



PROPOSAL FOR

DUE DILIGENCE SERVICES

SUBMITTED TO Gainesville Regional Utilities (GRU)

May 2017



May 19, 2017

Thomas R. Brown Chief Operating Officer Gainesville Regional Utilities BrownTR@Gru.com

Re: Proposal for Due Diligence Services

Dear Mr. Brown:

Gainesville Regional Utilities (GRU) seeks a qualified consultant to provide an independent engineer evaluation of an operating biomass plant that GRU is considering aquiring. Using Burns & McDonnell's proven approach on more than 150 facilities, GRU can obtain a reliable technical evaluation and independent engineer's report.

The key objective of an independent engineer's report is to identify and quantify risk areas associated with facility acquisition and to help clients properly assess an asset's risk profile and operating characteristics in their financial models. GRU requires a firm with experience identifying and quantifying these risks. **Burns & McDonnell is that firm.** As a full-service engineering and construction firm with offices across North America, we have provided independent engineer's evaluations on more than 150 technology projects. Reviews have covered power-generating assets, midstream natural gas assets, electric transmission assets, and industrial facilities. We look forward to supporting GRU with our global technical expertise and local market knowledge. **With more than 20 years of experience** supporting the successful acquisition of projects and alerting clients to risks, we have refined the process of identifying potential fatal flaws and risk areas and determining potential risk-mitigation strategies.

With more than 5,700 professionals specializing in a range of scientific, economic, and engineering disciplines, we can evaluate all aspects of a project and provide a one-stop-shop for all independent engineering services. This benefit is unique and important. If unexpected issues arise at critical stages of a project, we have staff with the background and experience to address them in a timely and efficient manner. Consider the following attributes:

- Reliable Results: We have evaluated over 150 facilities over the past 15 years for both IOUs and IPPs. Lenders and utility commissions have relied on our independent engineer's reports for asset acquisition approval. We understand the due diligence process and where to focus our risk assessment efforts.
- Decommissioning and Plant Layup Strength: The Burns & McDonnell staff has experience with both studying decommissioning alternatives and executing decommissioning and demolition projects. In addition, Burns & McDonnel has experience preparing specific plans to place a boiler, steam turbine, and balance of plant facilities into long term layup.
- Experienced Project Team: We have assembled a group of professionals with pertinent and recent experience, including the project manager with





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the most experience on independent engineer's reports. This team will deliver to GRU a cost-effective, timely, and most importantly, a defendable project.

• Quality: We have provided independent engineer's reports for numerous projects to several clients and stakeholders. We will use the same methodology to prepare a quality deliverable for GRU.

We would appreciate the opportunity to demonstrate our capabilities to you firsthand. If you have questions about our proposal, please contact Jeff Kopp at 816.822.4239 | jkopp@burnsmcd.com.

Sincerely, BURNS & McDONNELL

Jeffrey J. Greig Senior Vice President

w T Kopp

Jeffrey T. Kopp, PE Project Manager

Knowing where to look is the first step in identifying areas of risk. Because we have worked in numerous roles across various industries and technologies, serving as design engineer, EPC contractor, owner's engineer, or independent engineer, we have the experience to see projects from various perspectives.

This allows us to represent your interests on various facets of a project to identify and then analyze potential risks, allowing you to make the best decisions and investments possible.



As a full-service engineering, architecture, and construction firm with offices nationwide, Burns & McDonnell has provided independent engineer's evaluations on more than 150 technology projects across the United States. These reviews have covered power-generating assets, midstream natural gas assets, electric transmission assets, and industrial facilities. With more than 25 years of experience supporting the successful acquisition of projects and alerting clients to risks, we have refined the process of identifying potential fatal flaws and areas of risk and determining potential risk-mitigation strategies.

With more than 5,700 professionals specializing in a range of scientific, economic, and engineering disciplines, we can evaluate all aspects of a project and provide a one-stop-shop for all independent engineering services. This is an extremely important and unique benefit. If unexpected issues arise at critical stages of a project, we have staff with the necessary background and experience to address them in a timely and efficient manner, resulting in project consistency, lower costs, and on-time project schedules.

BURNS & MCDONNELL HAS PROVIDED INDEPENDENT ENGINEER'S EVALUATIONS ON PROJECTS ACROSS THE COUNTRY THAT HAVE INCLUDED SIMPLE CYCLE, COAL, SOLAR, AND OTHER ENERGY SOURCES



(continued)

SERVICES

TECHNOLOGY & DESIGN

- Commercial history reports of major equipment
- Major process cycles
- Projected output and efficiency reviews
- Site, mechanical, and electrical layouts
- Linear facility reviews (fuel, water, wastewater, electric transmission)
- Maintenance plans and costs
- Turbine/module designs
- Status of design certifications

KEY STUDIES

- Wind resource assessments
- Solar production estimates
- Project siting studies/turbine layouts
- Microwave beam path studies
- Mechanical loads assessments
- Interconnection studies
- Geotechnical reports
- Engineering studies

OPERATIONS

- Starts, operating hours, and capacity factors
- ► Forced outage records and causes
- Net heat-rate and auxiliary loads
- Emissions performances
- Delivered fuel cost and production costs
- Variable and fixed O&M costs
- Reliability statistics
- Maintenance records
- Staffing levels

KEY AGREEMENTS

- Equipment supply agreements
- ► Balance-of-plant/EPC agreements
- Equipment warranty agreements
- Operating and maintenance agreements
- Power purchase agreements

- Known technical issues/serial defects
- Site suitability assessments
- Commercial and technological risk reviews
- Power collection systems
- Transmission lines
- Wind turbine foundations
- Civil works (roads, pads)
- Substations
- Site conditions



- Fuel supply agreements
- ► Water and wastewater agreements
- Interconnection agreements (LGIA)
- Land use agreements
- Management/administration agreements



Independent Engineering Services

(continued)

FINANCIALS

- Pro-forma economic models
- Operating expenses and capex budgets
- Cash flow projections
- Revenue requirements
- Useful life assessments
- Asset valuations

ENVIRONMENTAL

- ► Air permits
- Water and wastewater permits
- Zoning and local restrictions
- Environmental assessments
- Environmental impact assessments
- ► FAA determination of no hazards
- Wildlife studies
- Wetlands studies
- Cultural resources studies
- Archeological studies

SITE WORK

- Ongoing inspection of construction activities
- Construction cost and schedule monitoring
- Construction risk analyses
- Material deliveries and receipt inspection monitoring
- Plant commissioning oversight
- Plant equipment start-up/testing monitoring







DUE DILIGENCE, GAINESVILLE RENEWABLE ENERGY CENTER

GAINESVILLE, FLORIDA

Burns & McDonnell conducted an independent engineering evaluation of the biomass-fired Gainesville Renewable Energy Center that was being developed by American Renewables LLC (AR). The Plant was in the development phase at the time of the evaluation, but construction had not yet begun. Tyr was considering acquiring an ownership interest in the Plant. The purpose of the Due Diligence Evaluation was to evaluate the development and permitting activities that had taken place to determine whether the could be constructed and operated in a manner to provide long-term, dependable service as a generation resource.

Burns & McDonnell's assessment of the facility included a review of the equipment proposed for the facility, a review of projected performance of the plant, a review of the EPC contract and project schedule, a review of all key contracts and agreements, an environmental permitting review, and a risk analysis for a potential investor in the facilities.

LAYUP, FRANK E. RATTS GENERATING STATION

PETERSBURG, INDIANA

Burns & McDonnell was retained by Hoosier Energy (Hoosier) to develop a set of three procedural manuals outlining a plan for placing the Frank E. Ratts Generating Station in reserve shutdown status. The objective of the methodologies developed was to economically place the plant into layup status, maintain the equipment until it is called on to restart, and allow for restart of the Plant if and when called upon during the layup period. Although the layup of the Frank E. Ratts Generating Station is considered long term, lasting up to approximately 36 months, it is nonetheless temporary in nature. As such, all aspects of the layup planning manuals written for this project were created with this intent in mind and catered to best facilitate future plant reactivation.

The Electric Power Research Institute (EPRI) document CS-5112, titled "Guidelines: Long-term Layup of Fossil Plants" was utilized as a reference tool for determining the procedures for placing the plant into reserve shutdown status. However, the procedures and methodology were adjusted based on the specific equipment and conditions at the Frank E. Ratts Generating Station.

OSPREY ENERGY CENTER, DUKE ENERGY

AUBURNDALE, FLORIDA

In order to acquire an existing combine cycle facility that would go into the rate base, Duke Energy needed an independent engineer's report that would stand up to regulatory scrutiny, so the company came to Burns & McDonnell. We prepared an evaluation that included a technical, environmental, and contractual review of the facility. In addition, we evaluated the pedigree of the parts and developed a plan and budget for replacing the current parts in the unit with original equipment manufacturer parts over the next cycle of major maintenance activities. The independent engineer's report was used in proceedings before the Florida Public Service Commission, and Duke successfully acquired the facility.

UNDERSEA CABLE, CONFIDENTIAL CLIENT

NORTHEAST

We assisted a confidential client with the evaluation of a high-voltage direct-current undersea cable and associated inverter stations. The project had experienced several failures that needed to be evaluated to determine if the issues had been addressed and if the project could meet reliability requirements and the anticipated useful life moving forward. Due to our ability to identify risks, the client ultimately decided not to acquire theasset.





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OREGON CLEAN ENERGY CENTER, I SQUARED CAPITAL

OREGON, OHIO

I Squared Capital was considering the purchase of a site that had been developed for a new H-class combined cycle project in Ohio. The developer had provided the EPC contractor with limited notice to proceed, and equipment contracts were in place. The project included some unique risks that needed to be addressed. For example, the combustion turbine technology selected was changed in the middle of project development, which required all permits and interconnection agreements to be revised. We evaluated the technical, contractual, and environmental risks associated with the project, and provided next steps to be performed to address those risks. I Squared Capital successfully acquired the project.

MIDSTREAM NATURAL GAS ASSETS, CONFIDENTIAL CLIENT

SOUTHEAST

We assisted a confidential client with evaluating a portfolio of midstream natural gas assets in the Southeast. The project portfolio included several gas-processing facilities and a gas-gathering system. Although we did not identify any fatal flaws with the assets, the client chose not to proceed with the acquisition, based on an inability to come to commercial terms with the seller.

MULTIPLE WIND FARMS, SEMPRA U.S. GAS & POWER

VARIOUS LOCATIONS

Among the most active players in the U.S. renewable energy market, Sempra U.S. Gas & Power consistently turns to Burns & McDonnell for assistance on its projects. We have provided them with independent engineering services on multiple wind projects, including Flat Ridge 2, Fowler Ridge 2, and Energía Sierra Juárez, which totaled more than a gigawatt of total capacity. These services have included technology assessments, energy production reviews, contractual reviews, balance-of-plant design evaluations, project schedule assessments, financial analyses, and on-site construction monitoring. Our support resulted in the successful acquisition and development of each of these projects, and Sempra retained us to provide owner's engineer services following due diligence.

AMMONIA MANUFACTURING FACILITY SITE, CONFIDENTIAL CLIENT

TEXAS

A confidential client retained us to identify and provide an independent engineering evaluation of sites for the construction of a 2,250-metric-ton-per-day new ammonia manufacturing facility, that would include pipeline connections for hydrogen, nitrogen, ammonia, and natural gas. The facility was developed to take advantage of partnership opportunities with existing chemical and industrial facilities in the area. We also included a review of potential environmental impacts and risks.

AGUA CALIENTE SOLAR PROJECT, NRG SOLAR

YUMA COUNTY, ARIZONA

When NRG Solar was considering the purchase of the 290-MWAC thin-film PV Agua Caliente Project in Arizona, it recognized Burns & McDonnell's experience in thin film technology and retained us to perform the due diligence study prior to project acquisition. We studied the technical aspects of the project, developed an independent annual energy production model, and evaluated the performance guarantees and commercial terms. Because our analyses, NRG Solar decided to move forward with the investment, and it was ultimately successful in acquiring the project.



Project Experience

(continued)

BIOMASS COMBINED HEAT & POWER PLANT INDEPENDENT ENGINEERS REPORT, LAURENTIAN ENERGY AUTHORITY HIBBING, MINNESOTA, AND VIRGINIA, MINNESOTA

We prepared an independent engineer's report for a biomass-combined heat and power plant project that provides district heating to two cities. As part of the official bond offering statement prepared by Springstead Financial Advisors, the report included a review of the investment bank's pro forma model, preliminary design documents, power purchase agreements, steam purchase agreements, operating agreements, fuel supply contracts, capital costs estimates, and environmental permits. We also prepared an independent pro forma model for the project. Using our independent report, the company successfully obtained bond financing.

TENASKA GAS FIRED POWER GENERATION ASSETS, TYR ENERGY

VARIOUS LOCATIONS

Looking to invest equity in a portfolio of assets owned by Tenaska, Tyr Energy retained us to provide an independent engineer's review of the assets. The portfolio included four combined-cycle facilities and one simple-cycle facility, all of which included power purchase agreements. Our assessment of the facility included reviews of the commercial operating history of the equipment installed at the facility; the historical and projected performance of the plant; all key contracts and agreements; and environmental permitting. Tyr successfully engaged in an equity investment in the project.

INVESTMENT GRADE AUDIT OF A NEW COMBINED HEAT AND POWER PLANT, NORTH CAROLINA STATE UNIVERSITY RALEIGH, NORTH CAROLINA

We prepared a detailed investment-grade audit of a combined heat and power plant that involved the complete renovation and replacement of the existing central utility plant equipment with 11 MW of gas-fired combustion turbine generators; 100,000 lb/hr of heat recovery steam generators; and 300,000 lb/hr of new natural gas fired boilers. The audit resulted in a financial model and comprehensive report that evaluated the ability of the project's net annual savings to fund the annual debt service payments associated with the project. Our independent engineer's report was used to successfully secure funding approval for the project from the State of North Carolina.

On the following pages is a list of some of our Independent Engineering Evaluations Services projects.





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Independent Engineering Evaluations

acility/Site Inspection perations & Maintenance History Review acility Contract Review isk Assessment isk Assessment conomic & Financial Analysis acility Acmistica Survoor

Client Name	Project Name Project Location Fuel Type		Technology								
Confidential	Confidential	Southeast	Biomass	CFB Boiler	•	•	•	•	•	•	
Confidential	Confidential	Northeast	Fuel Oil and Natural Gas	Natural Gas and Fuel Oil Fired Boilers, 1x1 7FA CCGT, GE Frame 5s, Pratt & Whitney FI4s, 2x1 Siemers Westinghouse 5016 CCGT, 2x1 GE 7EA CCGT	•	•	•	•	•	•	
Confidential	Confidential	Northeast	Coal	Pulverized Coal	•	•	•	•	•	•	
Confidential	Confidential	Northeast	Natural Gas	2x1 CCGT F/G/H Class	•	•	•	•	•	•	
Confidential	Confidential	Northeast	Natural Gas	2x1 MHPSA 501J CCGT	•	•	•	•	•	•	
Confidential	Confidential	Southwest	Natural Gas	2x1 Mitsubishi M501F CCGT	•	•	•	•	•	•	
Confidential	Confidential	Northeast	Natural Gas	3x1 Siemens V84.2 CCGT, 2x1 GE 7FA.05	•	•	•	•	•	•	
Perennial Power	West Deptford	New Jersey	Natural Gas	2x1 Siemens SGT6-5000F CCGT	•	•	•	•	•	•	
Confidential	Confidential	Northeast	Various US Locations	Solar		•	•		•	•	
Confidential	Confidential	Northeast	Natural Gas and Fuel Oil	2x1 CCGTs, Simple Cycle CTs, Aeroderivatives	•	•	•	•	•	•	
Confidential	Confidential	Midwest	Natural Gas	2x1 Siemens SGT6-8000H CCGT	•	•	•	•	•	•	
l Squared Capital	Keys Energy Center	Northeast	Natural Gas	2x1 F Class CCGT	•	•	•	•	•	•	
Confidential	Confidential	Northeast	Transmission Line	Undersea HVDC Transmission	•	•	•	•	•	•	
Confidential	Chanarambie / Viking Wind Projects	Minnesota	Wind	Wind Turbines	•	•	•	•	•	•	
Confidential	Thunder Spirit Wind Project	North Dakota	Wind	Wind Turbines	•	•	•	•	•	•	
Duke Energy	Osprey Energy Center	Florida	Natural Gas	2x1 Siemens 501FD2 CCGT	•	•	•	•	•	•	•
l Squared Capital	Oregon Clean Energy Center	Ohio	Natural Gas	2x1 Siemens H-class CCGT	•	•	•	•	•	•	•
Confidential	Wind Project Consultant	Missouri	Wind	Wind Turbines	•	•	•	•	•	•	
Confidential	Confidential	Southeast	Natural Gas	1x1 GE 7FA CCGT	•	•	•	•	•	•	
Indiana Municipal Power Agency	Whitewater Valley Station	Indiana	Coal	Sub-critical Pulverized Coal	•	•	•	•	•	•	
Confidential	Confidential	Midwest	Natural Gas	2x1 GE 7FA CCGT	•	•	•	•	•	•	
NJR Clean Energy Ventures	Alexander Wind Farm	Kansas	Wind	Wind Turbines	•	•	•	•	•	•	
NJR Clean Energy Ventures	Carroll Area Wind Farm	lowa	Wind	Wind Turbines	•	•	•	•	•	•	
NJR Clean Energy Ventures	Two Dot Wind Farm	Montana	Wind	Wind Turbines	•	•	•	•	•	•	
Confidential	Confidential	South	Natural Gas	2x1 CCGT	•		•	•	•	•	
Confidential	Confidential	South	Coal/Gas	Coal Plant Repower	•	•	•	•	•	•	
Confidential	Confidential	Northeast	Natural Gas	2x1 GE 7FA CCGT		•	•	•	•	•	
Confidential	Confidential	Northoast	Natural Cas	4 x Wastinghouse 501ED5aa	•	•	•	•			





PROJECT EXPERIENCE (continued)



Independent Engineering Evaluations

acility/Site Inspection	perations & Maintenance History Review	acility Contract Review	nvironmental Assessment	isk Assessment	conomic & Financial Analysis	acility Acquisition Support
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Client Name	Project Name	Project Locatio	n Fuel Type	Technology	Technology						
Confidential	Confidential	Southeast	Natural Gas	1x1 F Class CCGT	•		•		•	•	
Confidential	Confidential	Southeast	Natural Gas	3 x GE 7FA Simple Cycle	•	•	•		•	•	
Confidential	Confidential	Northeast	Natural Gas	Greenfield 2x1 Siemens SGT- 5000F	•		•	•	•	•	
Confidential	Confidential	Northeast	Natural Gas	Greenfield 2 - 1x1 H Class CCGT trains	•		•	•	•	•	
Confidential	Confidential	Northeast	Natural Gas	Greenfield 2x1 F Class CCGT	•		•	•	•	•	
Confidential	Confidential	Northeast	Coal	Pulverized Coal	•	•	•	•	•	•	
Confidential	Rim Rock Wind Project Lender's Engineer	Montana	Wind	Acciona WTG	•	•	•	•	•	•	
Cleco Power	Coughlin Power Station	Louisiana	Natural Gas	2x1 Siemens 501FC+ CCGT	•	•	•	•	•	•	
Confidential	Windthorst-2	Texas	Wind	Wind Turbines	•	•	•	•	•	•	
BP Wind / Sempra U.S. Gas & Power	Flat Ridge II Wind Farm	Kansas	Wind	Wind Turbines	•	•	•	•	•	•	
Sempra U.S. Gas & Power	Flat Ridge II South Wind Farm	Kansas	Wind	Wind Turbines	•	•	•	•	•	•	
Old Dominion Electric Cooperative	Liberty Electric	Pennsylvania	Natural Gas	2x1 GE 7FA CCGT	•	•	•	•	•	•	
Tyr Energy	Gainesville Renewable Energy Center	Florida	Biomass	Bubbling Fluidized Bed Boiler	•		•	•	•	•	•
Old Dominion Electric Cooperative	St. Charles Project	Maryland	Natural Gas	2x1 GE 7FA CCGT	•		•	•	•		
Tyr Energy	Tenaska Gas Fired Power Plants - 5 Facilities	Various	Natural Gas	GE 7FA SCGT & CCGT	•	•	•	•	•	•	•
Tyr Energy	Honua Power	Hawaii	Biogas	Biomass Gasifier	•	•	•	•	•	•	
Sempra International	Energía Sierra Juárez I Wind Farm	Mexico	Wind	Wind Turbines	•	•	•	•	•	•	
Enel North America	Geronimo Wind Farm Assets	Various	Wind	Wind Turbines	•	•	•	•	•	•	
Sempra U.S. Gas & Power	Gray Mountain Wind Farm	Arizona	Wind	Wind Turbines	•	•	•	•	•	•	
TGP Development	Kit Carson Wind Farm	Colorado	Wind	Wind Turbines	•	•	•	•	•	•	
TGP Development	Sherman County Wind Farm	Kansas	Wind	Wind Turbines	•	•	•	•	•	•	
Mesa Power	Panhandle Wind Farm	Texas	Wind	Wind Turbines	•	•	•	•	•	•	
Wisconsin PSC	Crane Creek Wind Project	lowa	Wind	Wind Turbines	•	•	•	•	•	•	
Sempra Generation	Fowler Ridge II Wind Farm	Indiana	Wind	133 x GE 1.5-SLE WTG	•	•	•	•	•	•	
Ameren UE	Grand Tower	Illinois	Natural Gas	2 - 1x1 Siemens 501FD2 CCGT	•	•	•	•	•	•	
Cleco Power	Acadia Power Station	Louisiana	Natural Gas	2 - 2x1 Westinghouse 501FD CCGT	•	•	•	•	•	•	•
Tyr Energy	Hobbs Generating Station	New Mexico	Natural Gas	2x1 Mitsubishi 501F CCGT	•	•	•	•	•	•	
Tyr Energy	Nacogdoches Energy Center	Texas	Biomass	Circulating Fluidized Bed			•		•		•
Inergy, Inc.	US Salt	New York	Natural Gas	Cogeneration Boilers	•			•	•		•
Tyr Eporgy	Top of Jowa Wind Farm	lowa	Wind	80 v Mitsubishi WTG	•	•	•	•		•	



PROJECT EXPERIENCE (continued)



Independent Engineering Evaluations

ility/Site Inspection	erations & Maintenance History Review	ility Contract Review	vironmental Assessment	k Assessment	nomic & Financial Analysis	ility Acquisition Support
	Der	acili	INIT	Risk.	con	acili

Client Name	Project Name	Project Location	Fuel Type	lechnology							
Tyr Energy	White Deer Wind Farm	Texas	Wind	89 x NEG Micon WTG	•	•	•	•	•	•	
Confidential	DKRW Wind Assets - 6 Wind Farms	Various	Wind	GE 1.5-SL, AAER A-1500, Clipper C-96	•	•	•	•	•	•	
Tyr Energy	Black Hills Assets - 6 Facilities	Various	Natural Gas	GE 7FA, GE 7EA, GE LM6000	•	•	•	•	•	•	
Grays Harbor Public Utility District	Cosmopolis Paper Mill	Washington	Biomass	Cogeneration Boilers	•	•	•	•	•	•	
Tyr Energy	Commonwealth Chesapeake	Virginia	Fuel Oil	GE LM6000	•	•	•	•	•	•	•
Tyr Energy	Ft. Lupton	Colorado	Natural Gas	GE LM6000 Cogeneration	•	•	•	•	•	•	
Starwood Energy	Wheelabrator Assets - 3 Facilities	California	Biomass & Natural Gas	Biomass Stoker Boiler, GE LM5000, GE LM2500	•	•	•	•	•	•	
Northern Indiana Public Service Company	Whiting Clean Energy, Holland Energy, Sugar Creek Energy	Indiana/Illinois	Natural Gas	2x1 GE 7FA CCGT	•	•	•	•	•	•	•
Kelson Energy	Fremont Energy Center	Ohio	Natural Gas	2x1 Siemens 501FD2 CCGT	•	•	•	•	•	•	
Starwood Energy	City of Vernon Transmission Assets	California	N/A	Transmission Assets	•	•	•	•	•	•	•
Starwood Energy	City of Vernon Generation Assets	California	Natural Gas, Nuclear & Hydro	2x1 Siemens SGT-800 CCGT, Nuclear and Hydro Asset PPAs	•	•	•	•	•	•	
Grand River Dam Authority	Redbud Energy Facility	Oklahoma	Natural Gas	2x1 GE 7FA CCGT	•	•	•	•	•	•	
Brazos Electric Power Cooperative	Sandy Creek	Texas	Coal	Supercritical Pulverized Coal	•	•	•	•	•	•	
Tyr Energy	Shady Hills	Florida	Natural Gas	GE 7FA	•	•	•	•	•	•	
Brazos Electric Power Cooperative	Bosque Power Facility	Texas	Natural Gas	GE 7FA SCGT & CCGT	•	•	•	•	•	•	
Tyr Energy	Birchwood	Virginia	Coal	Subcritical Pulverized Coal	•	•	•	•	•	•	
Public Service of New Mexico	TXU Gas Fired Assets	Texas	Natural Gas	Gas Steam Boilers, CCGT, & SCGT	•	•	•	•	•	•	
Tyr Energy	CalPeak Energy	California	Natural Gas	Pratt & Whitney FT8 TwinPac	•	•	•	•	•	•	•
Tyr Energy	Spring Creek Generating Station	Oklahoma	Natural Gas	GE 7EA	•	•	•	•	•	•	
Midwest Energy	Aquila Kansas Electric Properties - 5 Plants and Transmission Asse	Kansas	Coal, Gas, & Oil	Gas Boilers, Coal Boilers, 501 CT, Reciprocating Engine	•	•	•	•	•	•	
Direct Energy	Frontera Generation Station	Texas	Natural Gas	2x1 GE 7FA CCGT	•	•		•	•		•
Tenaska	2 Coal-Fired Cogeneration Plants	Various	Coal	Cogeneration CFB Boilers	•	•	•	•	•	•	
Tenaska	10 Cogeneration Plants	Various	Natural Gas	Cogeneration CCGT	•	•	•	•	•	•	
South Texas Electric Cooperative	Colleto Creek	Texas	Coal	Subcritical Pulverized Coal	•	•	•	•	•	•	•
kRoad Power	Maine Independence Generation Facility	Maine	Natural Gas	2x1 GE 7FA CCGT	•	•	•	•	•	•	
kRoad Power	Arlington Valley Generation Facility	Arizona	Natural Gas	2x1 GE 7FA CCGT	•	•	•	•	•	•	
kRoad Power	Lake Road Generation Facility	Connecticut	Natural Gas	1x1 Alstom GT24 CCGTs	•	•	•	•	•	•	
kRoad Power	Lee Energy Generation Facility	Illinois	Natural Gas	GE 7EA	•	•	•	•	•	•	
kRoad Power	Harquahala Generation Facility	Arizona	Natural Gas	1x1 Westinghouse 501G CCGTs	•	•	•	•	•	•	
kRoad Power	Athens Generation Facility	New York	Natural Gas	1x1 Westinghouse 501G CCGTs	•	•	•	•	•	•	





PROJECT EXPERIENCE (continued)

BURNS MEDONNELL

Independent Engineering Evaluations

Client Name	Project Name	Project Location	Fuel Type	Technology							
kRoad Power	Covert Generation Facility	Michigan	Natural Gas	1x1 Mitsubishi M501G CCGTs	•	•	•	•	•	•	
kRoad Power	Millennium Generation Facility	Massachusetts	Natural Gas	1x1 Westinghouse 501G CCGTs	•	•	•	•	•	•	
Aquila	Lake Road Unit 5	Missouri	Natural Gas	Westinghouse 501-B4	•	•	•	•	•	•	
Aquila	KCI Generating Station	Missouri	Natural Gas	Pratt & Whitney JT-4	•	•	•	•	•	•	
Cinergy	Henry County Generating Station	Ohio	Natural Gas	GE LM6000	•	•	•	•	•		•
Cinergy	Madison Generating Station	Ohio	Natural Gas	GE 7EA	•	•	•	•	•		•
Xcel	SW MN Wind Transmission Upgrade	Minnesota	Transmission	Transmission Assets	•	•	•		•	•	
Oklahoma Gas & Electric	Woodward to Centennial Transmission Upgrade	Oklahoma	Transmission	Transmission Assets	•	•	•		•	•	
Xcel	Audit Services for Wind Proposal Selection	Minnesota	Transmission	Transmission Assets	•	•	•		•	•	
Oklahoma Gas & Electric	Northwest to Woodward Transmission Upgrade	Oklahoma	Transmission	Transmission Assets	•	•	•		•	•	
Oklahoma Gas & Electric	Woodward to Guymon Transmission Upgrade	Oklahoma	Transmission	Transmission Assets	•	•	•		•	•	
Southern California Edison	Tehachapi Transmission Upgrade	California	Transmission	Transmission Assets	•	•	•		•	•	





PROJECT TEAM

PROJECT TEAM

JEFF KOPP, PE | PROJECT MANAGER



With more than 17 years of experience, Jeff specializes in consulting services for power generation and transmission and distribution projects. His experience includes energy project development, due diligence reviews, resource planning, renewable project development, rate studies and analysis, power plant decommissioning studies, and transmission planning. Jeff recently managed a project that included a due diligence evaluation of a combined cycle generating facility under development where he evaluated whether the project was economically attractive and determined potential development risks.

SANDRO TOMBESI, PMP | ENGINEERING LEAD



Sandrohas 35+ years of experience in project development, thermal cycle analysis, feasibility studies, conceptual designs, and coordination and implementation of projects. He has worked in the fossil, nuclear and alternate fuel power generation fields. He has developed open cycle, combined cycle, cogeneration and other small, medium and large power plants. Sandro has demonstrated his abilities and adaptation to the diverse and unique requirements of the power generation industry in the United States and foreign countries. In addition to technical analysis and project development, Sandro has experience in equipment selection, cost and budget preparation and schedule development for proper phasing and implementation of various project elements, and in business development, financial analyses and justification of capital and operating budgets.

DEAN HUFF, PE | BOILER SPECIALIST



Dean is a senior power plant mechanical engineer with 40 years' experience working on the study, design, construction, startup, commissioning, and performance testing of large steam-electric and combustion turbine power stations. He has focused on coal-fired plant studies and lead design assignments for coal-fired plants. Dean has prepared studies for various clients analyzing the advantages and disadvantages of pulverized coal, CFB, supercritical, and subcritical boilers. The studies have included the analysis of the impact of fuel properties (coal, pet coke, lignite, biomass, etc.), fuel conversions, emission controls, current and projected fuel costs, relative O&M costs, and other Owner specific factors.

CHRIS HOWELL | ENVIRONMENTAL LEAD



Chris is a senior environmental engineer at Burns & McDonnell. He has 17 of experience, and specializes in air quality permitting and noise studies. Chris helps his clients acquire construction and operating permits for their projects and is knowledgeable of critical permitting issues. Additionally, he performs emissions and noise calculations and modeling, conducts feasibility studies, and assists with regulatory compliance.

Resumes for the Project Team are on the following pages.





JEFFREY T. KOPP, PE

Project Manager

Jeff is a business consulting manager at Burns & McDonnell, specializing in consulting services for power generation and transmission and distribution projects. This includes energy project development, due diligence reviews, resource planning, renewable project development, rate studies and analysis, power plant decommissioning studies, and transmission planning.

Decommissioning Study |OGE Energy Corp.

Oklahoma | 2017

Mr. Kopp served as the Burns & McDonnell project manager on a decommissioning study for the entire fleet of power generating facilities

owned by OGE Energy in Oklahoma. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives to support depreciation rates. The evaluation included several coal-fired plants, natural gas fired boilers, natural gas-fired simple and combined cycle units, and a wind farm. Subsequent to the study, Mr. Kopp will be available to provide written and oral testimony in OGE Energy's rate hearing in regards to the study findings.

Decommissioning Study | Duke Energy

North Carolina, South Carolina, Kentucky | 2017

Mr. Kopp served as the Burns & McDonnell project manager on a decommissioning study for the entire fleet of power generating facilities owned by three Duke Energy Utilities, including Duke Energy Carolinas, Duke Energy Progress, and Duke Energy Kentucky. The evaluation was performed to determine the costs to demolish the units and restore the sites at the end of their useful lives. The evaluation included several coal-fired plants, natural gas fired boilers, natural gas-fired simple and combined cycle units, hydroelectric plants, and solar projects. Subsequent to the study, Mr. Kopp is currently providing written and oral testimony in Duke Energy Kentucky's rate hearing in regards to the study findings.

Useful Life Assessment | Confidential Client

Southeast | 2017

Mr. Kopp served as the Burns & McDonnell project manager on a useful life assessment for a combined cycle power plant for a confidential client. The evaluation was performed to determine the anticipated life of the facility and associated costs to achieve that life. The study supported financial modeling of the facility as part of the utility's portfolio of assets.

Useful Life Assessment | Confidential Client

Southeast | 2017

Mr. Kopp served as the Burns & McDonnell project manager on a useful life assessment for a combined cycle power plant for a confidential client. The evaluation was performed to determine the anticipated life of the facility and associated costs to achieve that life. The study supported financial modeling of the facility as part of the utility's portfolio of assets.

Due Diligence | Confidential Client

Northeast | 2016

Mr. Kopp served as the project manager for a due diligence evaluation of a portfolio of power generation assets. The assets included gas and oil fired boilers, combined cycle combustion turbines, and simple cycle combustion turbines. The client was





EDUCATION

- ▶ BS, Civil Engineering
- MBA, Business Administration

REGISTRATIONS

- ► Professional Engineer (MO)
- 16 YEARS WITH BURNS & MCDONNELL
- 17 YEARS OF EXPERIENCE

JEFFREY T. KOPP, PE (continued)

considering acquiring an equity stake in the facilities. The evaluation included a technical, environmental, and contractual review of the facilities. The review primarily focused on evaluation of recent repairs to the facilities, remaining life of the equipment, and potential large capital cost requirements to identify key risks or fatal flaws.

Due Diligence | Confidential Client

Northeast | 2016

Mr. Kopp served as the project manager for a due diligence evaluation of a coal fired power generating facility that was being offered for sale. The client was considering acquiring an equity stake in the facility. The evaluation included a technical, environmental, and contractual review of the facilities. The review primarily focused on evaluation of the condition of the equipment and facilities, upgrades required to comply with environmental regulations, and other major capital or O&M projects to identify key risks or fatal flaws.

Due Diligence | Confidential Client

Northeast | 2016

Mr. Kopp served as the project manager for a due diligence evaluation of a combined cycle generating facility under development. The client was considering acquiring an equity stake in the facility. The evaluation included a technical, environmental, and contractual review of the natural gas fired generation facility. The review primarily focused on evaluation of the project costs, schedule, permitting, and other development activities to determine any development risks or fatal flaws.

Due Diligence | Confidential Client

Northeast | 2016

Mr. Kopp served as the project manager for a due diligence evaluation of a combined cycle generating facility under development. The client was considering acquiring an equity stake in the facility. The evaluation included a technical, environmental, and contractual review of the natural gas fired generation facility. The review primarily focused on evaluation of the project costs, schedule, permitting, EPC contract, equipment contracts, and other development activities to determine any development risks or fatal flaws.

Due Diligence | Confidential Client

Southwest | 2016

Mr. Kopp served as the project manager for a due diligence evaluation of a natural gas fired combined cycle power generating facility that was being offered for sale. The client was considering acquiring an equity stake in the facility. The evaluation included a technical, environmental, and contractual review of the facility. The review primarily focused on evaluation of the condition of the equipment, sufficiency of contractual arrangements, and environmental compliance to identify key risks or fatal flaws.

Due Diligence | Perennial Power

New Jersey | 2016

Mr. Kopp served as the project manager for a due diligence evaluation of a natural gas fired 2x1 Siemens SGT6-5000F combined cycle power generating facility that was being offered for sale. The client was considering acquiring an equity stake in the facility. The evaluation included a technical, environmental, and contractual review of the facility. The review primarily focused on evaluation of the condition of the equipment, sufficiency of contractual arrangements, and environmental compliance to identify key risks or fatal flaws. Perennial Power ended up investing in the project.



JEFFREY T. KOPP, PE

(continued)

Due Diligence | Confidential Client

Northeast | 2016

Mr. Kopp served as the project manager for a due diligence evaluation of a natural gas fired combined cycle power generating facility that was being offered for sale. The client was considering acquiring an equity stake in the facility. The evaluation included a technical, environmental, and contractual review of the facility. The review primarily focused on evaluation of the condition of the equipment, sufficiency of contractual arrangements, design issues surrounding recent plant performance challenges, and environmental compliance to identify key risks or fatal flaws.

Useful Life Assessment | Confidential Client

Southeast | 2015

Mr. Kopp served as the Burns & McDonnell project manager on a useful life assessment for a combined cycle power plant for a confidential client. The evaluation was performed to determine the anticipated life of the facility to support financing of the project associated with acquisition of the facility.

Due Diligence | Confidential Client

Northeast | 2015

Mr. Kopp served as the project manager for a due diligence evaluation of a combined cycle generating facility under development. The client was considering acquiring an equity stake in the facility. The evaluation included a technical, environmental, and contractual review of the natural gas fired generation facility. The review primarily focused on evaluation of the project costs, schedule, permitting, and other development activities to determine whether the project was economically attractive and determine any development risks or fatal flaws.

Coal Plant Layup | Hoosier Energy

Indiana | 2014

Mr. Kopp served as the Burns & McDonnell project manager on the preparation of a plan to place a coal fired generating facility in long term layup reserve status. The project included preparation of three manuals for the implementation of the layup plan, maintaining the plant during the layup period, and reactivating the plant at the end of the layup period.

Due Diligence | Confidential Client

Midwest | 2014

Mr. Kopp served as the project manager for a due diligence evaluation of a combined cycle generating facility under development. The client was considering acquiring an equity stake in the facility. The evaluation included a technical, environmental, and contractual review of the natural gas fired generation facility. The review primarily focused on evaluation of the project costs, schedule, permitting, and other development activities to determine whether the project was economically attractive and determine any development risks or fatal flaws.

Due Diligence | Duke Energy

Florida | 2014

Mr. Kopp served as the project manager for a due diligence evaluation of the Osprey Energy Center combined cycle generating facility being offered for sale. Duke Energy was considering acquiring the facility from the current owner. The evaluation included a technical, environmental, and contractual review of the natural gas fired generation facility. Duke





JEFFREY T. KOPP, PE (continued)

successfully acquired the facility and utilized the Independent Engineer's Report prepared by Burns & McDonnell to support the regulatory process through acquisition of the facility.

Due Diligence | Confidential Client

Southeast | 2014

Mr. Kopp served as the project manager for a due diligence evaluation of a cogeneration facility being offered for sale. The client was considering acquiring the facility from the current owner. The evaluation included a technical, environmental, and contractual review of the natural gas fired generation facility, including a review of potential modifications to the facility due to the loss of the steam host and associated costs.

Due Diligence | Indiana Municipal Power Agency

Indiana | 2014

Mr. Kopp served as the project manager for a due diligence evaluation of a coal-fired generating facility being offered for sale. The client was considering acquiring the assets from the current owner. The evaluation included a technical, environmental, and contractual review of the coal fired generation facility.

Due Diligence | Kansas Municipal Power Agency

Missouri | 2014

Mr. Kopp served as the project manager for a due diligence evaluation of a combined cycle generating facility being offered for sale. The client was considering acquiring an equity stake in the facility. The evaluation included a technical, environmental, and contractual review of the natural gas fired generation facility.

Due Diligence Evaluation | Tyr Energy

Florida | 2011

Mr. Kopp served as the Burns & McDonnell project manager on a due diligence evaluation of a biomass power generating facility under development by American Renewables. The client was considering an equity investment in the facility. The evaluation included a 100 MW bubbling fluidized bed boiler and steam turbine.

Biomass Plant Site Selection Study | Confidential Client

Texas | 2010

Mr. Kopp served as the project manager for a Site Selection Study for a Biomass project to be located in Texas. The project included ranking of candidate sites to determine a preferred site for development of a 20 MW biomass power generating facility.

Due Diligence Evaluation | Tyr Energy

Multiple Locations | 2010

Mr. Kopp served as the Burns & McDonnell project manager on a due diligence evaluation for several natural gas-fired facilities being offered for sale by Tenaska. The client was considering an equity investment in the facilities. The evaluation included four combined cycle facilities and one simple cycle facility.



Engineering Lead

Sandro, a dual citizen of the US and Italy, has 35+ years of experience in project development, thermal cycle analysis, feasibility studies, conceptual designs, and coordination and implementation of projects. He has worked in the fossil, nuclear and alternate fuel power generation fields. He has developed open cycle, combined cycle, cogeneration and other small, medium and large power plants. He has demonstrated his abilities and adaptation to the diverse and unique requirements of the power generation industry in the United States and foreign countries. In addition to technical analysis and project development, Sandro has experience in equipment selection, cost and budget preparation and schedule development for proper phasing and implementation of various project elements, and in business development, financial analyses and justification of capital and operating budgets.

EDUCATION

- AB, Engineering and Applied Sciences
- ► MS, Mechanical Engineering
- ▶ MBA, International Business

REGISTRATIONS

Project Management Professional

4 YEARS WITH BURNS & MCDONNELL

36 YEARS OF EXPERIENCE

Sandro has the background, skills and experience to work with developers, utilities and construction companies to help them execute successful projects from conceptual design through final testing, acceptance and continued performance analysis. In addition to project work, Sandro can provide management consulting, overview and advisory roles for agencies, banks, municipals, cooperatives, and corporations contemplating, planning and evaluating new plants or major upgrades to existing plant systems.

Drains Verification and Documentation | Duke Energy

Gibson, Indiana | 2016

Project Manager Identification and verification of all plant drains to confirm location of ultimate drainage and update their documentation for a coal-fired power plant.

Feasibility and Bid Development | Confidential Client

Arlington, Arizona | 2016

Project Manager Feasibility study and bid data development for a confidential client proposing to build a new multi-unit reciprocating engine plant to provide power under a request for proposals from Arizona Public Service.

Black Point Combined Cycle | CLP

Hong Kong | 2015-2016

Lead Engineer Owner's Engineers assignment on the mechanical and electrical scope of a new single shaft combined cycle plant in Southeast Asia, based on an H class gas turbine.

Engineering Level Estimate | NRG Energy

Waukegan, Illinois | 2015-2016

Project Manager Development of an engineering level estimate for the upgrades recommended by the Turbine Water Injection Prevention study at a coal-fired power plant.





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Rochester Reciprocating Engine Plant | RPU

Rochester, Minnesota | 2015 *Lead Technical Consultant* for the development of a 50 MW reciprocating engine power plant.

Preliminary Engineering and Specifications | APS

Yuma, Arizona | 2015

Project Manager Preliminary engineering and preparation of specifications for procurement of a reciprocating engine microgrid plant to be built at a military base.

Transient Pressure Control Studies | NRG Energy

Midwest and Northeast US | 2015

Project Manager Analysis and recommended upgrades for safe Transient Pressure Control after the proposed conversion to natural gas firing of six coal fired plants.

Winterization of Aeroderivative Gas Turbines | NRG Energy

Aurora, Illinois | 2015

Project Manager Engineering for the winterization of two aero-derivative gas turbines, by adding inlet heating and protective equipment.

Operating Issues Resolution | WEC

Wisconsin | 2014

Project Manager Analysis and recommended solutions to resolve operating issues with pumps and demineralizers at two coal fired plants.

Turbine Water Injection Prevention Studies | NRG Energy

Midwest | 2014

Project Manager Turbine Water Injection Prevention studies at four coal-fired power plants, assisting our Client in the assessment and prevention of turbine water injection risks at all their units.

Pollution Prevention Equipment | Nicor

Ancona, Illinois | 2014

Project Manager Installation of new pollution prevention equipment, including thermal oxidizers and reboilers, at the natural gas storage facilities of a major Illinois gas company.

HRSG Assessment | MCV

Midland, Michigan | 2013-2014

Project Manager High level assessment of the HRSGs of a large cogeneration power plant in Michigan.





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Cold Reserve Bid | Sempra

Peru | 2013

Project Manager Owner's Engineer assignment, helping our Client evaluate EPC and equipment bids in view of preparing a proposal to develop a 500 MW simple cycle plant with two gas turbine burning diesel fuel, to be converted later into a natural gas fueled combined cycle plant.

Stillwater Energy Center | SUA

Stillwater Oklahoma | 2013

Proposal Manager/Engine Procurement Manager for a new 55 MW reciprocating engine power plant.

EPC Contract Scope Book | Sempra

Mejillones, Chile | 2012-2013

Project Manager Owner's Engineer assignment, preparing the EPC Contract Scope Book on a Build Own Operate Maintain proposal for a 2 on 1, 520 MW combined cycle dual fuel power plant intended to deliver electricity under contract to mining operations in Northern Chile. Burns & McDonnell reviewed all technical documentation, cost estimates and schedule prepared by the designated EPC Contractor, and made recommendations to the Consortium owners to improve their technical and operational suitability and cost effectiveness.

Comprehensive Generation Options Study | Confidential Client

Missouri | 2012

Task Manager Combined cycle component of a comprehensive study of environmental and generation options at all locations of a US Midwest integrated utility. Burns & McDonnell specified scope, estimated costs, and developed schedules for several dozen different generation and emissions control options. Personally responsible for developing the basic design and scope for a new 600 MW, 2 on 1 combined cycle plant at one site and conversion of two existing gas turbines to combined cycle at another site, for an additional 200 MW.

Queen Elizabeth Power Station Expansion | SaskPower

Saskatoon, Canada | 2012

Lead Mechanical Engineer during the proposal phase for the expansion and conversion to a 6 on 1 combined cycle of an existing 3 simple cycle gas turbines in Canada, adding about 200 MW of generation to the generating plant. The new equipment is tightly integrated into the existing multiple technology power plant, in particular water supply via river intake and wastewater disposal.

ConocoPhillips Sweeny Cogeneration Plant | ConocoPhillips

Sweeny, Texas | 2011-2012

Project Manager Director of Operations for the Sweeny Cogeneration plant, consisting of 4 Westinghouse 501D5A gas turbines with associated heat recovery steam generators. Responsible for development, procurement, and initial implementation of a new major maintenance strategy via Long Term Service Agreement or similar contract.



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ConocoPhillips Immingham CHP Phase 2 | ConocoPhillips

Immingham, United Kingdom | 2006-2010

Project Manager for the 420 MW Phase 2 expansion of the Immingham combined heat and power plant (ICHP) next to the ConocoPhillips Humber refinery in the UK. This \$400 million plus project achieved commercial operation in December 2009, and added a third cogeneration train at a cost 10% less than budgeted, with no disruption in operation to the existing 730 MW Phase 1 plant and to the two adjacent refineries that depend on its uninterrupted steam supply.

Engineering Manager for the ICHP Phase 2 project. Responsibilities included development of design basis and specifications, and selection of standards; review and approval of specifications and detailed engineering; resolution of technical issues; monitoring of quality of work; maintaining documentation and records; and technical assessment of change orders.

ConocoPhillips Immingham CHP Phase 1 | ConocoPhillips

Immingham, United Kingdom | 2005

Interim Commissioning/Startup Manager for the ICHP Phase 1 project. Executed tie-ins and managed preparations for the plant performance testing, of power, heat rate, emissions, and noise.

Site Mechanical Engineer/Special Projects Manager during execution of Phase 1 of the ICHP plant. Carried out high-voltage grounding study and cooling tower water supply redesign.

DuPont Sabine River Works Combined Cycle Cogeneration Plant | Conoco

Orange, Texas | 1998-2001

Project Engineer/Site Engineer for the 421 MW Sabine River Works combined cycle cogeneration plant in Orange, Texas, from EPC contractor selection to mechanical completion in September 2001. Sandro's special assignments included: negotiating the complete technical and commercial terms of the EPC Contract for the electrical inter-tie; technical oversight of the Interconnect Agreement with the utility; managing the engineering assessment of the utilization of existing pipe and raceway supports for new piping and cables; maintaining the owner's punchlist; and overseeing the turnover process and packages.

DuPont Dordrecht Cogeneration Plant | Conoco

Dordrecht, the Netherlands | March 1998

Technical Manager for the development and execution in Dordrecht, the Netherlands, of a 40 MW cogeneration plant based on an aero-derivative gas turbine, completed in March 1998.

DuPont European Cogeneration Projects | Conoco

Europe | 1998

Technical Project Manager for the creation and implementation during 1998 of an alliance with a world-class engineering and construction firm, in view of completing several dozen cogeneration projects in Europe with a total value approaching \$1 billion.





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Ansaldo N.A

Burlington, Canada | 1996 *Project Engineer, BD & Marketing* Established and ran for one year the Ansaldo Sales Office in Canada.

New Providence, New Jersey | 1993-1996

Project Engineer, BD & Marketing Prepared project technical and economic feasibility studies and development plans, including development of preliminary plant configurations (heat balances, major equipment selection and capital budgets); and elaboration of pre-construction technical and financial data. Identified and pursued market opportunities for EPC services and equipment for fossil, biomass, MSW, hydro, and wind generation.

TransPLEX, Inc.

No. Stonington, Connecticut | 1990-1992

Principal Provided technical and managerial solutions, planning advice, evaluation for regulatory compliance, and execution support to electric utilities with plant life and license extension programs.

Kamine Development Corp.

Union, New Jersey | 1988-1990

Project Mechanical Engineer Predicted plant performance and projected costs and revenues. Reviewed proposed mechanical systems and equipment. Developed physical data and managed application for environmental permits. Supervised plant performance testing.

Proto-Power Corp.

Groton, Connecticut | 1984-1988

Mechanical Engineer Designed, modified, and specified plant mechanical systems. In particular, developed thermal, and hydraulic computer models to identify problems and verify solutions and assessed safety and regulatory implications of nuclear power plant physical and documentary changes.





DEAN HUFF, PE

Boiler Specialist

Dean is a senior power plant mechanical engineer with 39 years' experience working on the study, design, construction, startup, commissioning, and performance testing of large steam-electric and combustion turbine power stations. Since joining Burns & McDonnell in 2001, he has focused on coal-fired plant studies and lead design assignments for coal-fired plants. He has prepared studies for various clients analyzing the advantages and disadvantages of pulverized coal, CFB, supercritical, and subcritical boilers. The studies have included the analysis of the impact of fuel properties (coal, pet coke, lignite, biomass, etc.), fuel conversions, emission controls, current and projected fuel costs, relative O&M costs, and other Owner specific factors.

EDUCATION

► BS, Mechanical Engineering

REGISTRATIONS

Professional Engineer (KS)

1 YEARS WITH BURNS & MCDONNELL

40 YEARS OF EXPERIENCE

The following provides a summary of recent applicable experience:

Long Phu Coal-fired Project, PetroVietnam

Long Phu, Vietnam | 2015 - Present

Lead engineer and technical consultant for a 2 x 600MW supercritical coal-fired generation station. The project site is approximately 150 km southwest of Ho Chi Minh City in Vietnam. Responsibilities include the review of critical and power island design documents for Kuljian Corporation. The design documents to be reviewed included the design basis for the PC fired supercritical boiler, steam turbine generators, power island equipment, precipitator, and flue gas desulfurization equipment, heat balances, and auxiliary power development.

Four Corners Power Plant | Arizona Public Service Co.

Fruitland, NM | 2014-Present

Lead Mechanical Engineer. Mechanical Engineer (boiler specialist) for replacement of Unit 5 supercritical boiler components. Responsibilities include purchase and install specifications for partial replacement of the economizer, horizontal reheater, stringer tubes, and air heater baskets.

Ottumwa Generating Station | Alliant Energy

Ottumwa, IA | 2011-2015

Lead Mechanical Engineer. Mechanical Engineer (boiler specialist) for Alliant Energy's Comprehensive Asset Management Program (CAMP) projects at Ottumwa Generating Station. Responsibilities include specifications for replacement of the existing economizer, superheat division panels and lower slope tubes; study to determine the benefit of adding variable frequency drives to the condensate pumps and cooling tower fans; and a study to determine the capability of the existing air preheat coils to maintain the required air heater gas outlet temperature for the new dry scrubber at low loads and low ambient temperatures.

Taean Thermal Power Plant Units 9 & 10 | KOWEPO

Taean-Gun, Korea | 2011-2015

Lead Mechanical Engineer. Lead Mechanical Engineer for 2 x 1025 MW supercritical units each consisting of one supercritical pulverized coal boiler firing subbituminous coal feeding to one (1) steam turbine. The project consists of





DEAN HUFF, PE

(continued)

Owners Engineer technical advisory services for major design decisions and review of technical design. Work includes feasibility studies, process design, specifications, boiler and turbine bid evaluation assistance, training of KOWEPO personnel boiler and turbine bid evaluation assistance and advisory services during design, construction, start-up and commissioning.

Sam Cheok Green Power Units 1&2 | KOSPO/KOPEC

Sam Cheok City, Korea | 2010-2015

Lead Mechanical Engineer. Lead Mechanical Engineer for 2 x 1000 MW supercritical units each consisting of two (2) CFB boilers firing subbituminous coal feeding to one (1) turbine located in Sam Cheok City, Korea. The project consists of Owners Engineer technical advisory services for major design decisions and review of technical design. Work includes feasibility studies, process design, specifications, boiler and turbine bid evaluation assistance and advisory services during design, construction, start-up and commissioning.

Long Phu Coal-fired Project, PetroVietnam

Long Phu, Vietnam | 2010 - 2014

Lead engineer for a 2 x 600MW supercritical coal-fired generation station. The project site is approximately 150 km southwest of Ho Chi Minh City in Vietnam. Responsibilities included the development of the power island EPC bid documents for Kuljian Corporation. The power island documents included the PC fired supercritical boilers, steam turbine generators, power island equipment, precipitator, and flue gas desulfurization equipment.

Advanced Lignite Generation Technologies Assessment | Lignite Energy Council

North Dakota | 2009

Project Manager. Project Manager for a study to address the impact of physical and chemical characteristics of North Dakota lignite on various solid fuel conversion technologies. The study evaluated the plant performance, capital cost estimate, operational and maintenance costs, NOx reduction technologies, busbar costs, and operating characteristics for pulverized coal, fluidized bed, gasification and oxycombustion technologies.

Oak Grove Units 1 and 2 | Luminant (Formerly TXU Power)

Texas | 2009-2010

Lead Mechanical Engineer. The project consists of two 860 MW Supercritical Pulverized Coal Units, firing Texas lignite. Scope included development, evaluation, and negotiation of the EPC specification, review of EPC design, review of performance test procedure, observing the third party testing, and review and acceptance of the test report and results.

Prairie State Energy Center | Prairie State Generating Company

Illinois | 2003 - 2009

Lead Mechanical Engineer. The project consists of two 800 MW supercritical pulverized coal fired units (high sulfur and high ash bituminous), each consisting of a boiler, SCR, wet scrubber, dry electrostatic precipitator, wet electrostatic precipitator, and one steam turbine. Owner engineer responsibilities include development, evaluation, and negotiation of the EPC specification and major Owner supplied equipment contracts (AQCS, boiler, steam turbine), technical review of the contractor's design, compliance with the EPC specification and code requirements.



DEAN HUFF, PE

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Seminole Generating Station Unit | Seminole Electric Coop.

Seminole, FL | 2006-2007

Project Mechanical Engineer. Project mechanical engineer for SECI, Seminole Generating Station Unit 3 Feasibility Study. The study addressed the feasibility of adding a third unit at the site, unit size determination, unit technology evaluation (subcritical vs. supercritical), the impact of up to 40% pet coke firing, contracting options, contract list with scope descriptions, basic design criteria, preliminary system descriptions, P&ID's, Level 2 schedule, cost estimate, cash flow, and risk assessment. In addition, specifications were prepared and bids received and evaluated for the steam turbine and boiler.

Council Bluffs Unit 4 | MidAmerican Energy Company

Council Bluffs, IA | 2003 - 2004

Lead Mechanical Engineer. Lead mechanical engineer for MidAmerican Energy Company, Council Bluffs Unit 4. The project consists of a 790 MW supercritical coal plant firing Powder River Basin coal and is located at their Council Bluffs Energy Center site. Owner Engineer responsibilities included negotiations with the EPC Contractor, technical review of the contractor's design, compliance with the EPC specification and code requirements, review performance test procedure and observe the field testing.

Trimble County Unit 2 Feasibility Study | LG&E

Trimble County, KY | 2002

Project Mechanical Engineer. Project mechanical engineer for LG&E, Trimble County Unit 2 Feasibility Study. The study addressed the feasibility of adding a second coal-fired unit at the Trimble site, unit size determination, unit technology evaluation (subcritical vs. supercritical), contracting options, contract list with scope descriptions, basic design criteria, preliminary system descriptions, P&ID's, Level 2 schedule, cost estimate, cash flow, and risk assessment.

Papers:

"Supercritical and Ultra-Supercritical Boilers -- How High Is Too High," Power-Gen Asia 2013

"Choice of Coal VS Boiler Design," Asian SBC Users' Group Presentation 2013

"Supercritical and Ultra-Supercritical Boilers -- How High Is Too High," Power-Gen Asia 2011 (Best Paper Award)

"Merits of Supercritical Steam Generation," Power-Gen 2002

"Should There Be a CFB In Your Future?," Power-Gen 2002

*denotes experience prior to joining Burns & McDonnell





CHRIS HOWELL

Environmental Lead

Chris is a Project Manager, the Environmental Services Generation Lead, and the Burns & McDonnell Noise Lead. He manages the overall environmental permitting and licensing of complex facilities, with a specialty in air and noise analyses. Chris leads an experienced team of permitting specialists who conduct feasibility studies and assist clients with regulatory compliance and/or mitigation efforts. Chris's clients range from generation, transmission and distribution, to transporation and other industries. Many of Chris's projects require public involvement and/or

EDUCATION

BS, Mechanical Engineering

4 YEARS WITH BURNS & MCDONNELL

15 YEARS OF EXPERIENCE

interaction with regulatory agencies and expert testimony. Chris is an Associate at Burns & McDonnell.

Due Diligence | Confidential Client

NY, PA, and RI | 2016

Environmental Lead. Chris completed environmental due diligence efforts for three TransCanada facilities in the northeast US. Chris helped the client evaluate existing compliance with permitting requirements and assisted in cost estimating for achieving compliance with future regulations as well as plant expansion.

Due Diligence | Confidential Client

Maryland | 2015

Environmental Lead. Chris completed environmental due diligence efforts for the Keys Energy Center owned by Genesis Power. Chris helped the client evaluate existing compliance with permitting requirements and assisted in cost estimating for achieving compliance.

Due Diligence | Confidential Client

Alabama | 2015

Environmental Lead. Chris completed environmental due diligence efforts for the Hog Bayou Energy Center owned by LS Power. Chris helped the client evaluate existing compliance with permitting requirements and assisted in cost estimating for achieving compliance.

Due Diligence | Confidential Client

CT, IL, KY, and VA | 2015

Environmental Lead. Chris completed environmental due diligence efforts for the Doswell Energy Center in Ashalnd, VA; the University Park North and South Energy Centers in University Park, IL; the Riverside Generating Station in Zelda, KY; and the Wallingford Energy Center in Wallingford, CT. All facilities were owned by LS Power Equity Advisors. Chris helped the client evaluate existing compliance with permitting requirements and assisted in cost estimating for achieving compliance.

Oregon Clean Energy Center Due Diligence | I Squared Capital Advisors

Oregon Township, OH | 2014

Environmental Lead. Chris completed environmental due diligence efforts for the Oregon Clean Energy Center being developed by North American Project Development, LLC. Chris helped the client evaluate existing compliance with permitting requirements and assisted in cost estimating for achieving compliance.





CHRIS HOWELL

(continued)

Osprey Energy Center Due Diligence | Duke Energy

St. Petersburg, FL | 2014

Environmental Lead. Chris completed environmental due diligence efforts for the Osprey Energy Center owned by Calpine. Chris helped the client evaluate existing compliance with permitting requirements and assisted in cost estimating for achieving compliance.

River Mills Generating Station | Tenaska

Putnam, CT | 2016

Project manager. Chris managed the overall environmental permitting and studies required for permitting an 800-MW, natural gas-fired power plant. Some of Chris's responsibilities included conducting Connecticut Siting Council meetings, CSC and interested party/public interaction, PSD permitting, noise studies, threatened and endangered species studies, wetlands permitting, archaeological surveys, and alternatives analyses among others. The project is currently shelved due to financial constraints in the ISO-NE generation market.

Fox Energy Center 3 | Wisconsin Public Service

Outagamie County, WI | 2014 - 2015

Assistant Project Manager. Chris is assisting with the overall environmental permitting and studies required for permitting a 450-MW, natural gas-fired power plant. Some of Chris's responsibilities include preliminary Public Service Commission document preparation, PSC and interested party/public interaction, PSD permitting, AERMOD modeling, noise studies (CadnaA), threatened and endangered species studies, wetlands permitting, archaeological surveys, and alternatives analyses among others. The project was ultimately canceled due to WPS being purchased.

Warren County Power Station | Dominion Virginia Power

Warren County, VA | 2010 – Current

Environmental Lead. Chris completed due diligence efforts for the EPC of a 3-on-1 G-class facility. The diligence efforts included impacts predictions, detailed design improvements, mitigation design, and general guidance for compliance with local permitting requirements and cost estimating. He also assisted with presentations to the client.

Multiple Sites | Confidential

CA, IL, IN, MA, MD, NJ, and NY | 2011 - Current

Environmental Lead. Chris has completed and is currently completing due diligence for EPC efforts on various combinations of natural gas-fired combustion turbine power plants at various sites. Chris helps the design engineers determine what packages and specifications are needed to comply with local permitting requirements and assists in cost estimating. There is a considerable amount of interaction with various equipment vendors to ensure that the delivered products are realistic and reliable, and also with the clients to ensure they get a product they want.



Burns & McDonnell will provide Gainesville Regional Utilities (GRU) with a due diligence evaluation (the Project) of the biomass-fired Gainesville Renewable Energy Center, currently in operation. The objective of the Due Diligence review is to provide GRU with sufficient information to allow for a fully-informed decision regarding an investment in the facility. The results of the assessment will be a report which summarizes the findings of the following tasks.

TASK 1 - SITE VISIT & DATA REVIEW

Burns & McDonnell will visit the Project to assess the overall condition of the equipment and facilities, and to review the suitability of the site to accommodate the operation of the Project.

- Condition assessment of existing generation equipment and associated facilities including buildings, tanks, and electrical interconnection.
- Conduct interviews with Project staff, as permitted, to ascertain the operations and maintenance practices and history.
- Adequacy and condition of off-site facilities for interconnection to electric system, water, water disposal, fuel supply, and ash disposal.
- Site ingress and egress.

Burns & McDonnell will review available project data on-site or on the data website to facilitate its evaluation of the following areas.

TASK 2 - REVIEW PROJECT DESIGN AND PERFORMANCE

Review the technical design of the Project for consistency with generally accepted industry standards.

- Review the site layout, and the mechanical and electrical layouts for operations and maintenance access.
- ▶ Review major process cycles, mass and energy balances and flow diagrams.
- Review projected power output and heat rates. Confirm the expected performance of the Project is achievable.
- ▶ Review the proposed plan for major maintenance activities.
- Review and discuss the commercial operating history of the major equipment that is installed, including the boiler and steam turbine.
- ▶ Review the water supply and treatment, and wastewater disposal systems and treatment plans.
- Review the ash handling systems and ash disposal plans.
- Conduct a limited review and assessment the Project Engineering, Construction and Procurement (EPC) contract including acceptance testing results.

TASK 3 - HISTORICAL AND PROSPECTIVE OPERATIONS EVALUATION

Burns & McDonnell will review and summarize historical operations of the units and provide guidance with respect to expected future performance including:

• Review current staffing levels at the plant and identify any reasonable opportunities to improve reliability and operations, or lower operating costs based on the projected capacity factor of the Plant going forward.



Scope of Services for Asset Due Diligence Evaluation

(continued)

- Operations and maintenance practices will be reviewed and discussed with key plant staff. Preventative and predictive maintenance practices will also be discussed.
- Review dispatch and capacity factor
- Review number of outages and starts
- Review historical and projected power output and heat rates. Provide an opinion on whether the expected performance is achievable.
- Provide an opinion on whether any opportunities exist to improve the Plant performance.
- Review emissions performance
- Review O&M budget history and projections and plant staffing and provide an opinion on their reasonableness. If projections are not provided or do not appear reasonable, Burns & McDonnell will provide a projection of future O&M costs taking into account the projected capacity factor of the Plant going forward.
- Review maintenance outage reports, forced outage causes/actions, major issues/failures, and operating reports and identify areas of concern and major issues
- Review major maintenance plans, schedule, and cost projections and provide an opinion on their reasonableness

Based on its review of design parameters and historical operations, Burns & McDonnell will assist Client in developing planning estimates of heat rate, performance, and operating costs that can be used by Client for financial analyses and valuation.

TASK 4 - STAFFING AND OPERATIONS REVIEW

Burns & McDonnell will review current staffing levels at the plant and identify any reasonable opportunities to improve reliability and operations, or lower operating costs. Operations and maintenance practices will be reviewed and discussed with key plant staff. Preventative and predictive maintenance practices will also be discussed.

TASK 5 - EVALUATION OF ALTERNATIVE OPERATING SCENARIOS

Burns & McDonnell will assist client in developing operating parameters for several potential future alternative operating scenarios. Based on its evaluation of these scenarios, Burns & McDonnell will assist Client in developing screening level estimates of heat rate, performance, and operating costs that can be used by Client for financial analyses and valuation of these options. The scenarios to be evaluated include:

- Operating profile remains similar to the current operating profile.
 - The Plant will be staffed to integrate with GRU staff

- o The Plant would be dispatched based on economic dispatch when required
- Burns & McDonnell to assist client in developing Fixed O&M, Variable O&M, Capital Expenditures, and performance characteristics based on the results of Task 3.
- > Plant is placed in long-term layup status with the ability to be restored to service at a later date
 - Burns & McDonnell will develop a screening level cost estimate for placing the Plant in long-term layup and for maintaining the Plant during the layup period. Plant staffing will be minimized during the layup period. The estimate will include screening level costs for O&M throughout the layup period and the cost to bring the Plant back online at the end of the layup period.



(continued)

- Plant modifications implemented to allow the Plant to turn down to 25 MW. The Plant would be integrated into the GRU dispatch as a Deer Haven Unit 1 gas plant substitute.
 - Burns & McDonnell will develop screening level costs for modifications required to allow the Plant to turn down to 25MW. In addition, Burns & McDonnell will develop screening level performance characteristics, including heat rate and ramp rate for turning the unit down to 25MW.
- Unit is decommissioned & salvaged
 - Burns & McDonnell will develop a screening level cost estimate for decommissioning, demolition, and
 restoration of the plant and site. The estimate will include summary level cost information for structural
 demolition and other major decommissioning cost obligations, such as environmental remediation and pond
 closures. This cost estimate will assist with identifying the decommissioning cost liability associated with
 permanently retiring the Plant.

TASK 6 - REVIEW OF KEY CONTRACTS/AGREEMENTS

Review the commercial and operating requirements of the following other key Project contracts/agreements relative to industry standards, and to identify any risk factors related to the future operation of the Project.

- Power Sales or Tolling Agreement
- Fuel Supply Agreement
- Fuel Transportation Agreement
- Water Supply and/or Water Discharge Agreement
- Interconnection Agreement

TASK 7 - REVIEW ENVIRONMENTAL PERMITS & COMPLIANCE

Burns & McDonnell will conduct a review of key construction and operating permits/approvals to ensure the Project has secured all necessary permits for operation and is in compliance with applicable permit requirements with regard to the following major categories:

- Air emissions
- Water supply and discharge
- Zoning and local restrictions (noise, etc)
- ► Site clearances (T&E, cultural, wetlands, etc)

Burns & McDonnell will assess whether any of the environmental permits include constraints that may limit the Project's capabilities in the future.



(continued)

TASK 8 - REGULATORY RISK REVIEW

Burns & McDonnell will review the current equipment and facilities installed at the site and evaluate the potential impacts of pending legislation on the project, including the following:

- Identify current, new or proposed environmental regulations that are expected to impact the units under consideration
- Define expected regulatory time schedules and compliance dates
- Develop pollutants affected and expected emission limitations based on defined regulations
- Develop pollution controls required to meet emission limits and high level capital/O&M costs for compliance of defined regulations
- Define a potential schedule for development (including permitting) and construction for pollution controls, as anticipated to be necessary

This task will be limited to a review of potential impacts from the following proposed regulations:

- ▶ National Ambient Air Quality Standards (NAAQS) for SO₂, NO_x, ozone, and PM
- National Emissions Standards for Hazardous Air Pollutants (NESHAPs) for power plants
- Permitting issues including NPDES, solid waste and air permits
- Greenhouse gases
- ▶ New Source Performance Standards (NSPS)/ New Source Review implications
- Water discharge regulations
- Clean Water Act Section 316a and 316b

TASK 9 - PREPARE REPORT AND FINDINGS

- Burns & McDonnell will prepare a Report detailing the findings of its reviews and studies.
- During the course of our review, Burns & McDonnell will bring to attention any area of risk that is discovered as a result of our review and propose any options that may minimize or eliminate the risks under consideration.

SCHEDULE

Burns & McDonnell is prepared to begin work on the project immediately, and proposes the following schedule based on input from GRU.

TASKS	PROPOSED DATE
Project Award & Kick-off	May 29, 2017
Site Visit	Week of June 5, 2017
Draft Report	June 23, 2017
Final Report	June 30, 2017

The above referenced schedule assumes that documents are available for review starting on May 29th, when the project kicks off. Delays in project data availability may impact the schedule.



Scope of Services for Asset Due Diligence Evaluation

(continued)

PRICE

Burns & McDonnell proposes to complete this work on a time and expenses basis, with a not-to-exceed price of \$70,000. For time spent by personnel, payment at the hourly rates indicated in the attached "Schedule of Hourly Professional Service Billing Rates." For expenses incurred by Burns & McDonnell, such as authorized travel and subsistence, including airfare, food, lodging, automobile rental, commercial services, and incidental expenses, the cost to Burns & McDonnell plus ten percent (10%). The price for this scope will not be exceeded without prior authorization from GRU. The budget includes the scope of work through completion of the final report. Additional effort spent beyond the final report will be billed on a time and expenses basis. To the extent that data availability is limited, the scope of work and deliverables may be reduced from the tasks outlined above, in which case Burns & McDonnell would invoice for hours and expenses incurred for the reduced scope.



Schedule of Hourly Professional Service Billing Rates

Position Classification	Classification Level	Hourly Billing Rate
General Office *	5	\$65.00
Technician *	6	83.00
Assistant *	7 8 9	96.00 128.00 154.00
Staff *	10 11	175.00 191.00
Senior	12 13	209.00 234.00
Associate	14 15 16 17	243.00 255.00 258.00 266.00

NOTES:

- 1. Position classifications listed above refer to the firm's internal classification system for employee compensation. For example, "Associate", "Senior", etc., refer to such positions as "Associate Engineer", "Senior Architect", etc.
- 2. For any nonexempt personnel in positions marked with an asterisk (*), overtime will be billed at 1.5 times the hourly labor billing rates shown.
- 3. Project time spent by corporate officers will be billed at the Level 17 rate plus 25 percent.
- 4. For outside expenses incurred by Burns & McDonnell, such as authorized travel and subsistence, and for services rendered by others such as subcontractors, the client shall pay the cost to Burns & McDonnell plus 10%.
- 5. A technology charge of \$9.95 per labor hour will be billed for normal computer usage, computer aided drafting (CAD) long distance telephone, fax, photocopy and mail services. Specialty items (such as web and video conferencing) are not included in the technology charge.
- 6. Monthly invoices will be submitted for payment covering services and expenses during the preceding month. Invoices are due upon receipt. A late payment charge of 1.5% per month will be added to all amounts not paid within 30 days of the invoice date.
- 7. The services of contract/agency and/or any personnel of a Burns & McDonnell subsidiary or affiliate shall be billed to Owner according to the rate sheet as if such personnel is a direct employee of Burns & McDonnell.
- 8. The rates shown above are effective for services through December 31, 2017, and are subject to revision thereafter.



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