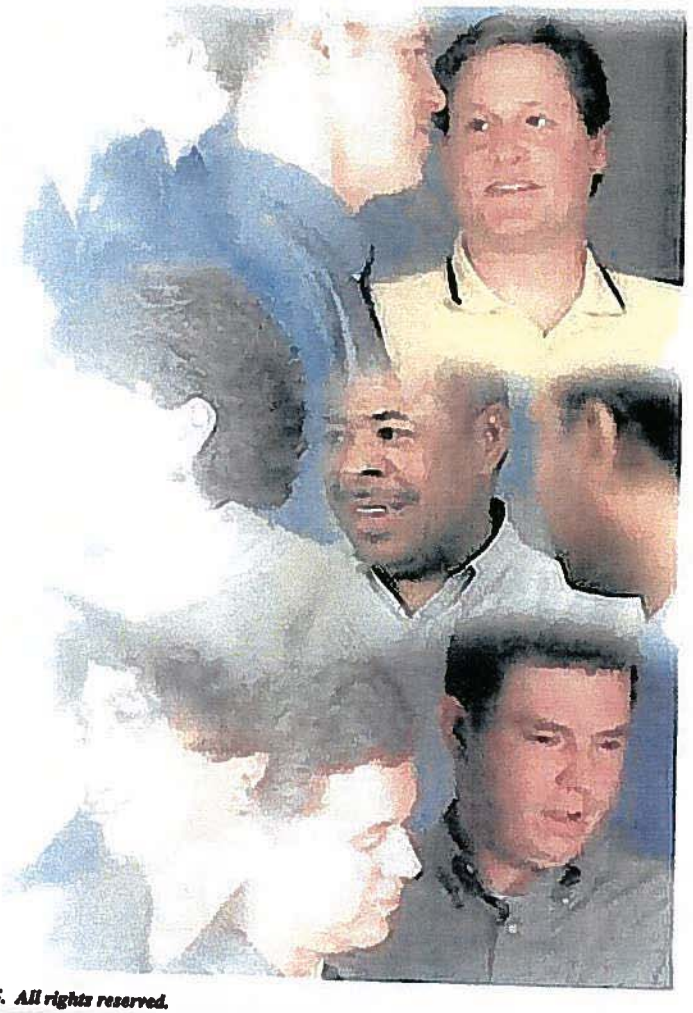
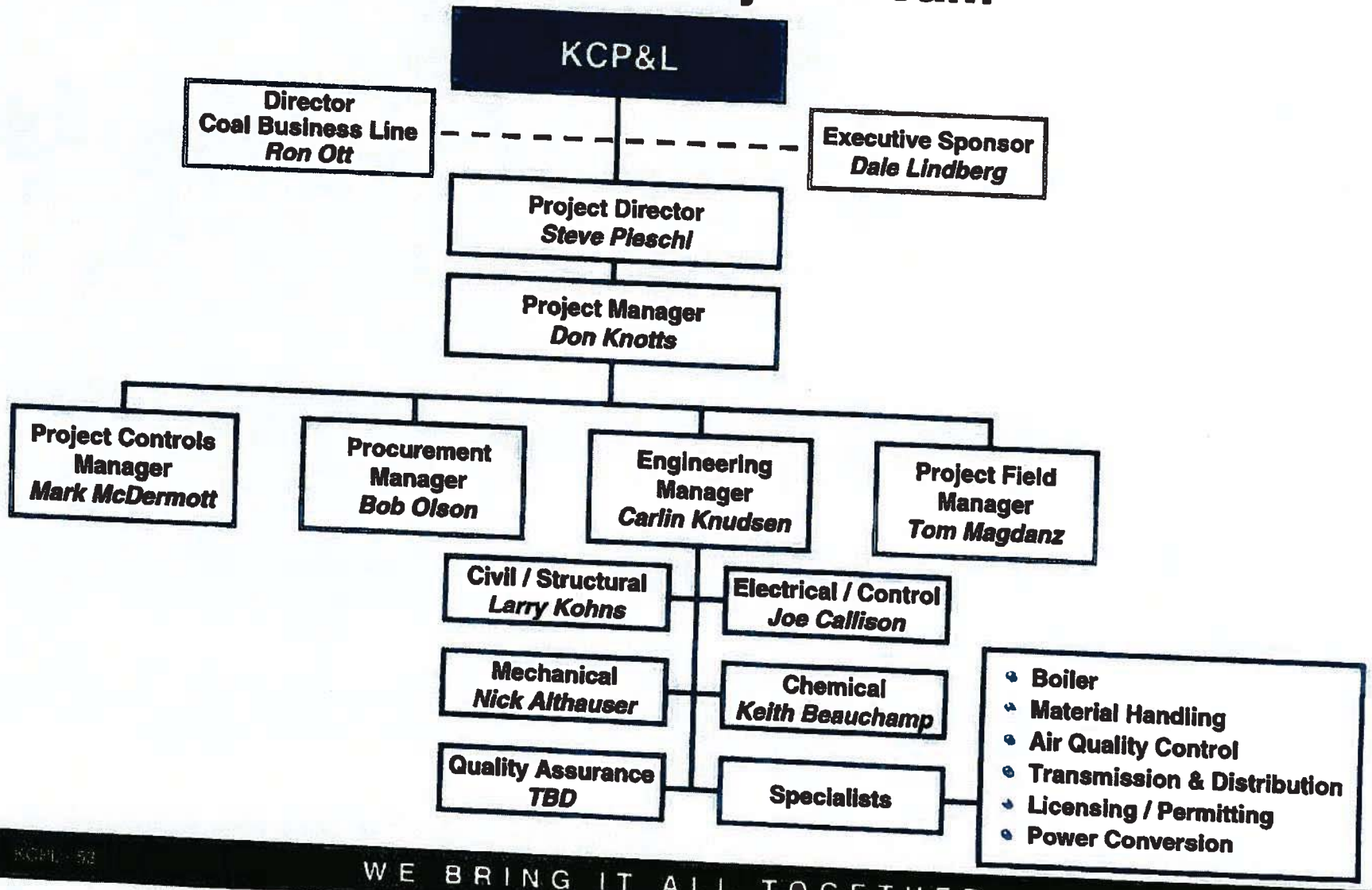
Our Team



Iatan 2 Expansion Project Team

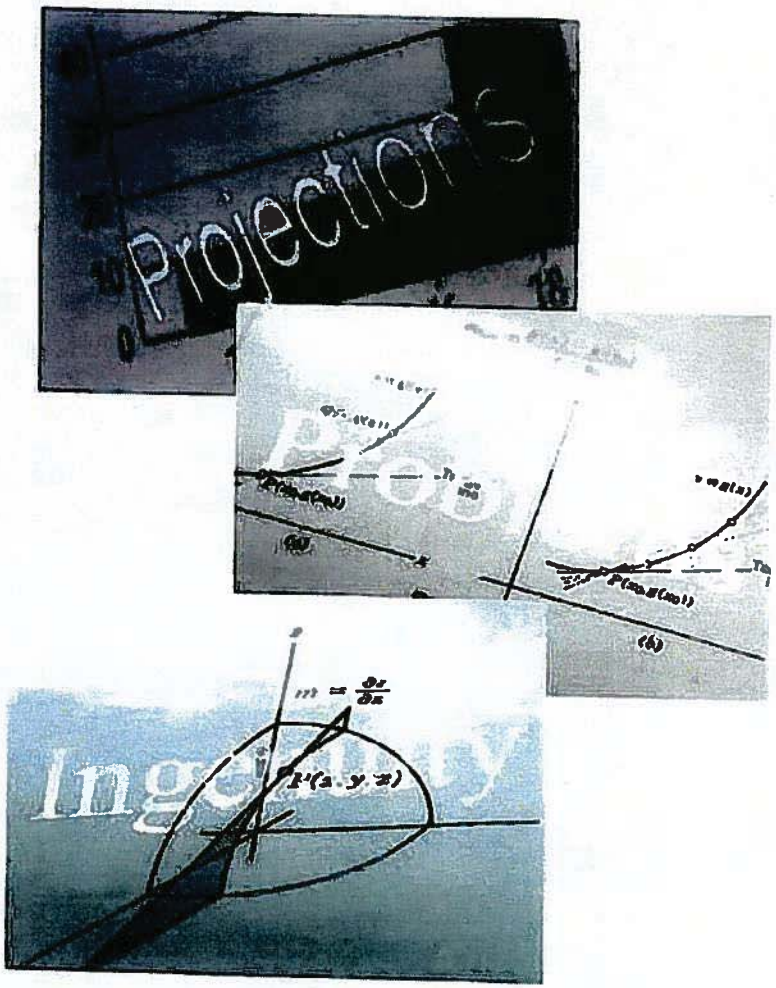


WE BRING IT ALL TOGETHER

We Have an Experienced Team and Are Available

- Average Years of Experience – 28
- Average Years at Black & Veatch – 28
- All Have Recent Detailed Design Experience for a Coal Unit
- Five Lead Positions Coming Off Recent Weston 4 Supercritical Coal Project
- EPC as Well as Engineer and Overseas Work (Brings Breadth of Experience in Project Execution)

Team Available for Iatan 2 Expansion Assignment and All Key Positions Dedicated to This Project



Our Approach

Coal Project Contracting Execution Approaches

Usually Require a Phased Approach

Phase 1
Owner's Engineer
With or Without Permitting

- Conceptual Design
- Schedule – Level II or Level III
- Cost Estimate
- Permitting
- Project Execution Plan
- Possibly Initial Procurements

Phase 2
Project Execution

- Detailed Design
- Procurement
- Construction
- Startup

Can Lead to or Result in Project Execution E Only, Ep, EpCM, EPC, Alternative EPC

Alternative Contracting Execution Plans

- Traditional Multiple Contracts
  - 20 to 100 Contracts for Engineering, Equipment, Construction Management, and Construction
- Traditional EPC
  - Complete Turnkey Single Contract
- Alternative EPC
  - Open Book / Target Priced EPC
    - Single Turnkey Contract With Owner Participation
  - EPC Islands
    - Multiple Turnkey Contracts
  - Balance-of-Plant EPC
    - Major OEM Furnish Contracts With Owner
    - BOP From Single EPC Contractor
  - Furnish and Erect Packages With BOP EPC
    - Major OEMs F&E Contracts With Owner
    - BOP From Single EPC Contractor

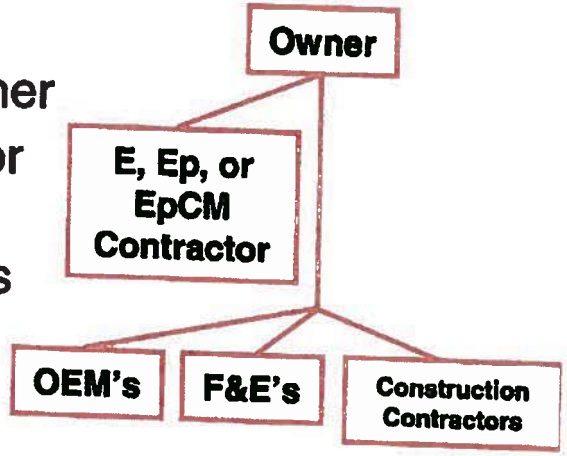
Traditional Multiple Contracts Approach

Pros:

- More Owner Involvement / Control of Design and Schedule
- Selection of Best Preferred or Optimized Equipment and Designs
- Opportunity for Lowest Cost
- Early Scope Definition Less Critical
- E, Ep, or EpCM Contractor Can Be Incentivized and Share in Project Risks
- Utilization of Local Contractors More Likely

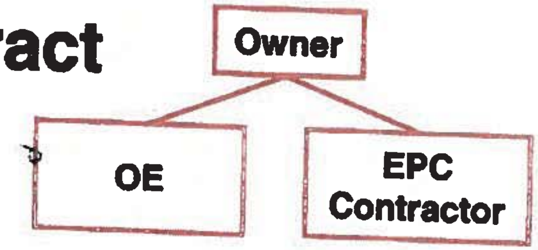
Cons:

- More Risk for Owner
- Higher Potential for Scope and Performance Gaps
- Delayed Price Certainty Point
- More Owner Staff Required



Example Projects: WPS Weston 4, Xcel King, Cross Unit 3, EKPC Gilbert 3 (Mixed)

Traditional EPC – Single Contract



Pros:

- Risk Assumed and Managed by EPC Contractor
- Earlier Price Certainty
- Less Potential Scope Gaps
- Single Entity to Deal With
- Reduced Owner Staff Requirements

Example Projects:
Springerville, CB 4, NC 2, Spruce 2, Dallman 4, AECI

Cons:

- Critical Importance of Early Scope Definition
- Separate OE Contract Required
- Potential Capital Cost Premium for Undefined Scope and Risk
- Less Owner Control / Involvement
- Limited Number of Qualified (Technical and Financial Strength) Potential Bidders

Alternative EPC
Open Book / Target Priced EPC

Pros:

- Risk Is Shared and Goals Aligned Between Owner and Contractor
- Separate Phase I OE Contract Not Required (Optional)
- Owner Decision Involvement / Control Throughout Open Book Phase
- Reduced Owner Staff Requirements
- Early Definition Less Critical
- Promotes Team Approach Between Owner and Contractor
- Proven Success Driving Down Costs, Meeting Schedules
- Minimizes Contractor Risk Premiums
- Book Can Be Closed at Any Time (Optional)

Cons:

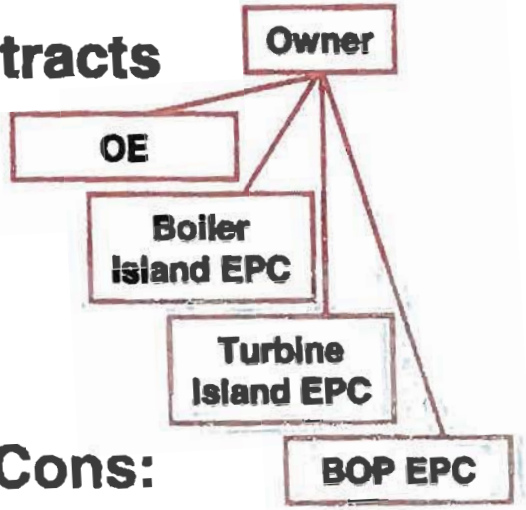
- Price Certainty Later (But Target Established Early)
- Contractor Shares % of Savings on Open Book Phases (Optional)
- Risk Is Shared on Open Book Phases (Optional)

Example Projects: DP&L SCR's and FGD's, Vectren SCR's, Newmont, Trimble County, CLECO

Alternative EPC
Typical Open Book / Target Priced EPC Process

- Owner Selects and Negotiates With Preferred EPC Contractor
- Or Contractor Selection Based on Qualifications and Indicative Estimate
- MOU Executed
  - Plan to Set Target Pricing
  - Scope During Phase I / LNTP Defined
- Perform Phase I / LNTP Activities
  - Preliminary Conceptual Design
  - Schedule – Level III
  - Geotech Study
  - Equipment and Performance Verification
- Set Target Price(s) Including:
  - Allowances
  - Contingencies
  - Incentives
- EPC Contract Executed
- Update Costs As:
  - Initial Procurements Awarded
  - Commodity and Quantities Defined
  - Vendor and Subcontractor Prices Identified
- Open Book Phase Line Item Savings / Risk Shared With Contractor
- Close the Book (Optional)

Alternative EPC
EPC Islands – Multiple Turnkey Contracts



Divide Project Into Two, Three, or More EPC Islands

Pros:

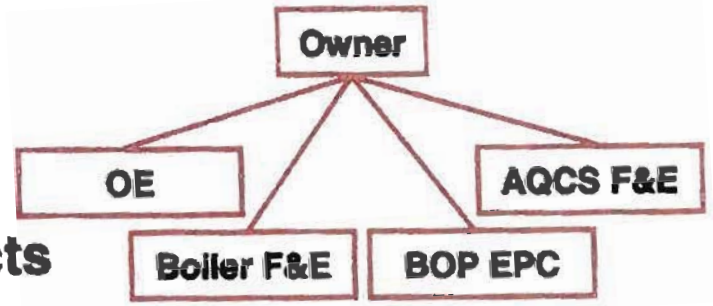
- Contractor's Risk Reduced
- More Qualified Potential Bidders
- OEM's More Likely to Bid as a Prime
- Reduced Owner Staff

Example Projects: Asian Projects, Tanjung Jati B

Cons:

- Increased Owners Risk
- Package Interface Definition Critical
- Package Scope Definition Critical
- Separate OE Contract Required
- Increased Potential of Scope Gaps
- OEM's More Likely to Bid as a Prime
- Three or More Engineers Involved

Alternative EPC
F&E Major OEM Packages and BOP EPC



- Major OEM F-Only or F&E Contracts
- BOP From Single EPC Contractor

Pros:

- Owner Involvement in Selection of Major OEM Equipment
- Reduced Owners Staff

Example Projects: Xcel Comanche

Cons:

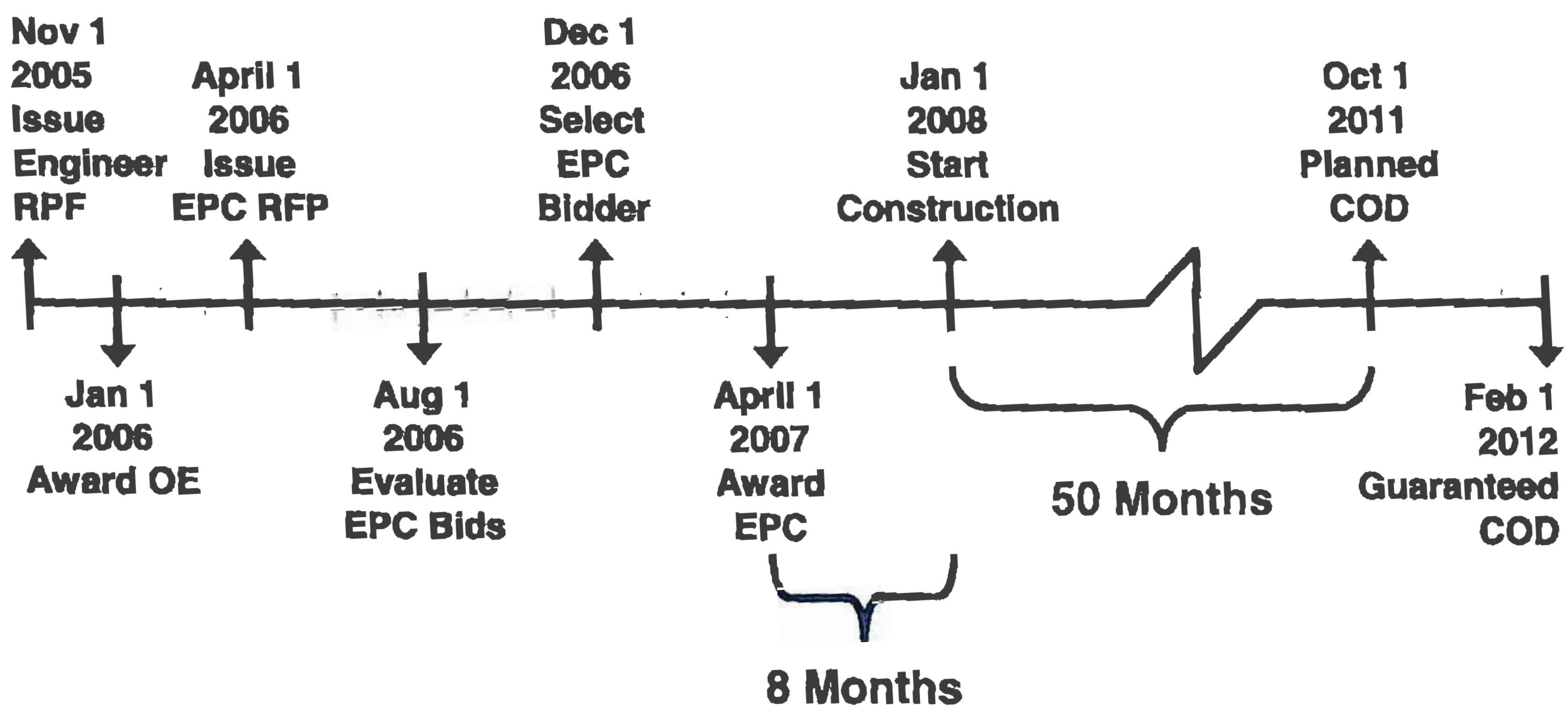
- More Risk for Owner
- OEM's Bidding Construction
- Higher Potential for Scope Gaps
- Delayed Price Certainty
- Package Interface and Scope Definitions Critical
- Separate OE Contract Required

Four Execution Approaches Previously Discussed for Iatan Unit 2 Expansion

- Competitively Bid EPC
- Traditional Multi-Contract (80-100+ Contracts)
- Traditional Multi-Contract (~10 Contracts)
- BOP EPC With F&E Major OEM Packages

Schedule Issues

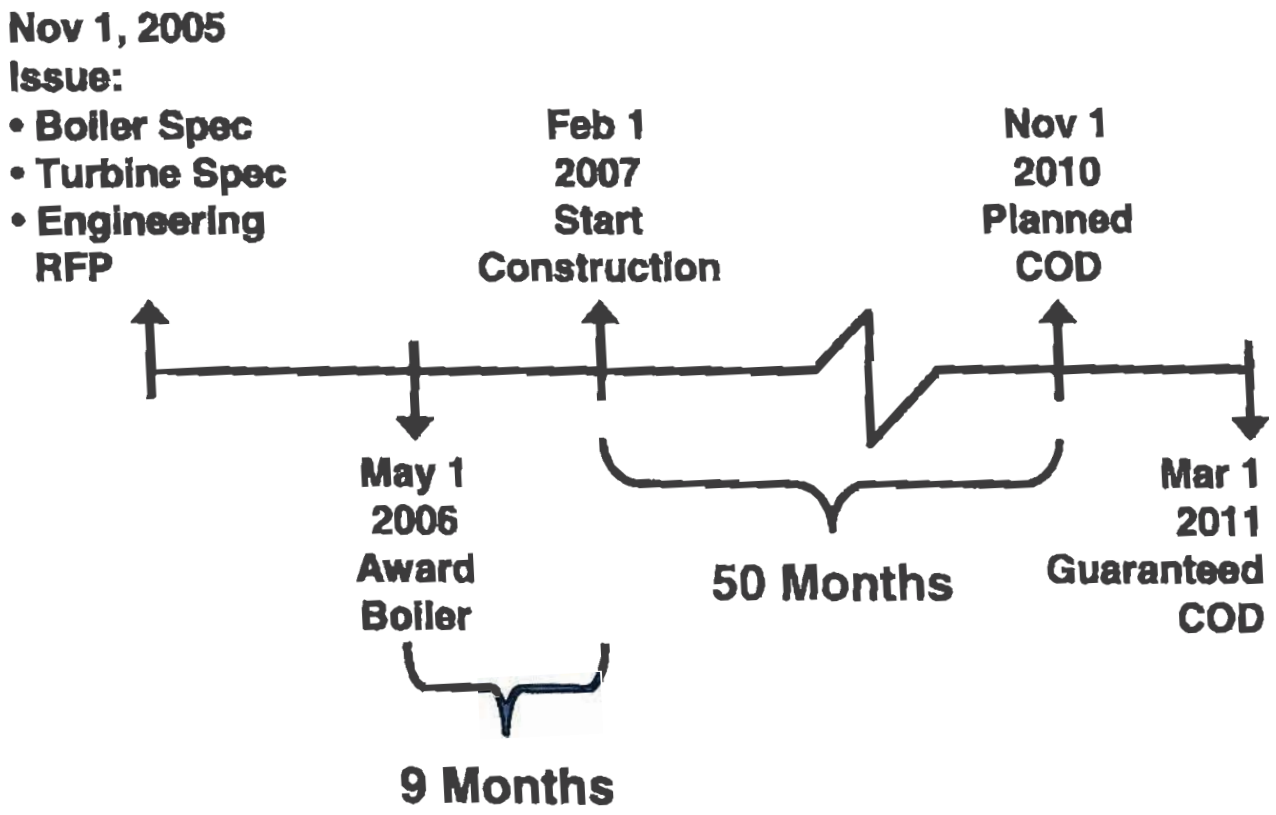
Competitively Bid EPC
(Previously Discussed)



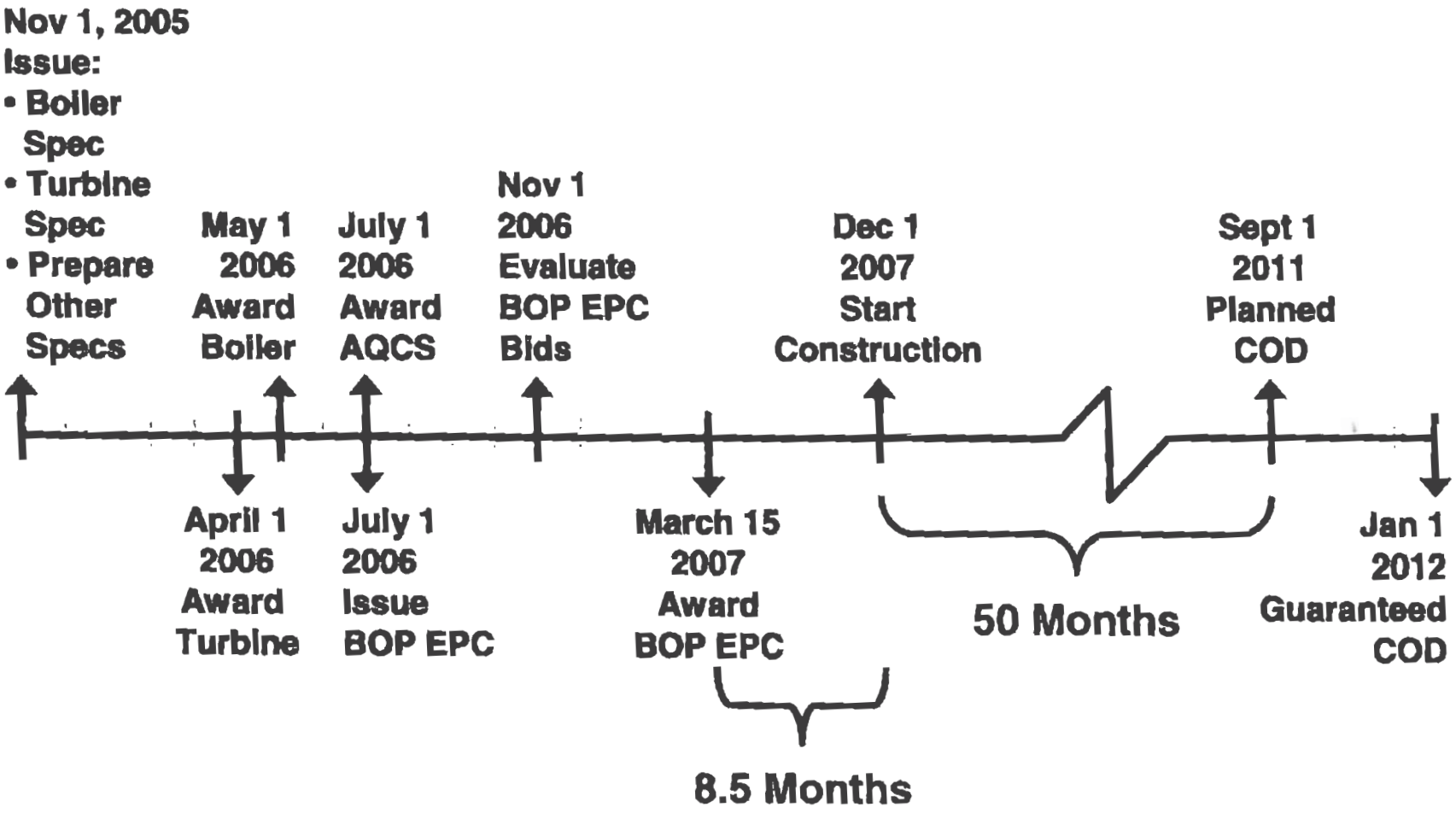
WE BRING IT ALL TOGETHER

Traditional Multi-Contract

(Previously Discussed)



BOP EPC With F&E (5 to 10) Major OEM Packages
(Previously Discussed)



Iatan 2 Expansion Schedule Considerations

December 1, 2005 to June 1, 2010

54 Months

start of const

Market Schedules

- WPSC Weston Unit 4 – 45 Months to Owner's COD (60 Months From Engineer's Release)
- OPPD NC Unit 2 – 48 Months to Guaranteed COD
- CPS Spruce Unit 2 – 49 Months to Guaranteed COD (750 MW)
- CWLP Dallman Unit 4 – 53 Months to Guaranteed COD (small unit)
- Mid American CB4 (KBV Bid) – 57 Months to Guaranteed COD (770 MW SC)

44 months actual const time.

Proposed Iatan 2 Expansion Approaches

We See Two Options to Reduce Schedule

- Multiple Contracts – B&V EpCM Scope
- Negotiated Alternative EPC – KBV (Kiewit & B&V)

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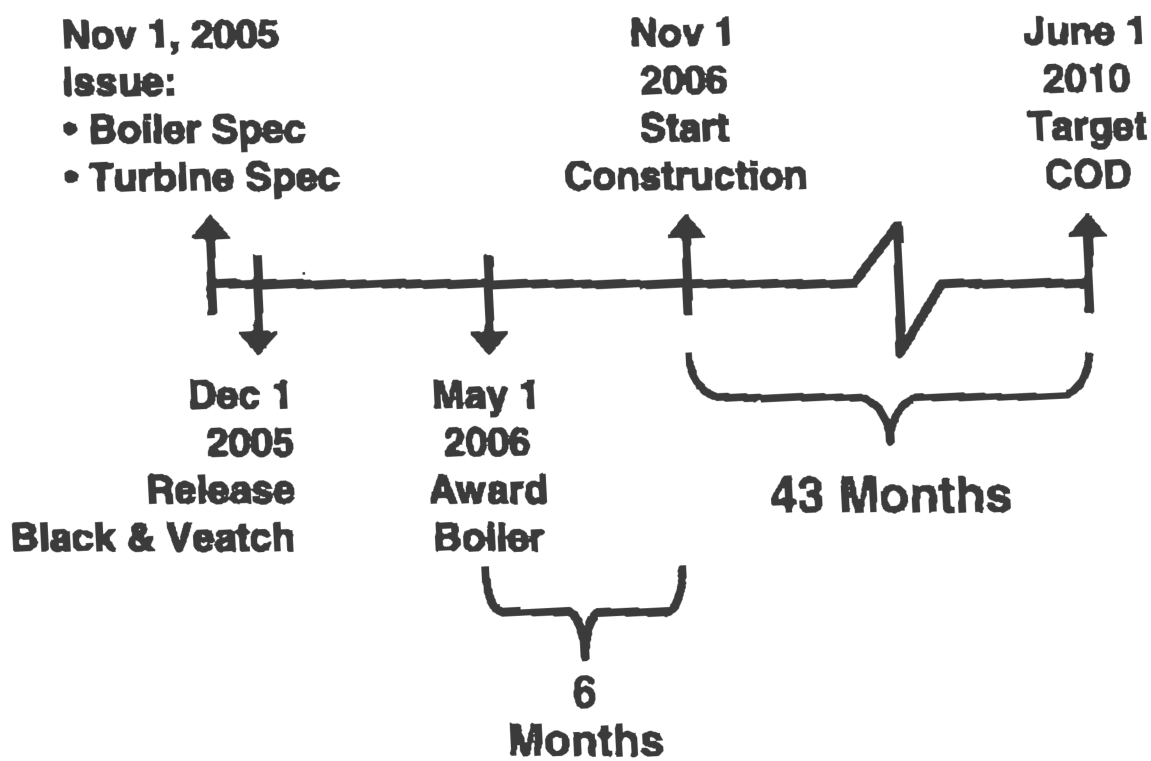
Iatan 2 Expansion Multiple Contracts – B&V EpCM Scope

or Ep only same schedule



Iatan 1 AQCS Part of These Contracts

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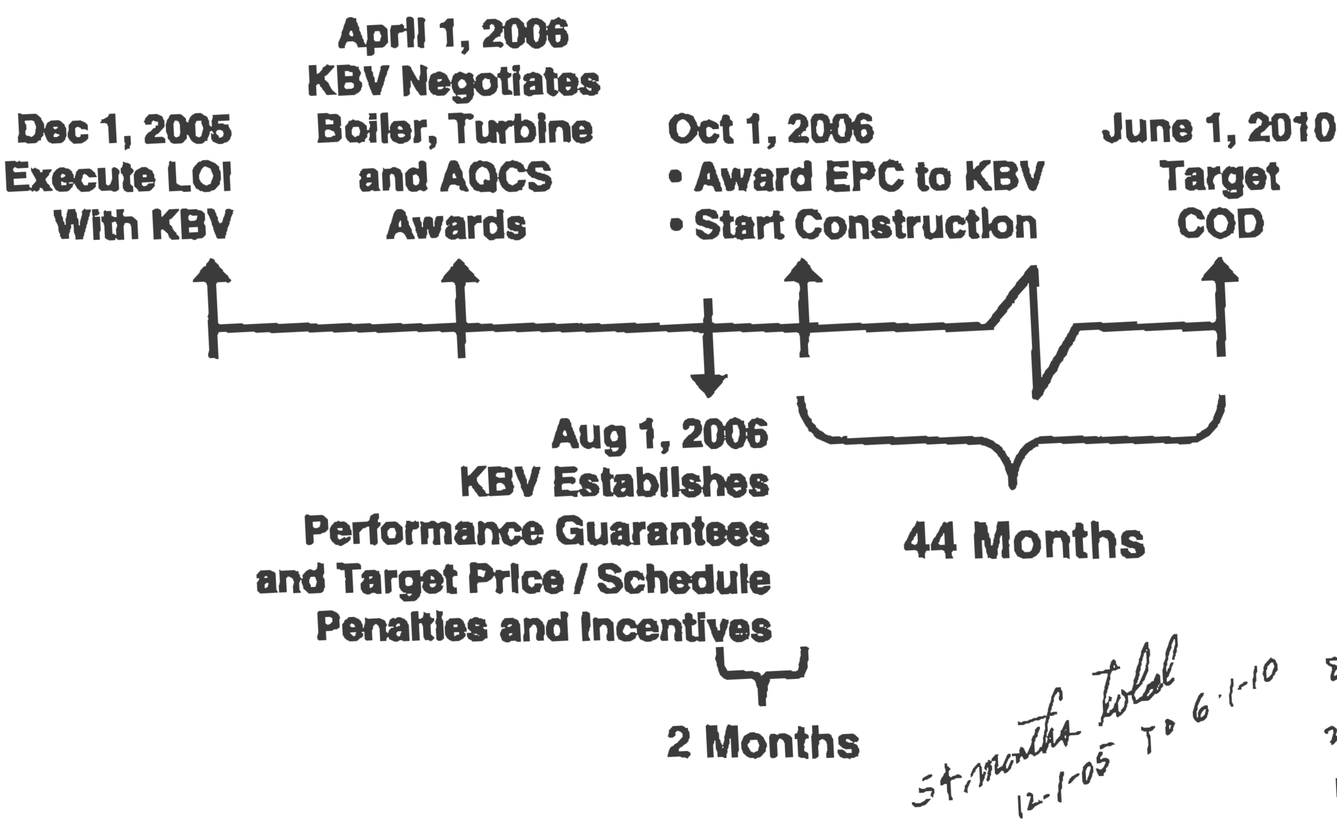
Iatan 2 Expansion Negotiated Alternative EPC – KBV



850
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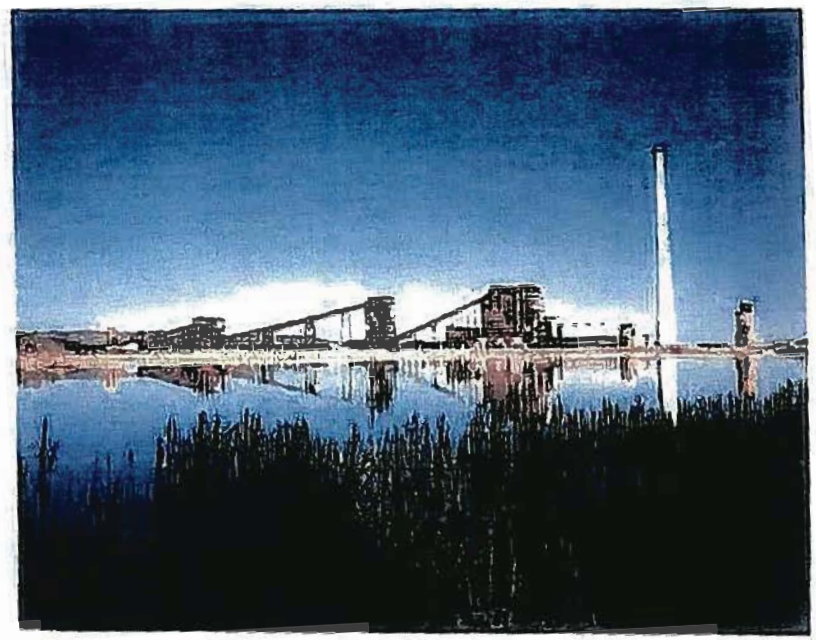
850
1,105,000,000
+ Iatan 2

Iatan 1 AQCS Contracted at Same Time



Factors for Success

Successful Projects

- On Time
- On Budget
- Meets Owner's Expectations for Quality / Performance
- Meet Safety Goals
- Strengthened Team Relationships
- Minimize Impact on Environment
- Brings Value to Shareholders and Ratepayers

Factors for Success

- Realistic Expectations
- Open Communication
- Understanding Goals and Vision
- Selection of Qualified and Experienced Partners

Wrap-Up

Summary

- Black & Veatch Is Committed to KCP&L and Making the Iatan 2 Expansion Project a Success
- The Black & Veatch **Value Added** Gives KCP&L the Best Chance for a 6/1/2010 COD


World Class Coal Teams
Delivering World Class Projects
Iatan 2 Expansion
WE BRING IT ALL TOGETHER

RONALD J. OTT

Senior Vice President and Project Director Coal Business Line Director Energy Division

Project Management

Education
Masters, Mechanical Engineering, University of Missouri at Columbia, 1971
Bachelors, Mechanical Engineering, University of Missouri at Columbia, 1971

Professional Registration
1975 PE Missouri
1978 PE Florida
1983 PE Nevada
1987 PE Connecticut
1989 PE Iowa
1993 PE Michigan

Total Years Experience
34

Joined B&V
1971

Professional Associations
American Society of Mechanical Engineers
Missouri Society of Professional Engineers
National Society of Professional Engineers

Language Capabilities
English

Ronald J. Ott is a Senior Vice President and Project Director, and the Coal Business Line Director of the Energy Division of the Black & Veatch. As the Coal Business Line Director his responsibilities include the oversight of all coal project proposals, and overall project management of the commercial and design aspects of all Black & Veatch coal projects. As a Senior Project Director he is responsible for the supervision and overall project management of specific projects for assigned clients.

Representative Project Experience

Weston Unit 4; Wisconsin Public Service Company; Wisconsin
2003-Present
Project Director. Project Director for this 530 MW supercritical coal fired (PC) project.

Key West, Stock Island SC and Ft. Pierce CC; FMPA; Florida
2003-Present
Project Director. Project Director for this SC and CC project, and Project Executive for FMPA gas and oil projects and GSA.

Hastings Unit 2; Hasting Utilities; Nebraska
2002-Present
Project Director. Project Director for Phase 1 development work for this 220 MW subcritical coal fired (PC) project.

Coyote Springs; Mirant; California
2002-2003
Project Director. Project Director for this combined cycle project. B&V scope was completion of construction and startup.

Various Projects; Clients; and Locations
2001-Present
Coal Business Line Director. Supervision and overall management of Black & Veatch coal program.

Contra-Costa; Mirant; California
2001-Present
Project Director. Project Director for this combined cycle EPC project. Project currently in suspension.

Tanjung Jati B; Sumitomo Corp / PLN; Indonesia
2001-2002
Project Director. Project Director for this two by 660 MW coal fired (PC) EPC subcritical project. B&V scope was boiler and AQCS islands.

Desert Basin, Frederickson Power, Rio Nogales, Osceola; Reliant, Frederickson Power, Constellation, Reliant; Arizona, Washington, Texas, Florida
2001-2004
Project Director. Project Director for these combined cycle EPC projects.

San Juan Station, Unit 5; Public Service Company of New Mexico; New Mexico
2001
Project Director. Project Director for Phase I development work for this 500 MW subcritical coal fired (PC) project.

Two 750 MW Coal Fired Plants, Client and Location Confidential
2001
Project Director. Phase I permitting support, conceptual design, and procurement activities associated with two 750 MW coal fired plants.

Batesville Generation Facility, LSP / NRG, Batesville, Mississippi
1998-2001
Project Executive. BVZ Power Partners (Black & Veatch-Zachry JV). EPC contract for a three unit 837 MW net combined cycle plant with Westinghouse 501F combustion turbine generators and ABB steam turbine generators.

Mangalore Thermal Power Plant, Cogentrix / China L&P, India
1996-1998
Consortium Director. Consortium Project Director for the DB Riley, Inc., GEC Alsthom, and TBV Power EPC Consortium. Four 253 MW coal fired units. Black & Veatch project development work suspended in 1998 due to approval delays.

Pagbilao Power Station, CEPA / Hopewell, Philippines
1992 – 1996
Project Manager / PIC. Participated in EPC contract negotiations. Supervised the scheduling, project administration, cost estimating, design, procurement, and overall project management of BVI EPC scope for the two 368 MW coal fired pulverized coal units in the Philippines.

Cypress Energy; Cypress Energy Partners (NRG & B&V); Florida
1992
Project Manager. Supervised preliminary design work to support permitting and licensing efforts for Cypress Energy project. Two 420 MW pulverized coal plants in Florida.

Council Bluffs Station Unit 3; Iowa Power and Light; Iowa
1990-1991
Project Manager. Supervised the study of feedwater heater drain problems.

Council Bluffs Station Unit 1 and 2; Iowa Power and Light; Iowa
1990-1991
Project Manager. Supervised the design of soot blower modifications.

Barbers Point, AES, Hawaii
1989-1992
Project Manager. Supervised the scheduling, project administration, permitting, cost estimating, design, procurement, and contract administration for the cogeneration plant, a 180 MW unit with two circulating fluidizing bed (CFB) steam generators and one 1,000°F / 1,000°F reheat turbine.

Council Bluffs Station Unit 1 and 3; Iowa Power and Light; Iowa
1987-1989
Project Manager. Supervised the design of fire protection and fire water supply system modifications.

Applied Energy Services, Florida, Hawaii, Rhode Island
1987-1989
Project Manager. Supervised the preparation of proposals, preliminary design, and permitting design work for multiple projects which are based on the use of CFB boilers. Participated in EPC contract negotiations.

Anclote Units 1 and 2; Florida Power Corporation; Florida
1986
Engineering Manager. Supervised the preparation of a compressed air systems study.

Bartow Unit 3; Florida Power Corporation; Florida
1986
Engineering Manager. Supervised the preparation of an extraction steam line evaluation report.

Council Bluffs Station Unit 3; Iowa Power and Light; Iowa
1986
Engineering Manager. Supervised the investigation and preparation of a report on the coal dust explosion.

Thames Cogeneration Plant; Applied Energy Services; Connecticut
1985-1990
Engineering Manager. Supervised the preliminary design, permitting design work, and detailed designs associated with the cogeneration plant, a 180 MW unit with two circulating fluidized bed (CFB) steam generators and one 1,000°F / 1000°F reheat turbine.

Anclote Units 2; Florida Power Corporation; Florida
1985-1986
Engineering Manager. Supervised the design work associated with the igniter upgrade project.

Council Bluffs Station Units 1 and 2; Iowa Power and Light; Iowa
1985-1986
Engineering Manager. Supervised the design work associated with the control systems and water induction upgrade project.

Mt. Storm Units 1 and 2; Virginia Electric Power Company; Virginia
1985-1986
Engineering Manager. Supervised the design work associated with the water induction upgrade project and instrument air system modification project.

Anclote Units 1 and 2; Florida Power Corporation; Florida
1985
Engineering Manager. Supervised the design work associated with the boiler void pressurization system addition project.

Anclote Units 1 and 2; Florida Power Corporation; Florida
1985
Engineering Manager. Supervised the design work associated with the air preheat system addition project.

Crystal River Units 4 and 5; Florida Power Corporation; Florida
1985
Engineering Manager. Supervised the preparation of a boiler feedwater system evaluation.

Bartow Unit 3 and Anclote Units 1 and 2, FPC, Florida
1984 – 1986
Engineering Manager. Supervised the design work associated with several plant upgrade projects.

Anclote Units 1 and 2; Florida Power Corporation; Florida
1984-1985
Project Engineer. Participated in the mechanical systems preparation of unit upgrade and cycling studies.

White Pine Power Project; Nevada
1984-1985
Project Engineer Mechanical. Participated in the Phase I preliminary design of two 750 Mw electric generating units.

Portsmouth Station; Virginia Electric Power Company; Virginia
1984-1985
Engineering Manager. Supervised the preparation of operating and maintenance procedures for a water making facility (demineralizer) and ash handling systems.

Council Bluffs Station Units 1 and 2; Iowa Power and Light; Iowa
1984
Project Engineer Mechanical. Supervised the preparation of a study on the upgrade and modernization of control systems, water induction, and cycling features.

Chesterfield Unit 3; Virginia Electric Power Company; Virginia
1984
Project Engineer Mechanical. Supervised the mechanical design work associated with the soot blower upgrade project. The project involved the removal of existing blowers, piping system modifications, and the installation of a new control system.

Council Bluffs Station Units 1, 2 and 3, Iowa Power and Light, Iowa
1983 – 1984
Project Engineer Mechanical. Prepared a study on the HP feedwater waters. This study reviewed tube failure data on the existing heaters, evaluated repair or replacement of the heaters, and evaluated methods of heater removal and replacement. Supervised the preparation of mechanical calculations, heater and construction specifications, and detailed construction drawings for the purchase and installation of new heaters.

Chesterfield Unit 3; Virginia Electric Power Company; Virginia
1983-1984
Project Engineer. Supervised the mechanical design work associated with the instrumentation and control modernization project. Project involved the addition of control air dryers, control room modifications and HVAC, controls, control systems, instrumentation, and control panels.

Louisa Unit 1, Iowa-Illinois Gas & Electric Company, Iowa
1982-1984
Project Engineer, Mechanical. Supervised the completion of design work and resolution of field construction problems on the 650 MW coal fueled electric generating plant.

Muscatine Iowa Power Plant, Grain Processing Corporation, IIG&E, Iowa
1981-1983
Project Engineer, Mechanical. Supervised the mechanical design work associated with the addition of variable speed ID fans and a chimney for six stoker fueled boilers at the Grain Processing Corporation's Muscatine, Iowa plant.

Florida Power Corporation; Florida
1980-1982
Project Engineer, Mechanical. Participated in the preliminary design of an 835 MW electric generating unit. Responsibilities included the preparation of studies.

Crystal River Unit 2, Florida Power Corporation, Florida
1978-1979
Project Engineer, Mechanical. Supervised the design of precipitator modifications for the 480 MW electric generating unit. Responsibilities included supervising the preparation of specifications, bills of materials, and detailed construction drawings.

Crystal River Units 4 and 5, Florida Power Corporation, Florida
1977 – 1985
Project Engineer, Mechanical. Supervised the mechanical design of two 700 MW electric generating units. Responsibilities included supervising the preparation of studies, calculations, specifications, bills of materials, and detailed construction drawings.

Crystal River Units 1 and 2, Florida Power Corporation, Florida
1976-1977
Project Mechanical Engineer. Supervised the mechanical design work associated with a coal and balanced draft conversion of the 400 MW and 480 MW electric generating units. Project involved the installation of ID fans, electrostatic precipitators, ash handling facilities, and boiler modifications. Supervised the preparation of studies, calculations, specifications, bills of materials, and detailed construction drawings.

Sibley Station Unit 3; Missouri Public Service Company; Missouri
1976-1977
Project Mechanical Engineer. Supervised the design work associated with modifications to the 340 MW supercritical electric generating unit. Project

involved the installation of a main steam warming system to be used in the unit's startup procedures. Responsibilities included preparing a study, calculations, bills of materials, and a construction specification. Supervised the preparation of detailed construction drawings.

Energy Research and Development Administration, Arizona
1975-1976
Mechanical Engineer. Participated in the preliminary design of a 10 MW solar pilot plant. Responsibilities included the concept and preliminary design of electrical generation systems. Supervised draftsmen in the preparation of plant arrangement drawings and piping and instrument drawings. Developed text for the preliminary baseline report and participated in oral presentations to ERDA.

Iatan Unit 1, Kansas City Power & Light / St. Joseph Power & Light; Missouri
1975-1976
Mechanical Engineer. Participated in the design of the 625 MW electric generating unit. Responsibilities included reviewing the adequacy of and assisting in preparing an analysis of the turbine water induction protection systems.

Energy Research and Development Administration; Arizona
1975
Mechanical Engineer. Assisted in preparing a proposal for the 10 MW solar pilot plant. Responsibilities included the development of drawings and text for the electrical generation section of the proposal.

La Cygne Unit 1, Kansas City Power & Light / Kansas Gas and Electric; Kansas
1975
Mechanical Engineer. Reviewed the adequacy of and assisted in preparing an analysis of the turbine water induction protection systems of the 800 MW coal fueled electric generating unit.

La Cygne Unit 2, Kansas City Power & Light / Kansas Gas and Electric; Kansas
1973-1975
Mechanical Engineer. Participated in the design of the 622 MW electric generating station. Responsibilities included the concept and design of systems related to the turbine, turbine cycle, and plant support systems. Prepared studies for piping systems and mechanical equipment. Developed calculations for sizing piping, pumps, control valves, heat exchangers, and various other pieces of mechanical equipment. Prepared specifications and bills of materials for the purchase of the equipment. Performed bid evaluations and checked manufacturer's shop drawings for conformance to specification requirements. Supervised Associate Mechanical Engineers in the development of the work. Reviewed and checked detail construction drawings.

Arapahoe Station Unit 4; Public Service Company of Colorado; Colorado
1972
Associated Mechanical Engineer. Participated in the design of a flue gas scrubber addition to the steam electric station. Responsibilities included calculations for

sizing the scrubber, piping, pumps, control valves, ID fan, and flue gas ductwork. Prepared specifications and bills of materials for the purchase of the equipment.

Arapahoe Station; Public Service Company of Colorado; Colorado
1971
Associated Mechanical Engineer. Assisted in preparing an economic and feasibility study for an air pollution abatement problem for the steam electric station. Responsibilities included estimating the size and quantities of the various pieces of equipment required for different options and collecting cost data for the economic analysis of the different options.

Publications

Coal Fired Power Projects in the 2000's; Black & Veatch White Paper; January 2003 and updated May 2004; Coauthor

Ramos' Private-Power Policies Pay Off; Electric Power International; Third Quarter 1995; Coauthor

Fluidized-Bed Combustion: Retrofit, New-Plant Option; Electrical World; May 1989; Coauthor

Presentations

Coal Fired Power Projects in the 2000's; Electric Power Conference, Houston; March 2003

Optimum Power Plant Project at Hawaii Plant Features CFB Boilers; Power-Gen Asia, Singapore; September 1993

EPC Bidding and Proposal Presentation; Black & Veatch Power Growth Module 2.10, EPC Contracting Session III; May 1992

Risk Management; Black & Veatch Power Growth Module 2.10, EPC Contracting Session II; April 1992

Risks; Black & Veatch Power Growth Module 2.10, EPC Contracting Session I; March 1992

The Choice Between CFB and PC Technology; Black & Veatch Winning Strategies for the 90's Seminar for Utility Executives; April 1990

Status Report – AES Thames Project; POWER-GEN; December 1988

Circulating Fluidized Bed Combustion; Black & Veatch Fluidized Bed Steam Power Generation Seminar for Electric Utility Executives; November 1988

Reconversion to Coal Firing at Crystal River; ASCE Spring Convention; April 1982

DALE S. LINDBERG

Vice President
Project Management

Project Management and Executive Sponsor on Coal Fired and AQCS Projects

Education
Bachelors, Civil, Colorado State University, 1973

Professional Registration
North Dakota, 1973

Total Years Experience
32

Joined B&V
1973

Language Capabilities
English

Dale S. Lindberg is a Vice President in the firm. His background includes serving as project director, project manager or Executive Sponsor for large complex coal fired and Air Quality Control (AQCS) projects both domestically and in Asia. His experiences includes project and project field management on numerous coal fired stations, combined cycle, retrofit, SCR and FGD projects as noted below. These projects have covered EPC as well as owner's engineer and construction manager responsibilities.

Lindberg is currently serving as the project director for the AEP AQCS projects and as Executive Sponsor for a number of Black & Veatch utility clients and partners.

Representative Project Experience

Conesville, Kyger and Clifty AQCS Projects; American Electric Power; Ohio and Indiana
2004-Present
Project Director and Executive. Serving as a project director for Owner's Engineer role on SCR and FGD studies and detailed design at the Conesville 4, Kyger Creek and Clifty Creek Stations.

Nearman Unit 1 Cooling Tower Addition; Board of Public Utilities of Kansas City Kansas
2004-Present
Project Director and Executive. Oversee the study, planning, detail design and construction management of a Cooling Tower addition at the Nearman Unit 1 coal fired generating station.

OPG SCR 4 x 500 MW; Ontario Power Generation; Ontario, Canada
2000-2004
Project Manager. Served as project manager and executive for an Owner's Engineer role to specify and manage 4 x 500 MW SCR project at the Lambton and Nanticoke Coal Fired Stations.

EE&C; Kansas City
2002-2003
Construction Operations. Manage the department field staff and project managers of construction (PMC).

Hanfeng; Foster Wheeler; China
1997-2000
Project Manager / Partner-in-Charge. Served as the partner-in-charge for installation of 2 x 600 MW coal fired stations in China. Black & Veatch's scope incuded design and supply of 16,000 tons of boiler building structural steel.

Tanjung Jati B; Indonesia
1995-2001
Partner-in-Charge. Partner-in-charge for the Tanjung Jati B project. Black & Veatch was responsible for the boiler island balance-of-plant design for a 2 x 660 MW coal fired boiler project.

Nantong; People's Republic of China
1995-1999
Partner-in-Charge. Black & Veatch provided total plant engineering (including field service) and supplied balance-of-plant equipment and material for a 2 x 350 MW coal fired power plant.

Taichung 5-8; Taiwan Power Company; Taiwan
1993-2001
Partner-in-Charge. Black & Veatch was in a consortium with Babcock & Wilcox to design and furnish 4 x 550 MW of FGD on a turnkey basis for Taiwan Power Company. Black & Veatch's scope included the balance of plant such as the electrical supply, water supply, gypsum handling, reactant handling, and the waste water treatment systems.

Big Cajun Stations 1 and 2; Cajun Electric; Baton Rouge, Louisiana
1993-1996
Project Manager. Project manager for the control system upgrade project at Big Cajun Stations 1 and 2.

Board of Public Utilities; Kansas
1991-1996
Project Manager. Project manager responsible for the study of SO_2 and NO_X reduction technologies available to comply with Clean Air Act.

Ponca City; Oklahoma
1991-1996
Project Manager. Combined cycle repowering project (60 MW) using a LM6000. Provided engineering and construction management services.

Taichung 1-4; Taiwan Power Company; Taiwan
1990-1996
Partner-in-Charge / Project Manager. Black & Veatch was responsible for developing a specification for 4 x 500 MW wet FGD and procurement and technical services for Taiwan Power Company.

Quindaro Units 1 and 2; Board of Public Utilities; Kansas City, Kansas
1990-1996
Project Manager. Served as the project manager for furnishing online performance monitoring system. This computer driven system helps operators lower plant heat rate through optimum operation.

Kaw Station and Quindaro Units 1 and 2; Board of Public Utilities; Kansas City, Kansas
1990-1996
Project Manager. Demineralizer replacement for existing coal fueled power plants.

Rochester Gas & Electric; New York
1990-1996
Project Manager. Perform plant inspections, plant personnel interviews, and develop critical component inspection plan. Study of computer database for life

extension data, unit performance, reliability analysis, heat rate, capacity upgrade, and Clean Air Act compliance.

Madison Gas & Electric; Wisconsin
1990-1996
Project Manager. Site selection, licensing, and permitting support for a 100 MW simple cycle combustion turbine.

Manchester Street Station; Rhode Island
1989-1996
Engineering Manager. Combined cycle repowering project (450 MW).

Kaw Station; Board of Public Utilities; Kansas City, Kansas
1990
Project Manager. High energy pipe assessment and demineralizer replacement study.

Quindaro Units 1 and 2; Board of Public Utilities; Kansas City, Kansas
1990
Project Manager. Data logger replacement and high energy pipe assessment.

Suao; Taiwan Power Company; Taiwan
1988
Project Structural Engineer. Air quality control system study for the coal fueled thermal power station.

Taichung; Taiwan Power Company; Taiwan
1988
Project Structural Engineer. Study on coal ash disposal system for eight-unit coal fueled station. Project required travel to Japan to observe use of reclaimed coal ash land along the seashore.

City of Kansas City, Kansas; Kansas City, Kansas
1987
Project Structural Engineer. Provided detailed engineering and construction management services for the conversion of the precipitator from hot to cold operation. The plant size was 250 MW. The work required extensive ductwork and structural steel redesign, air heater basket replacement, fan modifications, and precipitator control upgrades.

Wyman Station; Central Maine Power; Maine
1987
Project Structural Engineer. Life extension study for three units at the station. Work required extensive site inspection and modification reports.

Taichung; Taiwan Power Company; Taiwan
1986
Project Structural Engineer. Further study on coal ash disposal system for an eight-unit fossil fueled station. Study included conceptual design of mechanical equipment and ash pond required for the disposal of coal ash and scrubber wastes. Also reclaimed and land management and feasibility of ocean disposal.

City of Kansas City, Kansas; Kansas City, Kansas
1985
Project Structural Engineer / Project Field Manager. Provided engineering and construction management services to retrofit a precipitator and ash handling equipment to a 150 MW coal fueled unit. Services included preparation of specifications; detailed structural support and electrical construction design drawings; and onsite coordination of construction, scheduling, and startup coordination.

James De Young Station; City of Holland; Holland, Michigan
1984
Project Field Manager. Provided engineering and construction management services for retrofitting two precipitators and ash handling equipment to the station. Services included preparation of specifications; detailed foundation and electrical construction design drawings; and onsite coordination of construction, scheduling, and startup coordination..

J.B Sims Unit 3; Michigan
1980-1983
Project Field Manager. Construction management for 65 MW power plant. Project included Fuji turbine generator and transformer, cold precipitator, wet scrubber, wedge wire intake screens, concrete chimney, and Bailey Network 90 control.

Milton R. Young Station; North Dakota
1980
Resident Engineer. Resident engineering supervision for construction of scrubber waste ponds at existing power plant.

Stanton Station; North Dakota
1980
Resident Engineer. Construction management on supplement boiler project (70 MW). Supervised installation of pressure grouted piles and pile cap foundation.

Coal Creek Station; North Dakota
1976-1980
Resident Engineer. Construction management on two 550 MW power plant installations. Included supervision on the following: two coal storage silos (slip form) with total capacity of 32,000 tons; erection of 25,000 tons of structural steel; placement of concrete foundations that totaled 210,000 cy; and erection of 27 ½ acres of metal wall paneling.

Coal Creek Station; North Dakota
1975-1976
Design Engineer. Structural engineering on two 550 MW power plant installations. Included design of structural steel, foundations, and masonry construction.

La Cygne Unit 2; Kansas City Power & Light; La Cygne, Kansas
1973-1975
Design Engineer. Structural engineering on power plant installation. Included.

Presentations

New and Retrofit FGD Installations on Large, Coal Fueled Plants in Taiwan, ROC; CEPSI; 1994

FGD / NO_X Reduction on Large Coal Fueled Electric Generating Stations in Taiwan, ROC; PowerGen Asia; 1994

Nearman Creek Electrostatic Precipitator Conversion; Carolina Air Pollution Control Association Annual Meeting, Myrtle Beach, South Carolina

PIMS – Plant Equipment; Structural Presentation to Black & Veatch Civil – Structural Engineering Department during Noon Lecture

Presentation on Construction of J.B. Sims; Unit 3 of Michigan Municipal Electric Association (MMEA) at their Annual Meeting

Nearman Creek Electrostatic Precipitator Conversion; Carolina Air Pollution Control Association Annual Meeting; Myrtle Beach, South Carolina; October 1988

STEPHEN E. PIESCHL

Vice President – Project Manager

Project Management

Education
Bachelors, Aeronautic, University of Kansas, 1972

Professional Registration
1977 PE Kansas
1978 PE North Dakota

Total Years Experience
33

Joined B&V
1972

Professional Associations
American Society of Mechanical Engineers

Language Capabilities
English

Stephen E. Pieschl is a Vice President – Project Management whose responsibilities include supervision of all engineering, procurement, and construction activities on projects.

Representative Project Experience

Baseload 2, Wisconsin Public Service, Wisconsin
2005-Present
Project Manager. Project consists of preliminary engineering and permitting support for a baseload coal unit for Wisconsin Public Service.

Weston Unit 4, Wisconsin Public Service, Wausau, Wisconsin
2003-Present
Project Manager. Project consists of the detailed design, site engineering, and startup of a 530 MW Supercritical coal fired power plant at the existing Weston Site in Wausau, Wisconsin.

Rio Nogales Project, Constellation Power Services, Seguin, Texas
2000-2004
Project Executive. Project consists of a Joint Venture (BVZ) EPC Project to design, procure, and construct an 800 MW 3 x 1 combined cycle power project in Seguin, Texas.

Hayden Emissions Control Project, Public Service Company of Colorado, Hayden, Colorado
1996-1999
Project Manager. Project consists of a joint venture EPC contract to install spray dryers and baghouses on the Public Service of Colorado Hayden Station Units 1 and 2. Black & Veatch scope includes all direct hire field construction.

San Jose Coal Fired Power Station Project, TECO Power Services, San Jose, Guatemala
1996-1999
Project Manager. Project consists of total engineering, procurement, and construction scope for a 230 MW coal fired power plant.

State Line Station Retrofit Project, State Line Energy
1996 - 1998
Project Manager. Project consists of scoping required modifications to the State Line Stations in order to meet output, heat rate, and availability goals. EPC implementation of the modifications is also included.

Fort St. Vrain Repower Project, Public Service of Colorado
1994-1998
Project Manager. Project consists of a turnkey project to repower the existing 330 MW steam turbine at the decommissioned Fort St. Vrain Nuclear Power Station with two combined cycle 150 MW combustion turbines. Overall responsibility for engineering, procurement, and direct hire construction of the project.

Fossil Retrofit Projects, Commonwealth Edison Company
1994-1997
Project Manager. Project consists of providing engineering services to scope and implement plans to upgrade and modernize several fossil generating stations for COMED.

East Kentucky Power Cooperative, Kentucky
1990-1996
Project Manager. Project consisted of installing a river intake structure, water treatment system, and process steam supply system using reboilers at an existing coal fueled power plant. Responsibilities included overall project management including client interface and project control.

Pawnee Unit 1 Fabric Filter Retrofit, Public Service Company of Colorado,
1992-1994
Project Manager. Project consisted of retrofitting the 500 MW Pawnee Unit 1 with a flue gas fabric filter to replace a hot side precipitator. Responsibilities include overall project management including engineering and procurement.

Cooper Station Ash System Modification, East Kentucky Power Cooperative
1991-1994
Project Manager. Project consisted of replacing the existing ash sluice systems on Cooper Station Units 1 and 2 with dry fly ash collection and drag chain conveyor bottom ash collection systems. Responsibilities included overall project management.

Kentucky Utilities, Kentucky
1991-1994
Engineering Manager. Project consisted of installation of 400 MW of simple cycle combustion turbine on an existing site. Responsibilities include overall management of the engineering and procurement for the projects.

East Kentucky Power Cooperative, Kentucky
1991-1994
Engineering Manager. Project consisted of installation of 400 MW of simple cycle combustion turbines on a new site. Responsibilities included overall management of the procurement and engineering for the project.

Argus, ACE Cogeneration Company, California
1988-1990
Project Engineer, Mechanical Systems. Responsibilities included overall management of mechanical department design, procurement, and drawing production activities.

Coronado Unit 3, Salt River Project, St. Johns, Arizona
1985-1988
Assistant Project Mechanical Engineer. Responsibilities included overseeing mechanical design for the generating unit with specific responsibility for design of a horizontal flue gas scrubber system, preparation of mechanical equipment procurement specifications, and preparation of mechanical construction specifications.

Intermountain Power Project, Los Angeles Department of Water & Power, Delta, Utah
1983-1985
Mechanical Engineer. In charge of specification preparation and administration for the mechanical construction, turbine erection, high and low pressure piping, and insulation contracts for the project and operating instructions and system description.

Stanton Station, United Power Association, North Dakota
1976 – 1977
Senior Mechanical Engineer. Startup Manager and Senior Mechanical Resident Engineer involved in the erection and startup of the steam generator, baghouse and spray dryer, lignite conveying system, and mechanical piping systems.

Coal Creek, Cooperative Power Association / United Power Association, North Dakota
1977-1981
Mechanical Field Engineer / Construction Manager. Mechanical Field Engineer involved in the erection of process piping systems, lignite handling equipment, ash handling equipment, HVAC system, draft equipment, steam generator, and flue gas scrubber.

Coal Creek Units 1 and 2, Cooperative Power Association / United Power Association, North Dakota
1975-1977
Mechanical Engineer. Participated in the design and procurement of the lignite handling equipment.

St. Joseph Light & Power Company, Missouri
1975
Mechanical Engineer. Participated in the review and startup of coal handling facilities addition to an existing plant.

Sherco Units 1 and 2, Northern States Power Company, Minnesota
1972-1975
Mechanical Engineer. Participated in the mechanical design of the steam cycle systems and the procurement and review of plant equipment.

8/3/2005

DONALD J. KNOTTS

Project Manager

Project Management

Donald J. Knotts is a project manager in the Black & Veatch Energy Division. His past assignments include project manager, assistant project manager, engineering manager, project electrical engineer, field construction engineering manager and startup manager. His assignments, on over 12 coal fueled power projects, have totaled in excess of 6,425 MW of power generation capacity. Knotts has spent over six years in construction including 4½ years on coal fired projects. Knotts has previously been a member of the National Fire Protection Association and on the subcommittee of Burner Safety Systems.

Education
Bachelors, Electrical Engineering, University of Missouri at Columbia, 1973

Professional Registration
Florida, 1983
Missouri, 1980

Total Years Experience
30

Joined Black & Veatch
1973

Professional Associations
Missouri Society of Professional Engineers
National Society of Professional Engineers

Language Capabilities
English

Representative Project Experience

Baseload II; Wisconsin Public Service; Wausau, Wisconsin
2005-Present
Project Manager. Supervision and coordination of conceptual design, permitting support, scheduling, and cost estimating for two project sites to support a 500 MW supercritical coal fired project.

Wesfarmers Energy Limited; Perth, Australia
2004-2005
Project Manager. Supervision and coordination of conceptual design, scheduling, cost estimating, and permitting support for two coal fired 325 MW brownfield projects.

Southwest Power Station, Unit 2; Springfield, Missouri
2003-2004
Project Manager. Responsible for the evaluation of two, competing, coal-fired generation options. The options consisted of a 275 MW brownfield project and a 550 MW greenfield project.

Whelan Energy Center; Hastings, Nebraska
2002-2003
Project Manager. Supervision and coordination of development of the conceptual design scope definition, schedule, cost estimate, and execution plan for a 220 MW coal fired power plant.

Confidential Client
2001-2002
Assistant Project Manager. Supervision and coordination of engineering, procurement, scheduling, estimating, and quality assurance for the Phase 1 activities associated with two 750 MW coal fired plants.

Tuas Power Station; Tuas Power Limited; Singapore
1999-2001
Assistant Project Manager. Supervision and coordination of engineering, procurement, and scheduling for a 700 MW combined cycle facility.

Tri Energy IPP Project; Tri Energy Company Limited; Thailand
1998-1999
Project Field Engineer (Field Department). Responsible for supervision and coordination of documentation control / procedures, drawing control / procedures, assist in resoling design errors / incomplete information, assist in coordinating

startup activities, and supervise production of startup packages for a two-on-one, 700 MW combined cycle project.

Tri Energy IPP Project; Tri Energy Company Limited; Thailand
1997-1998
Engineering Manager. Responsible for supervision and coordination of design activities, procurements, scheduling, and construction specifications for a two-on-one, 700 MW combined cycle project.

SSAA Power Station Units 5 and 6; Tenaga Nasional Berhard; Malaysia
1996
Project Engineer-Electrical / Control. Responsible for supervision and coordination of electrical and control design activities, procurement, and construction interface for two 500 MW pulverized coal power plants.

Confidential Coal Projects Initiative
1996
Project Engineer-Electrical / Control Systems. Project Engineer for a confidential initiative, which developed a conceptual pulverized coal (PC) fueled power station design approach incorporating innovative concepts to achieve price and schedule improvements for coal project offerings. This project was a joint effort between Black & Veatch and two other world-class parties, including a steam turbine generator supplier and a fossil fueled boiler supplier. The concepts covered overall project execution through an integrated team approach, plus design, procurement, and construction efficiency improvement aspects as applicable to EPC projects.

Rhinelander Energy Center Unit 1; Wisconsin Power Co.; Wisconsin
1995
Project Engineer-Electrical / Control Systems. Responsible for supervision and coordination of electrical and control design activities, procurement, and construction specifications for a 125 MW coal fueled fluidized bed cogeneration project.

Stanton Energy Center Unit 2; Orlando Utilities Commission; Florida
1990-1995
Project Engineer-Electrical / Control Systems. Responsible for supervision and coordination of electrical and control design activities, procurement, and construction specifications for a 150 MW coal fueled power plant.

ACE Cogeneration Expansion Project; ACE Cogeneration Company; California
1988-1990
Project Engineer-Electrical / Control Systems. Responsible for the supervision and coordination of design, procurement, and installation contracts for control systems on a 100 MW coal fueled fluidized bed boiler cogeneration project.

Coronado Station; Salt River Project; St. Johns, Arizona
1986-1988
Assistant Project Engineer-Electrical / Control Systems. Responsible for design of coordinated control system, plant logic systems, and supervision of other engineers on a 450 MW coal fueled power plant.

Stanton Energy Center; Orlando Utilities Commission; Florida
1983-1986
Assistant Project Engineer-Electrical / Control Systems. Responsible for design of the coordinated control system, burner management, plant logic systems, and assisting other engineers as required on a 450 MW coal fueled power plant.

Louisa Generating Station; Iowa Illinois Electric; Iowa
1981-1983
Startup Engineer. Responsible for management of startup activities such as scheduling, development of system turnover packages, checkout and calibration contract, safety tagging, and communication with the Owner's personnel for a 750 MW coal fueled power plant.

Ottumwa Generating Station; Iowa Southern Utilities; Iowa
1979-1981
Startup Engineer. Responsible for supervising the installation and startup of all instruments and control systems for a 750 MW coal-fueled power plant.

Ottumwa Generation Station; Iowa Southern Utilities; Iowa
1976-1979
Assistant Project Engineer. Responsible for design of the coal handling, unit protection, burner management, and other plant systems. Also, writing and follow-up of the combustion control, control panels, and instrumentation installation specifications for a 750 MW coal fueled power plant.

Units 1 and 2, Northern States Power Company; Minnesota
1973-1975
Assistant Engineer. Responsible for power wiring design, cable and raceway lists, and bills of material on two 750 MW coal fueled power plant.

MARK A. MCDERMOTT

Senior Project Controls Manager

Project Controls and Construction Management for Power Generation Projects

Education
Bachelors, Construction Engineering, Iowa State University, 1991
MBA, University of Kansas, 2001

Professional Registration
Engineer (PE), Kansas

Total Years Experience
14

Joined B&V
1992

Language Capabilities
English, Bahasa Indonesian, Spanish

Mark A. McDermott is a senior project controls manager and the manager of construction project controls for the EE&C division of Black & Veatch. He has extensive experience in construction, planning and scheduling, material control, cost engineering, contract administration, estimating, and expediting.

Summary of Coal Experience: Mark has been involved in five coal projects, totaling over 2,600 MW.

Description of Project Experience

Manager – Construction Project Controls Section of Project Controls Department. Overland Park, KS
2002-Present
Manager – Construction Project Controls. As section leader, McDermott is responsible for ensuring that construction controls resources, including professionals with the appropriate expertise, are available and that standards and tools are in place to support proposals and project execution efforts. Responsible for overseeing construction-related project controls processes including field progress measurement and field forecasting, CPM schedule development and BOQ management. He is responsible for defining related standards and guides, ensuring the quality and productivity of the section, providing training and performance review of assigned staff. Additional duties include schedule and cash flow development for proposals.

Jinling & Shidongkuo Combined Cycle Projects; HPI, China
2004-Present
Project Controls Manager. Project Controls Manager for 3 Ea 1-on-1-single shaft combined cycle project. Responsible for cost management and schedule management for the Engineering contract.

Oxychem Battle Ground Cogeneration Expansion Project; Occidental Chemical; Deer Park, Texas
2004-Present
Project Controls Manager. Project Controls Manager for a 1-on-1-on-0 combined cycle cogeneration expansion project. Responsible for BOQ management, cost management and schedule management. Responsibilities include both home office project controls and field project controls for a direct hire construction approach.

Aries Power Plant, MEPPH (Aquila / Calpine), Pleasant Hill, Missouri
2000-2002
Field Project Controls Manager. Field Project Controls Manager for a 2-on-1, 600 MW CC Project. Responsible for construction schedule development and control, progress measurement, cost forecasting, reporting and control, cash flow and cash management, material control, site procurement, and subcontract administration including contract negotiations, change management and trends, and invoice approvals. Coordinated delivery of major equipment including all rail shipments. Implemented the first Black & Veatch power division application of the FPMS (Field Progress Measurement System) system for tracking subcontractor and self-direct scope of work progress and productivity. Also

supervised administration staff for document control, drawing control and office administration.

MEP Pleasant Hill, MEPPH (Aquila / Calpine), Pleasant Hill, Missouri
1999-2000
Project Controls Manager. Project controls Manager for a 2-on-1, 600 MW CC Project. Responsible for development of a BOQ based project estimate, development of a detailed management control schedule including construction and startup, cost reporting, and schedule maintenance. Assisted in development of the project procurement plan, performed initial constructability reviews and assisted in the development of the construction execution plan.

Sanford Repowering, Florida Power & Light, Sanford, Florida
1999
Project Controls Manager. Project controls Manager for 2 EA 4-on-1, 1000 MW combined cycle repowering blocks. Responsible for development of a BOQ based project estimate, development of a detailed management control schedule including construction and startup, cost reporting, and schedule maintenance.

Ft. Myers Repowering, Florida Power & Light, Ft. Myers, Florida
1998-1999
Project Controls Manager. Project controls Manager for a 6-on-1, 1500 MW CC Repowering Project. Responsible for development of a BOQ based project estimate, development of a detailed management control schedule including construction and startup, cost reporting, and schedule maintenance.

PLN Tambak Lorok, Sumitomo, Indonesia
1994-1998
Field Planner. Tracked commodity installation rates, analyzed sub-contractor work schedules, and supervised preparation of weekly construction reports and monthly progress reports. Expedited and tracked equipment deliveries, verified completeness of commodity shipments and authorized airfreights as necessary to support the construction schedule. Coordinated construction activities among contractors, chaired project coordination and review meetings and performed constructibility reviews. Developed and maintained contract administration system to track vendor deficiencies and related backcharges, sub-contractor claims, extra work orders, and insurance claims.

West Java, Ansaldo, Indonesia
1997
Field Project Controls Manager. Developed initial construction and commissioning schedule for a 400 MW coal fired project in Indonesia.

PLN-Muara Karang, Sumitomo, Indonesia
1994
Material Control Engineer / Expediter. Developed a material control program to inventory, store, and maintain material and equipment prior to erection. Expedited vendors and performed shop inspections. Coordinated delivery and unloading schedules. Trained and supervised local engineering staff to assist in material control process.

PLN-Tambak Lorok, Sumitomo, Indonesia
1993-1994
Project Planner. Developed a complete CPM based project schedule including engineering, procurement, construction, and commissioning for a 500 MW combined cycle project. Assisted in negotiating sub-contractor and reviewing contract documents. Activities required coordination and negotiations among multiple firms and engineering disciplines.

Israeli Electric Reference Plant, Israel
1993-1994
Project Planner. Developed a reference plant schedule for the Israeli Electric Corporation (IEC) based on IEC standards and specifications and Black & Veatch scheduling philosophy. Provided technology transfer of Black & Veatch procedures and taught planning and scheduling principles and techniques to IEC engineers.

Cairo South, EEA, Cairo, Arab Republic of Egypt
1992-1994
Project Planner. Responsible for the development of a detailed management control schedule for a 150 MW combined cycle project. Worked with onsite engineers to develop an integrated engineering / construction schedule. Responsibilities included maintaining the schedule, monitoring design and construction progress, cost control, and invoicing for monthly progress payments.

Gadong Power Station, Brunei
1993
Project Planner. Responsible for development of a detailed engineering, procurement, and construction schedule. Also responsible for developing and monitoring cost control procedures.

PLN-Muara Karang, Sumitomo, Indonesia
1993
Field Planner. Responsible for initial development of a detailed construction schedule. Developed prime contract invoicing procedures.

Clover Station, Old Dominion Electric Cooperative, Clover, Virginia
1992-1993
Project Planner. Responsibilities included maintaining a management control schedule for two 400 MW pulverized coal units, preparing monthly progress reports both for internal control and for owner review, and invoicing for monthly progress payments. Also responsible for reviewing contractor construction / startup schedules.

Suralaya, PLN, Indonesia
1992
Project Planning. Responsible for the training of an associate on the principles of scheduling and the techniques primavera project planner.

Taichung, Taiwan Power Company, Taiwan
1992
Proposal Planner. Developed proposal schedules for four flue gas desulfurization units.

San Bernardino Repowering, San Bernardino, California
1992
Proposal Planner. Developed summary CPM schedule for a combustion turbine repowering project.

Mulberry, Florida
1992
Project Planner. Responsible for developing progress measurement tools. Assisted in the development of the management control schedule.

East Kentucky Power Cooperative, Kentucky
1992
Assistant Planner. Developed construction schedule for an ash handling retrofit project.

Boston Edison, Boston, Massachusetts
1991
Assistant Planner. Assisted in the development of a construction schedule for a balance draft project. Maintained cost control spreadsheets for project management use.

City of Ames, Iowa, Engineering Department

Ames, Iowa
1991
Inspector. Supervised construction of a storm sewer installation project. Supervised crews doing reconstruction work for various streets throughout the city. Supervised development of a residential subdivision including underground utilities, site development, and paving. Responsibilities included surveying, proctor density testing, concrete testing, and approving payment applications.

Portzen Construction

Dubuque, Iowa
1989-1990
Light-commercial and residential construction.

Tschiggfrie Excavating

Dubuque, Iowa
1988
Highway and excavating construction work.

LARRY R. KOHNS

Project Civil-Structural Engineer

Education
Associates, General Studies, Iowa State University, 1966
Bachelors, Construction, Iowa State University, 1968

Professional Registration
Engineer (PE), Arizona, 1980
Engineer (PE), Missouri, 1976
Engineer (PE), Wisconsin, 1986
Engineer (PE), Texas, 2000

Total Years of Experience
34

Joined B&V
1970

Professional Associations
American Society of Civil Engineers

Language Capabilities
English

Mr. Kohns is a civil-structural engineer for coal fired power stations. He previously served as a project engineer for combined cycle power stations, and in the past was assigned to Bulk Materials Handling Section as lead structural engineer. His primary responsibilities involved supervision and standardization of designs for structures serving coal handling equipment. These responsibilities also included the production of structural designs, specifications, and contract administration. Mr. Kohns' experience includes project engineering of several projects for the addition of coal blending to existing power plants, design of steam transmission mains, feasibility studies, and design of reinforced concrete foundations and flue gas ductwork.

Summary of Coal Experience: Larry has been involved in over 6,000 MW+ with several additional miscellaneous coal assignments since the 1970s.

Description of Project Experience

Tanjung Jati B Station; CEPA; Java, Indonesia
2002-Present
Project Department Engineer. Provide structural engineering supervision for a coal fired power station, consisting of two units for a total generating capacity of 1,220 MW.

Rio Nogales Power Project; Constellation Power, Inc.; Seguin, Texas
2000-2001
Project Department Engineer. Provide civil-structural engineering supervision for the 3-on-1 combined cycle plant rated at 800 MW.

Coke Gasification; Farmland Industries; Coffeyville, Kansas
1998-1999
Bulk Material Handling Project Manager. Provided project management for the coke handling provisions of the project with supervision responsibility of administrative, civil, structural, and mechanical disciplines.

Power Station Evaluation; Joint Venture Utility; United Kingdom
1999
Bulk Materials Handling Project Engineer. Provided plant inspections and financial evaluations for several power stations in Wales and Britain to aid in the transfer of government owned utilities to private industry.

Cement Plant Addition; Holnam Industries; South Carolina
1997
Bulk Materials Handling Project Engineer. Provided plant arrangements feasibility studies, cost estimates, and prepared specifications for the revisions to a cement plant.

Sherburne Station; Northern States Power; Minnesota
1997
Bulk Materials Handling Structural Engineer. Provided plant arrangements feasibility studies, cost estimates, and prepared specifications for the revisions to a cement plant.

Tanjung Jati B Station; CEPA; Java, Indonesia
1997
Bulk Materials Handling Lead Structural Engineer. Provided structural supervision and checking for the coal handling structures for the Tanjung Jati B Station.

Study; Western Resources; Kansas
1997
Bulk Materials Handling Lead Structural Engineer. Provided structural review and cost estimating for evaluations and studies for coal handling improvements for Western Resources at Lawrence and Tecumseh, Kansas.

Board of Public Utilities; Kansas City, Kansas
1997
Bulk Materials Handling Lead Structural Engineer. Provided structural design supervision and procurement of structural support of five new dust collectors for the Board of Public Utilities.

Clover Station; ODEC; Virginia
1996
Bulk Materials Handling Lead Structural Engineer. Provided field investigations and office engineering review of Warranty Issues for ODEC at the Clover Station.

Energy Center Kladno; NRG; Czech Republic
1996
Structural Project Engineer. Provided engineering review and evaluations for a bid specification and bid evaluation tasks for NRG at the Energy Center Kladno in Czech Republic.

Field Investigation Sunoco Project, South Carolina
1996
Bulk Materials Handling Lead Structural Engineer. Provided structural checking, field investigation, and redesign for an overstressed conveyor truss at the Sunoco Project in South Carolina.

Coal Handling Quindaro Station; Board of Public Utilities
1996
Bulk Materials Handling Lead Structural Engineer. Provided structural field investigations and structural specifications for five new dust collectors throughout the entire coal handling system at Quindaro Station for the Board of Public Utilities.

Coal Drying Plant; CarbonTec Energy; Wyoming
1996
Bulk Materials Handling Project Manager. Provided cost estimating, material handling layouts, specifications, and structural design coordination for a coal drying plant near Gillette, Wyoming, for CarbonTec Energy.

LaCygne Station; KCPL; LaCygne, Kansas
1995
Project Engineer. Provided supervision for the design, fabrication, and construction of support for a new gravity takeup system at LaCygne Station for KCPL.

Dust Collection System Fisk and Waukegan Stations; Commonwealth Edison; Chicago, Illinois
1995
Bulk Materials Handling Lead Structural Engineer. Provided design supervision for a revised dust collection system at the Fisk and Waukegan Stations for Commonwealth Edison at Chicago, Illinois.

New Belt Feeders Iatan Station; KCPL
1995
Project Engineer. Provided supervision for the design, fabrication, and construction of support for new belt feeders above the crushers at Iatan Station for KCPL.

Montrose Station; KCPL; Kansas
1994-1995
Project Engineer. Provided a technical study and prepared a technical specification to convert an existing bottom dump structure to a rotary car dumper at Montrose Station for KCPL.

New Rotary Car Dumper; Texas Municipal Power Agency; College Station, Texas
1994
Project Engineer. Provided a technical study, including structural design supervision for the feasibility of converting an existing truck dumper into a new rotary car dumper for Texas Municipal Power Agency at College Station.

Conveyor Support Revisions Allen King Station; Northern States Power
1994
Bulk Materials Handling Project Structural Engineer. Provided supervision for design on conveyor support revisions required to accommodate new gravity takeups at the Allen King Station for Northern States Power.

Dust Collector; Arizona Electric Power; Tucson, Arizona
1994
Bulk Materials Handling Project Structural Engineer. Prepared structural specifications and provided supervision of design for Arizona Electric Power at Tucson, Arizona to support a new dust collector in the existing boiler building.

Feasibility Study; Wyodak Resource Development Corporation; Gillette, Wyoming
1994
Bulk Materials Handling Lead Structural Engineer. Aided in preparing a feasibility study for NRG at the Belle Ayr Mine in Wyoming to provide a coal drying facility. Provided conveyor towers and a crusher building structural capacity study, design

supervision, procurement, and field construction management for the Wyodak Resource Development Corporation at Gillette, Wyoming.

LaCygne Station; KCPL; Kansas
1994
Project Engineer. Prepared structural specifications and provided design supervision at the La Cygne Station to enclose conveyor trusses for KCPL.

Gibbons Creek Station; Texas Municipal Power Agency; Texas
1993 – 1994
Project Engineer. A new 4-1/2 mile overland coal conveyor system for Texas Municipal Power Agency at Gibbons Creek Station.

Leland Olds; Basin Electric; North Dakota
1993
Bulk Materials Handling Lead Structural Engineer. Structural specifications and design for modification of Unit 1 coal reclaim system for Basin Electric at Leland Olds.

Dave Johnston Station; PacifiCorp; Wyoming
1992 – 1993
Project Engineer. Structural specifications and design for dust collection support for PacifiCorp's Dave Johnston Station.

Perusahaan Umum Listrik Negara; Suralaya, Indonesia
1992
Bulk Materials Handling Lead Structural Engineer. Prepared structural specifications for Perusahaan Umum Listrik Negara in Suralaya.

Elk River Station; United Power Association; Elk River, Minnesota
1991
Project Engineer. Retrofit construction project to improve the handling of fly ash and bottom ash for an existing refuse burning power plant.

St. Paul, Minnesota
1991
Project Engineer. Feasibility study for a petroleum refinery to improve the handling of coke byproducts.

Shawnee Steam Plant; Reuter Recycling; Illinois
1988 – 1991
Engineering Manager / Project Structural Engineer. Three sorbet injection/gas reburning projects at Central Illinois Power & Light, Illinois Power, and City Water Light and Power.

Various
1990
Project Structural Engineer. Feasibility studies and cost estimates for coal handling systems for NRG Cypress, TVA Bellefonte, Puerto Rico, Orlando, and Virginia Power.

Reuter Recycling of Florida, Inc; Pembroke Pines, Florida
1989 – 1990
Project Engineer. Project assessment report.

Paducah, Kentucky
1989 – 1990
Project Engineer. Retrofit of two coal screens for an atmospheric fluidized bed boiler.

Genoa; Dairyland Power; Lacrosse, Wisconsin
1987 – 1988
Project Structural Engineer. Coal blending project.

Whitewater; Richmond Light and Power; Richmond, Indiana
1987
Project Structural Engineer. Sorbet injection addition.

Valley Plant; Wisconsin Electric Power; Milwaukee, Wisconsin
1985 – 1987
Project Structural Engineer. Steam heating addition from the Valley Plant to an existing system in downtown Milwaukee.

Department of Energy; Oak Ridge, Tennessee
1986
Project Structural Engineer. Supervised structural design of a new truck unloading system for the coal handling system.

Northern States Power Company; Becker, Minnesota
1983 – 1986
Structural Lead Engineer. Organized and supervised structural design team to produce the plant arrangements and structural steel for the coal handling systems.

Sacramento Municipal Utility District; Sacramento, California
1985
Project Structural Engineer. Performed a feasibility study for a proposed 25-mile gas line.

Kansas City, Missouri
1985
Project Structural Engineer. Performed laboratory tests studying the coal flow in silo storage structures and rotary plow feeders. Produced videotape and report summarizing the test results.

Orlando Utilities Commission; Orlando, Florida
1982 – 1984
Structural Lead Engineer. Organized and supervised the structural design team to produce plant arrangements and structural steel design for the coal handling system.

Intermountain Power Project; LADWP; Delta, Utah
1981 – 1984
Structural Lead Engineer. Supervised the structural design for the foundations and structural steel for the coal handling, limestone handling, and conditioned sludge handling.

Coronado Station / Salt River Project; St. Johns, Arizona
1980 – 1982
Project Structural Engineer. Coal mixing system project.

Detroit Edison; Detroit, Michigan
1980 – 1982
Project Structural Engineer. Dust control addition for five power generation plants.

Various
1979 – 1980
Structural Design Engineer. Supervision and guidance of structural design for Bulk Materials Handling Group. Directed engineers in designing foundations for coal reclaim and coal railcar dump structures for Arizona Public Service Company and structural support for a coal crusher for Kansas Power & Light.

Northern States Power Company; Becker, Minnesota
1979
Assistant Project Structural Engineer. General supervision of structural steel design of central plant and coal handling structures for Unit 3. Duties also included steel contract administration.

Sibley Station; Missouri Public Service; Sibley, Missouri
1978 – 1979
Project Structural Engineer. Supervision of structural steel and foundation design for a modification and addition to the coal handling system of the station. Duties included the preparation and administration of the steel and foundation contracts.

Various
1978
Assistant Project Structural Engineer. Wrote system descriptions for structural steel design and site arrangement.

Various
1975
Assistant Project Structural Engineer. Supervision of draftsmen and engineers with regard to solving field problems during construction in the area of steel structures, concrete foundations, and architectural coordination.

Various
1975
Associate Structural Engineer. Layout, coordination, analysis, and design of structural steel, breeching, girts, and concrete foundations.

Various
1970
Associate Structural Engineer. Layout of structure framing systems, floors, and horizontal and vertical bracing. Designed framing details.

JOSEPH G. CALLISON

Control and Electrical Project Engineer

Control System Strategies, Trouble-shooting, Commissioning and Tuning

Education
Bachelors, Electrical, University of Kansas, 1975

Professional Registration
Engineer (PE), Florida, 1992
Engineer (PE), Kansas, 1983
Engineer (PE), Massachusetts, 1992
Engineer (PE), Nebraska, 1993
Engineer (PE), Missouri, 2000
Engineer (PE), Colorado, 2001
Engineer (PE), Kentucky, 2001

Total Years Experience
29

Joined Black & Veatch
1974

Professional Associations
Instrument Society of America

Language Capabilities
English, Spanish (Novice)

Joseph G. Callison is a control and electrical project engineer currently assigned to manage the control and electrical design of a combined cycle cogeneration plant in Beaumont, Texas and a coal fired power plant in central Wisconsin.

Callison is experienced in the design of electrical and control systems for coal, oil, gas, and refuse fueled power plants ranging in size from 30 MW to 820 MW. The project types include foreign and domestic, new and retrofit, design, design and construct, and turnkey. His assignments often include both office design and field services.

Representative Project Experience

Weston Unit 4; Wisconsin Public Service Resources Corporation; Central Wisconsin
2003-Present
Project Control / Electrical Engineer. Managed the control and electrical design for a new 520MW coal fired power plant.

Beaumont Cogeneration Power Project ; Exxon Mobil; Beaumont, Texas
2003-2004
Project Control / Electrical Engineer. Managed the control and electrical design for a new 3x3x0 combined cycle cogeneration power project.

Black & Veatch Corporation; Overland Park, Kansas
2001-2003
Project Control. / Electrical Engineer. Managed the control and electrical conceptual design and cost estimates for various prospective coal fueled power plants.

San Juan Unit 5; Public Service Company of New Mexico; Farmington, New Mexico
2001
Project Control / Electrical Engineer. Managed the control and electrical conceptual design and cost estimate for a 500 MW coal-fueled unit addition with supercritical cycle.

Thoroughbred Energy; Peabody Holding Company; Central City, Kentucky
2001
Project Control / Electrical Engineer. Managed the control and electrical conceptual design and cost estimate for two 750 MW unit coal-fueled plant.

Rawhide Combustion Turbine Project; Platte River Power Authority; Wellington, Colorado
2001
Project Control / Electrical Engineer. Managed the control and electrical design for three 90 MW simple cycle combustion turbines.

Aries Power Plant; MEP Pleasant Hill, LLC; Pleasant Hill, Missouri
1999 – 2001
Project Control / Electrical Engineer. Managed the control and electrical design for a 600 MW combined cycle EPC project.

Hines Energy Complex; Florida Power Corporation; Polk County, Florida
1999
DCS Startup Engineer. On-site assistance with control system tuning and adjustments in preparation for final commissioning tests.

San Jose Power Station; TECO Power Services; Guatemala, C.A.
1997 – 1999
Project Control / Electrical Engineer. Managed control and electrical design of a 120 MW coal-fired EPC joint venture project. Provided on-site assistance with startup, commissioning, and control system tuning and adjustments.

BP Kwinana Cogeneration; Mission Energy Holdings; Kwinana, Australia
1995 – 1996
Project Control / Electrical Engineer. Managed control and electrical design of an EPC 110 MW combined cycle cogeneration project. Provided on-site assistance with startup, commissioning, and control system tuning and adjustments.

Quindaro Station; Board of Public Utilities; Kansas City, Kansas
1990 – 1995
Project Control / Electrical Engineer. Managed control and electrical design of coal mill inerting system, coal conveyor fire protection system, and replacement data acquisition computer system.

New Boston Tall Chimney / Balanced Draft Modifications; Boston Edison Company; Boston, Massachusetts
1990 – 1995
Project Control Engineer. Managed control design modifications to add variable frequency induced draft fans to two 380 MW oil and gas fueled units and replaced continuous emissions monitoring system.

Sarpy County CT 3; OPPD; Bellevue, Nebraska
1993 – 1994
Project Control / Electrical Engineer. Managed control and electrical design of a 100 MW combustion turbine peaking and black start plant.

Cairo South Combined Cycle; ABB SUSA; Cairo, Arab Republic of Egypt
1991 – 1994
Project Control / Electrical Engineer. Managed control and electrical design of a 150 MW combined cycle combustion turbine plant for turnkey contractor under US Aid Grant.

Crystal River; Florida Power Corporation; Crystal River, Florida
1991 – 1992
Project Control / Electrical Engineer. Managed control and electrical design to add startup injection water pumps and valves to two 400 MW coal fueled units.

Crystal River; Florida Power Corporation; Crystal River, Florida
1989 – 1992
Lead Control Engineer. Design of control systems for a 700,000 g.p.m. seawater helper cooling tower and for circulating water flow control at two 400 MW coal fueled units.

Turner, Higgins, and Suwannee Plants; Florida Power Corporation; Florida
1990 – 1991
Engineering Manager. Managed mechanical, control, and electrical design of modifications to eight oil fueled units to allow circulation of heavy oil for warmup.

Pulau Seraya; Singapore
1990
Control Engineer. Review of control system vendor drawing submittals for Owner.

Bang Pakong; Electricity Generating Authority of Thailand (EGAT); Montaburi, Thailand
1990
Control Engineer. Review of distributed control system functional logic design and coordination with Japanese manufacturer.

Senoko; DRPL; Singapore
1989
Control Engineer. Member of a team performing a study for conversion of an oil fueled unit for fuel gas firing and preparing technical specifications for the modifications.

Channel Island Power Station; Northern Territory Electric Company; Darwin, Australia
1988 – 1989
Control Engineer. Developed performance test procedures, performed calculations, and prepared report for a 200 MW combined cycle combustion turbine plant.

Turner Plant Unit 4; Florida Power Corporation; Sanford, Florida
1988 – 1989
Lead Control Engineer. Design of control system modifications to add induced draft fans to an 80 MW oil fueled unit.

Argus Cogeneration Plant; Trona, California
1988
Control Engineer. Preparation of performance test procedures for a 100 MW circulating fluidized bed boiler power plant with cogeneration of steam.

Mid-Connecticut Resource Recovery Facility; CRRA; Hartford, Connecticut
1988
Resident Control Engineer. Assisted in commissioning of a refuse derived fuel and coal fueled plant consisting of three stoker type boilers and two 30 MW steam turbines.

Greater Detroit Resource Recovery Facility; CE RRS; Detroit, Michigan
1985 – 1988
Lead Control Engineer. Design of control systems for a 2,000 ton-per-day refuse derived fuel and oil fueled plant consisting of three stoker type boilers and a 70 MW steam turbine with 550,000 pph steam cogeneration to an offsite heating system.

Intermountain Generating Station; LADWP; Lynndyl, Utah
1982 – 1986
Control Engineer. Designed controls for various plant systems, main control panels, and control room arrangement for two 820 MW coal fueled units. Responsibilities included the unit control system and protection system. Coordinated preparation of unit performance test procedures, testing, evaluation, and preparation of report.

Louisa Generating Station; IIG&E; Muscatine, Iowa
1979 – 1981
Control Engineer. Designed controls for various plant systems and main control panels, as well as coordinated unit control system design for a 650 MW coal fueled plant with startup / bypass system for rapid startup and cycling operation. Provided operator training on startup / bypass system.

Council Bluffs Unit 3; IP&L; Council Bluffs, Iowa
1975 - 1979
Control Engineer. Designed controls for various plant systems for a 650 MW coal-fueled plant. Resident engineer responsible for all control related construction activities through commissioning, performance testing and final acceptance.

NICHOLAS J. ALTHAUSER

Project Mechanical Engineer

Mechanical Engineering

Education:
Bachelors, Mechanical, University of Missouri at Columbia, 1976
Bachelors, Mathmatics, University of Missouri at Columbia, 1972

Professional Registration:
2004, Wisconsin, 36868
1995, Texas, 77130
1992, Florida, 45447
1991, South Dakota, 4971
1983, Missouri, E-20552

Total Years Experience:
28

Joined B&V:
1976

Language Capabilities:
English

Nicholas J. Althauser is a Project Mechanical Engineer and a member of the Systems Design Section of the Mechanical Engineering Department. He has been responsible for the Mechanical Engineering effort for several combined cycle plants and has experience in coal and oil fired facilities.

Summary of Coal Experience: Nick has been involved in five coal projects, totaling nearly 2,700 MW.

Description of Project Experience

Weston Unit 4; Wisconsin Public Service; Wausau, Wisconsin
2003-Present
Project Mechanical Engineer. 600 MW Supercritical pulverized coal unit.

Allegheny Energy Units 3, 4 & 5; Allegheny Energy Supply; Springdale, Pennsylvania
2000-2003
Technical Project Manager. 500 MW combined cycle plant.

FPLE Rhode Island State Energy Project; Providence Road Island
2000-2001
Engineering Manager. 500 MW combined cycle plant.

AES Meridian III; Merida, Yucatan, Mexico
1998-2000
Engineering Manager. 480 MW combined cycle plant

Pasadena Cogeneration Project; Phillips Houston Chemical Complex; Pasadena, Texas
1996-1998
Project Mechanical Engineer. Responsible for mechanical engineering of a cogeneration project supplying steam to the Houston Chemical Complex, consisting of a 180 MW Combustion Turbine, 85 MW Steam Turbine, and three 200,000 lb / hr auxiliary boilers.

Termovalle Project; Cali, Colombia
1995-1996
Project Mechanical Engineer. 200 MW gas / oil fired plant.

Cleburne Cogeneration Project; BVZ Power Partners; Cleburne, Texas
1994-1996
Project Mechanical Engineer. 260 MW combined cycle cogeneration plant.

Mulberry Cogeneration Facility; Central & Southwest Services; Mulberry, Florida
1991-1994
Project Mechanical Engineer. 120MW combined cycle cogeneration plant.

Cane Island Units 1& 2; Kissimmee Utility Authority 1991-1993
Project Mechanical Engineer. 120MW combined cycle plant, 40MW aeroderivative simple cycle plant.

NRG Energy Inc., Kansas City, Missouri
1990
Mechanical Engineer. Steam generator building optimization study and economic and engineering analysis documenting the optimum location of equipment for a 350 MW coal-fired power plant.

AES Thames, AES, Montville, Connecticut
1989
Resident Mechanical Engineer. Responsible for construction completion, testing, and startup for mechanical construction contractor. Duties included construction surveillance, scheduling, development of testing procedures, and equipment startup.

AES Thames, AES, Montville, Connecticut
1987-1988
Mechanical Engineer. Responsible for system design of boiler related systems for the 200 MW coal fueled circulating fluidized bed boiler cogeneration plant.

Intermountain, Intermountain Power, Delta, Utah
1981-1986
Mechanical Engineer. Responsible for mechanical design of turbine-related systems for the 2 x 820 MW coal fueled Intermountain Power Project.

Semarang 3, Perusahann Umum Listrik Negara, Semarang Indonesia
1978-1980
Mechanical Engineer. Responsible for mechanical system design of the 200 MW heavy oil fired thermal plant.

CARLIN C. KNUDSEN

Engineering Manager

Engineering Management

Education
Bachelors, Mechanical, South Dakota State University, 1972

Carlin C. Knudsen, Mechanical Engineer is assigned to the Engineering Management Department of the Energy Division of Black & Veatch. His primary responsibilities involve coordinating system design between the different disciplines, preparation of construction specifications, equipment procurement, preparing Project Design Manuals, and verifying conformance to Black & Veatch design standards on fossil power plant design projects. System design activities include development of system design specifications, piping and instrument diagrams, one-lines, logics, and design control lists. Equipment procurement activities include production of procurement specifications, bid evaluations, equipment contract negotiations, and equipment contract administration including shop drawing review and monitoring contractor performance and schedule. Major responsibilities include directing and monitoring the work of discipline lead engineers assigned to the project team.

Summary of Coal Experience: Carlin has been involved in nine coal projects, totaling over 3,300 MW.

Description of Project Experience

CNC Module 5, British Oxygen Company, Mexico
2004-Present
Engineering Manager. Responsible for overall project engineering for a 55 MW cogeneration power plant (CT and HRSG; no steam turbine) providing power and steam to an air separation plant. The project consisted of adding a fifth module to an existing facility.

Stuart and Killen Stations, Dayton Power and Light, Dayton, Ohio
2004-2004
Engineering Manager. Responsible for overall project conceptual engineering and cost estimating for flue gas scrubber retrofits on four 600 MW coal fired units at the Stuart Station and one 600 MW coal fired unit at the Killen Station. Conceptual engineering included preparation of System Design Specifications, Arrangement Drawings, P&IDs, Electrical One-lines, Procurement Plan, Construction Plan, and Project Schedule.

Beaumont Cogeneration, ExxonMobil, Beaumont, Texas
2003-2004
Engineering Manager. Responsible for overall project engineering for a 3 x 0 450 MW cogeneration power plant (CTs and HRSGs; no steam turbine) providing power and steam to a refinery.

Hunterstown, Reliant, Gettysburg, Pennsylvania
2001-2003
Engineering Manager. Responsible for overall project engineering for a 3 x 1 890 MW combined cycle power plant.

Takoradi, TICO, Ghana, Africa
1999-2001
Lead Mechanical / Engineering Manager. Responsible for mechanical department engineering and procurement and overall project engineering coordination for two 100 MW simple cycle combustion turbines being added to an existing power plant site.

Gresik, BOC, Indonesia
1997-1999
Engineering Manager / Project Mechanical Engineer. Responsible for mechanical department procurement and engineering and overall project engineering coordination for a 42 MW combined cycle cogeneration power plant.

Castle Peak Wastewater Recycle, CP&L, Hong Kong
1996-1997
Project Mechanical Engineer. Responsible for mechanical department engineering for modifications to an existing coal fired multi-unit power station to recycle waste water.

Torghae, KOPEC, Korea
1994-1997
Project Mechanical Engineer. Responsible for review of the Owner's conceptual design and assisting the Owner in the detailed system design of a 200 MW fluidized bed power plant.

Suralaya, PLN, Indonesia
1991-1996
Project Mechanical Engineer. Responsible for writing system design specifications and technical specifications for a series of EPC contracts for three 600 MW pulverized coal power plants.

Cebu, Salcon, Philippines
1994-1995
Project Mechanical Engineer. Responsible for the assessment of an existing power plant and the writing of equipment and construction specifications to rehabilitate the plant. The plant consisted of six 6.3 MW diesel engine generators, two 27 MW gas turbine generators, and two 50 MW coal / oil fueled steam turbine generator units.

Virginia Power Reference Plant, Virginia Power, Virginia
1990-1991
Assistant Project Mechanical Engineer. Responsible for writing system design specifications and equipment specifications as part of an EPC specification for a 450 MW pulverized coal power plant.

Barbers Point, AES, Hawaii
1989-1990
Assistant Project Mechanical Engineer. Responsible for a complete review of mechanical system design, fabricated pipe specification, pipe support specification, and administration of the mechanical portion of a general construction specification for a 200 MW fluidized bed power plant.

Argus, Argus Cogen, California
1988-1989
Assistant Project Mechanical Engineer. Responsible for design of mechanical systems and writing of mechanical equipment and piping specifications and associated contract administration for a 100 MW fluidized bed power plant.

Salt River, Salt River Power Authority, Arizona
1987-1988
Mechanical Engineer. Responsible for design of mechanical systems and writing of mechanical equipment and piping specifications and associated contract administration for a 450 MW pulverized coal power plant.

Oak Ridge, US Government, Tennessee
1985-1986
Mechanical Engineer. Responsible for the design of air exhaust, filtering, and scrubbing systems for a weapons grade nuclear fuel processing facility.

Orlando, OUC, Florida
1981-1985
Mechanical Engineer. Responsible for writing system design specifications, mechanical system design, equipment and piping specifications and associated contract administration, and preparation of portions of the mechanical construction specification for a 450 MW pulverized coal power plant.

Black Fox, PSO, Oklahoma
1978-1980
Mechanical Engineer. Responsible for selected mechanical system design for two 1,200 MW nuclear-powered power plants.

Pleasants Station; Allegheny Power; Parkersburg, West Virginia
1994-1997
Project Chemical Engineer. Responsible for development of general study on water use for an existing two-unit coal fueled power plant.

Termopocifico; PTP; Cali, Columbia
1995-1996
Project Chemical Engineer. Responsible for design and procurement of water and wastewater treatment systems associated with a 400 MW coal fueled power plant.

Southern Thailand; EGAT; Thap Sakae, Thailand
1993-1994
Project Chemical Engineer. Responsible for development of conceptual design and capital cost estimates for water and wastewater treatment systems for a multi-unit (4,000 MW total) coal fueled power plant conceptual design study.

Coal Creek Station; CPA; Underwood, North Dakota
1993-1994
Project Chemical Engineer. Responsible for evaluation of cycle makeup treatment system, cycle chemical feed system, and circulating water chemical feed system as part of a capacity upgrade study for an existing two-unit (1,100 MW total) lignite fueled power plant.

Reid Gardner Station; Nevada Power Company; Las Vegas, Nevada
1993-1994
Project Chemical Engineer. Responsible for system study for condensate polishing system retrofit to existing four-unit coal fueled power plant.

Reid Gardner Station; Nevada Power Company; Las Vegas, Nevada
1992-1994
Project Chemical Engineer. Responsible for development of general study on water and wastewater management for an existing four-unit coal fueled power plant.

Canadys Station; SCE&G; Canadys, South Carolina
1993
Project Chemical Engineer. Responsible for detailed design and procurement of a service water pretreatment system retrofit to an existing coal fueled power plant.

Quindaro Station; Board of Public Utilities; Kansas City, Kansas
1990-1993
Project Chemical Engineer. Responsible for detailed design and procurement of demineralization system and water quality control system retrofit to an existing two-unit coal fueled power plant.

THOMAS O. MAGDANZ, JR.

Southeast Operations Manager / Project Field Manager

Construction Management/ General Contractor

Education
BS, Civil Engineering, South Dakota State University, Brookings, South Dakota, 1985

Professional Registration
Engineer (PE), Texas, 1991, Engineer-In-Training (EIT), Kansas, 1986

Total Years of Experience
32

Joined B&V
1985

Professional Associations
American Society of Civil Engineers

Language Capabilities
English

Thomas O. Magdanz, Jr. is currently the Southeast Operations Manager for the Black & Veatch Energy Engineering & Construction (EE&C) Department. His construction experience with power plant facilities includes the construction of eight General Electric (GE) 7FA simple cycle gas turbines and related auxiliaries, a 1,200 megawatt (MW) 6-on-1-1/2 combined cycle power plant, a 500 MW 2-on-1 combined cycle power plant, an 80 MW coal fueled power plant, a 250 MW fluidized bed cogeneration power plant, and a 500 MW coal fueled power plant. Magdanz was previously a structural engineer responsible for structural steel and concrete foundation design for Black & Veatch.

Representative Project Experience

Various Projects, Black & Veatch Raleigh, Raleigh, North Carolina
2004-Present
Southeast Construction Operations Manager. Black & Veatch. Responsible for assuring availability of resources with proper expertise and tools to support assigned construction project execution. Accountable for success of construction project execution. Has authority to allocate resources and make construction execution decisions for assigned area in accordance with Division Policies, Standards, Guides and Contractual commitments. Reports directly to the Director of Construction. Responsibilities include providing construction support for regional construction projects and proposals; directing the administration of construction personnel for regional construction projects; developing construction execution plans that minimize cost and duration of construction activities for projects and proposals; monitoring, evaluating, and reporting on performance of assigned construction projects to regional and divisional management; and providing recommendations to Director of Construction regarding project staff assignments and teams. Also act as liaison between offices for all construction related matters; communicate lessons learned; directs corrective action for discipline problems or poor performance within the region, and keep Department and Human Resources Departments involved and informed as required; enforce and interpret division and department policies, standards, and procedures; provide regional construction support for international offices and international project offices for proposals, project planning and project execution; provide supervision, training, development, and performance management of direct reports; and adhere to safety and quality standards as applicable to duties and accountabilities.

Trimble County Phase 2, Louisville Gas & Electric (LG&E), Bedford, Kentucky
2003-2004
Construction Manager. Black & Veatch. Reported directly to the Project Field Manager. Responsibilities included setup of site office and all construction site utilities and facilities; setup of all site procedures related to project control and construction execution; construction subcontracting planning, bidding, evaluation, negotiations, and construction execution; and daily construction subcontractor planning and execution coordination. Also responsible for construction subcontract administration; field engineering resolution and execution as well as all drawing control; management of full staff of engineers, superintendents, and technicians in civil/structural, mechanical, electrical, and instrumentation/control disciplines; and coordination with safety and health

department to ensure a safe working environment using the Black & Veatch Safety and Health Management System.

Tiger Creek Project, Louisville Gas & Electric (LG&E), Sandersville, Georgia
2002-2003
Construction Manager. Black & Veatch. Reported directly to the Project Field Manager. Responsibilities included setup of the site office and all construction site utilities and facilities; setup of all site procedures related to project control and construction execution; construction subcontracting planning, bidding, evaluation, negotiations, and construction execution; and daily construction subcontractor planning and execution coordination. Also responsible for construction subcontract administration; field engineering resolution and execution as well as all drawing control; management of full staff of engineers, superintendents, and technicians in civil/structural, mechanical, electrical, and instrumentation/control disciplines; and coordination with safety and health department to ensure a safe working environment using the Black & Veatch Safety and Health Management System.

Fort Myers Repowering Project, Florida Power & Light, Fort Myers, Florida
1999-2002
Construction Manager. Black & Veatch. Responsible for construction of the 1,200 megawatt (MW) 6-on-1-1/2 simple cycle and combined cycle Fort Myers Repowering Project. Managed all Owner-contracted furnish and erect contracts. Major construction contracts included site development, civil construction, mechanical and electrical construction, heat recovery steam generator (HRSG) erection, and the 12 bay cooling tower. Craft labor included both union and non-union to a peak level of 900 for the project, which was built in three phases. Phase 1 included building six General Electric (GE) 7FA combustion turbine (CT) units, each with a bypass stack, while at the same time building the six heat recovery steam generators 9HRSGs). Phase 2 included the piperack and all piping from the HRSGs to a common position prior to the turbines, and Phase 3 was a demolition phase that included all of the remainder of the piping and the refurbishment of two turbines. Performed the duties of Project Field Manager for the last 5 months of the project.

Hines Energy Complex, Florida Power Corporation, Bartow, Florida
1997-1999
Project Field Manager. Black & Veatch/Overland Contracting, Inc. Responsible for construction of a 500 megawatt (MW) 2-on-1 combined cycle power plant, including the construction management of all Owner-contracted equipment furnish contracts. In addition to the above responsibilities, managed the direct hire construction effort as the general contractor, performing all major construction activities for the project. Peak manpower level for the project reached 400 craft employees.

Sonoco Boiler Number 9, Foster Wheeler Pyropower Inc., Hartsville, South Carolina
1996-1997
Project Field Manager. Black & Veatch. Served as a member of the Black & Veatch/Zachry (BVZ) construction team during the construction and startup of a 120,000 pound per hour compact design fluidized bed multifueled boiler. Fuels

included coal, wood, and waste paper. Responsibilities included the management of the construction, startup, and engineering field teams.

Neil Simpson Unit 2, Black Hills Power & Light, Gillette, Wyoming
1993-1996
Project Field Manager/Construction Manager/Systems Manager. Black & Veatch. Responsible for construction and startup of an 80 megawatt (MW) coal fueled power plant. Managed the project as well as the construction, startup, and contract coordination for all construction contracts. Monitored schedule and acted as civil-structural field liaison.

Cedar Bay, Applied Energy Services, Jacksonville, Florida
1993
Construction Manager. Black & Veatch. Managed the construction of a 250 megawatt (MW) fluidized bed cogeneration power plant. Responsibilities included management of construction staff, contract coordination for all construction contracts, schedule monitoring, and resolving all construction cost issues.

Cedar Bay, Applied Energy Services, Jacksonville, Florida
1991-1993
Lead Civil Facilitator. Black & Veatch. Worked on the construction of the 250 megawatt (MW) fluidized bed cogeneration power plant. Responsibilities included coordination of work and resolution of design and construction related problems. Administered contract for the construction of the chimney, ash silos, and cooling tower.

J. K. Spruce Number 1, City Public Service, San Antonio, Texas
1989-1991
Lead Civil-Structural Construction Coordinator. Black &Veatch. Served as Owner's representative during the construction of a 500 megawatt (MW) coal fueled power plant. Responsible for quality control on all phases of work during the construction of the following buildings and structures: boiler, turbine, air quality control system (AQCS), scrubber, baghouse, sewage treatment, water treatment, chimney, and the coal silos.

Kingston Plantation, Rank Development, Inc., Myrtle Beach, South Carolina
1988-1989
Construction Administrator. Black & Veatch. Functioned as Owner's representative, administering the construction contract for 12 six unit town homes. Responsibilities included construction administration, schedule development, resolving construction problems, and reviewing payment applications.

Kingston Plantation, Rank Development, Inc., Myrtle Beach, South Carolina
1988
Construction Administrator. Black & Veatch. Served as Owner's representative, administering the construction contract for a 65,000 square foot multi-use area from ground breaking through final landscaping. The area included a kitchen structure, stage structure, pool bar structure, pool, jacuzzi, volleyball court, and approximately 45,000 square feet of deck area built in a time frame of 8 weeks.

Responsibilities included construction administration, quality control, schedule monitoring, pay application review, and contract closeout.

Kingston Plantation, Rank Development, Inc., Myrtle Beach, South Carolina
1986-1988
Lead Quality Control Engineer. Black & Veatch (B&V). Functioned as Owner's representative applying B&V's process quality control inspection checklists to inspect all phases of construction for a 17 story condominium and recreation center. Also inspected a 20 story hotel, a 15 story condominium, and 53 room lodge. Prepared construction reports and evaluated monthly application and certification for payment of all jobs.

Kingston Plantation, Rank Development, Inc., Myrtle Beach, South Carolina
1986-1987
Resident Engineer. Black & Veatch. Served as Owner's representative in the construction of a 20 story hotel and a 15 story condominium. Responsibilities consisted of inspections of drilled caissons, concrete construction, structural framing, finishes, and some mechanical inspections. Prepared construction reports and evaluated monthly application and certification for payments and change orders.

Recycling Facility, Mid-Connecticut Resource Recovery, Connecticut
1986
Civil Engineer. Black & Veatch. Conducted Power Plant Analysis and Design-Structural (PPADS) analysis of air heater towers in conjunction with Structural Domain Limits (STRUDL) analysis and design of air duct and gas duct trusses. Analysis and design of ash recycle and condensate building were conduced in conjunction with analysis and design of bottom ash conveyor and distributor conveyor.

Recycling Facility, Mid-Connecticut Resource Recovery, Connecticut
1985
Civil Engineer. Black & Veatch. Performed Power Plant Analysis and Design-Structural (PPADS) analysis of demolished generation building and design of yard structures (scrubber control additive preparation, ash storage).

Various Construction Projects, Brookings, South Dakota
1983-1984
Contractor. Self-employed. Contracted small construction jobs.

Wastewater Treatment Plant, City of Sioux Falls, Sioux Falls, South Dakota
1982
Carpenter Form Builder. Robert Carr Company. Functioned as layout man and form builder for a wastewater treatment plant.

Various Construction Projects, Sioux Falls, South Dakota
1981
Carpenter Form Builder. Dave Gustafson and Company, Inc. Functioned as form builder and small equipment operator.

Wastewater Treatment Plant, City of Brookings, Brookings, South Dakota
1978-1981
Carpenter Form Builder. Orville E. Madson & Sons, Inc. Supervised final change orders and installation of equipment for the Brookings, South Dakota, wastewater treatment plant.

Apartment Complex, Bismarck, North Dakota
1977
Carpenter. ASP Construction Company. Supervised laying out of two 50 unit apartments.

Oahe Irrigation Pumping Station, Bureau of Reclamation, Pierre, South Dakota
1975-1977
Carpenter Foreman Form Builder. Gordon H. Ball, Inc. Supervised the work of 10 people.

Residential Construction, Pierre, South Dakota
1974-1975
Carpenter. Missouri Valley Homes. Performed in-home construction.

Reference List

Mr. Phil Hayes
Project Manager - Weston Unit 4

Wisconsin Public Resources Corp.
700 N. Adams St.
Green Bay Wi. 54307
920-433-1824

Mr. Ken Roth
Division Manager

Omaha Public Power District
444 S. 16th St. Mall
9E/EP1
Omaha, NE 68102-2247
(402) 636-3320

Mr. Tim Driver
Generation Technical Project Manager

Tri-State Generation and Transmission Association
1100 W. 116th Ave
Westminster, CO 80234
(303) 254-3159

Wisconsin Public Service Corporation
(a subsidiary of WPS Resources Corporation)
600 North Adams Street
P.O. Box 19002
Green Bay, WI 54307-9002

June 3, 2003

To Whom It May Concern:

Black & Veatch is currently performing engineering services for Wisconsin Public Service Corporation for the first phase of WPSC's Weston Unit 4 project. Their current work involves the permitting support engineering and conceptual engineering for this unit.

The conceptual engineering work includes the development of the site layout, performing studies on various systems to determine the optimal configuration, cost estimates and cost projections, preparing system definitions to document the plant configuration, performing performance calculations, developing a plant schedule, and other general conceptual/definition engineering.

We have found Black & Veatch to be a professional and trustworthy organization. Their personnel are proficient and have always conducted themselves in a professional manner. We have found them very responsive and reliable, and their knowledge of overall power plant work is extensive. We have found their knowledge of the integration of the engineering/procurement/construction aspects, as well as their overall experience in both combustion turbine and coal-fired projects to be a particular plus for our project. We have been pleased with their past work, and look forward to working with them on the execution phase of the project.

If I can be of any assistance to you in answering any questions regarding the quality of the work that Black & Veatch has performed for us, or regarding our level of satisfaction with Black & Veatch, please feel free to contact me at (920) 433-1824.

Sincerely,

Phil Hayes

Phil M. Hayes
Manager – Major Projects Group

\\GBNTUC1\VOL1\GROUP\PPDC\PROJECTS\REG\013200I 001A\11 0000 ENG-OWNER CONTRACT AGRMNT\10.0400 BLACK & VEATCH PO 293750\WPSCREFERENCELETTER_.DOC

4377 Heckscher Drive
Jacksonville, Florida 32226-3099

March 24, 2003

Black & Veatch Corporation
10751 Deerwood Park Boulevard
Suite 130
Jacksonville, FL 32256

JEA

Subject: Black & Veatch
and JEA's Northside Units 1 & 2 Repowering Project

To Whom It May Concern,

Please accept this letter of introduction and reference for Black & Veatch Corporation.

ELECTRIC

WATER

SEWER

JEA is the largest public power company in Florida and the eighth largest public power company in the US. JEA currently serves nearly 350,000 customers and is experiencing a load growth rate of more than 3% per year.

In early 1999, JEA began a multi year project to repower two outdated oil/gas-fired steam electric generating units with two new state-of-the-art 300 MW Circulating Fluidized Bed Boilers. Black & Veatch provided significant support for this effort and shared in our success when Unit 2 began generating electricity on solid fuel in January 2002 and Unit 1 began generating in June 2002.

During the course of the project, Black & Veatch provided the following scope of services to JEA:

- Prepared the Furnish and Erect specification for the two CFB boilers including the Air Quality Control System.
- Reviewed the Boiler and Air Quality Control System submittals along with JEA to verify conformance to specifications.
- Provided for electronic review and storage of all project submittals.
- Provided the detailed engineering for the Balance of Plant including the Material Handling System.

We consider this project to be a success, and we are pleased with the support that Black & Veatch provided for us from spec preparation to submittal review and from detailed design to document review and storage. They were an effective liaison between our desires as the client and the abilities of our subcontractors.

If you should have any questions or wish to discuss this matter with me personally, please do not hesitate to contact me at (904) 714-4831 or by e-mail at dunjv@jea.com.

Very truly yours,

Joey V. Duncan
Manager, Project Management

JVD/kah

To Whom It May Concern:

The Municipal Energy Agency of Nebraska (MEAN) has employed Black & Veatch for services on coal-fired power projects ranging from support of project development, conceptual design, permitting support, to full scale engineering and detailed design, procurement services and construction management either directly or indirectly through our participation in a group of utilities. Recent project work has included a feasibility study, and a Phase I engineering services assignment, which has included conceptual design, project development support, studies, cost estimates, and permitting support relative to a planned 220 MW expansion at Whelan Energy Center in Hastings, Nebraska.

I have found Black & Veatch to be a professional organization, responsive, with the highest standards of operation. Black & Veatch is a very reliable organization. The work performed by Black & Veatch is high quality and staff we have worked with have displayed a long-term working knowledge of issues that are key to designing and constructing power plants.

If I can provide any additional information or clarification of MEAN's satisfaction with Black & Veatch performance, please feel free to contact me at 402-474-4759.

Sincerely yours,

Kevin M. Gaden
Manager of Electric Assets
Municipal Energy Agency of Nebraska

NMPP Energy
P.O. Box 93134
Lincoln, NE 68509-3134

1111 O Street, Suite 200
Lincoln, NE 68508-3614

Phone: 402.474.4759
Fax: 402.474.0473
www.nmppenergy.org

1228 North Denver Ave. • P.O. Box 289 • Hastings, Nebraska 68902-0289
Telephone (402) 463-1371 • FAX (402) 463-1705 • www.hastingsutilities.com

September 19, 2002

To Whom It May Concern:

Hastings Utilities has employed Black & Veatch for services on coal fired power projects ranging from support of project development, conceptual design, permitting support, to full scale engineering and detailed design, procurement services and construction management either directly or through our participation in a group of utilities. Recent project work has included a feasibility study, and a Phase I engineering services assignment, which has included conceptual design, project development support, studies, cost estimates, and permitting support relative to a planned 220 Mw expansion at our Whelan Energy Center.

Over my twenty-five years at Hastings Utilities, I have found Black & Veatch to be a professional organization, responsive, and with the highest standards. Black & Veatch is a very reliable organization, and the work performed by Black & Veatch is of the highest quality.

If I can provide any additional information about the performance of Black & Veatch, please feel free to contact me.

Sincerely,

Marvin H. Schultes
Manager of Utilities

PNM Resources
San Juan Generating Station
Mailstop 9EES, P.O. Box 227
Waterflow, NM 87421-0227
(505) 598-7814
Fax (505) 598-6036

San Juan Generating Station

Operated by PNM

A personal commitment to New Mexico

October 17, 2002

To Whom It May Concern:

Black & Veatch has performed engineering services for the Public Service Company of New Mexico on a number of projects for coal-fired units. These services included studies for individual systems to project development work and detailed design. The one I am particularly addressing in this letter is the fatal flaw and follow up study in relation to constructing a new coal fired generating unit. This development work included conceptual design, performance estimates, cost estimates, and interfacing with various equipment suppliers on our behalf.

We have found Black & Veatch to be a professional and trustworthy organization. We have found them to be reliable and their knowledge of overall power plant work is extensive. We have been pleased with their past work and plan to consider them for future work.

If I can be of further assistance in answering any questions regarding the quality of the work that Black & Veatch has performed for us or regarding our level of satisfaction with Black & Veatch, please feel free to contact me at (505) 598-7259.

Sincerely,

David A. Freestone
Manager, Technical Resources

Mirant Pagbilao Corporation
an affiliate of Mirant Philippines
CTC Building, 2292 Roxas Blvd., Pasay City, Philippines
T 632 552-8000 F 632 832-2664 U www.mirant.com

MIRANT

October 16, 2003

Subject: Construction of the Pagbilao Plant

To whom it may concern:

Upon your request, we hereby acknowledge that the 2x350 MW coal-fired thermal power plant located in Pagbilao, Quezon, Philippines (the "Pagbilao Plant"), was designed and constructed by a consortium to which Black & Veatch was a member.

The Pagbilao Plant was placed in commercial operation in 1996. Prior to commercial operation, we have undertaken an assessment of the services rendered by the EPC consortium, including Black & Veatch, and are satisfied with the quality of the services of the contractors. To date, the Pagbilao Plant has not experienced any major operational or technical problem.

Sincerely yours,

Joseph Lee Sullivan
ExecutiveVice-President
Operations

March 26, 2003

To Whom It May Concern:

The AES Thames facility was designed and constructed by an EPC contractor that was a joint venture led by Black & Veatch. Black & Veatch provided the design, procurement, and construction management for the plant.

This facility began commercial operation in 1990 and has performed well. Over the life of the unit, we have called upon Black & Veatch to provide support services including design of selected modifications and assistance with the acceptance testing of selected maintenance modifications.

If you have any further questions, please contact me via email at Weikko.Wirta@aes.com.

Sincerely,

Weikko S. Wirta
Area Superintendent

Thames

141 Depot Road • Uncasville, Connecticut 06382 • (860) 848-9223 • FAX (860) 848-3814

Cedar Bay Generating Plant
Owner: Cedar Bay Generating Plant, LP

9640 Eastport Road
Jacksonville, FL 32218

Mailing Address:
P.O. Box 26324
Jacksonville, FL 32226

904.751.4000
Fax: 904.751.7320
www.nepd.com

October 16, 2003

To Whom It May Concern:

National Energy & Gas Transmission's Cedar Bay Generating Plant, a 3x1 258MW, coal-fired, CFB cogeneration plant, was designed and constructed by an EPC contractor that was a joint venture of which Black & Veatch was a member. Black & Veatch provided design, procurement, construction management, and startup services.

This facility was placed in commercial operation in January 1994 and has performed well. Black & Veatch's performance on this project satisfactorily met or exceeded the plant's requirements for schedule and budget. Black & Veatch is a very reliable organization, and the work performed by Black & Veatch is of the highest quality.

If I can be of further assistance in answering any questions regarding the quality of the work that Black & Veatch has performed for us or regarding our level of satisfaction with Black & Veatch, please feel free to contact me.

Sincerely,

Steven J. Busbin
Engineering Manager

Cc: Marty Kreft
File 4.33

JAWA POWER

To whom it may concern

Letter No.	Date	Reference	Total Pages
J14224	3 February 2004	E06/HI-ws	1

This letter is to confirm that Black & Veatch was awarded our Paiton project as a partner with Siemens (consortium leader) and Alstom, 2x610 MW Pulverized Coal project in the year 1995 on Turn-key, EPC basis. The project was completed in the year 2003. The total value of the contract was US$1.2 billion.

PT. Jawa Power

Holger Illbruck
Vice President Technical

0370