Station
- Cayuga CT4
- Crane Battery
- Crane Solar
- Edwardsport IGCC
- Gallagher Station
- Gibson Station

[1] After we supplied our initial report for use in this filing, the Company made the decision to remove the future cost of post-closure monitoring associated with ash ponds regulated under the Coal Combustion Residuals rule. We updated the report to remove those costs. Also during that update, the Company indicated there had been an error in one of the inputs they had provided which had caused the overall cost of decommissioning the Gibson Generating Station to be slightly overstated. This error was corrected in the final version of our report, which is Attachment 11-A (JTK).

- Henry County
- Madison
- Markland Hydro
- Nabb
- Noblesville Station
- Purdue
- Tippecanoe
- Vermillion
- Wheatland

Q. WHAT APPROACH WAS USED TO DEVELOP THE COST ESTIMATES IN THE DECOMMISSIONING STUDY?

A. The estimate of the direct decommissioning and dismantlement cost was prepared with the intent of most accurately representing what 1898 & Co. would anticipate contractors bidding (through a competitive bidding process) to decommission and dismantle the equipment, address environmental issues, and restore the site for new industrial use, based on performing known tasks under ideal conditions. In addition to these known tasks under ideal conditions, indirect costs were added to cover costs incurred by the Company in executing the projects, and contingency was added to account for unknown, but reasonably expected to be incurred costs.

Q. WHAT SOURCES DID YOU RELY ON TO DEVELOP THE DECOMMISSIONING ESTIMATE FOR THE PLANTS?

A. The labor rates, equipment costs, and disposal costs used to develop the Decommission Study cost estimates were specific to the location in which the work is to be performed. These rates were applied to the quantities associated with each Plant to determine the total cost of decommissioning. Disposal costs were obtained from publicly available information and communications with landfills and scrap processors located in the area in which the work is to be performed. Pricing developed by the American Metal Market ("AMM") was also used to develop scrap credits, which is an industry standard publication routinely relied upon by demolition contractors. The RS Means online database was also utilized to obtain labor rates, equipment costs, and for the study area. RS Means labor rates are national averages and include site cost indices to provide localized costs. RS Means is widely utilized within the construction industry as a tool for estimating and projecting project costs.

Q. HOW WERE THE DIRECT COSTS DEVELOPED FOR PURPOSES OF THE DECOMMISSIONING STUDY?

A. Direct costs are the estimated costs that contractors would bid to demolish the equipment, address environmental issues, and restore the site to a condition suitable for industrial use. As part of the Decommissioning Study, site-specific direct cost estimates were developed using a "bottom-up" cost estimating approach, where cost estimates are developed from scratch through the development of site-specific quantity estimates and the application of unit pricing to the quantity estimates. The quantity estimates include, but are not limited to, items such as tons of steel; pounds of other metals such as copper and stainless steel; tons of debris; cubic yards of concrete; linear feet of asbestos pipe insulation; square feet of asbestos boiler insulation; cubic yards of site grading; acres of seeding; and the labor hours required to complete the decommissioning and demolition activities.

Q. WHAT QUALIFIES 1898 & CO. TO PREPARE ACCURATE ESTIMATES OF DISMANTLEMENT COSTS AND WHY SHOULD THE COMMISSION PUT WEIGHT INTO THESE ESTIMATES OF THE DIRECT COSTS?

A. Over the years, 1898 & Co. has worked closely with demolition contractors in developing decommissioning cost estimates in order to more accurately estimate the costs for activities that the demolition contractors will perform. 1898 & Co. has prepared numerous decommissioning studies for various clients considering different technologies in several different states and has provided services to clients on decommissioning project execution that has included review and evaluation of bids from demolition contractors. 1898 & Co. has utilized this experience preparing decommissioning estimates as well as reviewing demolition contractor bids to confirm the reasonableness of the cost estimates prepared by 1898 & Co.

At the time the Company decides to decommission the Plants, means and methods will not be dictated to the contractor by 1898 & Co. It will be the contractor’s responsibility to determine means and methods that result in safely decommissioning and dismantling the Plants at the lowest possible cost. However, based on 1898 & Co.’s experience with decommissioning projects and discussions with demolition contractors, the costs estimated by Burns and McDonnell are reflective of what contractors would bid, through a competitive bidding process given the option to select safe and efficient means and methods.

As indicated above, 1898 & Co. has vast experience in preparation of decommissioning studies, overseeing demolition projects, and executing construction projects. In order to execute over $2 billion of construction projects on an annual basis, 1898 & Co. has to win this work through competitive bidding processes, which requires us to be able to accurately prepare cost estimates. If we routinely estimated costs too high, we would not be successful in winning projects. If we routinely estimated costs too low, we would not be able to execute projects profitably and would no longer be active in this market.

Our long history, large market presence, and top industry rankings demonstrate our ability to effectively and accurately estimate costs. In addition, we have seen competitive bids from demolition contractors for power plant demolition projects, and we have worked with demolition contractors over the years to refine our estimating process for decommissioning studies to align our costs with theirs.

Q. WHAT LEVEL OF DECOMMISSIONING AND DISMANTLEMENT WAS ASSUMED TO BE PERFORMED AT EACH OF THE SITES?

A. The basis of the estimates was that all sites would be restored to a condition suitable for new industrial use.

Q. WHAT DOES RESTORING THE SITE FOR NEW INDUSTRIAL USE ENTAIL?

A. The sites will have all above grade buildings and equipment removed,[2] foundations removed to two feet below grade, be rough graded, and seeded. Sites also will have small diameter underground pipes capped and abandoned in place. The sites can remain in this condition in perpetuity, until the site is specifically redeveloped for new industrial use.

Q. WHAT WAS THE EXTENT OF YOUR PERSONAL INVOLVEMENT IN THE PREPARATION OF THE DECOMMISSIONING STUDY?

A. I served as the 1898 & Co. managing director on the Decommissioning Study. I worked directly with all individuals and parties involved in the preparation of the decommissioning and dismantlement cost estimates in the Decommissioning Study. I was responsible for the overall project, and was involved in the development of the decommissioning and dismantlement assumptions and cost estimating methodology.

Q. WHAT WAS THE EXTENT OF YOUR PERSONAL INVOLVEMENT IN THE PREPARATION OF THE PRIOR DECOMMISSIONING STUDY PREPARED FOR DUKE ENERGY INDIANA?

[2] For clarity, this excludes any transmission facilities, such as substations, that are otherwise required to remain on the site.

A. I served as the 1898 & Co. project manager on the prior study and testified to the reasonableness of those costs to support Duke Energy Indiana's filing in IURC Cause No. 45253.

Q. DID THE 1898 & CO. TEAM VISIT EACH OF THE PLANTS FOR WHICH THE SITE-SPECIFIC COST ESTIMATES WERE DEVELOPED?

A. Yes. The 1898 & Co. team visited all plants for which site-specific decommissioning and dismantlement cost estimates were prepared, along with representatives from the Company. In 2018, I visited a portion of the sites for which decommissioning cost estimates were prepared as part of the prior study, along with other individuals from 1898 & Co. and representatives from the Company. As part of the current Decommissioning Study, individuals from my team visited the newly added sites that were not visited at the time of the prior study.

III. DESCRIPTION OF DECOMMISSIONING AND DISMANTLEMENT COSTS

Q. PLEASE GENERALLY EXPLAIN THE TYPE OF COSTS DEVELOPED BY 1898 & CO. AND REFLECTED IN THE DECOMMISSIONING STUDY.

A. The cost estimates reflected in the Decommissioning Study are inclusive of direct costs associated with decommissioning and dismantling the plant equipment and facilities and restoring the sites to an industrial-ready condition. The direct costs include environmental remediation costs for asbestos removal and other hazardous material handling and disposal, as well as costs for removing and disposing of contaminated soil around transformers. The Decommissioning Study also includes estimates of indirect costs to be incurred by the Company during decommissioning and dismantlement, and contingency costs.

Q. HOW WERE THE DIRECT COSTS DEVELOPED FOR PURPOSES OF THE DECOMMISSIONING STUDY?

A. As part of the Decommissioning Study, site-specific cost estimates were developed using a “bottom-up” cost estimating approach, where cost estimates are developed from scratch through the development of site-specific quantity estimates and the application of unit pricing rates to the quantity estimates.

As outlined in the Decommissioning Study, 1898 & Co. prepared these cost estimates by estimating quantities for existing equipment based on visual inspections, interviews with the facilities’ staff, review of engineering drawings, review of 1898 & Co.’s in-house database of plant equipment quantities, and using 1898 & Co.’s professional judgment. This resulted in an estimate of quantities for the tasks required to be performed for each decommissioning and dismantlement effort. Current market pricing for labor rates and equipment were used to develop unit pricing rates for each task. These unit pricing rates were applied to the quantities for the Plants to determine the total direct cost of decommissioning and dismantlement for each site. Additionally, unit pricing for scrap values was applied to the scrap quantities to determine anticipated salvage values, which were subtracted from the gross direct costs to arrive at a net project cost in 2023 dollars.

Q. HOW WERE SCRAP VALUES DETERMINED?

A. Scrap metal prices used in the development of the scrap credit were based on a review of recent pricing trends for various types of materials published by American Metal Market, which is an industry standard publication and information subscription service[3] that reports the prices paid for scrap metals in transactions worldwide.

American Metal Market is the leading independent supplier of market intelligence and pricing to the North American metals industries and publisher of widely-used reference prices for scrap. American Metal Market also has extensive experience in reporting scrap prices in a wide range of grades and locations. American Metal Market has been reporting on the U.S. scrap market for more than 100 years, providing benchmark prices to users in the scrap metal industry.

Q. WHAT IS INCLUDED IN THE PROJECT INDIRECT COSTS INCLUDED IN THE DECOMMISSIONING STUDY?

A. This category includes costs expected to be incurred by the Company during the decommissioning and dismantlement process, which would be in addition to the direct costs paid to a demolition contractor. This includes the costs for staff of the Company providing oversight during demolition activities, as well as Company overheads, and general and administrative costs. Project scope intended to be covered by this category includes obtaining permits; construction services such as water and electricity; security facilities; environmental monitoring; and the costs

[3] See http://www.amm.com

of construction management which include scheduling, monitoring and supervising the contractors who will be doing the actual demolition work. It is also intended to cover such additional expenses as the relocation/modification of switch yard facilities where that is necessary.

Q. HOW WERE THE INDIRECT COSTS DETERMINED?

A. Indirect costs were determined as a percentage of the direct costs, as is a typical approach when preparing these types of cost estimates. The percentage of direct costs that was applied to determine the indirect costs was developed by 1898 & Co. based on experience with past decommissioning and dismantlement estimates.

Q. WHAT IS INCLUDED IN THE CONTINGENCY COSTS?

A. A contingency cost includes unspecified but reasonably expected additional costs to be incurred by the Company during the execution of decommissioning and dismantlement activities. For any project, there is always some uncertainty associated with work conditions, the scope of work, and how the work will be performed. There is also some uncertainty associated with estimating the quantities for dismantlement of facilities. These uncertainties result from the age of the Plants, limits on drawing availability, and the absence of detailed data for environmental remediation (such as identification of asbestos, lead based paint, soil testing around transformers, etc.), prior to preparation of these types of studies. Contingency costs account for these unspecified but expected costs and are in addition to the direct costs associated with the base decommissioning and dismantlement known scope items.

Q. ARE CONTINGENCY COSTS STANDARD INDUSTRY PRACTICE?

A. Yes. The application of contingency is not only appropriate, it is standard industry practice. Even on a project where firm pricing has been agreed upon with a successful bidder, it is typical that a client carry some level of contingency to cover potential change orders. It is even more important to carry contingency on planning-level cost estimates such as those presented in the Decommissioning Study.

Q. PLEASE FURTHER EXPLAIN WHY CONTINGENCY COSTS ARE INCLUDED AND STANDARD INDUSTRY PRACTICE.

A. It is important to understand how the decommissioning cost estimates are developed and the relationship of contingency to those costs. The estimate of direct decommissioning costs is prepared with the intent of accurately representing what contractors would bid to decommission and demolish the equipment, address environmental issues, and restore the site through a competitive bidding process, based on performing known decommissioning tasks under ideal conditions. In addition to these known tasks under ideal conditions, contingency is added to account for unknown, but reasonably expected to be incurred costs. These costs are related to weather delays, unknown environmental contamination, discovering equipment or materials not shown on drawings, additional dewatering requirements and changes in the manner the work is performed. Excluding these reasonably expected to be incurred costs by not including contingency costs will not give the full picture of decommissioning costs. If these costs are not accounted for in planning for future decommissioning, the costs will be passed on from the current ratepayers to future ratepayers.

Q. DID 1898 & CO. APPLY ANY COST ESCALATION FACTOR TO THESE ESTIMATES?

A. No, we did not. All of the estimates are in year 2023 dollars.

Q. WHAT IS YOUR OPINION OF THE REASONABLENESS OF THE DECOMMISSIONING AND DISMANTLEMENT COST ESTIMATES THAT 1898 & CO. HAS PREPARED FOR DUKE ENERGY INDIANA?

A. In my opinion, these estimates were carefully prepared using standard and accepted estimating techniques and the best information available, and are consistent with our industry experience. Although assumptions had to be made, I believe these assumptions are reasonable and that the estimates are appropriately accurate.

IV. CONCLUSION

Q. WAS THE DECOMMISSIONING STUDY ATTACHED TO YOUR TESTIMONY AS ATTACHMENT 11-A (JTK) PREPARED BY YOU OR UNDER YOUR SUPERVISION?

A. Yes. Supporting cost summaries are attached in excel as Workpaper 1-JTK.

Q. ARE THE ESTIMATED COSTS REFLECTED IN THE DECOMMISSIONING STUDY REASONABLY REFLECTIVE OF THE

ACTUAL COSTS NECESSARY TO DEMOLISH THE COMPANY'S PLANTS?

A. Yes, they are.

Q. ARE THESE ESTIMATED COSTS APPROPRIATE FOR USE IN THE DEVELOPMENT OF DEPRECIATION RATES FOR THE COMPANY'S ELECTRIC GENERATING PLANTS?

A. Yes.

Q. DOES THIS CONCLUDE YOUR PREFILED DIRECT TESTIMONY?

A. Yes, it does.

Cause No. 46038

VERIFICATION

I hereby verify under the penalties of perjury that the foregoing representations are true to the best of my knowledge, information and belief.

Signed: ______________________ Dated: April 4, 2024
Jeff Kopp

Decommissioning Cost Estimate Study

Duke Energy Indiana

Decommissioning Cost Estimate Study
Project No. 157623

3/8/2024

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LIST OF ABBREVIATIONS

Abbreviation	Term/Phrase/Name
1898 & Co.	1898 & Co., part of Burns & McDonnell
BOP	Balance of Plant
C&D	Construction and Demolition
CHP	Combined Heat and Power
Client	Duke Energy Indiana
CT	Combustion Turbine
DEI	Duke Energy Indiana
ESP	Electrostatic Precipitators
GE	General Electric
HRSG	Heat Recovery Steam Generator
IGCC	Integrated Gasification Combined Cycle
KW	Kilowatt
MW	Megawatt
MWh	Megawatt Hours
Plants	Power generation Assets
SCR	Selective Catalytic Reduction
ST	Steam Turbine
Study	Decommissioning Cost Study

DISCLAIMERS

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1.0 EXECUTIVE SUMMARY

1.1 Introduction

Duke Energy Indiana ("DEI") retained 1898 & Co., a division of Burns & McDonnell Engineering Company, Inc. (hereinafter called "1898 & Co,"), to conduct a Decommissioning Cost Study ("Study") for power generation assets ("Plants") located in Indiana & Ohio. The assets include natural gas-fired, coal-fired, hydroelectric, battery energy storage, and solar generation facilities. The purpose of the Study was to review the facilities and to make a recommendation to DEI regarding the total cost to decommission the facilities at the end of their useful lives. The decommissioning costs were developed by 1898 & Co. using information provided by DEI and in-house data available to 1898 & Co.

1.2 Results

1898 & Co. has prepared cost estimates in 2023 dollars for the decommissioning of the Plants. These cost estimates are summarized in the following Table. When DEI determines that the Plants should be retired, the above grade equipment and steel structures are assumed to have sufficient scrap value to a scrap contractor to offset a portion of the decommissioning costs. DEI will incur costs in the demolition and restoration of the sites less the scrap value of equipment and bulk recycled metals.

Table 1-1: Decommissioning Cost Summary (2023$)

Plant	Gross Decom Cost	Salvage Credits	Net Project Cost
B-Line Heights	$ 20,700	$ (11,600)	$ 9,100
Camp Atterbury Battery	$ 176,700	$ (10,600)	$ 166,100
Camp Atterbury Solar	$ 296,200	$ (112,300)	$ 183,900
Cayuga	$ 154,659,000	$ (20,817,000)	$ 133,842,000
Cayuga CT4	$ 1,985,000	$ (587,000)	$ 1,398,000
Crane Battery	$ 205,300	$ (15,100)	$ 190,200
Crane Solar	$ 2,346,900	$ (765,700)	$ 1,581,200
Edwardsport IGCC	$ 69,004,000	$ (11,458,000)	$ 57,546,000
Gallagher	$ 41,310,000	$ (10,910,000)	$ 30,400,000
Gibson	$ 429,622,000	$ (51,401,000)	$ 378,221,000
Henry County	$ 4,546,000	$ (1,070,000)	$ 3,476,000
Madison	$ 7,356,000	$ (4,512,000)	$ 2,844,000
Markland	$ 4,555,000	$ (769,000)	$ 3,786,000
Nabb	$ 182,900	$ (30,600)	$ 152,300
Noblesville	$ 24,299,000	$ (5,567,000)	$ 18,732,000
Purdue	$ 1,439,000	$ (554,000)	$ 885,000
Tippecanoe	$ 250,700	$ (271,200)	$ (20,500)
Vermillion	$ 7,890,000	$ (4,343,000)	$ 3,547,000
Wabash	$ 11,250,000	-	$ 11,250,000
Wheatland	$ 4,760,000	$ (2,785,000)	$ 1,975,000

Plant	Gross Decom Cost	Salvage Credits	Net Project Cost
TOTAL COST	$ 766,154,400	$ (115,990,100)	$ 650,164,300

The total project costs presented above include the costs to return the sites to an industrial condition suitable for reuse for development as an industrial facility. Included are the costs to dismantle all power generating equipment and balance of plant ("BOP") facilities and, where applicable, to perform environmental site restoration activities.

2.0 INTRODUCTION

2.1 Background

1898 & Co. was retained by DEI to conduct a Study to estimate the decommissioning costs for the Plants. The assets include natural gas-fired, coal-fired, hydroelectric, battery storage facilities, and solar generating facilities. Individuals from 1898 & Co. visited a representative portion of the Plants evaluated within the Study in May of 2023. The purpose of the Study was to review the facilities and to make a recommendation to DEI regarding the total cost to decommission and dismantle the facilities at the end of their useful lives. 1898 & Co. has prepared over three hundred decommissioning studies on various types of fossil fuel and renewable power plants. In addition to preparing decommissioning cost estimates, 1898 & Co. has supported demolition projects as the owner's engineer. In this capacity, 1898 & Co. has evaluated demolition bids and overseen demolition activities. This has provided 1898 & Co. with insight into a broad range of competitive demolition bids, which also assists in confirming the validity of the decommissioning and dismantling estimates developed by 1898 & Co.

2.2 Methodology

The sites decommissioning costs were developed using information provided by DEI and in-house data 1898 & Co. has collected from previous project experience. 1898 & Co. estimated quantities for equipment based on a visual inspection of the facilities, reviews of engineering drawings, an in-house database of plant equipment quantities, and professional judgement. For each Plant, quantities were estimated for each required task. Current market pricing for labor rates and equipment was then developed for each task. The unit pricing was developed for each site based on labor rates, equipment costs, and disposal costs specific to the area in which the work is to be performed. These rates were applied to the quantities for the Plants to determine the total cost of decommissioning and dismantling.

The decommissioning costs include the cost to return each site to an industrial condition, suitable for reuse for development of an industrial facility. Included are the costs to decommission and dismantle all the assets owned by DEI at the sites, including power generating equipment and Balance of Plant facilities.

2.3 Site Visits

Representatives from 1898 & Co. and DEI visited the sites in May of 2023. A representative portion of the sites was visited. The site visits consisted of a tour of each facility along with Ben Cummings, Performance Engineer for DEI, and plant personnel at each of the sites.

The following 1898 & Co. representatives comprised the site team:

- Mr. Paul Von Hertsenberg, Director
- Mr. Stephen Henson, Project Manager
- Mr. Dennis O'Connor, Project Analyst

The following Table includes the Plants included in the site visits and the corresponding dates of the visits.

Table 2-1: Site Visit Dates

Plant	Site Visit Date
Nabb Battery	May 11, 2023
Crane Battery	May 11, 2023
B-Line Heights	May 11, 2023
Camp Atterbury	May 11, 2023
Tippecanoe	May 12, 2023
Purdue CHP	May 12, 2023

In addition to the above site visits, representatives from 1898 & Co. visited the remaining sites in September of 2018 during a prior decommissioning cost evaluation.

3.0 PLANT DESCRIPTIONS

The following sections provide site descriptions for each of the power plants included in this Study.

3.1 Natural Gas Generation

3.1.1 Henry County

Henry County consists of three 43 megawatt ("MW") natural gas-fueled combustion turbines that provide a combined capacity of 129 MW. The three GE LM6000PA turbines are fitted with low Nitrous Oxide ("NOx") Controls. Table 3-1 provides a summary of the units that are included in the Study.

Table 3-1: Henry County Summary

Unit	Generation Technology	Fuel Type	Net Capacity	In-Service Date
1	Gas Turbine	Natural Gas	43 MW	2001
2	Gas Turbine	Natural Gas	43 MW	2001
3	Gas Turbine	Natural Gas	43 MW	2001

3.1.2 Madison

Madison is a 556 MW natural gas fired Plant located in Butler County, Ohio. Madison features eight 7EA combustion turbines manufactured by GE Energy. When built in 2000, each unit was fitted with dry low NOx burners. Table 3-2 provides a summary of the eight units that are included in the Study.

Table 3-2: Madison Summary

Unit	Generation Technology	Fuel Type	Net Capacity	In-Service Date
1	Gas Turbine	Natural Gas	71 MW	2000
2	Gas Turbine	Natural Gas	71 MW	2000
3	Gas Turbine	Natural Gas	59 MW	2000
4	Gas Turbine	Natural Gas	70 MW	2000
5	Gas Turbine	Natural Gas	70 MW	2000
6	Gas Turbine	Natural Gas	72 MW	2000
7	Gas Turbine	Natural Gas	73 MW	2000
8	Gas Turbine	Natural Gas	70 MW	2000

3.1.3 Noblesville

Originally built in 1950 as a coal plant, the Noblesville Plant was modernized and reopened in 2003 as a combined cycle facility. The facility now utilizes three natural gas -fired GE 6FA combustion turbines and two steam turbines. These turbines are joined to a Heat Recovery Steam Generator ("HRSG") which captures and converts combustion turbine exhaust heat to energy, making the repowered plant more efficient.

The combined cycle configuration provides a total net capacity of 264 MW. The steam turbines have net capacities of 43 and 44 MW. The three combustion turbines have net capacities of 59, 60, and 58 MW.

Each combustion turbine unit was fitted with SCR nitrogen controls in 2003. Table 3-3 Provides a summary of the units that were included in the Study.

Table 3-3: Noblesville Summary

Unit	Generation Technology	Fuel Type	Net Capacity	In-Service Date
1	Steam Turbine	Natural Gas	43 MW	1950
2	Steam Turbine	Natural Gas	44 MW	1950
3	Steam Turbine	Natural Gas	59 MW	2003
4	Steam Turbine	Natural Gas	60 MW	2003
5	Steam Turbine	Natural Gas	58 MW	2003

3.1.4 Vermillion

Vermillion Power Station houses eight natural gas-fired simple cycle turbines with a combined net capacity of 574 MW. The eight GE 7EA units began commercial operation in 2000 and have each been equipped with low NOx burners.

Currently 62.5 percent of the plant is owned by Duke Energy Indiana while the remaining 37.5 percent is owned by Wabash Valley Power Association. Table 3-4 provides a summary of the eight units included in the Study. For the purposes of this Study, it was assumed that DukeEnergy Indiana would incur 100 percent of the costs associated with Vermillion.

Table 3-4: Vermillion Summary

Unit	Generation Technology	Fuel Type	Net Capacity	In-Service Date
1	Gas Turbine	Natural Gas	72 MW	2000
2	Gas Turbine	Natural Gas	72 MW	2000
3	Gas Turbine	Natural Gas	71 MW	2000
4	Gas Turbine	Natural Gas	73 MW	2000
5	Gas Turbine	Natural Gas	71 MW	2000
6	Gas Turbine	Natural Gas	72 MW	2000
7	Gas Turbine	Natural Gas	72 MW	2000
8	Gas Turbine	Natural Gas	71 MW	2000

3.1.5 Wheatland

Located in Knox County, the Wheatland Peaking Station consists of four natural gas-fired simple cycle combustion turbines. The four Siemens 501D5A turbines produce a combined net capacity of 450MW. Each unit is fitted with low NOx control technology. Table 3-5 provides a summary of the units that are included in the Study.

Table 3-5: Wheatland Summary

Unit	Generation Technology	Fuel Type	Net Capacity	In-Service Date
1	Gas Turbine	Natural Gas	111 MW	2000
2	Gas Turbine	Natural Gas	114 MW	2000
3	Gas Turbine	Natural Gas	114 MW	2000
4	Gas Turbine	Natural Gas	111 MW	2000

3.2 Hydro

3.2.1 Markland

Located on the Ohio River, Markland is the only hydroelectric station operated by Duke Energy in the Midwest. The hydroelectric station has a net capacity of 45 MW and began commercial operation in 1967. The station currently consists of three units manufactured by Allis Chalmers Corp, each with a capacity of 15 MW. Table 3-6 provides a summary of the units that are included in the Study.

Table 3-6: Markland Summary

Unit	Generation Technology	Fuel Type	Net Capacity	In-Service Date
1	Hydraulic Turbine	Water	15 MW	1967
2	Hydraulic Turbine	Water	15 MW	1967
3	Hydraulic Turbine	Water	15 MW	1967

3.3 Coal Generation

3.3.1 Cayuga and Cayuga CT

Cayuga is a three-unit generating facility with a total net capacity of 1085 MW located in Cayuga, Indiana. Unit 4 consists of one simple cycle combustion turbine as well as four diesel units with net capacities of 3 MW, 3 MW, 2 MW, and 2 MW.

Units 1 and 2, built between 1970 and 1972, are both steam turbines with net capacities of 500 MW and 495 MW, respectively. Units 1 and 2 both use coal as a primary fuel source but are capable of burning distillate fuel oil as a secondary fuel type. Unit 4 is a gas turbine with a net capacity of 80 MW. The primary fuel used is natural gas and the secondary fuel is distillate fuel oil. The following table provides a summary of the units at Cayuga that were included in this Study.

Table 3-7: Cayuga Summary

Unit	Generation Technology	Fuel Type	Net capacity	In-Service Date
1	Steam Turbine	Bituminous Coal	500 MW	1970
2	Steam Turbine	Bituminous Coal	495 MW	1972
3A	Diesel Generator	Diesel	3 MW	1972
3B	Diesel Generator	Diesel	3 MW	1972
3C	Diesel Generator	Diesel	2 MW	1972
3D	Diesel Generator	Diesel	2 MW	1972
4	Gas Turbine	Natural Gas	80 MW	1993

Units 1 and 2 are similarly designed units with similar primary and BOP equipment. The primary equipment of each includes a pulverized coal boiler, a condenser with stainless steel tubing, electrostatic precipitators ("ESP"), and a steam turbine generator. In addition, scrubbers were installed on Units 1 and 2 in 2008 and selective catalytic reduction ("SCR") units were installed in 2015. Supporting systems at Units 1 and 2 include circulating water piping and cooling tower, coal and limestone handling equipment, water treatment, and other BOP systems. The primary equipment accounted for a Unit 4 includes the 80 MW combustion turbine, 10 MW combined from four diesel generators, the stack/ancillary equipment (lube oil, fuel gas, ect.).

3.3.2 Edwardsport IGCC

Edwardsport IGCC is a 2x1 integrated gasification combined cycle ("IGCC") plant with a net capacity of 555 MW (Summer) and 578 MW (Winter). Beginning commercial operation in 2013, this IGCC replaced Edwardsport's prior three coal-fired steam generators, which were demolished in 2012.

Unit 1 and Unit 2 are both combustion turbines manufactured by General Electric ("GE"). Both Units are GE 7F Syngas and have a net design capacity of 174.9 MW. Unit 3 is a steam turbine also manufactured by GE. Unit 3 is a G13 and has a net capacity of 245.2 MW. Table 3-8 Provides a summary of the three units that are included in the Study.

Table 3-8: Edwardsport IGCC Summary

Unit	Generation Technology	Fuel Type	Net Capacity	In-Service Date
1	Combustion Turbine	Coal- Derived	174.9 MW	2013
2	Combustion Turbine	Coal- Derived	174.9 MW	2013
3	Steam Turbine	Coal- Derived	245.2 MW	2013

Other equipment on site includes two HRSGs, gasifier trains, air separation units, sulfur recovery units, acid gas removal units, an activated carbon bed, and a multiple cell cooling tower.

3.3.3 Gallagher

Gallagher is a four-unit 560 MW coal fired generating facility located in Floyd County, Indiana. Baghouses and dry sorbent pollution-control equipment were installed to meet emission regulations. Units 1 and 2 share a baghouse which came online in December of 2007, and units 3 and 4 share a baghouse that came online in April of 2008.

Units 1 and 3 were retired in early 2012, while units 2 and 4 were retired mid-2021, each having a net capacity of 140 MW. Each unit primarily burned low sulfur bituminous coal but can use distillate fuel oil as a secondary fuel. Table 3-9 provides a summary of the units that are included in the Study.

Table 3-9: Gallagher Summary

Unit	Generation Technology	Fuel Type	Net Capacity	In-Service Date
1	Steam Turbine	Bituminous Coal	140 MW	1959
2	Steam Turbine	Bituminous Coal	140 MW	1958
3	Steam Turbine	Bituminous Coal	140 MW	1960
4	Steam Turbine	Bituminous Coal	140 MW	1961

The primary equipment for all four units includes pulverized coal boilers, condensers with titanium tubes, and steam turbine generators. Supplementary equipment associated with all four units includes coal handling equipment, circulating water equipment, cooling equipment, baghouses, and various BOP facilities.

3.3.4 Gibson

Gibson is a five-unit 3,132 MW coal fired generating facility located in Owensville, Indiana. Each unit has been fitted with overfire air, low NOx burners, and SCRs manufactured by Foster Wheeler Power Group. Unit 1 and Unit 2 were fitted with spray and tray scrubbers in 2007. Unit 3 was fitted with spray and tray scrubbers in 2006. Unit 4 and Unit 5 were fitted with spray scrubbers in 1995 and 1982, respectively. ESPs (without flue gas conditioning) were installed on the units between 1978 and 1992.

Each unit primarily uses bituminous coal, but distillate fuel oil can be used as a secondary fuel. Table 3-10 provides a summary of the units that are included in the Study.

Table 3-10: Gibson Summary

Unit	Generation Technology	Fuel Type	Net Capacity	In-Service Date
1	Steam Turbine	Bituminous Coal	630 MW	1976
2	Steam Turbine	Bituminous Coal	630 MW	1975
3	Steam Turbine	Bituminous Coal	630 MW	1978
4	Steam Turbine	Bituminous Coal	622 MW	1979
5	Steam Turbine	Bituminous Coal	620 MW	1982

Units 1, 2, 3, and 4 are solely owned by Duke Energy Indiana. Unit 5 is co-owned by Duke Energy Indiana. Wabash Valley Power Association owns 25 percent, and Indiana Municipal Power Agency owns 24.95 percent of Unit 5. For the purposes of this Study. It was assumed that Duke Energy Indiana would incur 100 percent of the costs associated with Unit 5.

3.4 Solar & Battery

3.4.1 B-Line Heights

Beginning commercial operation in 2019, the B-Line Heights Solar Canopy consists of 300 JA_Solar JAM72S01-380/PR photovoltaic solar panels with a total capacity of 112 Kilowatts ("KW"). The facility is located in the 0.15-acre parking lot of the B-Line Heights Apartment Complex located in Bloomington, Indiana.

3.4.2 Camp Atterbury Battery

Beginning commercial operation in November of 2019, Camp Atterbury is a combined Solar and battery energy storage site located at the Indiana National Guard's Camp Atterbury training facility in Johnson County, Indiana. The site includes 2 battery enclosures containing 1,352 Lithium-Ion batteries with a total capacity of 5 MW.

3.4.3 Camp Atterbury Solar

Beginning commercial operation in November of 2019, Camp Atterbury is a combined Solar and battery energy storage site located at the Indiana National Guard's Camp Atterbury training facility in Johnson County, Indiana. The site consists of 7,344 REC TwinPeak 2s Mono 72 XV Series photovoltaic solar panels with a total capacity of 2 MW.

3.4.4 Crane Battery

Crane is a combined Solar and battery energy storage facility. The facilities are located on roughly 145 acres of land which is leased by DEI from the Departments of the Navy. Adjacent to the Solar Facility the Crane Battery Site contains 2 enclosures holding 1,352 Lithium-Ion Batteries with a total capacity of 5 MW, which began commercial operation in December of 2020.

3.4.5 Crane Solar

Crane is a combined Solar and battery energy storage facility, which is located on roughly 145 acres of land which is leased by DEI from the Department of the Navy. Beginning commercial operation in 2017, the Crane Solar Facility consists of 76,000 SW-325 photovoltaic solar with a total capacity 17.3 MW.

3.4.6 Nabb

Beginning commercial operation in December of 2020, The Nabb Battery Site consists of two enclosures containing 1,352 Lithium-Ion batteries for a total capacity of 5 MW and discharges at a rate of 5 Megawatt Hours ("MWh"). The site is located on an approximately 0.3-acre lot owned by DEI located in Nabb, Indiana.

3.4.7 Tippecanoe

Beginning commercial operation in December of 2019, the Tippecanoe Solar Facility consists of 6,912 Hanwha Q.Plus L-GA.2 345 photovoltaic solar panels with a total capacity of 1.6 MW. The facility is located on roughly 11 acres of leased land which is located in West Lafayette, Indiana.

3.5 Combined Heat and Power

3.5.1 Purdue CHP

Purdue Combined Heat and Power ("CHP") houses one Gas Turbine with a capacity of 16 MW. The Titan 130 Gas Turbine began commercial operation in April of 2022. The plant located in West Lafayette, Indiana has the secondary function of sending supplementary steam to Purdue University and the Utility Plant located adjacent to the CHP.

4.0 DECOMMISSIONING COSTS

1898 & Co. has prepared decommissioning cost estimates for the Plants. When DEI determines that each site should be retired, the above grade equipment and steel structures are assumed to have scrap value to a scrap contractor which will offset a portion of the site decommissioning costs. However, DEI will incur costs of dismantling the Plants and restoration of the sites to the extent that those costs exceed the scrap value of equipment and bulk steel.

The decommissioning costs for each site include the cost to return each site to an industrial condition, suitable for reuse for development of an industrial facility. Included are the costs to dismantle all the assets at the sites, including power generating equipment and BOP facilities, as well as the costs to perform environmental site restoration activities.

For purposes of this study, 1898 & Co. assumed that each site will be dismantled as a single project, allowing the most cost-effective demolition methods to be utilized. A summary of several of the means and methods that could be employed is summarized in the following paragraphs; however, means and methods will not be dictated to the contractor by 1898 & Co. It will be the contractor's responsibility to determine means and methods that result in safely dismantling the Plants at the lowest possible cost.

Asbestos remediation, as required, would take place prior to commencement of any other demolition activities. Abatement would need to be performed in compliance with all state and federal regulations, including, but not limited to, requirements for sealing off work areas and maintaining negative pressure throughout the removal process. Final clearances and approvals would need to be achieved prior to performing further demolition activities.

High grade assets would then be removed from the site to the extent possible. This would include items such as transformers, transformer coils, circuit breakers, electrical wire, condenser plates and tubes, and heater tubes. High grade assets include precious alloys such as copper, aluminum-brass tubes, stainless steel tubes, and other high value metals occurring in plant systems. High grade asset removal would occur up-front in the schedule, to reduce the potential for theft, to increase cash flow, and for separation of recyclable materials to increase scrap recovery. Methods of removal vary with the location and nature of the asset. Small transformers, small equipment, and wire would likely be removed and shipped as-is for processing at a scrap yard. Large transformers, combustion turbines generators ("CT"), steam turbine generators ("ST"), and condensers would likely require some on-site disassembly prior to being shipped to a scrap yard.

Construction and Demolition ("C&D") waste includes items such as non-asbestos insulation, roofing, wood, drywall, plastics, and other non-metallic materials. C&D waste would typically be segregated from scrap and concrete to avoid cross-contaminating of waste streams or recycle streams. C&D demolition crews could remove these materials with equipment such as excavators equipped with material handling attachments, skid steers, etc. This material would be consolidated and loaded into bulk containers for disposal.

In general, boilers and HRSGs could be felled and cut into manageable sized pieces on the ground. First the structures around the boilers would need to be removed using excavators equipped with shears and grapples. Stairs, grating, elevators, and other high structures would be removed using an “ultra-high reach” excavator, equipped with shears. Following removal of these structures, the boilers or HRSGs would be felled, using explosive blasts. The boilers would then be dismantled using equipment such as excavators equipped with shears and grapples, and the scrap metal loaded onto trailers for recycling.

After the surrounding structures and ductwork have been removed, the stacks would be imploded, using controlled blasts. Following implosion, the stack liners and concrete would be reduced in size to allow for handling and removal.

BOP structures and foundations would likely be demolished using excavators equipped with hydraulic shears, hydraulic grapples, and impact breakers, along with workers utilizing open flame cutting torches. Steel components would be separated, reduced in size, and loaded onto trailers for recycling. Concrete would be broken into manageable sized pieces and stockpiled for crushing on site. Concrete pieces would ultimately be loaded in a hopper and fed through a crusher to be sized for on-site disposal.

4.1 General Assumptions

The following assumptions are made as the basis of all cost estimates.

1. Pricing for all estimates is in current 2023 dollars.
2. All work will take place in the most cost-efficient method.
3. Labor costs are based on non-Union labor rates for a 40-hour workweek.
4. For purposes of this Study, it is assumed that all generating units at each power station will be dismantled as part of a single demolition project at the time that the last unit at the site is retired. No interim demolition or salvage activities will occur while any units at the site continue to operate.
5. Units will be decommissioned to zero generating output. Existing utilities will remain in place for use by the contractor for the duration of the demolition activities.
6. DEI will remove or consume all burnable coal, lubricating/insulating/fuel oil and chemicals to the reasonable extent possible prior to commencement of demolition activities. Costs for these activities are included in the estimate.
7. All coal plants will incur a cost for plant washdown as part of the decommissioning study.
8. All fuel oil and chemicals will be removed from the plants by DEI prior to decommissioning. The costs associated with chemical and fuel oil removal are included in the common section of the estimates.
9. Costs are included in the estimates for cleaning and flushing fuel oil tanks and lines. Costs have also been included to remove three feet of soil directly below each of the fuel oil tanks and five feet of soil beneath the fuel oil lines to account for the potential for this soil to be contaminated during normal operations.

10. Crushed rock will be disposed of on site by using it for clean fill or will be recycled by the demolition contractor.
11. No environmental costs have been included to address cleanup of contaminated soils, hazardous materials, or other conditions present on-site having a negative environmental impact, other than those specifically listed here. No allowances are included for unforeseen environmental remediation activities.
12. All estimates are budgetary in nature and do not reflect guaranteed costs. Budgetary refers to the nature of the itemized cost estimate for planning purposes only and are not a guarantee.
13. Soil testing and other on-site testing has not been conducted for this study.
14. Abatement of asbestos will precede any other work. After final air quality clearances have been reached, demolition can proceed.
15. All demolition and abatement activities, including removal of asbestos, will be done in accordance with all applicable Federal, State and Local laws, rules, and regulations.
16. Asbestos quantities were provided by DEI unless noted otherwise in the site-specific assumptions below.
17. Hazardous material abatement is included for all sites as necessary, including asbestos, mercury, and polychlorinated biphenyls ("PCBs"). Lead paint coated materials will be handled by certified personnel compliant with OSHA Standards as necessary but will not be removed prior to demolition.
18. Mercury surveys were not available for review. Standard removal and disposal costs were included for all Plants.
19. Transmission switchyards and substations within the boundaries of the plant are not part of the demolition scope. Switchyards that are associated with the facilities only and are not part of the transmission system are included for demolition. For purposes of this study, the division between generation assets and transmission assets is at the high side of the generator step-up transformers.
20. Step-up transformers, auxiliary transformers, and spare transformers are included for demolition and scrap in all estimates.
21. All above-grade structures will be demolished. All below-grade structures, including foundations and piles, will be removed to two (2) feet below existing grade, unless deemed hazardous by DEI or otherwise noted in the site-specific assumptions.
22. Foundations greater than two (2) feet below grade will be abandoned in place. A removal depth of 2 feet is assumed where lease agreements did not indicate specific requirements.

23. Existing basements will be used to bury non-hazardous debris. Concrete below the depth of removal will be perforated to create drainage. Non-hazardous debris, such as concrete and brick, will be crushed and used as clean fill on-site once the capacity of all existing basements has been exceeded. All inert debris will be disposed of on-site. All other material that is not sold as scrap will be disposed of at an off-site landfill.

24. Sewers, catch basins, and ducts shall be collapsed to two feet below grade and will be certified closed by the authority having jurisdiction. Horizontal runs will be abandoned in place after closure.

25. Intake and discharge canals that will no longer serve a purpose after station operation ceases will be filled and closed unless otherwise noted within the assumptions. Equipment and structures above the seawall or intake structure will be removed. Finished dock lines, canals, and slips will be retained and secured with perimeter cyclone fencing.

26. Underground piping 24 inches and larger shall be filled with flowable concrete fill or grout and capped. Piping more than two feet below grade that is smaller than 24 inches in diameter will be abandoned in place.

27. Site areas will be graded to achieve suitable site drainage to natural drainage patterns and seeded, but grading will be minimized to the extent possible.

28. Major equipment, structural steel, turbines, generators, exhaust stacks, transformers, electrical equipment, cabling, wiring, pump skids, above ground piping, and equipment enclosures for the above equipment will be sold for scrap and removed from the Plant site by the demolition contractor. All other demolished materials are considered debris.

29. For purposes of this Study, it is assumed that none of the equipment will have a salvage value in excess of the scrap value of the materials in the equipment at the time of decommissioning. The decommissioning cost estimates are based on the end of useful life of each facility. All equipment, steel, copper, and other metals will be sold as scrap. Credits for salvage value are based on scrap value alone. Resale of equipment and materials is not included.

30. Scrap value of metal to be used in the estimate will be set to the most recent 12-month average of market rates for the given material less the cost to haul the scrap via truck and/or rail to the appropriate destination.

31. Handling and disposal of hazardous material will be performed in compliance with the approved methods of DEI's Environmental Services Department.

32. Rolling stock, including rail cars, dozers, plant vehicles, etc. is assumed to be removed by DEI prior to dismantlement.

33. In the absence of detailed information, such as plant layout or equipment drawings, 1898 & Co. assumed information with the use of publicly available data and 1898 & Co's industry experience.

34. Process Pond and Landfill decommissioning costs have been provided by DEI and are included in the study as a cost line item where applicable.

35. A 20 percent contingency is included in the cost estimates on all assets to cover expenses that are unknown at the time the estimate is prepared but are expected to be expended on the project.

36. A 10 percent indirect cost is included in the cost estimates to cover expenses to manage the demolition of the facilities.

37. Market conditions may result in cost variations at the time of contract execution.

38. The following scrap values were used in the decommissioning cost estimates. The scrap values are based upon the 12-month average of American Metal Market prices for May 2022 to April 2023 (i.e., one calendar year). These values include the cost to haul the scrap via truck and/or rail to the scrap market indicated below.

Table 4-1: 2023 Scrap Pricing

Plant	Scrap Market Location	Steel Scrap Value ($/net ton)	Copper Scrap Value ($/pound)	Aluminum Scrap Value ($/pound)	Brass Scrap Value ($/pound)
B-Line Heights	Cincinnati	($272.39)	($2.84)	($0.38)	($2.28)
Camp Atterbury Battery	Cincinnati	($279.74)	($2.84)	($0.38)	($2.28)
Camp Atterbury Solar	Cincinnati	($279.74)	($2.84)	($0.38)	($2.28)
Cayuga	Cincinnati	($284.71)	($2.85)	($0.39)	($2.28)
Crane Battery	Chicago	($269.98)	($2.84)	($0.38)	($2.28)
Crane Solar	Chicago	($269.98)	($2.84)	($0.38)	($2.28)
Edwardsport IGCC	Chicago	($278.73)	($2.84)	($0.38)	($2.28)
Gallagher	Cincinnati	($285.31)	($2.85)	($0.39)	($2.29)
Gibson	Chicago	($272.74)	($2.84)	($0.38)	($2.28)
Henry County	Cincinnati	($276.19)	($2.84)	($0.38)	($2.28)
Madison	Cincinnati	($279.08)	($2.85)	($0.39)	($2.29)
Markland	Cincinnati	($294.07)	($2.85)	($0.39)	($2.29)
Nabb	Cincinnati	($277.69)	($2.84)	($0.38)	($2.28)
Noblesville	Cincinnati	($280.72)	($2.84)	($0.38)	($2.28)
Purdue	Cincinnati	($268.09)	($2.84)	($0.38)	($2.28)
Tippecanoe	Cincinnati	($268.09)	($2.84)	($0.38)	($2.28)
Vermillion	Cincinnati	($284.71)	($2.85)	($0.39)	($2.28)

Plant	Scrap Market Location	Steel Scrap Value ($/net ton)	Copper Scrap Value ($/pound)	Aluminum Scrap Value ($/pound)	Brass Scrap Value ($/pound)
Wheatland	Chicago	($280.02)	($2.84)	($0.38)	($2.28)

Table 4-2: 2023 Additional Scrap Pricing

Plant	Scrap Market Location	Stainless Steel Scrap Value ($/net ton)	Titanium Scrap Value ($/pound)
Cayuga	Cincinnati	($1,182.97)	-
Edwardsport IGCC	Chicago	($1,178.12)	-
Gallagher	Cincinnati	-	($0.34)
Gibson	Chicago	($1,172.13)	-

4.2 Site Specific Assumptions

The following assumptions were made specific to each site, in addition to the general assumptions listed above.

4.2.1 B-Line Heights

1. The Grant of Easement for Solar Carport Facilities, allows DEI as the Grantee, a non-exclusive easement “to construct, reconstruct, operate, patrol, maintain, repair, replace, relocate, and to, modify and remove, electric, and/or telecommunication line or lines including but not limited to, all necessary and convenient supporting structures (such as poles), solar facilities, underground ducts, conduits, wires, cables, manholes, pullboxes, guy wires with anchors, grounding systems, counterpoises, surface equipment (including, but not limited to, transformers and switchgears), and all other appurtenances, fixtures and equipment” “for the transmission and distribution of electrical energy.” All above ground and below grade equipment was assumed to be removed to a depth of 2 feet below grade.

2. All supporting structures and concrete foundations will be removed to 2 feet below grade.

3. Costs for parking lot asphalt repair have been included.

4. Based on Bloomington, Indiana an SCI of 87.4 percent was applied.

4.2.2 Camp Atterbury Battery

1. Any additional roads that were built to support the battery energy storage facility will be removed.

2. All support structures, electrical equipment, foundations, fencing, and roads associated with the battery energy storage facility are assumed to be removed.

3. No substations directly associated with the battery energy storage facility were assumed to be removed as part of this Study.
4. Project-specific fence line is to be removed.
5. When not provided, the transformer weights were estimated from similar projects.
6. It is assumed that concrete will be disposed of off-site.
7. Section 14(A) of the State of Indiana Real Property Lease states that "Upon expiration, abandonment, or termination of this Lease, Tenant shall remove all of its goods, equipment and other movable personal property, except those fixtures identified in Section 12 above, and surrender the Leased Premises to Landlord in the substantially similar condition as the Leased Premises were at the beginning of this Lease, ordinary wear and tear, and damage by the elements excepted." As such, all above ground and below grade equipment was assumed to be removed.
8. The battery disposal fees are assumed to be at the expense of the Project. Costs are included for transporting the batteries to a nearby recycling facility.
9. Based on Columbus, Indiana an SCI of 102.1 percent was applied.

4.2.3 Camp Atterbury Solar

1. Any additional roads that were built to support the solar facility will be removed.
2. All panels, support structures, electrical equipment, foundations, fencing, and roads associated with the solar facility are assumed to be removed.
3. No substations directly associated with the solar facility were assumed to be removed as part of this Study.
4. Project-specific fence line is to be removed.
5. When not provided, the transformer weights were estimated from similar projects.
6. It is assumed that concrete will be disposed of off-site.
7. Section 14(A) of the State of Indiana Real Property Lease states that "Upon expiration, abandonment, or termination of this Lease, Tenant shall remove all of its goods, equipment and other movable personal property, except those fixtures identified in Section 12 above, and surrender the Leased Premises to Landlord in the substantially similar condition as the Leased Premises were at the beginning of this Lease, ordinary wear and tear, and damage by the elements excepted." As such, all above ground and below grade equipment was assumed to be removed.
8. Based on Columbus, Indiana an SCI of 102.1 percent was applied.

4.2.4 Cayuga

1. Rolling stock, including rail cars, is assumed to be removed by DEI prior to decommissioning. Plant-specific rail up to the main line is to be removed as part of this Study.
2. Removal of all coal and ash from plant equipment and infrastructure is included in this Study.
3. Demolition activities for the coal pile area include removing and disposing of 12 inches of soil, replacing that soil, grading, adding topsoil, fine grading, and hydroseeding.
4. It is assumed the transformer oils do not contain PCB and therefore will be disposed of as non-PCB oil. The costs include removal of one foot of soil beneath the transformer pads for offsite disposal.
5. Asbestos abatement costs will be included in the estimate based on information previously provided by DEI. It is assumed there has been no significant asbestos abatement since the time of the prior Study. At Cayuga, it is assumed that 20 percent of asbestos has been abated.
6. Costs for removal of the original concrete stacks for Units 1 and 2 will not be included in this estimate.
7. Lead based paint is expected with testing during demolition.
8. Costs for removal of 24 Cesium 137 nuclear devices on the plant site are included in the estimate.
9. Demolition activities for the fuel tank area include removing and disposing of 12 inches of soil, replacing that soil, grading, adding topsoil, fine grading, and hydroseeding.
10. Subsurface materials that are more than two feet below the surface will remain in place. All circulating water piping above this level will be excavated and removed from the site.
11. Cost to remove cold reheat steam pipe and concrete foundation from the boiler building to the neighboring paper mill is included in the estimate under the category entitled "BOP miscellaneous."
12. Circulating water piping removal and flowable fill cost estimates were calculated and split 50/50 between the two units.
13. The condenser tube material is assumed to be Stainless steel for all Units.
14. Based on Terre Haute, Indiana an SCI of 107.4 percent was applied.
15. The cost estimate includes estimated and deferred closure compliance costs for the FGD area and facility. Estimates for these costs were provided by DEI.

4.2.5 Cayuga CT

1. No asbestos is assumed to be present.
2. There is no known lead-based paint at the plant. However, testing during demolition is recommended for confirmation.
3. The plant has no Cesium 137 nuclear devices and therefore costs for removing and disposing of these devices are not included.
4. Based on Terre Haute, Indiana an SCI of 107.4 percent was applied.

4.2.6 Crane Battery

1. Any additional roads that were built to support the battery energy storage facility will be removed.
2. All support structures, electrical equipment, foundations, fencing, and roads associated with the battery energy storage facilities are assumed to be removed.
3. No substations directly associated with the battery energy storage facility were assumed to be removed as part of this study.
4. Project-specific fence line is to be removed.
5. When not provided, the transformer weights were estimated from similar projects.
6. It is assumed that concrete will be disposed of off-site.
7. Section 8 of the Lease states that Lessee may, "unless directed to be removed by Government, abandon in place to the Government all Improvements." Additionally, the Lease states that "If Government or Lessee elects to have the Improvements removed from the Leased Premises upon expiration or termination of this Lease, Lessee shall promptly remove the Improvements and restore the Leased Premises to the same condition that existed when the term of this Lease began, or to a condition that is acceptable to Government." As such, all above ground and below grade equipment was assumed to be removed.
8. The battery disposal fees are assumed to be at the expense of the Project. Costs are included for transporting the batteries to a nearby recycling facility.
9. Based on Washington, Indiana an SCI of 105.8 percent was applied.

4.2.7 Crane Solar

1. Any additional roads that were built to support the solar facility will be removed.
2. All panels, support structures, electrical equipment, foundations, fencing, and roads associated with the solar facilities are assumed to be removed.
3. No substations directly associated with the solar facility were assumed to be removed as part of this study.

4. Project-specific fence line is to be removed.
5. When not provided, the transformer weights were estimated from similar projects.
6. It is assumed that concrete will be disposed of off-site.
7. Section 8 of the Lease states that Lessee may, "unless directed to be removed by Government, abandon in place to the Government all Improvements." Additionally, the Lease states that "If Government or Lessee elects to have the Improvements removed from the Leased Premises upon expiration or termination of this Lease, Lessee shall promptly remove the Improvements and restore the Leased Premises to the same condition that existed when the term of this Lease began, or to a condition that is acceptable to Government." As such, all above ground and below grade equipment was assumed to be removed.
8. Based on Washington, Indiana an SCI of 105.8 percent was applied.

4.2.8 Edwardsport IGCC

1. Rolling stock, including rail cars, is assumed to be removed by DEI prior to decommissioning. Plant-specific rail is to be removed as part of this Study.
2. Removal of all coal and slag from plant equipment and infrastructure is included in this Study.
3. Demolition activities for the coal pile area include removing and disposing of 12 inches of soil, replacing that soil, grading, adding topsoil, fine grading, and hydroseeding.
4. No asbestos is assumed to be present.
5. The old coal plant on the North side of the property has already been demolished and will not be included in this estimate.
6. The plant has no known lead-based paint. However, testing during demolition is recommended for confirmation.
7. Using previous similar IGCC estimates, the gasification chamber steel weight was estimated and scaled on a MW basis.
8. Quantities from the Spill Prevention, Control, and Countermeasure plan were used for transformer oil and lube oil calculations.
9. The entirety of the cost for removal and disposal of oils, grease, lubricants, fuels, wastewater, and oily water is included in the estimate as these will not be run down prior to plant shut down.
10. The condenser tube material is assumed to be Stainless Steel.
11. Based on Washington, Indiana an SCI of 105.8 percent was applied.
12. Closure areas costs are included. Estimates for these costs were provided by DEI.

4.2.9 Gallagher

1. Removal of all coal from plant equipment and infrastructure is included in this Study.
2. Demolition activities for the coal pile area include removing and disposing of 12 inches of soil, replacing that soil, grading, adding topsoil, fine grading, and hydroseeding.
3. It is assumed that no asbestos abatement has taken place.
4. The oil removal costs include removal of one foot of soil beneath the transformer pads for offsite disposal.
5. All oils in main and aux transformers for Unit 1 and Unit 3 have been removed.
6. Main transformer at Unit 3 has been previously demolished and removed and is not included in the estimate.
7. Barge unloading equipment and mooring cell removal is included in the estimate.
8. Circulating water pumps and service water pumps at Units 1 and 3 have been removed.
9. All Cesium 137 nuclear devices were removed from the site when precipitators were demolished prior to baghouse construction.
10. Removal of 95 percent of equipment at retired Units 1 and 3 is included in the estimate.
11. All basement and lower rooms will be back filled to grade level using debris from building and stack demolition (concrete, no refractory brick). Any remaining volume will be filled with dirt hauled in from off-site.
12. Stack foundation will be back filled to grade using debris from stack demolition (concrete, no refractory brick). Any remaining volume will be filled with dirt hauled in from off-site.
13. Environmental costs associated with asbestos abatement in the stacks are split evenly between all four units.
14. Costs associated with baghouse demolition and decommissioning are split evenly between all four units.
15. Circulating water pipes and the discharge tunnel beneath the site basement will require flowable fill, the cost of which is included in the estimate.
16. The condenser tube material is assumed to be Titanium.
17. Based on New Albany, Indiana, an SCI of 84.8 percent was applied.

4.2.10 Gibson

1. Rolling stock, including rail cars, is assumed to be removed by DEI prior to decommissioning. Plant-specific rail is to be removed as part of this Study.

2. Removal of all coal and ash from plant equipment and infrastructure is included in this Study.
3. Demolition activities for the coal pile area include removing and disposing of 12 inches of soil, replacing that soil, grading, adding topsoil, fine grading, and hydroseeding.
4. Limited asbestos is assumed to be present and only located in gasket material and transite siding.
5. The oil removal costs include removal of one foot of soil beneath the transformer pads for offsite disposal.
6. All five intake and outfall structures for the cooling lake will be removed as a part of this Study.
7. Unit 1 and Unit 2 contain carbon steel liners while Units 3, 4, and 5 contain brick liners.
8. Flue gas desulfurization ("FGD"), associated fixation systems, and scrubbers have been installed on all five units.
9. The condenser tube material is assumed to be Stainless Steel for all Units.
10. Costs for closure of the cooling lake are included. The cooling lake is a 3,000-acre industrial surface water impoundment.
11. Based on Evansville, Indiana an SCI of 107 percent was applied.
12. Landfill closure costs are included in this study and were provided by DEI.

4.2.11 Henry County

1. No asbestos is assumed to be present.
2. There is no known lead-based paint at the plant. However, testing during demolition is recommended for confirmation.
3. The plant has no Cesium 137 nuclear devices and therefore costs for removing and disposing of these devices are not included.
4. It is assumed that the gas yard is not included with the estimate.
5. The demineralized water trailers on site are not included in the estimate and it is assumed that these will be removed prior to commencement of decommissioning.
6. No large oil spills have occurred on site and therefore oil spill remediation costs are not included.
7. The estimate includes approximately 2,000 cubic yards of concrete and an installed equipment garage that are not included in drawings.
8. It is assumed that all dual fuel equipment and piping has been removed and is not included in the estimate.

9. Based on Anderson, Indiana an SCI of 94.1 percent was applied.

4.2.12 Madison

1. No asbestos is assumed to be present.
2. There is no known lead-based paint at the plant. However, testing during demolition is recommended for confirmation.
3. The plant has no Cesium 137 nuclear devices and therefore costs for removing and disposing of these devices are not included.
4. Based on Hamilton, Ohio an SCI of 91.6 percent was applied.

4.2.13 Markland

1. The dam structure and powerhouse are not included for removal in this Study and will remain in place for flow control purposes.
2. All turbines, generators, transformers, other power generation equipment, and support equipment for the control and protection of the power generation equipment will be removed.
3. All equipment required to control water flow through the dam structure will remain in place.
4. The internal dam voids where power equipment currently resides will be filled with flowable fill to the normal water level. Further analysis may be warranted to understand if this is an acceptable method to decommission the facility. DEI should work with the United States Army Corps of Engineers to understand any and all decommissioning and dismantlement requirements.
5. All major structures, including the powerhouse, are to be left in place in order to maintain the structural integrity of the dam.
6. Turbines and generators are to be removed using the crane on site. The Markland crane will then be removed using a larger crane.
7. All space below the dam where water flows will be filled with flowable fill.
8. It is assumed that the debris dam upstream of Markland will be removed with the mooring cell supporting it.
9. Based on discussions with DEI, no asbestos currently exists on site.
10. Specific demolition crews are based on task, labor, and equipment rates, which may vary depending on the estimated time of completion.
11. Based on Lawrenceburg, Indiana an SCI of 93.8 percent was applied.

4.2.14 Nabb

1. The site is owned by DEI and as such there is no lease agreement. A removal depth of 2 feet below grade was assumed.

2. The battery disposal fees are assumed to be at the expense of the Project. Costs are included for transporting the batteries to a nearby recycling facility.

3. Based on New Albany, Indiana an SCI of 84.8 percent was applied.

4.2.15 Noblesville

1. Asbestos abatement costs are included in the estimate based on information previously provided by DEI. It is assumed there has been no significant asbestos abatement since the time of the prior Study. These costs were developed using the percentage of remaining asbestos at Unit 1, Unit 2, and Unit 3, which was provided by site personnel. Burns & McDonnell 1898 & Co. assumed 10 percent of asbestos has been abated in the old power block.

2. There is no known lead-based paint at the plant. However, testing during demolition is recommended for confirmation.

3. The plant has no Cesium 137 nuclear devices and therefore costs for removing and disposing of these devices are not included.

4. Demolition activities for the fuel tank area include removing and disposing of 12 inches of soil, replacing that soil, grading, adding topsoil, fine grading, and hydroseeding.

5. Costs for removal of retired power block equipment (boiler, feedwater heaters, fans, pulverizer, etc.) that is still on site are included in the decommissioning estimate.

6. Conveyor and belt equipment associated with old coal handling crusher house is assumed to be more than two feet underground and will be abandoned in place.

7. No large oil spills have occurred on site and therefore oil spill remediation costs are not included.

8. The onsite trench has costs included for excavating and backfilling upon decommissioning of the plant.

9. Costs for closure of the wells are included in the Study. It is assumed that the potable and raw water wells are 90 feet deep.

10. The condenser tube material is assumed to be a Nickle-Copper Alloy.

11. Based on Anderson, Indiana an SCI of 94.1 percent was applied.

12. Costs for removal of the low head dam, pump house, and appurtenances is included in the estimate.

13. DEI provided cost estimates for the closure areas required post facility retirement.

4.2.16 Purdue CHP

1. Cost for the decommissioning of the steam transport pipes will be included up until the fence line where ownership of the pipes transfers from DEI to Purdue.

2. No asbestos is assumed to be present.

3. Costs for removal of the concrete wall in the north of the plant behind the main building have been included.

4. The property is owned by others and DEI owns the equipment and structures above grade.

5. Based on Lafayette, Indiana an SCI of 85.3 percent was applied.

4.2.17 Tippecanoe

1. Section 9(b) of the Ground Lease Agreement requires Tenant to "(i) return the Land to Landlord in substantially the same condition the same were in as of the Construction Commencement Date, to the extent practicable and reasonable wear and tear excepted; and if applicable, (ii) decommission and remove Tenant's Solar generating Facility and all improvements and equipment constructed or installed by Tenant on the Land." As such, all above ground and below grade equipment was assumed to be removed.

2. Based on Lafayette, Indiana an SCI of 85.3 percent was applied.

4.2.18 Vermillion

1. No asbestos is assumed to be present.

2. There is no known lead-based paint at the plant. However, testing during demolition is recommended for confirmation.

3. The plant has no Cesium 137 nuclear devices and therefore costs for removing and disposing of these devices are not included.

4. Based on Terre Haute, Indiana an SCI of 107.4 percent was applied.

4.2.19 Wabash

1. Preparation of decommissioning costs by 1898 & Co. was not included in the scope of the report.

2. Future CCR Closure Project costs provided by DEI and included in this report.

4.2.20 Wheatland

1. No asbestos is assumed to be present.

2. There is no known lead-based paint at the plant. However, testing during demolition is recommended for confirmation.

3. The plant has no known Cesium 137 nuclear devices and therefore costs for removing and disposing of these devices are not included.

4. No large oil spills have occurred on site and therefore oil spill remediation costs are not included.

5. Based on Washington, Indiana an SCI of 105.8 percent was applied.

5.0 RESULTS

1898 & Co. has prepared cost estimates in 2023 dollars for the decommissioning of the Plants. These costs are summarized in the following table. When DEI determines that the Plants should be retired, the above grade equipment and steel structures are assumed to have sufficient scrap value to a scrap contractor to offset a portion of the decommissioning costs. DEI will incur costs in the demolition and restoration of the sites less the salvage value of equipment and bulk recycled metals.

Table 5-1: Decommissioning Cost Summary (2023$)

Plant	Gross Decom Cost	Salvage Credits	Net Project Cost
B-Line Heights	$ 20,700	$ (11,600)	$ 9,100
Camp Atterbury Battery	$ 176,700	$ (10,600)	$ 166,100
Camp Atterbury Solar	$ 296,200	$ (112,300)	$ 183,900
Cayuga	$ 154,659,000	$ (20,817,000)	$ 133,842,000
Cayuga CT4	$ 1,985,000	$ (587,000)	$ 1,398,000
Crane Battery	$ 205,300	$ (15,100)	$ 190,200
Crane Solar	$ 2,346,900	$ (765,700)	$ 1,581,200
Edwardsport IGCC	$ 69,004,000	$ (11,458,000)	$ 57,546,000
Gallagher	$ 41,310,000	$ (10,910,000)	$ 30,400,000
Gibson	$ 429,622,000	$ (51,401,000)	$ 378,221,000
Henry County	$ 4,546,000	$ (1,070,000)	$ 3,476,000
Madison	$ 7,356,000	$ (4,512,000)	$ 2,844,000
Markland	$ 4,555,000	$ (769,000)	$ 3,786,000
Nabb	$ 182,900	$ (30,600)	$ 152,300
Noblesville	$ 24,299,000	$ (5,567,000)	$ 18,732,000
Purdue	$ 1,439,000	$ (554,000)	$ 885,000
Tippecanoe	$ 250,700	$ (271,200)	$ (20,500)
Vermillion	$ 7,890,000	$ (4,343,000)	$ 3,547,000
Wabash	$ 11,250,000	-	$ 11,250,000
Wheatland	$ 4,760,000	$ (2,785,000)	$ 1,975,000
TOTAL COST	**$ 766,154,400**	**$ (115,990,100)**	**$ 650,164,300**

APPENDIX A – COST ESTIMATE SUMMARIES

Table A-1
B-Line Heights
Solar Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Scrap Value
B-Line Heights						
Solar Farm						
Solar Panel Removal	$ 1,300	$ 1,400	$ 1,400	$ -	$ 4,100	$ -
Panel Supports/Rack	$ 4,000	$ 4,300	$ -	$ -	$ 8,300	$ -
Electrical & Wiring	$ 1,000	$ 1,100	$ -	$ -	$ 2,100	$ -
Site Restoration	$ -	$ -	$ -	$ 600	$ 600	$ -
On-site Concrete Crushing and Removal	$ -	$ -	$ 700	$ -	$ 700	$ -
Debris	$ -	$ -	$ 100	$ -	$ 100	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (11,600)
Subtotal	**$ 6,300**	**$ 6,800**	**$ 2,200**	**$ 600**	**$ 15,900**	**$ (11,600)**
B-Line Heights Subtotal	**$ 6,300**	**$ 6,800**	**$ 2,200**	**$ 600**	**$ 15,900**	**$ (11,600)**
TOTAL DECOM COST (CREDIT)					**$ 15,900**	**$ (11,600)**
PROJECT INDIRECTS (10%)					**$ 1,600**	
CONTINGENGY (20%)					**$ 3,200**	
TOTAL PROJECT COST (CREDIT)					**$ 20,700**	**$ (11,600)**
TOTAL NET PROJECT COST (CREDIT)					**$ 9,100**	

Table A-2
Camp Atterbury Battery Storage
BESS Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Scrap Value
Camp Atterbury Battery Storage						
BESS						
Battery Storage	$ 66,900	$ 51,600	$ 2,700	$ -	$ 121,200	$ -
Electrical & Wiring	$ 2,300	$ 2,500	$ -	$ -	$ 4,800	$ -
Site Restoration	$ -	$ -	$ -	$ 9,000	$ 9,000	$ -
On-site Concrete Crushing and Removal	$ -	$ -	$ 800	$ -	$ 800	$ -
Debris	$ -	$ -	$ 100	$ -	$ 100	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (10,600)
Subtotal	**$ 69,200**	**$ 54,100**	**$ 3,600**	**$ 9,000**	**$ 135,900**	**$ (10,600)**
Camp Atterbury Battery Storage Subtotal	**$ 69,200**	**$ 54,100**	**$ 3,600**	**$ 9,000**	**$ 135,900**	**$ (10,600)**
TOTAL DECOM COST (CREDIT)					**$ 135,900**	**$ (10,600)**
PROJECT INDIRECTS (10%)					**$ 13,600**	
CONTINGENGY (20%)					**$ 27,200**	
TOTAL PROJECT COST (CREDIT)					**$ 176,700**	**$ (10,600)**
TOTAL NET PROJECT COST (CREDIT)					**$ 166,100**	

Table A-3
Camp Atterbury Solar
Solar Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Scrap Value
Camp Atterbury Solar						
Solar Farm						
O&M Building	$ 1,400	$ 1,500	$ -	$ -	$ 2,900	$ -
Solar Panel Removal	$ 36,700	$ 39,400	$ 7,400	$ -	$ 83,500	$ -
Panel Supports/Rack	$ 29,300	$ 31,400	$ -	$ -	$ 60,700	$ -
Electrical & Wiring	$ 1,400	$ 1,500	$ -	$ -	$ 2,900	$ -
Site Restoration	$ 23,900	$ 25,600	$ -	$ 28,200	$ 77,700	$ -
On-site Concrete Crushing and Removal	$ -	$ -	$ 100	$ -	$ 100	$ -
Debris	$ -	$ -	$ -	$ -	$ -	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (112,300)
Subtotal	**$ 92,700**	**$ 99,400**	**$ 7,500**	**$ 28,200**	**$ 227,800**	**$ (112,300)**
Camp Atterbury Solar Subtotal	**$ 92,700**	**$ 99,400**	**$ 7,500**	**$ 28,200**	**$ 227,800**	**$ (112,300)**
TOTAL DECOM COST (CREDIT)					**$ 227,800**	**$ (112,300)**
PROJECT INDIRECTS (10%)					**$ 22,800**	
CONTINGENGY (20%)					**$ 45,600**	
TOTAL PROJECT COST (CREDIT)					**$ 296,200**	**$ (112,300)**
TOTAL NET PROJECT COST (CREDIT)					**$ 183,900**	

Table A-4
Cayuga
Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Scrap Value
Cayuga						
Unit 1						
Asbestos Removal	$ -	$ -	$ -	$ 3,811,000	$ 3,811,000	$ -
Boiler	$ 2,954,000	$ 4,749,000	$ -	$ -	$ 7,703,000	$ -
Steam Turbine & Building	$ 1,422,000	$ 2,286,000	$ -	$ -	$ 3,708,000	$ -
Precipitators	$ 539,000	$ 867,000	$ -	$ -	$ 1,406,000	$ -
SCR	$ 1,265,000	$ 2,033,000	$ -	$ -	$ 3,298,000	$ -
Scrubber / FGD	$ 415,000	$ 667,000	$ -	$ -	$ 1,082,000	$ -
Cooling Towers & Basin	$ 388,000	$ 623,000	$ -	$ -	$ 1,011,000	$ -
Stacks	$ 161,000	$ 260,000	$ -	$ -	$ 421,000	$ -
Cooling Water Intakes and Circulating Water Pumps	$ 47,000	$ 75,000	$ -	$ 1,041,000	$ 1,163,000	$ -
GSU & Foundation	$ 83,000	$ 134,000	$ -	$ -	$ 217,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 202,000	$ -	$ 202,000	$ -
Debris	$ -	$ -	$ 51,000	$ -	$ 51,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (9,250,000)
Subtotal	**$ 7,274,000**	**$ 11,694,000**	**$ 253,000**	**$ 4,852,000**	**$ 24,073,000**	**$ (9,250,000)**
Unit 2						
Asbestos Removal	$ -	$ -	$ -	$ 3,811,000	$ 3,811,000	$ -
Boiler	$ 2,954,000	$ 4,749,000	$ -	$ -	$ 7,703,000	$ -
Steam Turbine & Building	$ 1,422,000	$ 2,286,000	$ -	$ -	$ 3,708,000	$ -
Precipitator	$ 539,000	$ 867,000	$ -	$ -	$ 1,406,000	$ -
SCR	$ 1,265,000	$ 2,033,000	$ -	$ -	$ 3,298,000	$ -
Scrubber / FGD	$ 415,000	$ 667,000	$ -	$ -	$ 1,082,000	$ -
Cooling Towers & Basin	$ 388,000	$ 623,000	$ -	$ -	$ 1,011,000	$ -
Stacks	$ 161,000	$ 260,000	$ -	$ -	$ 421,000	$ -
Cooling Water Intakes and Circulating Water Pumps	$ 47,000	$ 75,000	$ -	$ 1,041,000	$ 1,163,000	$ -
GSU & Foundation	$ 83,000	$ 134,000	$ -	$ -	$ 217,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 202,000	$ -	$ 202,000	$ -
Debris	$ -	$ -	$ 51,000	$ -	$ 51,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (9,250,000)
Subtotal	**$ 7,274,000**	**$ 11,694,000**	**$ 253,000**	**$ 4,852,000**	**$ 24,073,000**	**$ (9,250,000)**
Handling						
Coal Handling Facilites	$ 419,000	$ 673,000	$ -	$ -	$ 1,092,000	$ -
Coal Storage Area Restoration	$ -	$ -	$ -	$ 5,538,000	$ 5,538,000	$ -
Limestone Handling Facilities	$ 148,000	$ 238,000	$ -	$ -	$ 386,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 14,000	$ -	$ 14,000	$ -
Debris	$ -	$ -	$ 104,000	$ -	$ 104,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (406,000)
Subtotal	**$ 567,000**	**$ 911,000**	**$ 118,000**	**$ 5,538,000**	**$ 7,134,000**	**$ (406,000)**
Common						
Switchyard and Substation	$ 54,000	$ 87,000	$ -	$ -	$ 141,000	$ -
BOP Misc.	$ 1,078,000	$ 1,733,000	$ -	$ -	$ 2,811,000	$ -
Roads	$ 158,000	$ 254,000	$ -	$ -	$ 412,000	$ -
All BOP Buildings	$ 857,000	$ 1,377,000	$ -	$ -	$ 2,234,000	$ -
Fuel Equipment	$ 97,000	$ 156,000	$ -	$ -	$ 253,000	$ -
All Other Tanks	$ 836,000	$ 1,344,000	$ -	$ -	$ 2,180,000	$ -
Refractory Disposal	$ -	$ -	$ -	$ 21,000	$ 21,000	$ -
Mercury & Universal Waste Disposal	$ -	$ -	$ -	$ 50,000	$ 50,000	$ -
Transformer Oil Disposal	$ -	$ -	$ -	$ 370,000	$ 370,000	$ -
Lube Oil Disposal	$ -	$ -	$ -	$ 151,000	$ 151,000	$ -
Transformer Pad and Soil removal	$ -	$ -	$ -	$ 40,000	$ 40,000	$ -
Fuel Oil Tank Cleaning	$ -	$ -	$ -	$ 26,000	$ 26,000	$ -
Fuel Oil Line Flushing/Cleaning	$ -	$ -	$ -	$ 4,000	$ 4,000	$ -
Nuclear Device Disposal	$ -	$ -	$ -	$ 150,000	$ 150,000	$ -
DEI Provided FGD Area Closure and Facility Closure Costs	$ -	$ -	$ -	$ 57,948,000	$ 57,948,000	$ -
Process Pond Closure	$ -	$ -	$ -	$ 7,211,000	$ 7,211,000	$ -
Plant Washdown & Materials Disposal	$ -	$ -	$ -	$ 85,000	$ 85,000	$ -
Concrete Removal, Crushing, & Disposal	$ -	$ -	$ 119,000	$ -	$ 119,000	$ -
Grading & Seeding	$ -	$ -	$ -	$ 2,804,000	$ 2,804,000	$ -
Debris	$ -	$ -	$ 51,000	$ -	$ 51,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (1,911,000)
Subtotal	**$ 3,080,000**	**$ 4,951,000**	**$ 170,000**	**$ 68,860,000**	**$ 77,061,000**	**$ (1,911,000)**
Cayuga Subtotal	**$ 18,195,000**	**$ 29,250,000**	**$ 794,000**	**$ 84,102,000**	**$ 132,341,000**	**$ (20,817,000)**
TOTAL DECOM COST (CREDIT)					**$ 132,341,000**	**$ (20,817,000)**
PROJECT INDIRECTS (10%)					**$ 7,439,000**	
CONTINGENGY (20%)					**$ 14,879,000**	
TOTAL PROJECT COST (CREDIT)					**$ 154,659,000**	**$ (20,817,000)**
TOTAL NET PROJECT COST (CREDIT)					**$ 133,842,000**	

* DEI Provided Landfill and Pond Closure Costs not Included in contingency and indirects calculations.

Table A-5
Cayuga Unit 4
Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Scrap Value
Cayuga Unit 4						
Unit 4						
CTGs and HRSGs	$ 197,000	$ 317,000	$ -	$ -	$ 514,000	$ -
Stacks	$ 4,000	$ 6,000	$ -	$ -	$ 10,000	$ -
GSU, Electrical, & Foundation	$ 46,000	$ 75,000	$ -	$ -	$ 121,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 9,000	$ -	$ 9,000	$ -
Debris	$ -	$ -	$ 11,000	$ -	$ 11,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (509,000)
Subtotal	**$ 247,000**	**$ 398,000**	**$ 20,000**	**$ -**	**$ 665,000**	**$ (509,000)**
Common						
BOP Misc.	$ 74,000	$ 119,000	$ -	$ -	$ 193,000	$ -
Roads	$ 33,000	$ 53,000	$ -	$ -	$ 86,000	$ -
All BOP Buildings	$ 18,000	$ 29,000	$ -	$ -	$ 47,000	$ -
Fuel Equipment	$ 62,000	$ 100,000	$ -	$ 45,000	$ 207,000	$ -
Mercury & Universal Waste Disposal	$ -	$ -	$ -	$ 18,000	$ 18,000	$ -
Transformer Pad and Soil Removal	$ -	$ -	$ -	$ 12,000	$ 12,000	$ -
Lube Oil Disposal	$ -	$ -	$ -	$ 14,000	$ 14,000	$ -
Transformer Oil Disposal	$ -	$ -	$ -	$ 53,000	$ 53,000	$ -
Concrete Removal, Crushing, & Disposal	$ -	$ -	$ 8,000	$ -	$ 8,000	$ -
Grading & Seeding	$ -	$ -	$ -	$ 223,000	$ 223,000	$ -
Debris	$ -	$ -	$ 1,000	$ -	$ 1,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (78,000)
Subtotal	**$ 187,000**	**$ 301,000**	**$ 9,000**	**$ 365,000**	**$ 862,000**	**$ (78,000)**
Cayuga Unit 4 Subtotal	**$ 434,000**	**$ 699,000**	**$ 29,000**	**$ 365,000**	**$ 1,527,000**	**$ (587,000)**
TOTAL DECOM COST (CREDIT)					**$ 1,527,000**	**$ (587,000)**
PROJECT INDIRECTS (10%)					**$ 153,000**	
CONTINGENGY (20%)					**$ 305,000**	
TOTAL PROJECT COST (CREDIT)					**$ 1,985,000**	**$ (587,000)**
TOTAL NET PROJECT COST (CREDIT)					**$ 1,398,000**	

Table A-6
Crane Battery Storage
BESS Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Scrap Value
Crane Battery Storage						
BESS						
Battery Storage	$ 67,300	$ 52,000	$ 9,500	$ -	$ 128,800	$ -
Electrical & Wiring	$ 3,200	$ 3,400	$ -	$ -	$ 6,600	$ -
Site Restoration	$ -	$ -	$ -	$ 21,500	$ 21,500	$ -
On-site Concrete Crushing and Removal	$ -	$ -	$ 900	$ -	$ 900	$ -
Debris	$ -	$ -	$ 100	$ -	$ 100	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (15,100)
Subtotal	**$ 70,500**	**$ 55,400**	**$ 10,500**	**$ 21,500**	**$ 157,900**	**$ (15,100)**
Crane Battery Storage Subtotal	**$ 70,500**	**$ 55,400**	**$ 10,500**	**$ 21,500**	**$ 157,900**	**$ (15,100)**
TOTAL DECOM COST (CREDIT)					**$ 157,900**	**$ (15,100)**
PROJECT INDIRECTS (10%)					**$ 15,800**	
CONTINGENGY (20%)					**$ 31,600**	
TOTAL PROJECT COST (CREDIT)					**$ 205,300**	**$ (15,100)**
TOTAL NET PROJECT COST (CREDIT)					**$ 190,200**	

Table A-7
Crane Solar
Solar Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Scrap Value
Crane Solar						
Solar Farm						
O&M Building	$ 1,200	$ 1,300	$ -	$ -	$ 2,500	$ -
Solar Panel Removal	$ 386,600	$ 414,200	$ 58,900	$ -	$ 859,700	$ -
Panel Supports/Rack	$ 237,400	$ 254,300	$ -	$ -	$ 491,700	$ -
Electrical & Wiring	$ 30,600	$ 32,800	$ -	$ -	$ 63,400	$ -
Site Restoration	$ 79,300	$ 85,000	$ -	$ 221,900	$ 386,200	$ -
On-site Concrete Crushing and Removal	$ -	$ -	$ 900	$ -	$ 900	$ -
Debris	$ -	$ -	$ 900	$ -	$ 900	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (765,700)
Subtotal	**$ 735,100**	**$ 787,600**	**$ 60,700**	**$ 221,900**	**$ 1,805,300**	**$ (765,700)**
Crane Solar Subtotal	**$ 735,100**	**$ 787,600**	**$ 60,700**	**$ 221,900**	**$ 1,805,300**	**$ (765,700)**
TOTAL DECOM COST (CREDIT)					**$ 1,805,300**	**$ (765,700)**
PROJECT INDIRECTS (10%)					**$ 180,500**	
CONTINGENGY (20%)					**$ 361,100**	
TOTAL PROJECT COST (CREDIT)					**$ 2,346,900**	**$ (765,700)**
TOTAL NET PROJECT COST (CREDIT)					**$ 1,581,200**	

Table A-8
Edwardsport
Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Scrap Value
Edwardsport						
Unit 1						
Gasification Island	$ 3,162,000	$ 5,083,000	$ -	$ -	$ 8,245,000	$ -
CTGs and HRSGs	$ 1,867,000	$ 3,002,000	$ -	$ -	$ 4,869,000	$ -
ST, Pedestal & Building	$ 669,000	$ 1,075,000	$ -	$ -	$ 1,744,000	$ -
SCR	$ 72,000	$ 116,000	$ -	$ -	$ 188,000	$ -
Air Seperation Unit	$ 859,000	$ 1,381,000	$ -	$ -	$ 2,240,000	$ -
Stacks	$ 74,000	$ 119,000	$ -	$ -	$ 193,000	$ -
Cooling Water Intakes and Circulating Water Pumps	$ 93,000	$ 150,000	$ -	$ 502,000	$ 745,000	$ -
GSU & Foundation	$ 139,000	$ 223,000	$ -	$ -	$ 362,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 166,000	$ -	$ 166,000	$ -
Debris	$ -	$ -	$ 16,000	$ -	$ 16,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (8,778,000)
Subtotal	**$ 6,935,000**	**$ 11,149,000**	**$ 182,000**	**$ 502,000**	**$ 18,768,000**	**$ (8,778,000)**
Handling						
Coal Handling Facilites	$ 1,195,000	$ 1,921,000	$ -	$ -	$ 3,116,000	$ -
Coal Storage Area Restoration	$ -	$ -	$ -	$ 3,293,000	$ 3,293,000	$ -
Rail	$ 763,000	$ 1,226,000	$ -	$ -	$ 1,989,000	$ -
Coal Yard Transformers	$ 19,000	$ 30,000	$ -	$ -	$ 49,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 79,000	$ -	$ 79,000	$ -
Debris	$ -	$ -	$ 4,000	$ -	$ 4,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (384,000)
Subtotal	**$ 1,977,000**	**$ 3,177,000**	**$ 83,000**	**$ 3,293,000**	**$ 8,530,000**	**$ (384,000)**
Common						
Water Treatment Equipment and Piping	$ 323,000	$ 519,000	$ -	$ -	$ 842,000	$ -
BOP Misc.	$ 699,000	$ 1,123,000	$ -	$ -	$ 1,822,000	$ -
Roads	$ 243,000	$ 390,000	$ -	$ -	$ 633,000	$ -
All BOP Buildings	$ 1,598,000	$ 2,568,000	$ -	$ -	$ 4,166,000	$ -
All Other Tanks	$ 58,000	$ 94,000	$ -	$ -	$ 152,000	$ -
Transformers, Electrical, & Foundation	$ 64,000	$ 103,000	$ -	$ -	$ 167,000	$ -
Mercury & Universal Waste Disposal	$ -	$ -	$ -	$ 76,000	$ 76,000	$ -
Transformer Oil Disposal	$ -	$ -	$ -	$ 441,000	$ 441,000	$ -
Lube Oil Disposal	$ -	$ -	$ -	$ 84,000	$ 84,000	$ -
Transformer Pad and Soil Removal	$ -	$ -	$ -	$ 64,000	$ 64,000	$ -
Oil/Water Separator Vaults & Tanks	$ -	$ -	$ -	$ 121,000	$ 121,000	$ -
Well Closure	$ -	$ -	$ -	$ 4,000	$ 4,000	$ -
DEI Provided Closure Area Costs	$ -	$ -	$ -	$ 1,250,000	$ 1,250,000	$ -
Process Water Pond Closure	$ -	$ -	$ -	$ 6,851,000	$ 6,851,000	$ -
Closure of Coal Runoff Pond	$ -	$ -	$ -	$ 1,070,000	$ 1,070,000	$ -
Cooling Towers and Basin	$ 899,000	$ 1,445,000	$ -	$ -	$ 2,344,000	$ -
Plant Washdown & Materials Disposal	$ -	$ -	$ -	$ 77,000	$ 77,000	$ -
Concrete Removal, Crushing, & Disposal	$ -	$ -	$ 267,000	$ -	$ 267,000	$ -
Grading & Seeding	$ -	$ -	$ -	$ 5,541,000	$ 5,541,000	$ -
Debris	$ -	$ -	$ 98,000	$ -	$ 98,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (2,296,000)
Subtotal	**$ 3,884,000**	**$ 6,242,000**	**$ 365,000**	**$ 15,579,000**	**$ 26,070,000**	**$ (2,296,000)**
Edwardsport Subtotal	**$ 12,796,000**	**$ 20,568,000**	**$ 630,000**	**$ 19,374,000**	**$ 53,368,000**	**$ (11,458,000)**
TOTAL DECOM COST (CREDIT)					**$ 53,368,000**	**$ (11,458,000)**
PROJECT INDIRECTS (10%)					**$ 5,212,000**	
CONTINGENGY (20%)					**$ 10,424,000**	
TOTAL PROJECT COST (CREDIT)					**$ 69,004,000**	**$ (11,458,000)**
TOTAL NET PROJECT COST (CREDIT)					**$ 57,546,000**	

* DEI Provided Closure Costs are not included in the calculation of Indirects or Contingency.

Table A-9
Gallagher
Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Scrap Value
Gallagher						
Unit 1						
Asbestos Removal	$ -	$ -	$ -	$ 502,000	$ 502,000	$ -
Boiler	$ 996,000	$ 1,601,000	$ -	$ -	$ 2,597,000	$ -
Steam Turbine & Building	$ 342,000	$ 550,000	$ -	$ -	$ 892,000	$ -
Baghouse	$ 63,000	$ 101,000	$ -	$ -	$ 164,000	$ -
Stacks	$ 143,000	$ 230,000	$ -	$ -	$ 373,000	$ -
GSU & Foundation	$ 21,000	$ 34,000	$ -	$ -	$ 55,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 86,000	$ -	$ 86,000	$ -
Debris	$ -	$ -	$ 18,000	$ -	$ 18,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (2,568,000)
Subtotal	**$ 1,565,000**	**$ 2,516,000**	**$ 104,000**	**$ 502,000**	**$ 4,687,000**	**$ (2,568,000)**
Unit 2						
Asbestos Removal	$ -	$ -	$ -	$ 502,000	$ 502,000	$ -
Boiler	$ 997,000	$ 1,602,000	$ -	$ -	$ 2,599,000	$ -
Steam Turbine & Building	$ 342,000	$ 550,000	$ -	$ -	$ 892,000	$ -
Baghouse	$ 63,000	$ 101,000	$ -	$ -	$ 164,000	$ -
Stacks	$ 143,000	$ 230,000	$ -	$ -	$ 373,000	$ -
GSU & Foundation	$ 21,000	$ 34,000	$ -	$ -	$ 55,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 86,000	$ -	$ 86,000	$ -
Debris	$ -	$ -	$ 18,000	$ -	$ 18,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (2,569,000)
Subtotal	**$ 1,566,000**	**$ 2,517,000**	**$ 104,000**	**$ 502,000**	**$ 4,689,000**	**$ (2,569,000)**
Unit 3						
Asbestos Removal	$ -	$ -	$ -	$ 502,000	$ 502,000	$ -
Boiler	$ 997,000	$ 1,602,000	$ -	$ -	$ 2,599,000	$ -
Steam Turbine & Building	$ 342,000	$ 550,000	$ -	$ -	$ 892,000	$ -
Baghouse	$ 63,000	$ 101,000	$ -	$ -	$ 164,000	$ -
Stacks	$ 143,000	$ 230,000	$ -	$ -	$ 373,000	$ -
GSU & Foundation	$ 6,000	$ 9,000	$ -	$ -	$ 15,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 86,000	$ -	$ 86,000	$ -
Debris	$ -	$ -	$ 18,000	$ -	$ 18,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (2,433,000)
Subtotal	**$ 1,551,000**	**$ 2,492,000**	**$ 104,000**	**$ 502,000**	**$ 4,649,000**	**$ (2,433,000)**
Unit 4						
Asbestos Removal	$ -	$ -	$ -	$ 502,000	$ 502,000	$ -
Boiler	$ 996,000	$ 1,601,000	$ -	$ -	$ 2,597,000	$ -
Steam Turbine & Building	$ 342,000	$ 550,000	$ -	$ -	$ 892,000	$ -
Baghouse	$ 63,000	$ 101,000	$ -	$ -	$ 164,000	$ -
Stacks	$ 143,000	$ 230,000	$ -	$ -	$ 373,000	$ -
GSU & Foundation	$ 40,000	$ 64,000	$ -	$ -	$ 104,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 86,000	$ -	$ 86,000	$ -
Debris	$ -	$ -	$ 18,000	$ -	$ 18,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (2,735,000)
Subtotal	**$ 1,584,000**	**$ 2,546,000**	**$ 104,000**	**$ 502,000**	**$ 4,736,000**	**$ (2,735,000)**
Handling						
Coal Handling Facilites	$ 23,000	$ 38,000	$ -	$ -	$ 61,000	$ -
Coal Storage Area Restoration	$ -	$ -	$ -	$ 1,542,000	$ 1,542,000	$ -
Limestone Handling Facilities	$ 1,000	$ 1,000	$ -	$ -	$ 2,000	$ -
Debris	$ -	$ -	$ 1,000	$ -	$ 1,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (40,000)
Subtotal	**$ 24,000**	**$ 39,000**	**$ 1,000**	**$ 1,542,000**	**$ 1,606,000**	**$ (40,000)**
Common						
Switchyard and Substation	$ 60,000	$ 97,000	$ -	$ -	$ 157,000	$ -
Cooling Water Intakes and Circulating Water Pumps	$ 27,000	$ 43,000	$ -	$ 434,000	$ 504,000	$ -
BOP Misc.	$ 69,000	$ 111,000	$ -	$ -	$ 180,000	$ -
Roads	$ 57,000	$ 91,000	$ -	$ -	$ 148,000	$ -
All BOP Buildings	$ 454,000	$ 731,000	$ -	$ -	$ 1,185,000	$ -
Fuel Equipment	$ 77,000	$ 124,000	$ -	$ -	$ 201,000	$ -
All Other Tanks	$ 79,000	$ 127,000	$ -	$ -	$ 206,000	$ -
Refractory Disposal	$ -	$ -	$ -	$ 33,000	$ 33,000	$ -
Mercury & Universal Waste Disposal	$ -	$ -	$ -	$ 45,000	$ 45,000	$ -
Plant Washdown & Materials Disposal	$ -	$ -	$ -	$ 65,000	$ 65,000	$ -
Lube Oil Disposal	$ -	$ -	$ -	$ 116,000	$ 116,000	$ -
Transformer Oil Dispsoal	$ -	$ -	$ -	$ 98,000	$ 98,000	$ -
Transformer Pad and Soil Removal	$ -	$ -	$ -	$ 3,000	$ 3,000	$ -
Fuel Oil Tank Cleaning	$ -	$ -	$ -	$ 11,000	$ 11,000	$ -
Fuel Oil Line Flushing/Cleaning	$ -	$ -	$ -	$ 5,000	$ 5,000	$ -
Dirt Backfill	$ -	$ -	$ -	$ 1,849,000	$ 1,849,000	$ -
Mooring Cell Removal	$ 653,000	$ 1,049,000	$ -	$ -	$ 1,702,000	$ -
Process Water Pond Closure	$ -	$ -	$ -	$ 1,835,000	$ 1,835,000	$ -
Hazardous Waste Disposal	$ -	$ -	$ -	$ 78,000	$ 78,000	$ -
Concrete Removal, Crushing, & Disposal	$ -	$ -	$ 38,000	$ -	$ 38,000	$ -
Grading & Seeding	$ -	$ -	$ -	$ 2,944,000	$ 2,944,000	$ -
Debris	$ -	$ -	$ 7,000	$ -	$ 7,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (565,000)
Subtotal	**$ 1,476,000**	**$ 2,373,000**	**$ 45,000**	**$ 7,516,000**	**$ 11,410,000**	**$ (565,000)**

Gallagher Subtotal	**$ 7,766,000**	**$ 12,483,000**	**$ 462,000**	**$ 11,066,000**	**$ 31,777,000**	**$ (10,910,000)**
TOTAL DECOM COST (CREDIT)					**$ 31,777,000**	**$ (10,910,000)**
PROJECT INDIRECTS (10%)					**$ 3,178,000**	
CONTINGENGY (20%)					**$ 6,355,000**	
TOTAL PROJECT COST (CREDIT)					**$ 41,310,000**	**$ (10,910,000)**
TOTAL NET PROJECT COST (CREDIT)					**$ 30,400,000**	

* DEI Provided Landfill and Pond Closure Costs not Included in contingency and indirects calculations.

Table A-10
Gibson
Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Scrap Value
Gibson						
Unit 1						
Asbestos Removal	$ -	$ -	$ -	$ 288,000	$ 288,000	$ -
Boiler	$ 2,971,000	$ 4,776,000	$ -	$ -	$ 7,747,000	$ -
Steam Turbine & Building	$ 1,005,000	$ 1,615,000	$ -	$ -	$ 2,620,000	$ -
Precipitators	$ 939,000	$ 1,509,000	$ -	$ -	$ 2,448,000	$ -
SCR	$ 1,499,000	$ 2,410,000	$ -	$ -	$ 3,909,000	$ -
Scrubber / FGD	$ 466,000	$ 749,000	$ -	$ -	$ 1,215,000	$ -
Stacks	$ 201,000	$ 323,000	$ -	$ -	$ 524,000	$ -
Cooling Water Intakes and Circulating Water Pumps	$ 23,000	$ 36,000	$ -	$ -	$ 59,000	$ -
GSU & Foundation	$ 106,000	$ 171,000	$ -	$ -	$ 277,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 172,000	$ -	$ 172,000	$ -
Debris	$ -	$ -	$ 67,000	$ -	$ 67,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (9,714,000)
Subtotal	**$ 7,210,000**	**$ 11,589,000**	**$ 239,000**	**$ 288,000**	**$ 19,326,000**	**$ (9,714,000)**
Unit 2						
Asbestos Removal	$ -	$ -	$ -	$ 288,000	$ 288,000	$ -
Boiler	$ 2,972,000	$ 4,777,000	$ -	$ -	$ 7,749,000	$ -
Steam Turbine & Building	$ 1,005,000	$ 1,615,000	$ -	$ -	$ 2,620,000	$ -
Precipitator	$ 939,000	$ 1,509,000	$ -	$ -	$ 2,448,000	$ -
SCR	$ 1,499,000	$ 2,410,000	$ -	$ -	$ 3,909,000	$ -
Scrubber / FGD	$ 466,000	$ 749,000	$ -	$ -	$ 1,215,000	$ -
Stacks	$ 201,000	$ 323,000	$ -	$ -	$ 524,000	$ -
Cooling Water Intakes and Circulating Water Pumps	$ 23,000	$ 36,000	$ -	$ -	$ 59,000	$ -
GSU & Foundation	$ 113,000	$ 181,000	$ -	$ -	$ 294,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 172,000	$ -	$ 172,000	$ -
Debris	$ -	$ -	$ 67,000	$ -	$ 67,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (9,759,000)
Subtotal	**$ 7,218,000**	**$ 11,600,000**	**$ 239,000**	**$ 288,000**	**$ 19,345,000**	**$ (9,759,000)**
Unit 3						
Asbestos Removal	$ -	$ -	$ -	$ 288,000	$ 288,000	$ -
Boiler	$ 2,938,000	$ 4,722,000	$ -	$ -	$ 7,660,000	$ -
Steam Turbine & Building	$ 1,021,000	$ 1,642,000	$ -	$ -	$ 2,663,000	$ -
Precipitator	$ 939,000	$ 1,509,000	$ -	$ -	$ 2,448,000	$ -
SCR	$ 1,499,000	$ 2,410,000	$ -	$ -	$ 3,909,000	$ -
Scrubber / FGD	$ 466,000	$ 749,000	$ -	$ -	$ 1,215,000	$ -
Stacks	$ 276,000	$ 444,000	$ -	$ -	$ 720,000	$ -
Cooling Water Intakes and Circulating Water Pumps	$ 23,000	$ 36,000	$ -	$ -	$ 59,000	$ -
GSU & Foundation	$ 91,000	$ 146,000	$ -	$ -	$ 237,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 270,000	$ -	$ 270,000	$ -
Debris	$ -	$ -	$ 67,000	$ -	$ 67,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (9,532,000)
Subtotal	**$ 7,253,000**	**$ 11,658,000**	**$ 337,000**	**$ 288,000**	**$ 19,536,000**	**$ (9,532,000)**
Unit 4						
Asbestos Removal	$ -	$ -	$ -	$ 288,000	$ 288,000	$ -
Boiler	$ 2,938,000	$ 4,722,000	$ -	$ -	$ 7,660,000	$ -
Steam Turbine & Building	$ 1,021,000	$ 1,642,000	$ -	$ -	$ 2,663,000	$ -
Precipitator	$ 939,000	$ 1,509,000	$ -	$ -	$ 2,448,000	$ -
SCR	$ 1,499,000	$ 2,410,000	$ -	$ -	$ 3,909,000	$ -
Scrubber / FGD	$ 886,000	$ 1,424,000	$ -	$ -	$ 2,310,000	$ -
Stacks	$ 146,000	$ 235,000	$ -	$ -	$ 381,000	$ -
Cooling Water Intakes and Circulating Water Pumps	$ 23,000	$ 36,000	$ -	$ -	$ 59,000	$ -
Switchgear & Electrical	$ -	$ -	$ -	$ -	$ -	$ -
GSU & Foundation	$ 86,000	$ 138,000	$ -	$ -	$ 224,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 205,000	$ -	$ 205,000	$ -
Debris	$ -	$ -	$ 67,000	$ -	$ 67,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (9,730,000)
Subtotal	**$ 7,538,000**	**$ 12,116,000**	**$ 272,000**	**$ 288,000**	**$ 20,214,000**	**$ (9,730,000)**
Unit 5						
Asbestos Removal	$ -	$ -	$ -	$ 288,000	$ 288,000	$ -
Boiler	$ 2,937,000	$ 4,721,000	$ -	$ -	$ 7,658,000	$ -
Steam Turbine & Building	$ 1,021,000	$ 1,642,000	$ -	$ -	$ 2,663,000	$ -
Precipitator	$ 939,000	$ 1,509,000	$ -	$ -	$ 2,448,000	$ -
SCR	$ 1,499,000	$ 2,410,000	$ -	$ -	$ 3,909,000	$ -
Scrubber / FGD	$ 3,850,000	$ 6,189,000	$ -	$ -	$ 10,039,000	$ -
Stacks	$ 126,000	$ 203,000	$ -	$ -	$ 329,000	$ -
Cooling Water Intakes and Circulating Water Pumps	$ 23,000	$ 37,000	$ -	$ -	$ 60,000	$ -
GSU & Foundation	$ 105,000	$ 169,000	$ -	$ -	$ 274,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 404,000	$ -	$ 404,000	$ -
Debris	$ -	$ -	$ 67,000	$ -	$ 67,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (10,182,000)
Subtotal	**$ 10,500,000**	**$ 16,880,000**	**$ 471,000**	**$ 288,000**	**$ 28,139,000**	**$ (10,182,000)**
Handling						
Coal Handling Facilites	$ 1,331,000	$ 2,139,000	$ -	$ -	$ 3,470,000	$ -
Coal Storage Area Restoration	$ -	$ -	$ -	$ 13,819,000	$ 13,819,000	$ -
Limestone Handling Facilities	$ 760,000	$ 1,222,000	$ -	$ -	$ 1,982,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 95,000	$ -	$ 95,000	$ -

Debris	$	-	$	-	$	127,000	$	-	$	127,000	$	-
Scrap	$	-	$	-	$	-	$	-	$	-	$	(1,060,000)
Subtotal	**$**	**2,091,000**	**$**	**3,361,000**	**$**	**222,000**	**$**	**13,819,000**	**$**	**19,493,000**	**$**	**(1,060,000)**
Common												
Switchyard and Substation	$	42,000	$	68,000	$	-	$	-	$	110,000	$	-
BOP Misc.	$	282,000	$	453,000	$	-	$	-	$	735,000	$	-
Roads	$	528,000	$	849,000	$	-	$	-	$	1,377,000	$	-
All BOP Buildings	$	1,798,000	$	2,889,000	$	-	$	-	$	4,687,000	$	-
Fuel Equipment	$	505,000	$	812,000	$	-	$	-	$	1,317,000	$	-
All Other Tanks	$	715,000	$	1,149,000	$	-	$	-	$	1,864,000	$	-
Transformers & Foundation	$	9,000	$	14,000	$	-	$	-	$	23,000	$	-
Refractory Disposal	$	-	$	-	$	-	$	52,000	$	52,000	$	-
Mercury & Universal Waste Disposal	$	-	$	-	$	-	$	10,000	$	10,000	$	-
Plant Washdown & Materials Disposal	$	-	$	-	$	-	$	88,000	$	88,000	$	-
Lube Oil	$	-	$	-	$	-	$	425,000	$	425,000	$	-
Transformer Oil Disposal	$	-	$	-	$	-	$	611,000	$	611,000	$	-
Transformer Pad and Soil Removal	$	-	$	-	$	-	$	305,000	$	305,000	$	-
Fuel Oil Tank Cleaning	$	-	$	-	$	-	$	47,000	$	47,000	$	-
Closure of Deep Wells	$	-	$	-	$	-	$	287,000	$	287,000	$	-
DEI Provided Landfill and CCR Closure Costs	$	-	$	-	$	-	$	55,049,000	$	55,049,000	$	-
Process Water Pond Closure Costs	$	-	$	-	$	-	$	12,851,000	$	12,851,000	$	-
Cooling Pond Closure	$	-	$	-	$	-	$	130,523,000	$	130,523,000	$	-
Concrete Removal, Crushing, & Disposal	$	-	$	-	$	176,000	$	-	$	176,000	$	-
Grading & Seeding	$	-	$	-	$	-	$	6,518,000	$	6,518,000	$	-
Debris	$	-	$	-	$	74,000	$	-	$	74,000	$	-
Scrap	$	-	$	-	$	-	$	-	$	-	$	(1,424,000)
Subtotal	**$**	**3,879,000**	**$**	**6,234,000**	**$**	**250,000**	**$**	**206,766,000**	**$**	**217,129,000**	**$**	**(1,424,000)**
Gibson Subtotal	**$**	**45,689,000**	**$**	**73,438,000**	**$**	**2,030,000**	**$**	**222,025,000**	**$**	**343,182,000**	**$**	**(51,401,000)**
TOTAL DECOM COST (CREDIT)									**$**	**343,182,000**	**$**	**(51,401,000)**
PROJECT INDIRECTS (10%)									**$**	**28,813,000**		
CONTINGENGY (20%)									**$**	**57,627,000**		
TOTAL PROJECT COST (CREDIT)									**$**	**429,622,000**	**$**	**(51,401,000)**
TOTAL NET PROJECT COST (CREDIT)									**$**	**378,221,000**		

* DEI Provided Closure Costs are not Included in contingency and indirects calculations.

Table A-11
Henry County
Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Scrap Value
Henry County						
Unit 1						
CTGs and HRSGs	$ 87,000	$ 140,000	$ -	$ -	$ 227,000	$ -
Stacks	$ 3,000	$ 5,000	$ -	$ -	$ 8,000	$ -
GSU & Foundation	$ 9,000	$ 14,000	$ -	$ -	$ 23,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 3,000	$ -	$ 3,000	$ -
Debris	$ -	$ -	$ 1,000	$ -	$ 1,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (297,000)
Subtotal	**$ 99,000**	**$ 159,000**	**$ 4,000**	**$ -**	**$ 262,000**	**$ (297,000)**
Unit 2						
CTGs and HRSGs	$ 87,000	$ 140,000	$ -	$ -	$ 227,000	$ -
Stacks	$ 3,000	$ 5,000	$ -	$ -	$ 8,000	$ -
GSU & Foundation	$ 9,000	$ 14,000	$ -	$ -	$ 23,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 3,000	$ -	$ 3,000	$ -
Debris	$ -	$ -	$ 1,000	$ -	$ 1,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (297,000)
Subtotal	**$ 99,000**	**$ 159,000**	**$ 4,000**	**$ -**	**$ 262,000**	**$ (297,000)**
Unit 3						
CTGs and HRSGs	$ 87,000	$ 140,000	$ -	$ -	$ 227,000	$ -
Stacks	$ 3,000	$ 5,000	$ -	$ -	$ 8,000	$ -
GSU & Foundation	$ 9,000	$ 14,000	$ -	$ -	$ 23,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 3,000	$ -	$ 3,000	$ -
Debris	$ -	$ -	$ 1,000	$ -	$ 1,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (297,000)
Subtotal	**$ 99,000**	**$ 159,000**	**$ 4,000**	**$ -**	**$ 262,000**	**$ (297,000)**
Common						
Switchyard and Substation	$ 5,000	$ 9,000	$ -	$ -	$ 14,000	$ -
BOP Misc.	$ 15,000	$ 25,000	$ -	$ -	$ 40,000	$ -
Roads	$ 17,000	$ 27,000	$ -	$ -	$ 44,000	$ -
All BOP Buildings	$ 334,000	$ 537,000	$ -	$ -	$ 871,000	$ -
All Other Tanks	$ 76,000	$ 122,000	$ -	$ -	$ 198,000	$ -
Transformers & Foundation	$ 35,000	$ 55,000	$ -	$ -	$ 90,000	$ -
Closure of Deep Wells	$ -	$ -	$ -	$ 9,000	$ 9,000	$ -
Pond Closure	$ -	$ -	$ -	$ 904,000	$ 904,000	$ -
Cooling Towers and Basin	$ 87,000	$ 140,000	$ -	$ -	$ 227,000	$ -
Hazardous Waste Disposal	$ -	$ -	$ -	$ 103,000	$ 103,000	$ -
Concrete Removal, Crushing, & Disposal	$ -	$ -	$ 35,000	$ -	$ 35,000	$ -
Grading & Seeding	$ -	$ -	$ -	$ 171,000	$ 171,000	$ -
Debris	$ -	$ -	$ 5,000	$ -	$ 5,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (179,000)
Subtotal	**$ 569,000**	**$ 915,000**	**$ 40,000**	**$ 1,187,000**	**$ 2,711,000**	**$ (179,000)**
Henry County Subtotal	**$ 866,000**	**$ 1,392,000**	**$ 52,000**	**$ 1,187,000**	**$ 3,497,000**	**$ (1,070,000)**
TOTAL DECOM COST (CREDIT)					**$ 3,497,000**	**$ (1,070,000)**
PROJECT INDIRECTS (10%)					**$ 350,000**	
CONTINGENGY (20%)					**$ 699,000**	
TOTAL PROJECT COST (CREDIT)					**$ 4,546,000**	**$ (1,070,000)**
TOTAL NET PROJECT COST (CREDIT)					**$ 3,476,000**	

Table A-12
Madison
Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Scrap Value
Madison						
Units 1-8						
CTGs and HRSGs	$ 1,427,000	$ 1,541,000	$ -	$ -	$ 2,968,000	$ -
Stacks	$ 35,000	$ 38,000	$ -	$ -	$ 73,000	$ -
GSU, Electrical, & Foundation	$ 377,000	$ 407,000	$ -	$ -	$ 784,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 35,000	$ -	$ 35,000	$ -
Debris	$ -	$ -	$ 11,000	$ -	$ 11,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (4,396,000)
Subtotal	**$ 1,839,000**	**$ 1,986,000**	**$ 46,000**	**$ -**	**$ 3,871,000**	**$ (4,396,000)**
Common						
Switchyard and Substation	$ 68,000	$ 73,000	$ -	$ -	$ 141,000	$ -
BOP Misc.	$ 7,000	$ 8,000	$ -	$ -	$ 15,000	$ -
Roads	$ 77,000	$ 83,000	$ -	$ -	$ 160,000	$ -
All BOP Buildings	$ 44,000	$ 48,000	$ -	$ -	$ 92,000	$ -
Fuel Equipment	$ 9,000	$ 10,000	$ -	$ -	$ 19,000	$ -
All Other Tanks	$ 46,000	$ 50,000	$ -	$ -	$ 96,000	$ -
Mercury & Universal Waste Disposal	$ -	$ -	$ -	$ 17,000	$ 17,000	$ -
Lube Oil Disposal	$ -	$ -	$ -	$ 38,000	$ 38,000	$ -
Transformer Oil Disposal	$ -	$ -	$ -	$ 164,000	$ 164,000	$ -
Transformer Pad and Soil Removal	$ -	$ -	$ -	$ 110,000	$ 110,000	$ -
Pond Closure	$ -	$ -	$ -	$ 193,000	$ 193,000	$ -
Concrete Removal, Crushing, & Disposal	$ -	$ -	$ 4,000	$ -	$ 4,000	$ -
Grading & Seeding	$ -	$ -	$ -	$ 719,000	$ 719,000	$ -
Debris	$ -	$ -	$ 19,000	$ -	$ 19,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (116,000)
Subtotal	**$ 251,000**	**$ 272,000**	**$ 23,000**	**$ 1,241,000**	**$ 1,787,000**	**$ (116,000)**
Madison Subtotal	**$ 2,090,000**	**$ 2,258,000**	**$ 69,000**	**$ 1,241,000**	**$ 5,658,000**	**$ (4,512,000)**
TOTAL DECOM COST (CREDIT)					**$ 5,658,000**	**$ (4,512,000)**
PROJECT INDIRECTS (10%)					**$ 566,000**	
CONTINGENGY (20%)					**$ 1,132,000**	
TOTAL PROJECT COST (CREDIT)					**$ 7,356,000**	**$ (4,512,000)**
TOTAL NET PROJECT COST (CREDIT)					**$ 2,844,000**	

Table A-13
Markland Hydro
Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Scrap Value
Markland Hydro						
Hydro Units						
Demolition	$ 668,000	$ 695,000	$ -	$ -	$ 1,363,000	$ -
BOP Buildings	$ 6,000	$ 7,000	$ -	$ -	$ 13,000	$ -
Debris	$ -	$ -	$ 2,000	$ -	$ 2,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (769,000)
Subtotal	**$ 674,000**	**$ 702,000**	**$ 2,000**	**$ -**	**$ 1,378,000**	**$ (769,000)**
Common						
Mercury & Universal Waste Disposal	$ -	$ -	$ -	$ 12,000	$ 12,000	$ -
Transformer Oil Disposal	$ -	$ -	$ -	$ 18,000	$ 18,000	$ -
Transformer Pad and Soil Removal	$ -	$ -	$ -	$ 8,000	$ 8,000	$ -
Wells	$ -	$ -	$ -	$ 4,000	$ 4,000	$ -
Flowable Fill	$ -	$ -	$ -	$ 1,946,000	$ 1,946,000	$ -
Mooring Cell and Debris Dam Removal	$ 63,000	$ 75,000	$ -	$ -	$ 138,000	$ -
Subtotal	**$ 63,000**	**$ 75,000**	**$ -**	**$ 1,988,000**	**$ 2,126,000**	**$ -**
Markland Hydro Subtotal	**$ 737,000**	**$ 777,000**	**$ 2,000**	**$ 1,988,000**	**$ 3,504,000**	**$ (769,000)**
TOTAL DECOM COST (CREDIT)					**$ 3,504,000**	**$ (769,000)**
PROJECT INDIRECTS (10%)					**$ 350,000**	
CONTINGENGY (20%)					**$ 701,000**	
TOTAL PROJECT COST (CREDIT)					**$ 4,555,000**	**$ (769,000)**
TOTAL NET PROJECT COST (CREDIT)					**$ 3,786,000**	

Table A-14
Nabb
Battery Storage Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Scrap Value
Nabb						
Battery Storage						
O&M Building	$ 1,500	$ 1,600	$ -	$ -	$ 3,100	$ -
Battery Storage	$ 50,300	$ 49,400	$ 19,800	$ -	$ 119,500	$ -
Electrical & Wiring	$ 5,800	$ 6,200	$ -	$ -	$ 12,000	$ -
Site Restoration	$ 1,600	$ 1,700	$ -	$ 1,600	$ 4,900	$ -
On-site Concrete Crushing and Removal	$ -	$ -	$ 900	$ -	$ 900	$ -
Debris	$ -	$ -	$ 300	$ -	$ 300	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (30,600)
Subtotal	**$ 59,200**	**$ 58,900**	**$ 21,000**	**$ 1,600**	**$ 140,700**	**$ (30,600)**
Nabb Subtotal	**$ 59,200**	**$ 58,900**	**$ 21,000**	**$ 1,600**	**$ 140,700**	**$ (30,600)**
TOTAL DECOM COST (CREDIT)					**$ 140,700**	**$ (30,600)**
PROJECT INDIRECTS (10%)					**$ 14,100**	
CONTINGENGY (20%)					**$ 28,100**	
TOTAL PROJECT COST (CREDIT)					**$ 182,900**	**$ (30,600)**
TOTAL NET PROJECT COST (CREDIT)					**$ 152,300**	

Table A-15
Noblesville
Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Scrap Value
Noblesville						
Unit 1						
CTGs and HRSGs	$ 877,000	$ 1,409,000	$ -	$ -	$ 2,286,000	$ -
Steam Turbine & Building	$ 613,000	$ 985,000	$ -	$ -	$ 1,598,000	$ -
SCR	$ 53,000	$ 86,000	$ -	$ -	$ 139,000	$ -
Cooling Towers & Basin	$ 243,000	$ 390,000	$ -	$ -	$ 633,000	$ -
Cooling Water Intakes and Circulating Water Pumps	$ 51,000	$ 81,000	$ -	$ 629,000	$ 761,000	$ -
GSU & Foundation	$ 144,000	$ 232,000	$ -	$ -	$ 376,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 51,000	$ -	$ 51,000	$ -
Debris	$ -	$ -	$ 7,000	$ -	$ 7,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (3,665,000)
Subtotal	**$ 1,981,000**	**$ 3,183,000**	**$ 58,000**	**$ 629,000**	**$ 5,851,000**	**$ (3,665,000)**
Unit A						
Boiler	$ 434,000	$ 698,000	$ -	$ -	$ 1,132,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 4,000	$ -	$ 4,000	$ -
Debris	$ -	$ -	$ 17,000	$ -	$ 17,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (586,000)
Subtotal	**$ 434,000**	**$ 698,000**	**$ 21,000**	**$ 142,000**	**$ 1,295,000**	**$ (586,000)**
Unit B						
Asbestos Removal	$ -	$ -	$ -	$ 142,000	$ 142,000	$ -
Boiler	$ 434,000	$ 698,000	$ -	$ -	$ 1,132,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 4,000	$ -	$ 4,000	$ -
Debris	$ -	$ -	$ 17,000	$ -	$ 17,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (586,000)
Subtotal	**$ 434,000**	**$ 698,000**	**$ 21,000**	**$ 142,000**	**$ 1,295,000**	**$ (586,000)**
Unit C						
Asbestos Removal	$ -	$ -	$ -	$ 142,000	$ 142,000	$ -
Boiler	$ 424,000	$ 681,000	$ -	$ -	$ 1,105,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 4,000	$ -	$ 4,000	$ -
Debris	$ -	$ -	$ 17,000	$ -	$ 17,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (570,000)
Subtotal	**$ 424,000**	**$ 681,000**	**$ 21,000**	**$ 142,000**	**$ 1,268,000**	**$ (570,000)**
Common						
Switchyard and Substation	$ 86,000	$ 139,000	$ -	$ -	$ 225,000	$ -
BOP Misc.	$ 15,000	$ 23,000	$ -	$ -	$ 38,000	$ -
Roads	$ 39,000	$ 62,000	$ -	$ -	$ 101,000	$ -
All BOP Buildings	$ 85,000	$ 137,000	$ -	$ -	$ 222,000	$ -
All Other Tanks	$ 53,000	$ 85,000	$ -	$ -	$ 138,000	$ -
Mercury & Universal Waste Disposal	$ -	$ -	$ -	$ 25,000	$ 25,000	$ -
Lube Oil Disposal	$ -	$ -	$ -	$ 63,000	$ 63,000	$ -
Transformer Oil Disposal	$ -	$ -	$ -	$ 287,000	$ 287,000	$ -
Transformer Pad and Soil Removal	$ -	$ -	$ -	$ 76,000	$ 76,000	$ -
Soil Remediation Beneath Fuel Oil Tank	$ -	$ -	$ -	$ 15,000	$ 15,000	$ -
Well Closure	$ -	$ -	$ -	$ 5,000	$ 5,000	$ -
DEI Provided Ash Consolidation Cost	$ -	$ -	$ -	$ 5,912,000	$ 5,912,000	$ -
Process Water Pond Closure	$ -	$ -	$ -	$ 2,006,000	$ 2,006,000	$ -
Low Head Dam Removal	$ -	$ -	$ -	$ 763,000	$ 763,000	$ -
Concrete Removal, Crushing, & Disposal	$ -	$ -	$ 9,000	$ -	$ 9,000	$ -
Grading & Seeding	$ -	$ -	$ -	$ 426,000	$ 426,000	$ -
Debris	$ -	$ -	$ 36,000	$ -	$ 36,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (160,000)
Subtotal	**$ 278,000**	**$ 446,000**	**$ 45,000**	**$ 9,578,000**	**$ 10,347,000**	**$ (160,000)**
Noblesville Subtotal	**$ 3,551,000**	**$ 5,706,000**	**$ 166,000**	**$ 10,633,000**	**$ 20,056,000**	**$ (5,567,000)**
TOTAL DECOM COST (CREDIT)					**$ 20,056,000**	**$ (5,567,000)**
PROJECT INDIRECTS (10%)					**$ 1,414,000**	
CONTINGENGY (20%)					**$ 2,829,000**	
TOTAL PROJECT COST (CREDIT)					**$ 24,299,000**	**$ (5,567,000)**
TOTAL NET PROJECT COST (CREDIT)					**$ 18,732,000**	

* DEI Provided Cost is not included in the calculation of Indirects or Contingency.

Table A-16
Purdue
Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Scrap Value
Purdue						
Unit 1						
Gas Turbine & Building	$ 281,000	$ 451,000	$ -	$ -	$ 732,000	$ -
Stacks	$ 59,000	$ 96,000	$ -	$ -	$ 155,000	$ -
Cooling Water Intakes and Circulating Water Pumps	$ 6,000	$ 9,000	$ -	$ -	$ 15,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 9,000	$ -	$ 9,000	$ -
Debris	$ -	$ -	$ 4,000	$ -	$ 4,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (440,000)
Subtotal	**$ 346,000**	**$ 556,000**	**$ 13,000**	**$ -**	**$ 915,000**	**$ (440,000)**
Common						
Roads	$ 2,000	$ 3,000	$ -	$ -	$ 5,000	$ -
All Other Tanks	$ 13,000	$ 20,000	$ -	$ -	$ 33,000	$ -
Transformers & Foundation	$ 9,000	$ 15,000	$ -	$ -	$ 24,000	$ -
Concrete Removal, Crushing, & Disposal	$ -	$ -	$ 2,000	$ -	$ 2,000	$ -
Grading & Seeding	$ -	$ -	$ -	$ 34,000	$ 34,000	$ -
Debris	$ -	$ -	$ -	$ -	$ -	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (114,000)
Subtotal	**$ 60,000**	**$ 96,000**	**$ 2,000**	**$ 34,000**	**$ 192,000**	**$ (114,000)**
Purdue Subtotal	**$ 406,000**	**$ 652,000**	**$ 15,000**	**$ 34,000**	**$ 1,107,000**	**$ (554,000)**
TOTAL DECOM COST (CREDIT)					**$ 1,107,000**	**$ (554,000)**
PROJECT INDIRECTS (10%)					**$ 111,000**	
CONTINGENGY (20%)					**$ 221,000**	
TOTAL PROJECT COST (CREDIT)					**$ 1,439,000**	**$ (554,000)**
TOTAL NET PROJECT COST (CREDIT)					**$ 885,000**	

Table A-17
Tippecanoe
Solar Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Scrap Value
Tippecanoe						
Solar Farm						
Solar Panel Removal	$ 30,200	$ 32,300	$ 12,700	$ -	$ 75,200	$ -
Panel Supports/Rack	$ 29,100	$ 31,100	$ -	$ -	$ 60,200	$ -
Electrical & Wiring	$ 7,400	$ 7,900	$ -	$ -	$ 15,300	$ -
Site Restoration	$ 11,300	$ 12,100	$ -	$ 18,300	$ 41,700	$ -
Debris	$ -	$ -	$ 300	$ -	$ 300	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (271,200)
Subtotal	**$ 78,000**	**$ 83,400**	**$ 13,100**	**$ 18,300**	**$ 192,800**	**$ (271,200)**
Tippecanoe Subtotal	**$ 78,000**	**$ 83,400**	**$ 13,100**	**$ 18,300**	**$ 192,800**	**$ (271,200)**
TOTAL DECOM COST (CREDIT)					**$ 192,800**	**$ (271,200)**
PROJECT INDIRECTS (10%)					**$ 19,300**	
CONTINGENGY (20%)					**$ 38,600**	
TOTAL PROJECT COST (CREDIT)					**$ 250,700**	**$ (271,200)**
TOTAL NET PROJECT COST (CREDIT)					**$ (20,500)**	

Table A-18
Vermillion
Decommissioning Cost Summary

	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Scrap Value
Vermillion						
Unit 1 - 8						
CTGs and HRSGs	$ 1,285,000	$ 2,066,000	$ -	$ -	$ 3,351,000	$ -
Stacks	$ 32,000	$ 51,000	$ -	$ -	$ 83,000	$ -
GSU, Electrical, & Foundation	$ 333,000	$ 536,000	$ -	$ -	$ 869,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 42,000	$ -	$ 42,000	$ -
Debris	$ -	$ -	$ 13,000	$ -	$ 13,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (4,234,000)
Subtotal	**$ 1,650,000**	**$ 2,653,000**	**$ 55,000**	**$ -**	**$ 4,358,000**	**$ (4,234,000)**
Common						
Switchyard and Substation	$ 56,000	$ 90,000	$ -	$ -	$ 146,000	$ -
BOP Misc.	$ 10,000	$ 16,000	$ -	$ -	$ 26,000	$ -
Roads	$ 50,000	$ 81,000	$ -	$ -	$ 131,000	$ -
All BOP Buildings	$ 43,000	$ 69,000	$ -	$ -	$ 112,000	$ -
Fuel Equipment	$ 8,000	$ 13,000	$ -	$ -	$ 21,000	$ -
All Other Tanks	$ 41,000	$ 66,000	$ -	$ -	$ 107,000	$ -
Mercury & Universal Waste Disposal	$ -	$ -	$ -	$ 19,000	$ 19,000	$ -
Lube Oil	$ -	$ -	$ -	$ 46,000	$ 46,000	$ -
Transformer Oil Disposal	$ -	$ -	$ -	$ 209,000	$ 209,000	$ -
Transformer Pad and Soil Removal & Disposal	$ -	$ -	$ -	$ 134,000	$ 134,000	$ -
Concrete Removal, Crushing, & Disposal	$ -	$ -	$ 5,000	$ -	$ 5,000	$ -
Grading & Seeding	$ -	$ -	$ -	$ 733,000	$ 733,000	$ -
Debris	$ -	$ -	$ 22,000	$ -	$ 22,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (109,000)
Subtotal	**$ 208,000**	**$ 335,000**	**$ 27,000**	**$ 1,141,000**	**$ 1,711,000**	**$ (109,000)**
Vermillion Subtotal	**$ 1,858,000**	**$ 2,988,000**	**$ 82,000**	**$ 1,141,000**	**$ 6,069,000**	**$ (4,343,000)**
TOTAL DECOM COST (CREDIT)					**$ 6,069,000**	**$ (4,343,000)**
PROJECT INDIRECTS (10%)					**$ 607,000**	
CONTINGENGY (20%)					**$ 1,214,000**	
TOTAL PROJECT COST (CREDIT)					**$ 7,890,000**	**$ (4,343,000)**
TOTAL NET PROJECT COST (CREDIT)					**$ 3,547,000**	

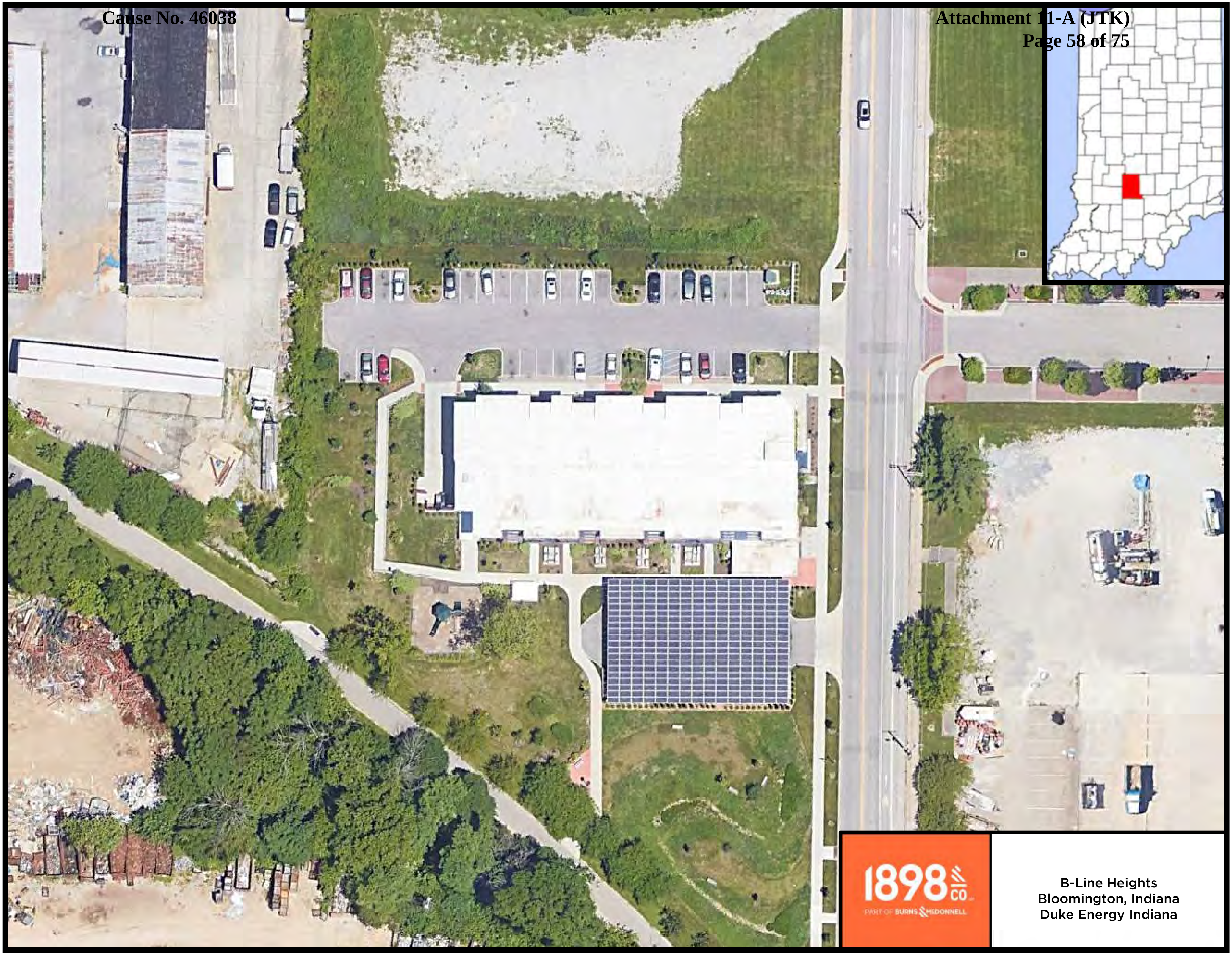
Table A-19
Washbash River Station
Decommissioning Cost Summary

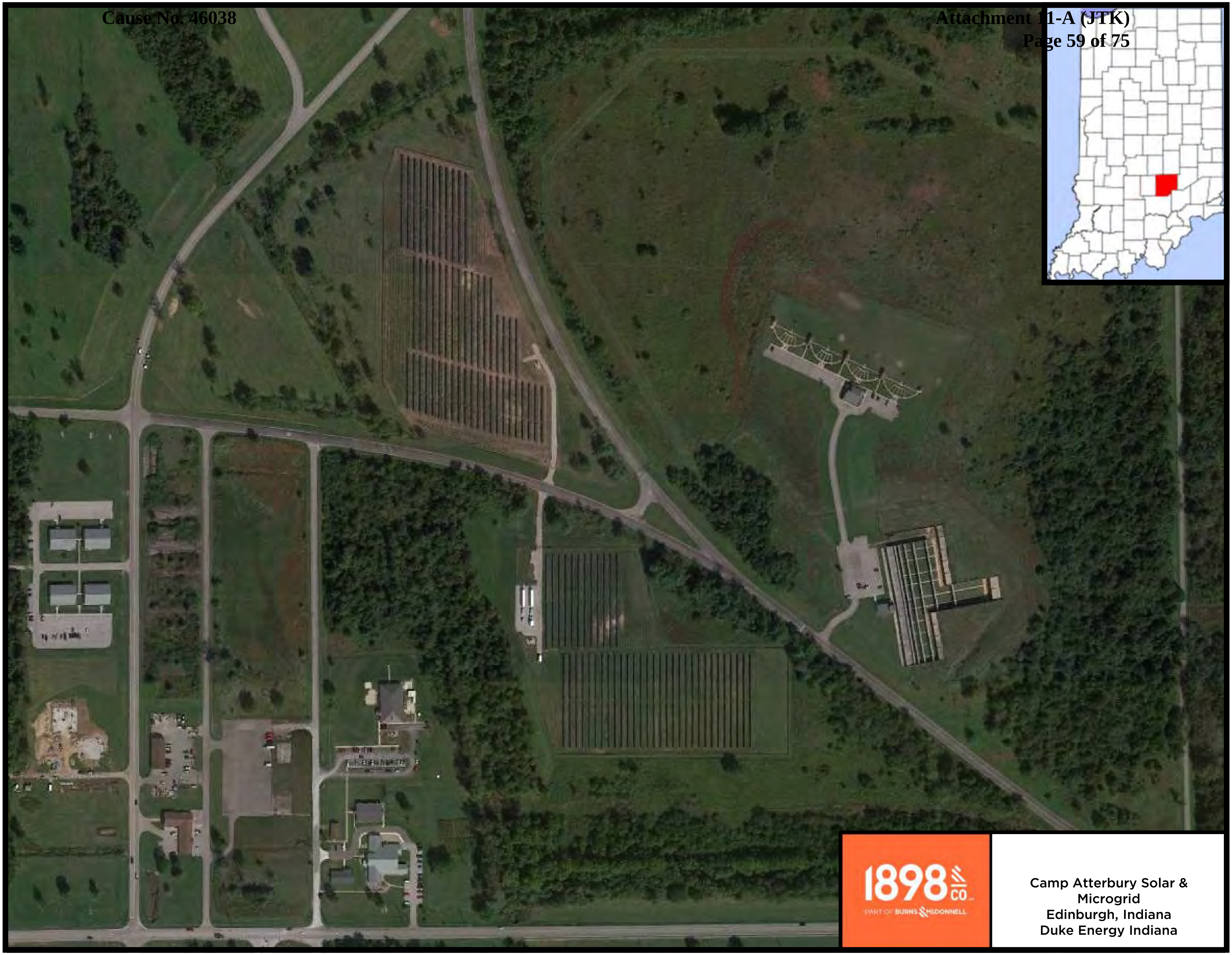
	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Scrap Value
Wabash River Station						
Common						
DEI Provided CCR Closure Project Costs			$ -	$ 11,250,000	$ 11,250,000	$ -
Subtotal	**$ -**	**$ -**	**$ -**	**$ 11,250,000**	**$ 11,250,000**	**$ -**
Wheatland Subtotal	**$ -**	**$ -**	**$ -**	**$ 11,250,000**	**$ 11,250,000**	**$ -**
TOTAL DECOM COST (CREDIT)					**$ 11,250,000**	**$ -**
PROJECT INDIRECTS (0%)					**$ -**	
CONTINGENGY (0%)					**$ -**	
TOTAL PROJECT COST (CREDIT)					**$ 11,250,000**	**$ -**
TOTAL NET PROJECT COST (CREDIT)					**$ 11,250,000**	

Table A-20
Wheatland
Decommissioning Cost Summary

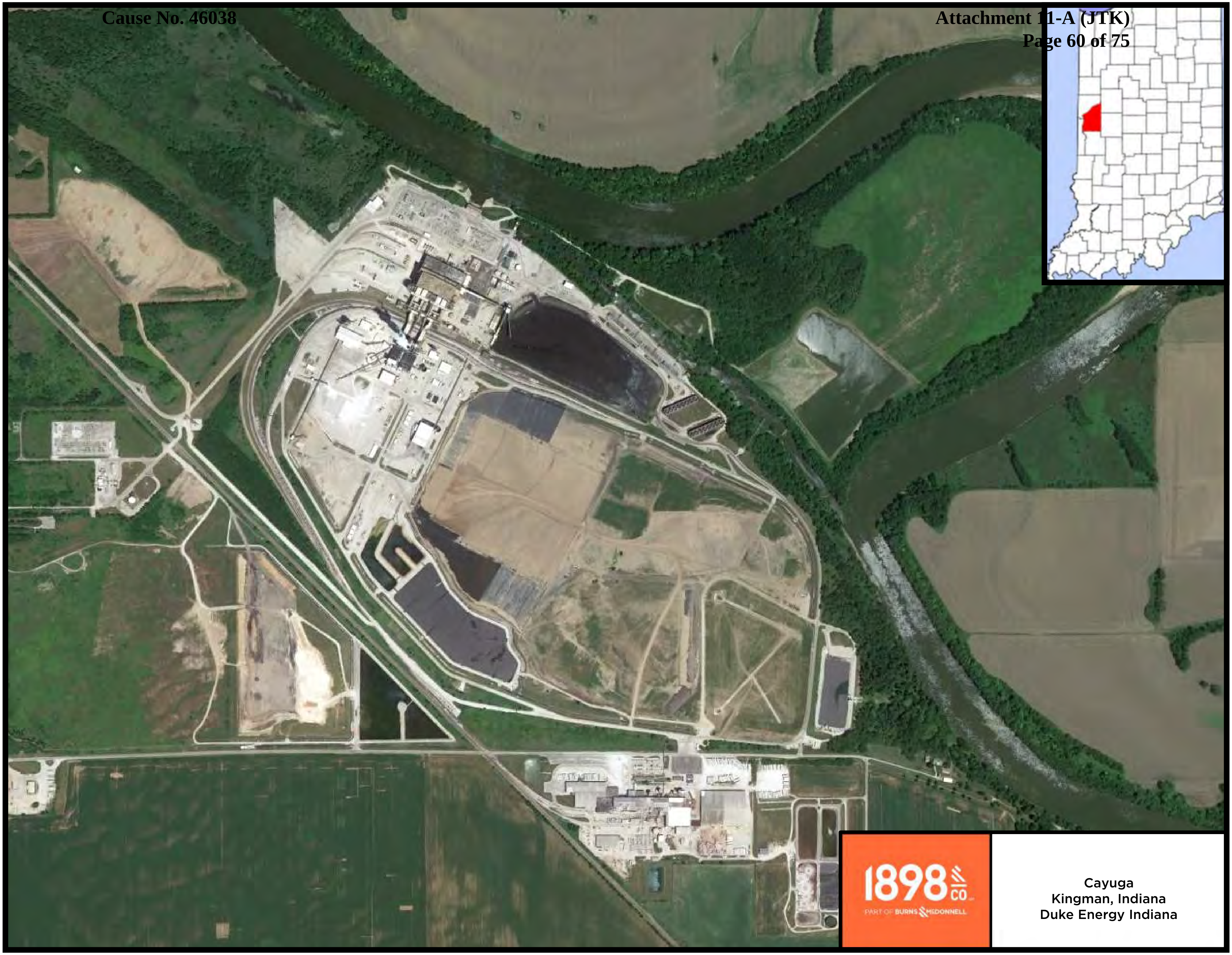
	Labor	Material and Equipment	Disposal	Environmental	Total Cost	Scrap Value
Wheatland						
Unit 1-4						
CTs	$ 868,000	$ 1,395,000	$ -	$ -	$ 2,263,000	$ -
GSUs, Electrical & Foundation	$ 104,000	$ 168,000	$ -	$ -	$ 272,000	$ -
On-site Concrete Crushing & Disposal	$ -	$ -	$ 14,000	$ -	$ 14,000	$ -
Debris	$ -	$ -	$ 11,000	$ -	$ 11,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (2,645,000)
Subtotal	**$ 972,000**	**$ 1,563,000**	**$ 25,000**	**$ -**	**$ 2,560,000**	**$ (2,645,000)**
Common						
Switchyard and Substation	$ 20,000	$ 32,000	$ -	$ -	$ 52,000	$ -
BOP Misc.	$ 2,000	$ 4,000	$ -	$ -	$ 6,000	$ -
Roads	$ 36,000	$ 58,000	$ -	$ -	$ 94,000	$ -
All BOP Buildings	$ 49,000	$ 78,000	$ -	$ -	$ 127,000	$ -
Fuel Equipment	$ 5,000	$ 8,000	$ -	$ -	$ 13,000	$ -
All Other Tanks	$ 109,000	$ 175,000	$ -	$ -	$ 284,000	$ -
Transformers & Foundation	$ 4,000	$ 7,000	$ -	$ -	$ 11,000	$ -
Concrete Removal, Crushing, & Disposal	$ -	$ -	$ 8,000	$ -	$ 8,000	$ -
Grading & Seeding	$ -	$ -	$ -	$ 502,000	$ 502,000	$ -
Debris	$ -	$ -	$ 5,000	$ -	$ 5,000	$ -
Scrap	$ -	$ -	$ -	$ -	$ -	$ (140,000)
Subtotal	**$ 225,000**	**$ 362,000**	**$ 13,000**	**$ 502,000**	**$ 1,102,000**	**$ (140,000)**
Wheatland Subtotal	**$ 1,197,000**	**$ 1,925,000**	**$ 38,000**	**$ 502,000**	**$ 3,662,000**	**$ (2,785,000)**
TOTAL DECOM COST (CREDIT)					**$ 3,662,000**	**$ (2,785,000)**
PROJECT INDIRECTS (10%)					**$ 366,000**	
CONTINGENGY (20%)					**$ 732,000**	
TOTAL PROJECT COST (CREDIT)					**$ 4,760,000**	**$ (2,785,000)**
TOTAL NET PROJECT COST (CREDIT)					**$ 1,975,000**	

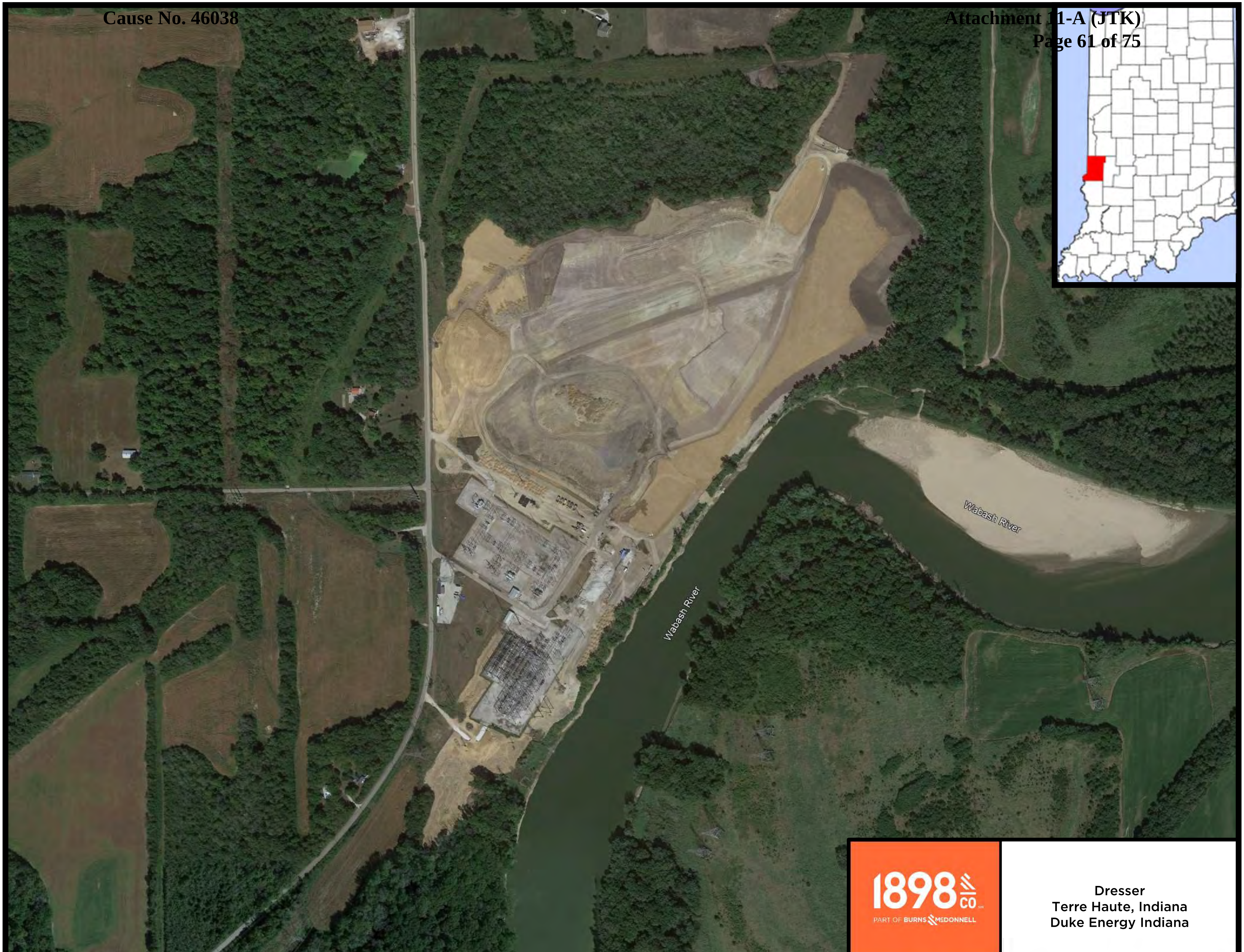
APPENDIX B – PLANT AERIALS

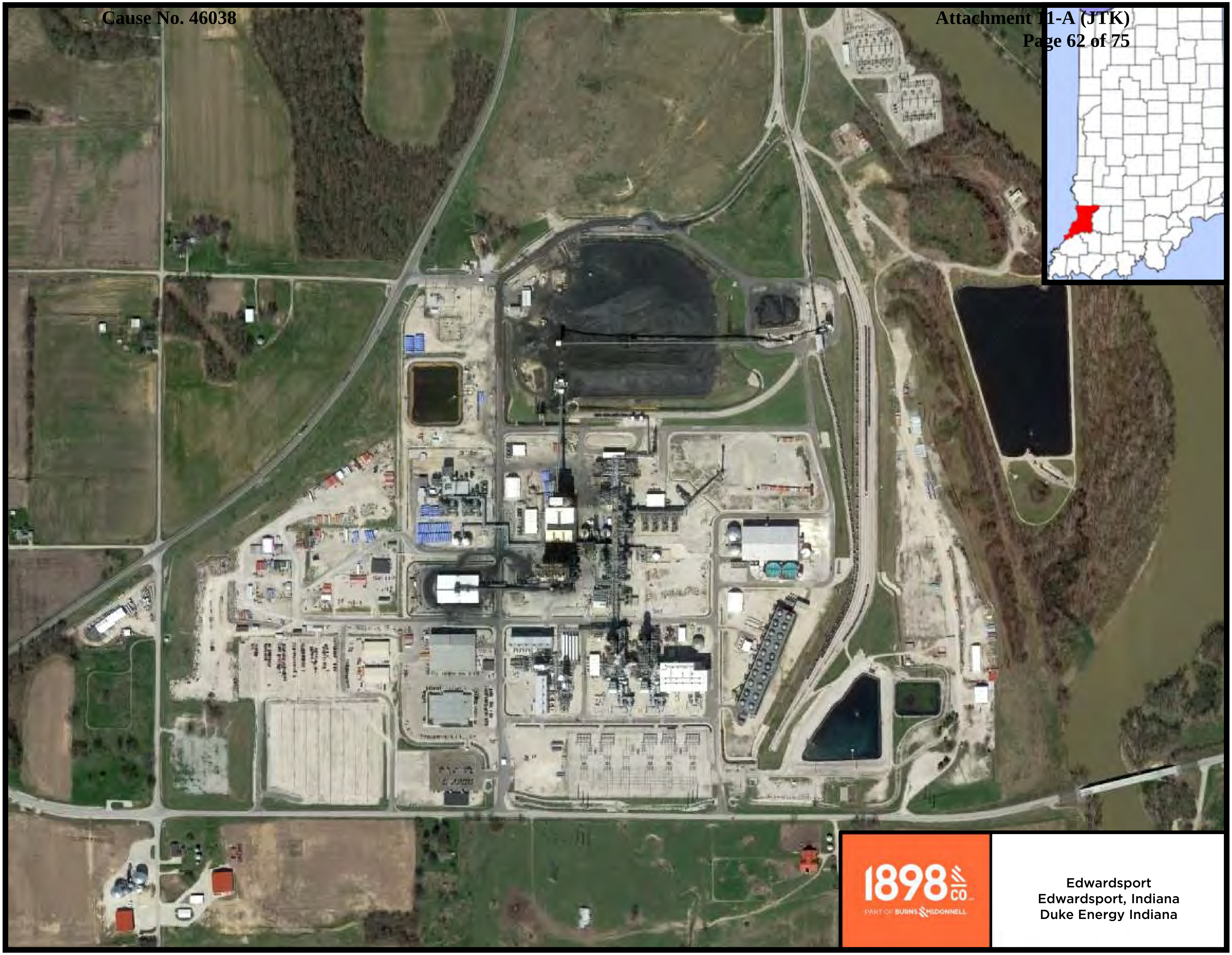

1898 & Co.
PART OF BURNS & McDONNELL
B-Line Heights
Bloomington, Indiana
Duke Energy Indiana

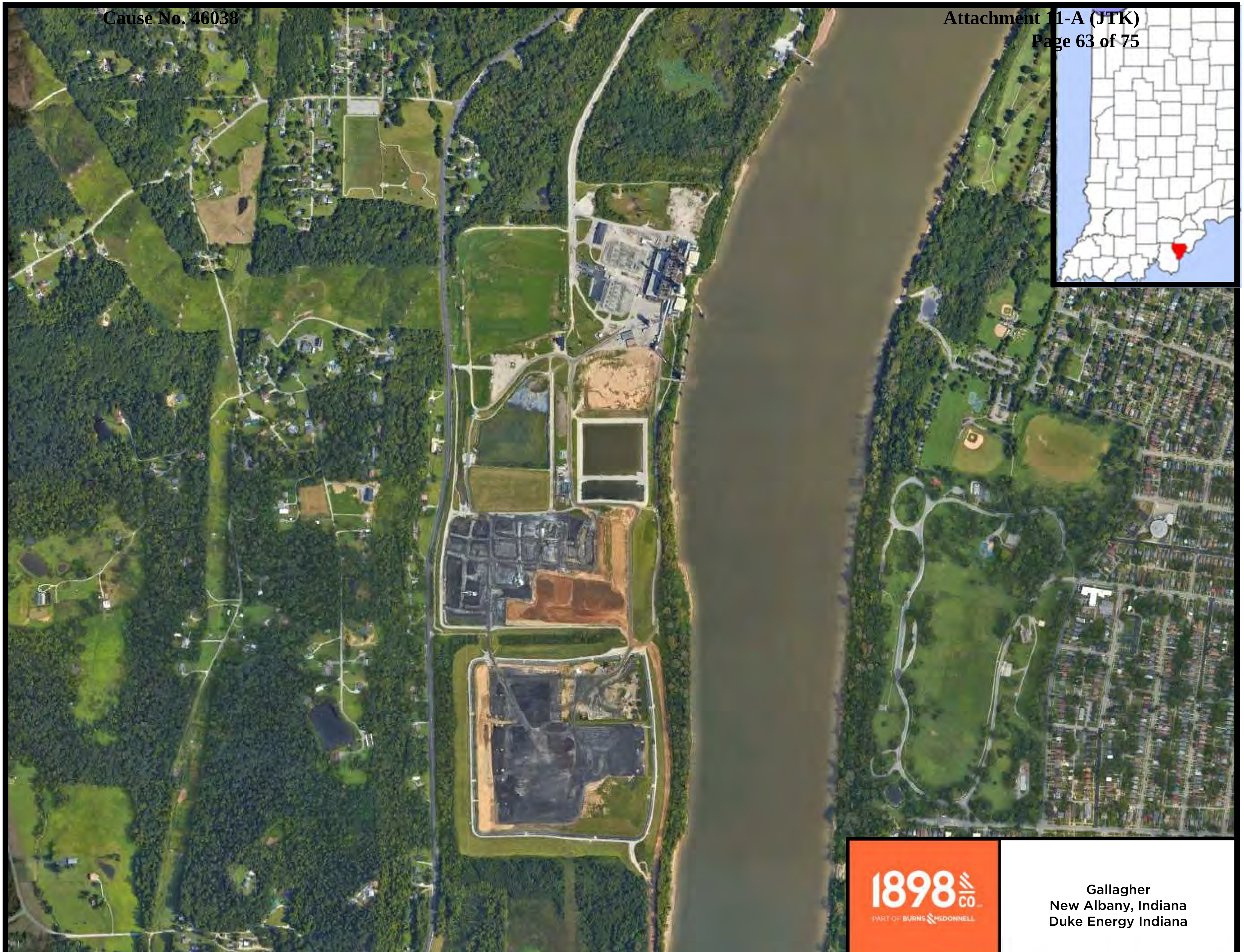


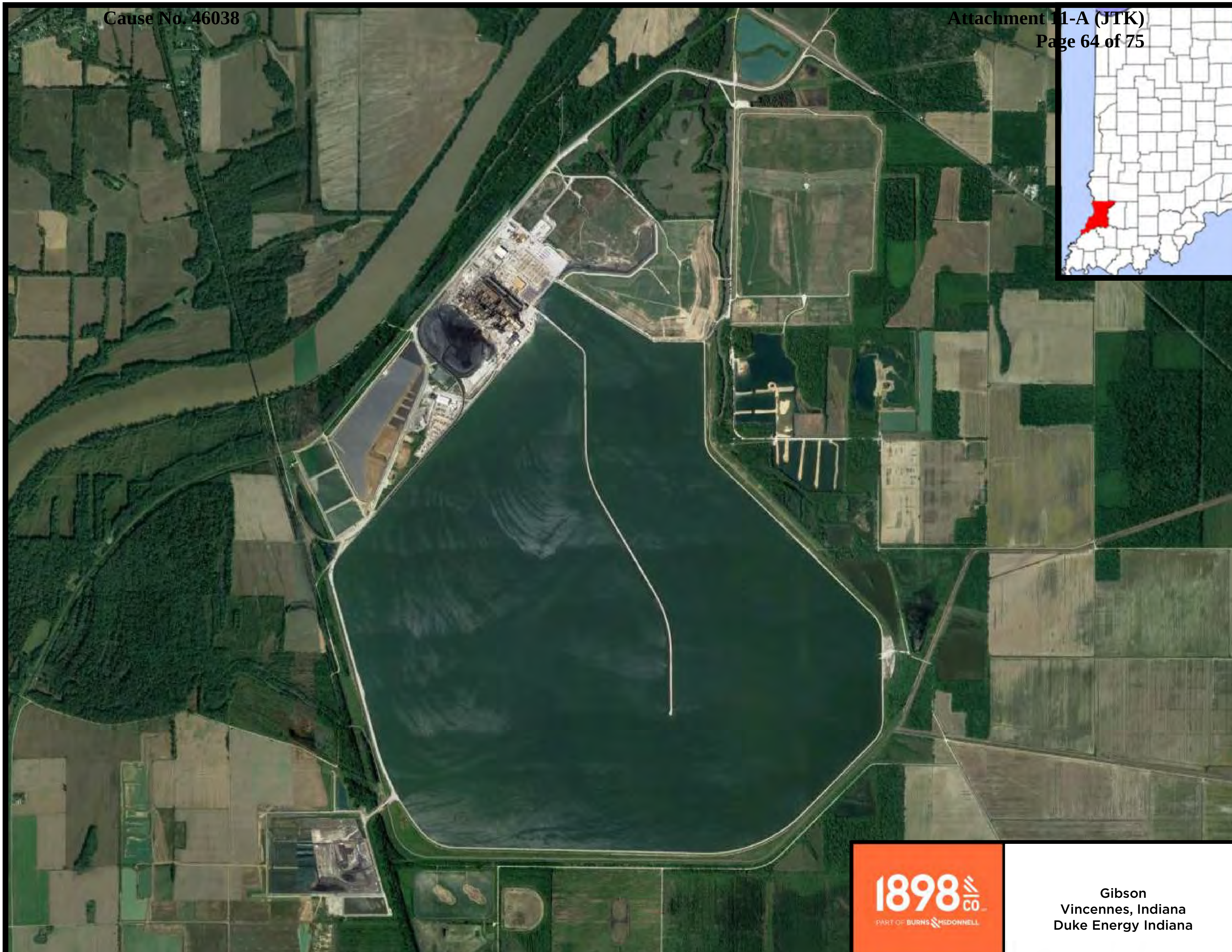
Camp Atterbury Solar & Microgrid
Edinburgh, Indiana
Duke Energy Indiana


Cayuga
Kingman, Indiana
Duke Energy Indiana


Wabash River
Wabash River
Dresser
Terre Haute, Indiana
Duke Energy Indiana


1898 & CO.
PART OF BURNS & McDONNELL
Edwardsport
Edwardsport, Indiana
Duke Energy Indiana


Gallagher
New Albany, Indiana
Duke Energy Indiana


Gibson
Vincennes, Indiana
Duke Energy Indiana

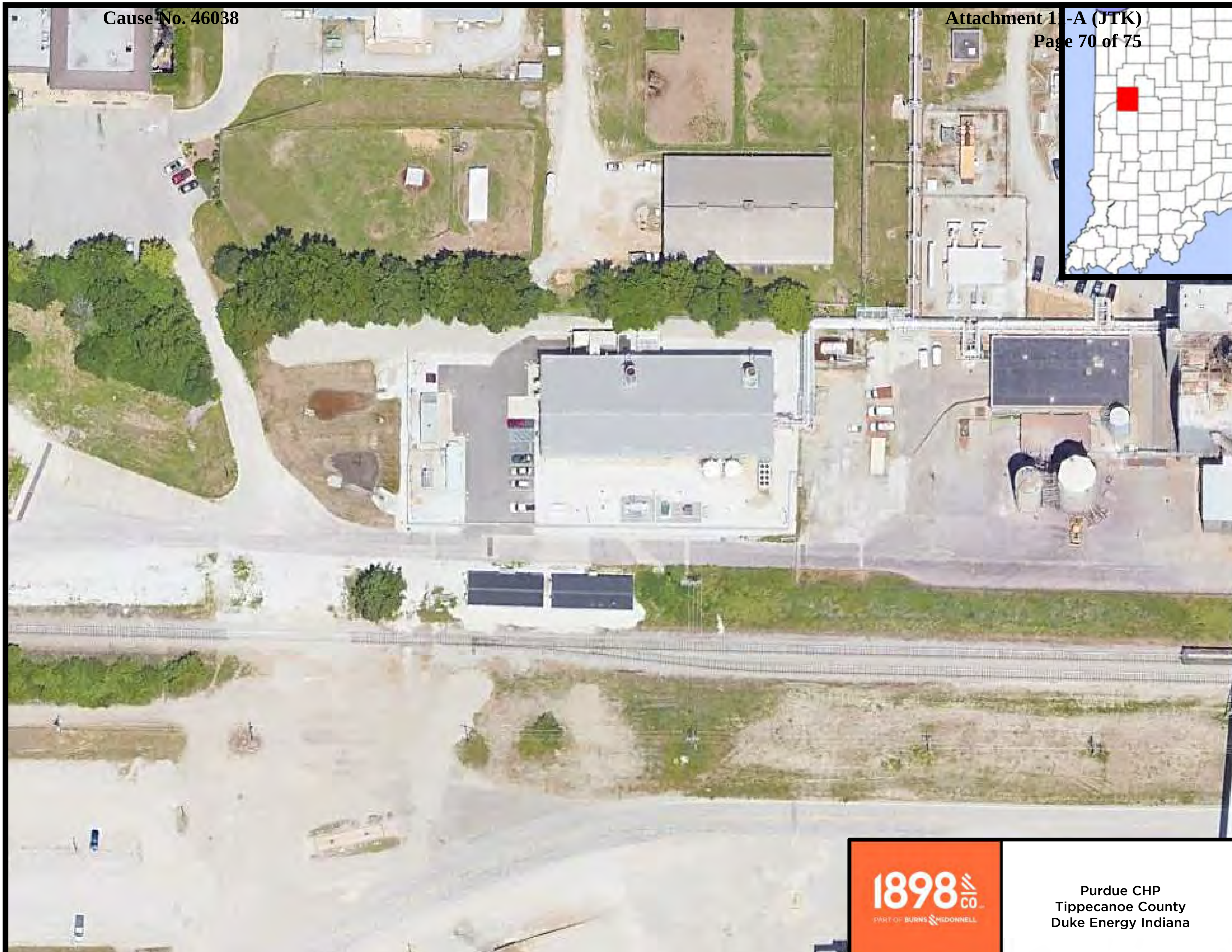

Henry County
New Castle, Indiana
Duke Energy Indiana


Madison
Trenton, Ohio
Duke Energy, Indiana

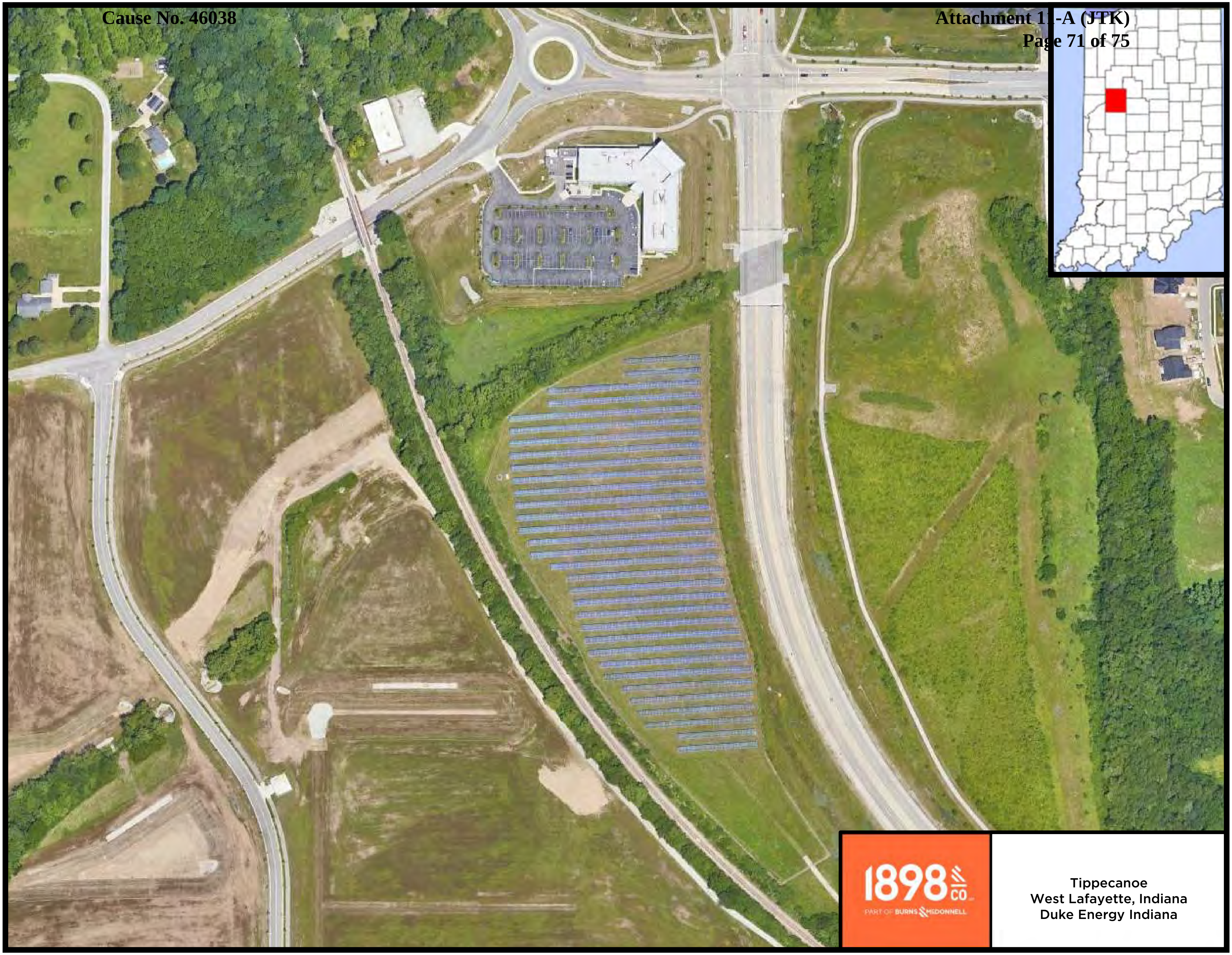

Markland
Florence, Indiana
Duke Energy Indiana

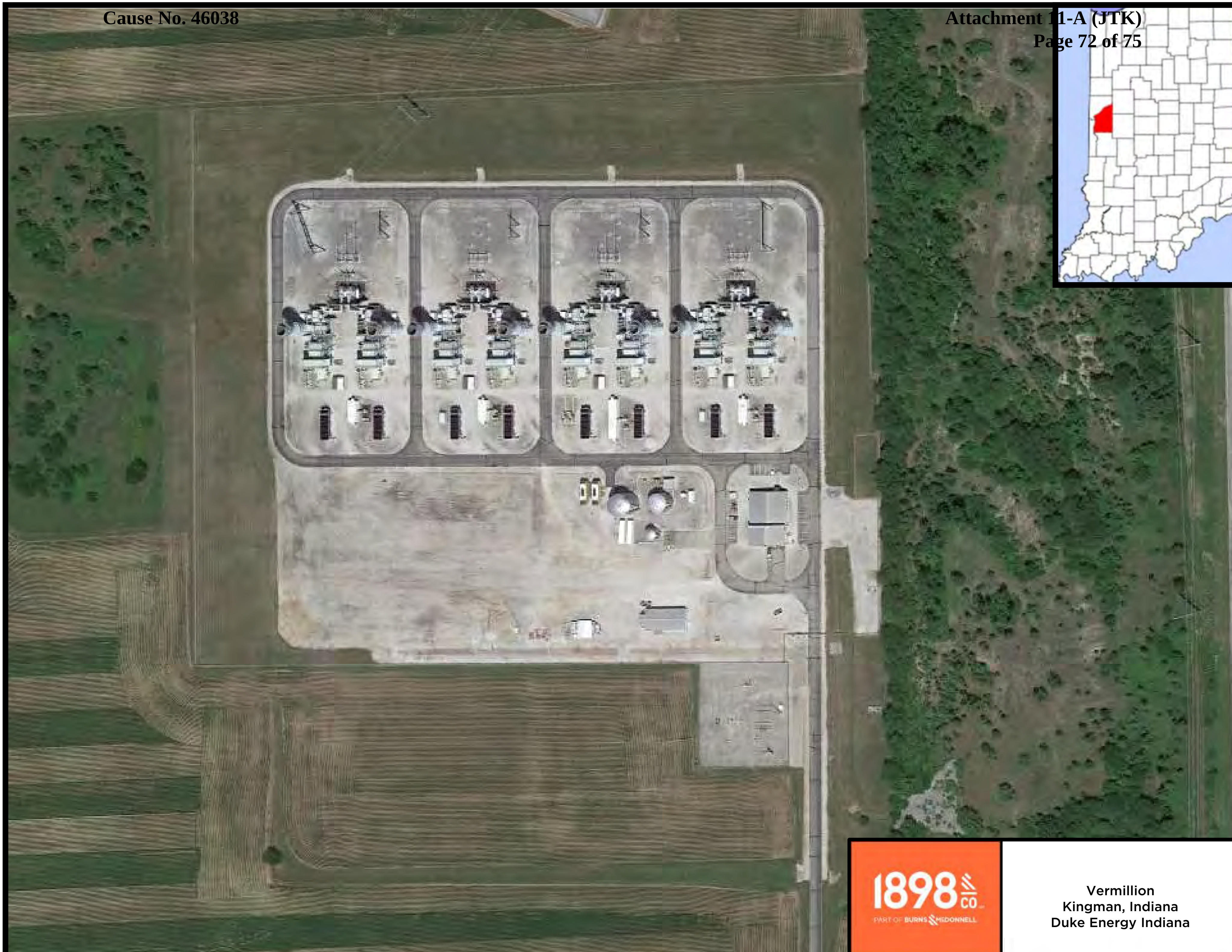

Nabb
Nabb, Indiana
Duke Energy Indiana

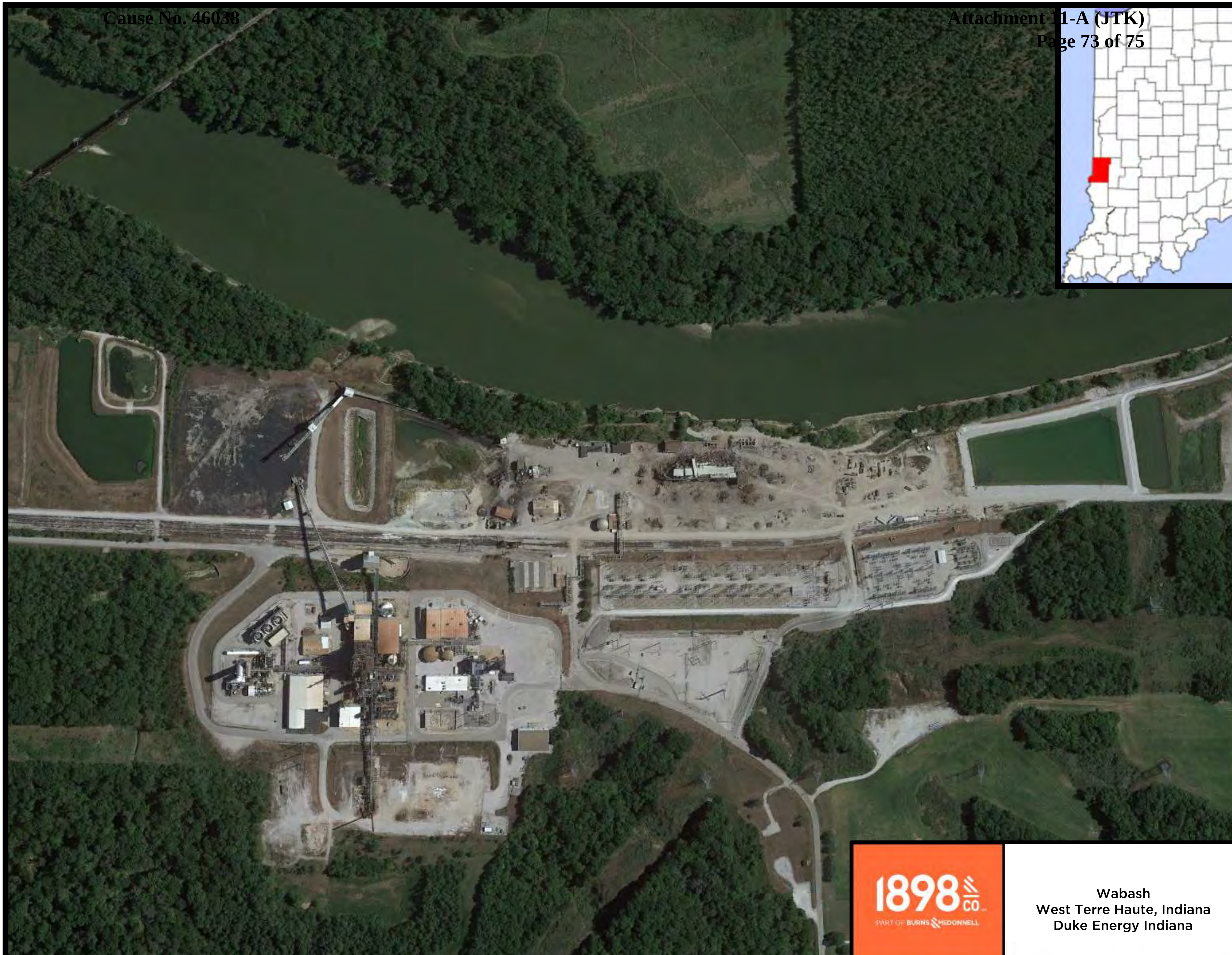

Noblesville
Noblesville, Indiana
Duke Energy Indiana

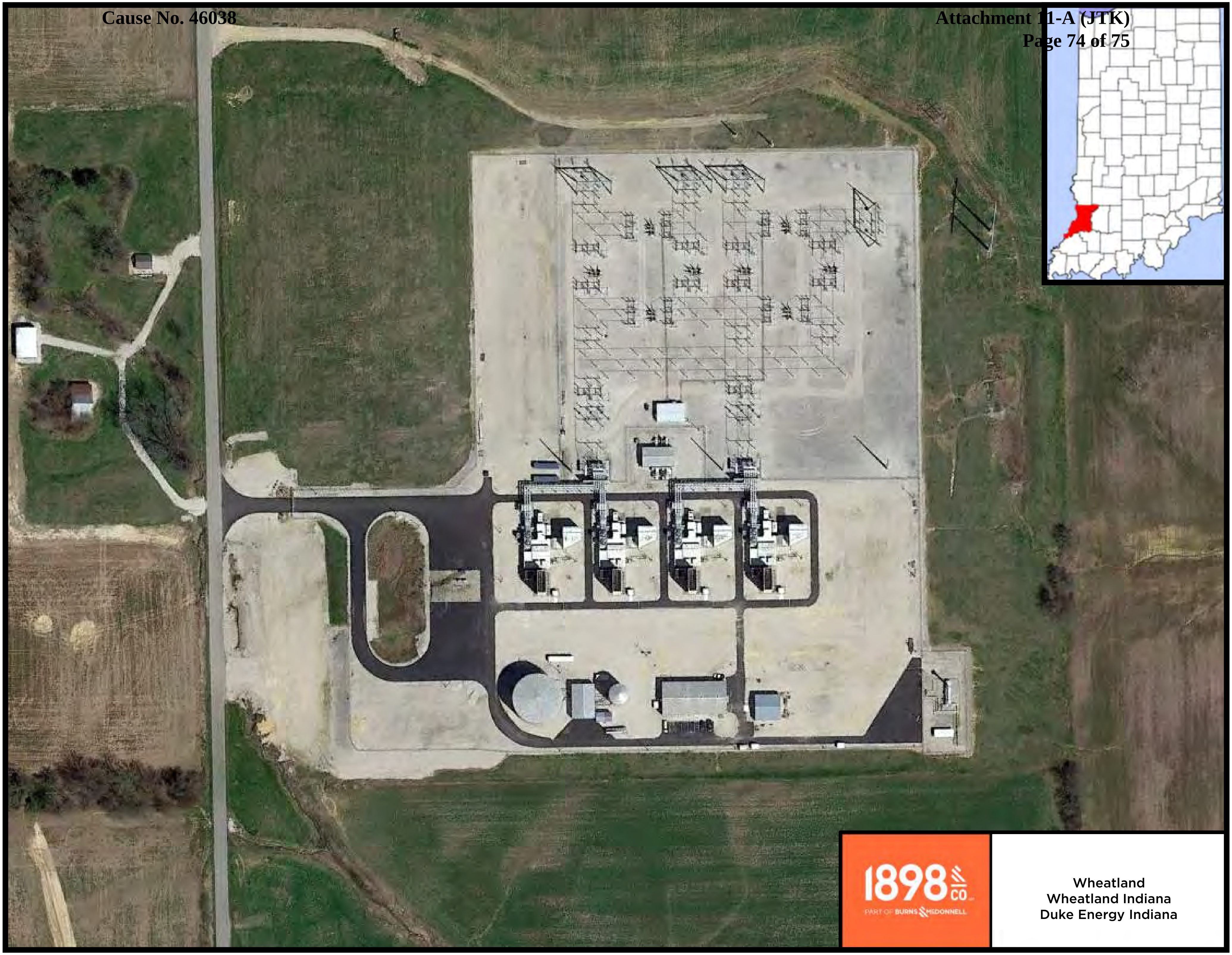


Purdue CHP
Tippecanoe County
Duke Energy Indiana


Tippecanoe
West Lafayette, Indiana
Duke Energy Indiana


Vermillion
Kingman, Indiana
Duke Energy Indiana


Wabash
West Terre Haute, Indiana
Duke Energy Indiana


Wheatland
Wheatland Indiana
Duke Energy Indiana

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9400 Ward Parkway

Kansas City, MO