MONTANA-DAKOTA UTILITIES CO.
A Division of MDU Resources Group, Inc.

Before the Public Service Commission of North Dakota

Case No. PU-06-482

Direct Testimony
of
Kermit E. Trout Jr.

Q: Please state your name and business address.

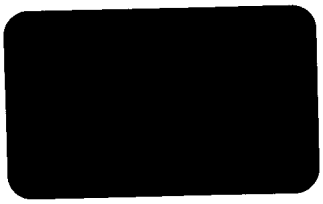
A: My name is Kermit E. Trout, Jr. My business address is 11401 Lamar Avenue, Overland Park, Kansas 66211.

Q: By whom are you employed, and in what capacity?

A: My title is Vice President – Senior Project Manager for Black & Veatch ("B&V") Corporation. Black & Veatch has been retained as the owner's engineer and construction manager for the Big Stone Unit II Project. As B&V's project manager on Big Stone Unit II, my responsibilities include directing and managing all of B&V's efforts on the project as well as all reporting to the Big Stone Unit II Co-Owners.

Q: What is your educational background?

A: I am a graduate engineer with a B.S. degree in aerospace engineering from Pennsylvania State University in 1969. I received a Masters degree in aerospace engineering from Purdue University in 1970. I received a second Masters degree in systems management from the University of Southern California in 1973. I am licensed as a professional engineer in several states, including Kansas.



Q: What is your employment history?

A: I have been employed at B&V for 31 years in it power generation services group (now the Energy Group). I have held various positions from design engineer to vice president. For the last 12 years I have been responsible for the project management on various power generation assignments including turnkey (engineer, procure and construct) projects as well as owner's engineering services. Prior to joining B&V, I was a design engineer with Combustion Engineering, a power plant equipment supplier. I joined B&V in 1975. The principal positions and responsibilities I have held with B&V have included; senior engineer, responsible for conceptual studies, specifications and evaluations of turbine island equipment for various pulverized coal power plants; specialty project manager, responsible for managing B&V's specialty group responsible for conceptual design of turbine island equipment on all of B&V's pulverized coal power plants; senior project manager, responsible for conceptual design, engineering and procurement support on a 250 MW oil-fired power plant; and project manager for numerous power plants around the globe.

Q: What work experience have you had that is relevant to your testimony?

A: As a project manager, I am involved with all aspects of project development, including the process of developing project cost estimates and cost reporting activities. These activities are important components of

the services B&V provides to its clients, and are completed in a consistent manner for projects of comparable size and complexity to Big Stone Unit II. In addition to my engagement on the Big Stone Unit II project, I have been involved with power project cost estimates on many similar projects. Thus, I am quite familiar with the process used to complete these cost estimates.

In addition to serving as Project Manager on the Big Stone Unit II project, I am managing B&V's work on a 2 x 250 MW coal-fired power plant for Bhilai Electric in India, and on a 2 x 300 MW coal project for Reliance Energy Ltd., which is also located in India. B&V is the Owner's consultant on both projects.

In 2001, I began serving as Project Manager on an EPC 525 MW combined cycle project for Mirant Delta LLC in Antioch, California known as Contra Costa Unit 8. Black & Veatch is completing this project on an open-book EPC approach (which means "Engineering/Procurement/Construction"). From 2003-2005, I served as Project Manager in connection with a 300 MW coal-fired project in Western Australia. During the same time period, I served as Project Manager on other B&V coal-fired plant opportunities in Germany and Australia. Between 1998 and 2003, I managed power plant projects for US electric utilities and developers, including Coyote Springs Unit 2, a 250 MW combined cycle project for Avista Corp. in Boardman, Oregon that went commercial in June 2003; the Energy Center Peaking Project in

Sarcoxie, Missouri, a 100 MW simple cycle project that went commercial in May 2003; the State Line Combined Cycle project for Empire District Electric Company, a 500 MW facility in Joplin, Missouri that went commercial in mid-2001. I have also managed power plant projects in China, England, Singapore. Before 1998, I served as senior project engineer on numerous other U.S. power plant development projects. From 1979 to 1988, I was responsible for managing B&V's specialty group responsible for conceptual design of turbine island equipment on all of B&V's pulverized coal power plants.

Q: What is the purpose of your testimony?

A: The purpose of my testimony is to summarize the July 2006 Big Stone Unit II project cost estimate and provide the basis for how the cost estimate was developed. I will also explain (1) B&V's role in the Big Stone Unit II project, (2) the process that led to B&V's development of the report that was delivered to the Big Stone Unit II owners on July 7, 2006 and (3) the status of the project capital cost estimates.

Q: Please describe B&V and the types of projects in the electrical generation and transmission industry B&V has been involved with.

A: Black & Veatch Corporation is a wholly-owned subsidiary of Black & Veatch Holding Company, a global engineering, consulting and construction firm, which has approximately 90 domestic and international companies and subsidiaries and over 7,000 employees. The company was founded in 1915, and specializes in infrastructure development in

energy, water, telecommunications, federal and governmental services, management consulting and environmental markets. B&V has offices in 23 different countries around the world. In the U.S., B&V has 53 offices in 27 different states, including Minnesota.

B&V has provided and continues to provide services in connection with projects involving coal-fired power plants, combustion turbines, combine cycle gas turbines, integrated gasification combine cycle plants ("IGCC"), all forms of renewable generating sources, hydro-electric plants, and transmission projects, including substations, overhead and underground transmission lines. B&V is also involved in the design, procurement and installation of air quality control equipment and systems, and in gas processing projects such as sulphur recovery, gasification and liquefied natural gas technologies.

B&V has been involved in new design engineering and the retrofit of supercricital pulverized coal power plant projects since the 1970's. In addition, B&V has provided consulting services to multiple client interests in supercritical coal technology.

Exhibit No.___(KET-1) is a listing of B&V's major projects since 2001. The projects listed represent an aggregate of approximately 20,000 megawatts.

Q: What does B&V rely on to forecast the future construction and operating costs of power generation resources?

A: B&V maintains, updates and utilizes related data from B&V's own projects as well as from trade publications and third party information available in the public domain. B&V also relies on data obtained from its construction partners and subcontractors. B&V applies its own institutional knowledge, judgment and experience to these data for estimating future construction and operating costs.

Q: How was B&V's cost information compiled?

A: B&V's Energy Group includes an Estimating Specialty Group. The cost estimators in this group regularly mine cost and other economic data from both public and private sources. The most accurate and current sources of cost data are the projects B&V is engaged on. B&V's cost data and cost estimates are developed by B&V's cost estimators and personnel assigned as a team to execute specific projects.

B&V obtains cost data from our own ongoing and completed projects as well as a host of other sources, mentioned previously. In addition, we obtain cost data from equipment suppliers through competitive bidding of equipment and components. For example, when issuing competitive bidding packages, we request pricing information from equipment suppliers which is used to update our cost data.

Q: Would you please explain B&V's involvement in the Big Stone Unit II project?

A: Yes. B&V commenced work on the Big Stone II project in the fall of 2005 as a result of being the successful bidder in the Big Stone Unit II Co-owners' Request for Proposals for Engineering Services.

As part of our scope of services, B&V prepared a "bottoms-up" detailed cost estimate. A preliminary cost estimate template was developed early in the project to allow the Co-owners to prepare internal documentation necessary to track and monitor project costs to the level of detail required.

Q: Would you please describe the Big Stone II Project cost estimate provided in Exhibit No. ___(KET-2)?

A: Yes. The project cost estimate, as also summarized in Exhibit 1 of the Application, was prepared after the definition of plant arrangements and configuration was developed in sufficient detail and after the design criteria for all equipment and material was developed and agreed to by the Co-owners. The project will be executed on a multiple contract basis meaning that the plant equipment and construction will be broken-down into approximately 110 specific contracts. Costs are summarized into major categories based on how equipment and construction including furnish & erect contracts will be administered. Cost monitoring will be to this level also.

Equipment costs include materials and services for all plant components. Construction contracts include labor and materials and services necessary to erect the plant equipment. Indirect costs include

Owner's costs including engineering and construction management as well as escalation and reserves allocation. The cost estimate was based on the following:

- Pricing of all major equipment and systems including receipt of detailed competitive bids for five major components and indicative price quotes for approximately 17 other major pieces of equipment and systems.
- Estimates of cost and quantity of individual construction commodities.
- Estimates of cost and quantity of individual construction labor hours. Local labor rates for the various union crafts (building trades) were obtained and used.
- Estimates of project indirect costs including engineering, construction management, unit startup, property tax, financing, insurance, contingencies and others as required (some of these included Co-owner related and provided estimates).
- Inclusion of all other Co-owner costs including transmission costs as well as for the Big Stone Unit II personnel and other indirect costs.

The detailed cost estimate was formatted into a cost report summary that will be updated on a monthly basis to reflect the actual costs

as they are incurred (which B&V and the project managers will use as a forecasting and monitoring tool).

Q: Was a cash flow profile developed that reflects how and when project costs will be incurred?

A: Yes, B&V prepared a cash flow profile showing the expected expenditures to be incurred on a monthly basis throughout the project. The project cash flow was developed using the "bottoms up" capital cost estimate and the project schedule. Exhibit No.___(KET-3) includes a flow diagram and work plan that describes the major activities that were completed between September 2005 and July 2006 when the cost estimate was presented to the Big Stone Unit II Owners. B&V's initial role in the project was to take the project from the status of a theoretical generic power plant, and perform the planning and design of the actual plant and ancillary systems. Part of that process involved assisting the Big Stone Unit II Co-owners perform a "sanity check" in October 2005 to determine whether, among other things, the preliminary cost estimate formulated by Burns & McDonnell and the project management team in connection with the feasibility study were and remained reasonable. The B&V project team that I manage concluded that the cost estimate was, in fact, within a reasonable range of costs for a comparable project and remained valid.

Q: What role did B&V play in quantifying and assessing the projected construction and operating costs of Big Stone Unit II?

A: B&V had the lead responsibility for developing the estimated construction costs for the project based on support from the Big Stone Unit II project team.

B&V had a limited role in developing the estimated operating costs. B&V's role was limited to: (1) suggesting the plant staffing necessary to successfully operate and maintain the plant and (2) developing the efficiency of the plant as measured by the net plant heat rate (the amount of energy produced as electricity as compared to the amount of the energy available from the fuel).

Q: Please explain the source of the cost information underlying the projections reflected in Exhibit No.___(KET-2).

A: The source of the cost information is derived from B&V cost and related data from our own projects, as discussed previously. Supplementing this in-house information is data from trade publications and third party information available in the public domain. Information is also obtained and used from our construction partners where we team with others to complete projects.

Q: Please explain which cost items reflected in Exhibit No.___(KET-2) are derived from contemporaneous bids on other relevant projects?

A: As mentioned previously, actual bids were received for five major components: the boiler, turbine, fabric filter, wet scrubber and chimney. In addition, budgetary quotes were obtained for the following equipment and systems:

- Coal Handling system
- Bottom Ash Handling System
- Fly Ash Handling System
- Cooling Tower
- Condenser
- Feedwater Heaters
- Circulating Water Piping
- Boiler Feed Pumps and Turbines
- Circulating Water Pumps
- Induced Draft and Flue Gas Desulfurization Booster Fans
- Cable Bus
- Transformers – Generator Step-up and Auxiliary
- Distributed Control System
- Ammonia Storage and Supply Equipment
- Condensate Polishing System
- Steam Cycle Sampling and Analysis System
- Waste Water Treatment System

Q: Please explain which cost items reflected in Exhibit No.___(KET-2) are derived from government and/or professional economists' projections of future prices, interest rates, economic growth and similar projected economic data.

A: None of the specific line items in the cost report are derived directly from published data. B&V reviews, evaluates, and then applies judgment

to the cost information from various public sources. These include government-based indices that track various commodities, labor rates and other Bureau of Labor Statistics information. Exhibit No.___(KET-4) includes representative commodity indices as a comparison between 2004 and 2006.

Q: Does B&V utilize information regarding trends in economic data and economic indicators in connection with the services it provides to energy project developers?

A: Yes. These are reviewed and applied as appropriate.

Q: Does B&V have confidence in the accuracy of the cost estimates it provided to the Big Stone Unit II Co-owners?

A: Yes. The rate for future escalation and the basis for the reserve allocation assigned to the current day-dollar-estimate are quantified. We have confidence that these are as accurate as possible for the given set of assumptions. While future cost changes are becoming more dependent on outside forces, the estimate provides a reasonable basis for cost projections.

Q: Does this conclude your testimony?

A: Yes.

Sample of Projects Black & Veatch Has Been Involved With – Last 5 Years

2001

Projects	Client	Description	Total MW	Scope
Darby	GE	4 x 0 GE 7EA SC	0	C
DECO Greenwood				
Choctaw (French Camp)	Reliant	3 x 1 GE 7FB CC	800	E, P, C
Trimble County	LG&E	2 x 0 GE 7FA SC	340	E, P, C
Mt. Bethel	PP&L	2 x 1 Westinghouse 501 F CC	GSA $ Only	E, P, C
Hunterstown	Reliant	3 x 1 GE 7FB CC	800	E, P, C
Culley 3	SIEGCO	SCR	0	E, P, C
Dallman	City of Springfield	SCR	0	E
Brazos Valley	NRG	2 x 1 GE 7FA CC	500	E, P, C
Mesquite	Sempra	2- 2 x 1 GE 7FA CC	1200	E, P, C
Contra Costa	Mirant	2 x 1 GE 7FA CC	500	E, P, C
Kiamichi (Oklahoma)	Tenaska	2- 2 x 1 GE 7FA CC	1200	E, P, C
Klamath Expansion	PacifiCorp	2 x 0 LM6000	60	E
Throughbred	Peabody/Mirant	2 x 750 MW PC	Phase I E	E, P, CM
Rolling Hills	Dynegy	5 x 0 SC SW 501F	850	E, P
Sunrise Power	Edison Mission	2 x 1 GE 7FA CC Conversion	180	E, P, C
Tracy	GWF	2 x 0 GE 7EA SC	170	E, P, C
Tiger Creek	LNG	4 x 0 GE 7FA SC	340	E, P, C
Peno Creek	Ameron UE	4 x 0 P&W FT8 Twin Paks	220	E, P, C
Calhoun	FPL Energy	4 x 0 GE 7FA SC	680	E, P, C
Thunderbird	Newport Generation	3 x 1 SWPC 501FD	850	E, P, C
Garnet Energy Facility	Ida-West Energy	1 x 1 SWPC 501FD	250	E, P, C
St. Joseph County	Allegheny Energy	2 x 1 SWPC 501FD	542	E, P, C
Schaffer 14	NIPSCO	SCR	0	CM
Michigan City 12	NIPSCO	SCR	0	E
Warrick SCR	Sigecorp	SCR	0	E, CM
Dallman 2	City of Springfield	SCR	0	E, CM
Chickahominy	Dynegy	4 x 0 SWPC 501F	665	E, CM

2002

Project	Client	Description	Total MW	Scope
St. Joseph County	Allegheny Energy	2x1 SW 501F	542	E,P,C
Garnet	Ida-West	1x1 SW 501F	260	E,P,C
Warrick 4	SIGECO	SCR Retrofit	0	E,P,CM
Coyote Springs Proj. Eval.	Avista	1x1 GE 7FA	280	CM Services
Whelan Energy Center	MEAN	1 x 220 MW PC	220	E
Bailly	NIPSCO	SCR Retrofit	0	E
Brown 2	SIGECO	SCR Retrofit	0	E,P,CM
Ft. Myers	FRL Group	2x0 GE 7FA	340	C
Chickahominy	Dynegy, Inc.	4x0 SW 501FD	665	E,P
La Paz	Allegheny Energy	2-2x1 GE 7FA	1,100	E,P,C
Trimble County Phase 2	LG&E	4x0 GE 7FA	680	E,P,C
Anderson	IMPA	1x0 GE 7EA	84	E,p,CM
Sunrise	Edison	Water Line Scope Addition	0	P,CM
Venice	AmerenUE	2x0 SW 501FD	340	E,p
Dansby Expansion	Bryan Texas Util.	1x0 LM6000	45	E,p,CM
Grayson Plant Unit 9	City of Glendale	1x0 LM6000	53	P
Manatee/Martin	FPL Group	2-4x1 GE 7FA	1,950	E,p
Weston 4	WPS	1 x 500 MW PC	500 MW	E,p
Others				

2003

Projects	Client	Description	Total MW	Scope
Harding Street	IPL	SCR Retrofit	0	EPC
Peco	Silicon Valley Power	2 x 1 LM 6000	147	EpCM
Cross	Santee Cooper	1 x 600 MW PC	600	Maintenance
Standard Plants	GE	1 x 1 9FB, 2 x 1 9FB	Various	E
Manatee Expansion	FPL	4 x 1 GE 7FA	1500	EPC
Martin Expansion	FPL	4 x 1 GE 7FA	800	EPC
Brown 1	SIGECORP	SCR Retorfit	0	EpCM
Rio Nogales Water Tank	Constellation Energy	City Water Tank	0	E, P
Caojing	Shanghai Municipal Electric Power Co.	2 – 1 x 1 GE 9FA	600	Ep
Nuclear Services	Various	Services		E
Stuart Killen Phase B	DPL			
Weston 4	WPS	1 x 500 MW PC	500	Ep
Beaumont	ExxonMobil	3 x 3 x 0 GE 7FA	480	EPC
PP3	Saudi Electric Co	8 x 0 GE 7EA	800	E
Winyah	Santee Cooper	Coal		Maintenance
Spill Prevention Control and Countermeasures	FPL	Maintenance		E, P, C
Easton	Easton Utilities Commission	2 x 0 Taurus 60	500	EPC
Bhilai Coal Plant	Bhilai	3250 MW, Coal	501	E
Portland Energy Centre	TransCanada Energy	2- 1 x 1 GE 7FA	550	E, P, C
Misc.	Misc.	Misc.		

2004

Projects	Client	Description	Total MW	Scope
Weston 4 site	WPS	Maintenance	-	CM
Weston Construction Consulting	WPS	Services	-	CM
Nuclear Services	Various	Services	-	Various
Battleground	Occidental Energy	1x1x0, GE 7EA	100	E,P,C
Marshall Boiler Modification	Duke Energy	Maintenance	-	C
Jinling Power Plant	HPI	3-1x1, GE 7FA	1,015	E
Shidongkou Power Plant	HPI	3-1x1, GE 7FA	1,015	E
Port Westward	Portland General Electric	1x1 MHI 501G	300	EPC
Samra	CEGCO	2 x 1, GE9E	300	EPC
Stuart / Killen Retrofit	Dayton Power & Light	Scrubber Retrofit	-	E
Whirlpool Warehouse	Polar Manufacturing	2x25,000m2	-	E
St. Lucie Nuclear	FPL	Nuclear Services	-	Various
Turkey Point Nuclear	FPL	Nuclear Services	-	Various
Turkey Point CC Project	FPL Group Inc	4x1 GE 7FA	1,150	E,P,C
Portlands Energy Centre	TransCanada Energy	2-1x1 GE 7FA	550	E,P,C
Zhujiang Consulting	GDGC	3-1x1, GE 9FA	900	CM
Port Everglades Precipitator	FPL	Maintenance	-	C
CES Projects	Various	Services	-	Various
Easton	Easton Utilities Commission	2 x 0 Taurus 60	10	EPC
Misc.	Misc.	Misc.	-	Various

2005

Projects	Client	Description	Total MW	Scope
CT Projects	Various	Various		Various
Indralaya	Sumitomo	2 x 1 6B CC	40	EPC
Cantarell	BOC Gases	1 x 1 x 0 Cogen GT 64 MW	64	EPC
Horizon	Canadian Natural Resoruces Ltd	1 x 1 x 0 7EA Cogen GT	100	EP
Teco Expansion	Tampa Electric Co. (TECO)	Simple Cycle Expansion		C
AQCS Projects	Various	Various		Various
Lowman AQC Additions	Alabama Electric Coop. Inc.	Sulfur Control Chiyoda		EPCM
Cardinal 1 and 2 OEM	American Electric Power (AEP)	Sulfur Control Chiyoda		EP
Cardinal BOP	American Electric Power (AEP)	Sulfur Control Wet or Dry FGD		EPC
Big Sandy	American Electric Power (AEP)	Sulfur Control Chiyoda		EP
Conesville	American Electric Power (AEP)	Sulfur Control Chiyoda		EP
Kyger Creek	American Electric Power (AEP)	Sulfur Control Chiyoda		EP
Muskingham	American Electric Power (AEP)	Sulfur Control Chiyoda		EP
Culley 3 Fabric Fit	Vectren Energy Delivery (SIEGCO)	Fabric Filter		EP
Conesville Pahse 2B FGD	American Electric Power (AEP)	Sulfur Control Chiyoda		EPCM
Coal Projects	Various	Various		Various
Nebraska City 2	Omaha Public Power District	1 x 600 MW PC	600	EPC
Dallman Unit 4	City Water Light & Power	1 x 200 MW PC	200	EPC
J. K. Spruce Unit 2	CPS Energy	1 x 750 MW PC	750	EPC
Nuclear Projects	Various	Various		Various
GOC Projects	Various	Various		Various
AGIP CKO	AGIP Kazakhstan	Sulfur Recovery		EP
Puguang	Sinopec	Sulfur Recovery	0	
PD Proejcts	Various	Various		Various
Jefferson to Martin	PG&E	Transmission Line		EPC
NE 2 12	Pepco	Substation		EPC
Dover to Milford	Connectiv	230 KV T Line		C
NE 2 12 69 K UG	Pepco	Underground Transmission		EPC
Roseville	Roseville Electric	Switchyard		EPC
MPAC Hunterspoint	PG&E Corp.	P-HP 115 kV UG		C
P-HP 115 kV UG	PG&E Corp	Transmission Project		
Wachusetts	Mitsubishi Electric Power Prod	345/115 kV GIS		EPC-JV
Ward Hill EPC	Mitsubishi Electric Power Prod	Ward Hill Expansion Project		EPC-JV
Shaker Run	Cinergy Services Inc.	Substation		EPC
Mesquite	Sempra	Auto Transformer Addition		EPC
Aldene-Stanley Terrace-Essex	PSE&G	230 kV Substation Expansion		EP
CES Projects	Various	Various		Various
Misc.	Misc.	Misc.		Various

Case No. PU-06-482
Exhibit No.___(KET-2)

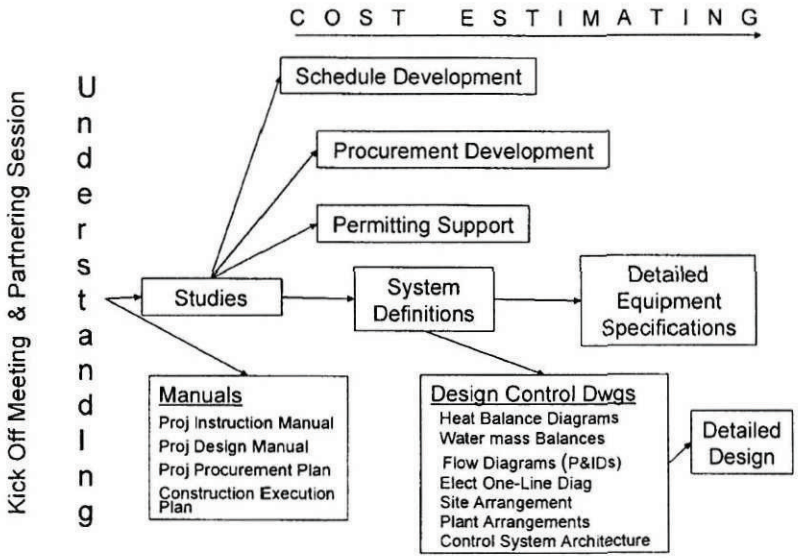
TRADE SECRET - PRIVATE

Big Stone Plant II -- Project Work Plan through June 2006

The BSP II work plan through the initial phase of the project includes project initiation, administrative and planning, and conceptual design activities. These activities culminate in mid year 2006 with the establishment of the target project cost estimate. This estimate will be detailed to ensure the financial viability of the project for the Ownership group to go forward with financial closure.

The following is the detailed work plan for these initial activities. This plan is consistent with the scope of services included in the Engineering Services Agreement.

The overall plan is summarized on the following diagram.



The project schedule is attached.

Project Initiation Activities

Kickoff Meetings
The collective project teams are conducting a series of kickoff meetings. The initial meetings have been competed. These included a turnover meeting internal to the B&V team, as well as a kickoff planning meeting at the site. Additional meetings are planned at the site during mid October by the lead B&V team, BSP II team member meetings in KC, as well as a partnering session (tentatively scheduled to coincide with PowerGen on December 8th and 9th) among all project participants.

B&V's project administration and control system will be used to execute the project. This system and its activities and procedures for control of schedule, design, and cost have evolved over time based on past experience on large power generation projects.

Project Administration and Planning

These activities include establishing this project execution plan, developing systems for information management, establishing budgets and the work schedule, and establishing the project control system. These activities can be categorized under the following topical headings:

Project Manuals, including Procurement and Construction Plans
Studies, System Definitions, Design Control Drawings, and other deliverables
Schedules
Cost Estimate and Cash Flow
Project Information Management System

Project Manuals

B&V will develop a set of manuals that will be used to control the work on the project during this initial phase as well as through detailed design, procurement and construction management.

These will include a Project Instruction Manual (PIM), Project Design Manual (PDM), Project Procurement Manual (PPM), and Design Tool Usage Plan (PM - ***POWRTRAK***®).

The PIM is developed with Owner input, and will provide a documented plan for managing the project. The PDM will establish the design basis for the project. The PPM covers the procurement plan for the project and the scope of the individual procurements. The PM covers the computer hardware, software, and communication links needed for the project both onsite and home office.

Project Instructions Manual; This manual will include all BSP II specific procedures and additional procedures established by B&V to be used during the execution of the Project. The manual will establish guidelines, methods, procedures, and lines of communication to administer, control, and coordinate the work between the BSP II team, B&V, and other project participants.

B&V will develop the filing and indexing system, drawing numbering system and the equipment nomenclature and numbering system that will be used for the project. Topics to be included in this manual are as follows:

Organization (project participants, and overview of roles and responsibilities)
Communications (lines of communications and procedures relative to correspondence distribution, including e-mail etc.)
Document control / information management (procedures for drawing control system, project filing system and procedures, drawing numbering system, equipment nomenclature and numbering system, etc.)
Engineering management.
Procurement management.
Construction management.
Cost and schedule control.
Quality control program.
Equipment nomenclature and numbering.
B&V drawings and lists.
Design interfaces.
Permits and licenses.
Information management.

Project Design Manual; B&V will develop a Project Design Manual, which will incorporate the controlling requirements for the engineering design of the project. The purpose of this manual

will be to describe the design requirements of the project and to provide the basis for detailed design. Information initially developed includes the following:

Economic evaluation criteria.
Site information from initial investigations or monitoring of ambient air, hydrology, meteorology, geology, topography, background noise, and soils investigations.
Environmental Criteria.
System Definitions.
Engineering design criteria, standards and codes for the engineering disciplines: mechanical, civil-structural, electrical, control, and chemical engineering, including site specific criteria.
Pertinent results of Technical Studies

Project Procurement Manual; B&V will develop a Project Procurement Manual which will define the Procurement Plan to consolidate and publish information related to project procurement. Included in this plan will be instructions, complete lists of equipment and construction procurement specifications, and other matters related to project procurement. The basic scope of procurement packages, especially construction packages, is defined in the Procurement Plan.

Procurement planning activities include:
Descriptions of the significant contents of the procurement documents.
Types of procurement anticipated for each package (full specifications, bill of material, etc.)
Development of contract format including commercial terms jointly prepared with the Owner for the following types of procurement.
Equipment and material
Construction
Furnishing of materials and construction
Instructions for material expediting.
Definition of the invoice verification process and interface with the owner.
Purchase orders following competitive bids and negotiated proposal.
A tentative list of qualified bidders for each package.
The appropriate proposal pricing basis to be used for each package.
Pricing basis is typically one of the following:
Fixed price and escalation
Lump sum price
Unit price
For each procurement package:
Appropriate terms of payment.
Acceptable escalation indices
Current expectations of lead time
General conditions
Alternative contracting methodologies will be addressed.

Design Tool Plan-- POWRTRAK®; This plan will establish and define the IT related tools to be used on the project including computer hardware, software, and communication links to be used for the project both at the home office and later on site.

Construction Execution Plan. The overall project construction execution plan will define the contracting approach and summarize the construction subcontracts

Studies

B&V will complete system analysis to evaluate key equipment arrangements within the plant. Each study will evaluate alternative design concepts to determine the most cost effective arrangement.

The studies will include the following items as appropriate.

- Capital costs
- Operating and maintenance costs
- Reliability, Availability, Maintainability
- Defined regulatory requirements, as applicable
- Project schedule impacts
- Other considerations

The economic criteria used for the studies are presented separately. The extent of the study investigations and analyses will be sufficient to support the study objectives and conclusions. Each study will include the results, diagrams, and other information required to support the conclusions.

Steam Cycle Assessment. The objective of this study will be to determine the most advantageous steam cycle arrangement based on consideration of alternative feedwater heater arrangements. The study will evaluate 7-heater and 8-heater cycle arrangements.

Heat Rejection System Assessment. This study will determine the heat rejection system design parameters listed below based on a comparison of differential capital costs and the capitalized value of differential plant performance impacts.

- Single vs. multi-pressure condensing
- Condensing pressure
- Condenser tube length
- Condenser tube diameter
- Cooling tower approach temperature
- Circulating water flow rate
- Circulating water pipe diameter
- Cooling tower configuration (cross flow vs. counter flow)
- Horizontal dry pit vs. vertical wet pit circulating water pumps\\

ID Fan Assessment. The objective of this study is to determine the most advantageous arrangement (axial versus centrifugal) for the ID fans. System characteristics over the unit load range will be evaluated to ensure variable speed or constant speed control will permit stable flow control over the expected unit operating range from startup to MCR load.

Boiler Feed Pump Arrangement Assessment. The objective of this study will be to determine the number of boiler feed pumps and the type of boiler feed pump drives to be used. This study will be coordinated with the Steam Cycle Assessment so that the assumed pressure losses through the high pressure heaters reflect the preferred feedwater heater arrangement. The number, size and types of boiler feed pump drives will be evaluated.

Common Scrubber Assessment. The objective of this study will be to optimize the design and arrangement for using a common scrubber for both BSP II and BSP I. The design will be evaluated to establish an optimum arrangement. The analysis will investigate the advantages of installing the scrubber earlier than what might be necessary to support BSP II's commercial operations.

Drive Assessment. This analysis will evaluate the use of constant speed motor drives versus variable speed options for the fans. The selection of drive type will be based on consideration of capital costs, O&M costs, availability, effects on the auxiliary electric system (load flow, voltage drop, and power quality (harmonics)), and process control and stability. Black & Veatch will also coordinate with OTP to consider and incorporate factors that are relevant to their plant operations.

Cooling Tower Plume Abatement. The objective of this study will be to review the previous study and determine if there will be any impact from the mechanical draft cooling tower plume on nearby businesses/residences.

Main Steam and Reheat Steam Temperature Assessment. This study will determine the most advantageous main and reheat steam temperature.

Boiler Building Ventilation. The purpose of this study will be to characterize the most advantageous boiler building ventilation arrangement.

Operability Review. BSP II's operating modes and operational requirements regarding the possibility of a common BSP I and BSP II control room arrangement will be addressed so that conceptual design proceeds with those requirements in mind. This review will be completed to confirm that the conceptual design, control philosophy, and associated project cost estimate is consistent with the planned operations.

Constructability Review. The constructability review will be completed to insure that the design and procurement activities have been developed and scheduled to support construction and in turn the cost estimate. Topics to be addressed include:

Delivery Sequencing (Establish adequate lead times for long lead delivery items and coordinate/sequence delivery of equipment and materials with the erection contract dates). Review delivery dates of F&E and construction subcontracts to check for properly sequenced delivery of subcontractor-furnished equipment and material.

Installation Sequences – perform constructability reviews to verify the infrastructure of the existing facilities, construction access and other requirements, and review the compatibility with other ongoing work and BSP I planned outages.

Equipment Requirements – perform constructability reviews to confirm that functional, dimensional, and erection requirements for the equipment to be installed are met.

Access – review plans and documents to determine adequacy of access provisions for the sequenced delivery and installation of materials and equipment, and for personnel access within the site and facilities.

Material Flow patterns–review and evaluate the planned flow of material from delivery onsite through installation and final acceptance. Material flow patterns are to optimize construction procedures to avoid adverse impact upon operating units.

Constructability reviews will continue during the design/procurement phase of the project.

Steel Industry Assessment. The purpose of this review will be to quantify the current state of the market to assess ways to minimize structural steel costs as well as other commodities like copper and alloy piping.

Existing Infrastructure and Interface Assessment. As part of the conceptual design effort, B&V will assess BSP I plant systems to determine their adequacy to support BSP II. If it is determined that modifications to the existing systems are necessary, the modifications and associated impacts will be clearly identified and quantified in the target cost estimate.

All potential interfaces with existing structures, equipment, systems, etc. required to support the design or installation of the new unit will be clearly identified and discussed.

Labor Survey and Assessment. This study will be completed to determine the best labor basis and plan for securing the construction work force for the project. This assessment will develop the project approach to be used (union versus merit or open shop) to best assure that the number of craft and skill level necessary to complete the project will be available. The assessment will also determine the wage rates, competing projects, numbers of construction personnel by craft, craft availability and productivity estimates, as well as potential national and local contractors to do the work.

B&V will support the development of a Project Labor Relations Program (specifically the National Construction Agreement) if a union based construction approach is decided.

Auxiliary Steam Supply Study. This study will evaluate and define the auxiliary steam supply system for BSP II. The study will consider the existing unit's auxiliary steam requirements and the ethanol plant's demand as well as the BSP II requirements. The study will evaluate sizing the system to meet all of those requirements. The analysis will include the cost breakdown associated with providing steam to the ethanol plant as a back-up source to Unit I.

Other Studies. Other studies may be completed as the need arises to support additional conceptual design requirements or environmental permitting needs.

System Definitions

System Definitions will be developed that provide initial descriptions of the design concepts for each power plant system and the interfaces between each new system and the existing BSP I systems.

The System Definition typically includes the following elements:

- System function
- System process
- System performance expectations
- Listing of the number and capacity of the significant components, e.g., two full-capacity boiler feed pumps
- Controlling design parameters
- Description of system boundaries

The System Definitions provide guidance for subsequent levels of conceptual and detailed design but do not generally provide detailed design criteria (i.e., flows, pressures, temperatures, etc.) which are established in the detailed design and procurement documents.

Each System Definition is numerically identified in accordance with the standard filing and indexing system for the project.

The System Definitions, along with the PDM, design control drawings and the supporting studies, are interface documents for the transitional stage between conceptual design and detailed design engineering. System Definitions serve as the basis for design control and quality control compliance audits.

Design Control Drawings

Design control drawings are those drawings that summarize the plant arrangements and define basic equipment layouts and configurations. These will be developed early in the conceptual design phase

Site Arrangement Drawing. An overall site plan block drawing of the project major equipment, including steam generator, turbine-generator building, air quality control equipment, chimney, cooling tower, fuel handling systems, limestone handling system, ash handling system, chemical storage, etc. The location of administration/services building(s) and other buildings and structures, electrical transmission lines/corridors, and access roads will also be identified.

General Arrangement Drawings. Arrangement drawings depicting the major equipment, their required pull spaces and maintenance/access requirements, and major system piping (steam, feedwater, etc).

Heat and Mass Balances. B&V will provide heat and mass balances at MCR for various ambient temperatures. In addition heat balances will be developed at partial loads of 40%, 60%, and 80% of MCR all at a single ambient temperature. B&V will also develop a process flow diagram which will show process pressure (psig), drafts (inches water), combustion constituents (O_2, CO_2, SO_2, H_2O), temperatures (F), and flow rates (gpm, klb/hr, cfm) for all main and secondary flow paths.

The preliminary water balance will be based on typical unit performance, anticipated water supply sources, applicable wastewater discharge points, and proposed water and wastewater treatment equipment.

Flow Diagrams. Preliminary flow diagrams (precursors to the P&IDs to be developed during detailed design) for the major mechanical systems included in the project, such as fuel, limestone, bottom ash and fly ash, main and reheat steam, boiler feedwater, condensate, circulating water, makeup water, and wastewater.

Electrical Single Line Drawing. An overall plant single-line illustrating the tie to the substation and configuration of the power system for the plant and including all major components of the substation, including breakers, disconnect switches, transmission interconnections, generating unit interconnection(s), and transformers.

Control System Architecture Drawing. The Controls Architecture Drawing will be developed to depicting the layout of the Plant Control System.

Other Deliverables

Other services and deliverables will be completed as necessary to provide the engineering data needed to support the cost estimate as well as any other Owner activities like permit applications or regulatory support.

Surveys and Explorations. B&V will prepare drawings, specifications, and other documents required to support having third parties perform ground surveys, aerial photography, cartography, field measurements, geotechnical (subsurface explorations and soils investigations) as required.

B&V will prepare specifications, assist with contracting and monitor all surveys and explorations.

Black & Veatch engineers will evaluate all data collected, and compile a summary memo of conditions and preliminary recommendations.

Soil Resistivity Measurements. In situ soil resistivity measurements will be collected in conjunction with the geotechnical investigation described in the previous task.

Building Code Review. As part of the conceptual design effort, applicable Building and the Fire Prevention Codes will be reviewed to identify requirements which will impact the design of plant.

Support for Air Permitting. Additional data required to support the air permit application process, including gas exit temperature, gas exit flow rate and velocity; maximum and average fuel consumption rates; maximum and average limestone consumption rates; hourly emission profiles for startup and shutdown; height, width, and length of all significant structures; description of proposed air pollution control devices; and emission estimates.

Schedules and Schedule Control

The overall project schedule will be developed to support the detailed target cost estimate. The detailed Level 3 project schedule will be completed during conceptual design, and the project schedule will be defined in sufficient detail to establish the procurement and construction plans. Key milestones and durations for activities will be established to ensure the cost estimate is based on a well-defined overall project execution plan.

At the project kickoff meeting, the major project milestones for engineering, procurement and construction were discussed and decided, and the format and level of detail for the Level 1 schedule will be agreed upon. The schedule will be used at this point simply to highlight critical path issues related to putting Big Stone II on line by April 2011, and to provide a basis, in conjunction with the capital cost estimate, for developing a preliminary estimate of project cash flow.

The Project Schedule will integrate all project activities (including BSP II Ownership milestones).including the following.

Time duration for each key activity associated with permitting, RUS loan application, engineering, procurement, construction, and startup/commissioning.

Major milestones for permitting submittal and approval processes, award of major supply and installation contracts, ground breaking, start of boiler erection, availability of startup power, boil out, steam blow, first fire, unit synchronization, and commercial operation.

During this conceptual design phase planning and scheduling will also include:

Establish engineering budgets and durations to provide a tool for evaluating project progress.

Develop the overall project schedule to support the cost estimate.

Monthly reports will be produced with a written summary prepared that indicates float analyses, problem areas, trends, and risks for the Project Manager and project team to review. Recovery plans will be developed for Project Schedule activities that are on a float path of –20 days or more behind schedule.

Regular monitoring, updating and analysis of all schedules shall be performed at the following minimum intervals.

Engineering activities – twice monthly.

Procurement activities – every week during the initial months of the project execution and twice monthly thereafter.

Cost Estimate and Cost Control

As part of the conceptual design effort, B&V will prepare a "bottoms-up" detailed cost estimate. The cost estimate will have sufficient detail to support the RUS loan application filing. The final project cost estimate will be based upon the preliminary estimate and will be prepared after the definition of plant details and design criteria for all equipment and material is available.

B&V will provide a breakdown/list of all cost information needed from BSP II to support the estimate development. The cost breakdown will be in sufficient detail to meet RUS requirements and individual Owner's group member's corporate code of accounts process.

The cost estimate will be based on the mutually agreed contracting strategy and will include the following.

- Pricing of all major equipment and systems
- Estimates of cost and quantity of individual construction commodities
  - Estimates of cost and quantity of individual construction labor hours. The cost will be based on local labor rates.
  - Estimates of project indirect costs including engineering, construction management, unit startup, interest during construction, property tax, financing, insurance, contingencies and others as required
- Inclusion of Owner costs and other indirect costs

The cost estimated during conceptual design will be updated during detailed design. The estimate serves throughout the project as a cost reference for performance measurement. As actual costs are determined, comparisons of the costs to the budget are reported showing deviations (plus or minus) from the estimate. The estimate will be based on the scope determined by the preliminary design. Preliminary, bills of quantity (BOQ's) will be developed for all major commodities required for the plant to support this estimate. These BOQ's will be used for cost estimating and control as well as planning, and procurements. The BOQ's will be based on the preliminary design and will require updating as the detailed design is performed.

B&V analyzes the project costs and project progress on a monthly basis. A monthly progress report will be issued. The progress report tracks budget or planned values versus actual values for engineering, procurement and construction costs, and construction / startup progress.

The progress report is typically reviewed in a monthly progress meeting, which would entail the following:

- Engineering status
- Procurement status

Construction and startup status, including commodity installation curves as application
Safety status
Participation from and status of the major equipment suppliers
Change order status
Action items
Schedule review
Submittal information
Project progress photos

B&V analyzes the project costs and project progress on a monthly basis. A monthly progress report will be issued. The progress report tracks budget or planned values versus actual values for engineering, procurement and construction costs, and construction / startup progress.

Cash Flow

Cash flows will be developed based on the Schedule and Cost Estimate discussed above. These will depict the magnitude and timing of expected disbursements for all project costs, including equipment procurement, construction, engineering, construction management, and other project direct costs.

A cash flow profile showing the expected funding required on a monthly basis through the project duration. The initial project cash flow will be developed from the "bottoms up" capital cost estimate and the Level 1 schedule previously described. Construction costs and indirect costs such as engineering, construction management, etc. will reflect the best estimate of when these costs will be incurred on a progress basis. The total project disbursements for each month can be used to develop estimates of interest during construction and other Owner indirect costs not otherwise included in the capital cost estimate, in order to obtain an all-in total project cost estimate.

Project Information Management System

The project will utilize a centralized computer-based project information management system (***POWRTRAK***$_{®}$) that will support the needs of engineering and procurement and will supply timely information, as needed for construction management.

The Black & Veatch standard drawing and filing system, including specification numbering system, as well as the standard design coding system, will be used; however, other BSP II numbering may be included as well for specifications and drawings. BSP II drawing numbers may be displayed on drawings in addition to the Black & Veatch number if desired.

Black & Veatch will utilize Documentum which is a text type document management tool. Documentum provides electronic filing of project correspondence, engineering text type documents and other quality records. Portals will be established for use by the BSP II project team and Owners to provide access to key project files maintained in the B&V Documentum files. The Documentum portal will also allow the Project Team and Owners to distribute documents among themselves for review and record purposes. In addition, portals will allow access to various ***POWRTRAK***$_{®}$ modules for drawing reviews and design database access.

A project web-site (using I-Backup.com) will be developed to exchange large files, procurement and construction specifications and drawings, etc.

MAJOR COMMODITY COST COMPARISONS

6/29/2006

BETWEEN 2004 AND PRESENT

STRUCTURAL STEEL

The following U.S. Department of Labor Bureau of Labor Statistics are provided to indicate steel commodities increases:

WPU1017-- Metals and metal products -- Steel mill products
May 2006/Jan 2004 = 167.2/115.4 = 45% increase

WPU101 -- Metal and metal products -- Iron and Steel
May 2006/Jan 2004 = 183.7/134 = 37% increase

PCU332312332312121 -- Fabricated structural metal manufacturing -- Iron and steel for industrial buildings
May 2006/Jan 2004 = 190.6/143.1 = 33% increase

PIPE

The following U.S. Department of Labor Bureau of Labor Statistics are provided to indicate pipe commodities increases:

WPU101706 -- Metals and metal products -- Steel pipe and tube
May 2006/Jan 2004 = 198.1/118.8 = 67% increase

PCU332996332996 -- Fabricated pipe & pipe fitting mfg -- Fabricated pipe & pipe fitting mfg
May 2006/Jan 2004 = 214.3/159.1 = 35% increase

From London Metal Exchange:
Nickel Metal Monthly Buying Price $/CWT, London Metal Exchange
June 2, 2006/January 1, 2004 = $1,011.34/$757.26 = 34% increase

CABLE AND WIRE

From COMMODITY ASSESSMENT, FILE NO. 142662.42.0100 SYSTEM ANALYSIS for BIG STONE II POWER PLANT
Copper Metal Monthly Buying Price $/CWT, London Metal Exchange
May 06/Dec 04 = $354.13/$148.77 = 138% increase

The following U.S. Department of Labor Bureau of Labor Statistics are provided to indicate wire and cable commodities increases:

PCU3359293359291 -- Other communication and energy wire mfg -- Power wire and cable, made in plants that draw wire
May 2006/Jan 2004 = 194.8/118.6 = 64% increase

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Producer Price Index-Commodities

Series Id: WPU1017
Not Seasonally Adjusted
Group: Metals and metal products
Item: Steel mill products
Base Date: 8200

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1996	116.6	115.2	114.7	114.9	115.2	115.6	115.5	115.9	116.3	116.0	115.7	115.6	115.6
1997	115.9	116.1	116.1	116.4	116.2	116.3	116.6	116.6	116.8	116.6	116.6	116.2	116.4
1998	115.9	115.9	115.5	115.4	115.1	115.1	114.8	114.3	113.3	111.8	110.2	108.7	113.8
1999	107.1	105.7	105.4	105.3	104.6	105.2	104.7	104.7	104.7	105.0	105.4	106.1	105.3
2000	107.3	107.9	108.5	109.7	110.2	110.0	109.9	108.9	108.6	107.6	106.2	105.5	108.4
2001	103.8	102.7	102.6	101.9	101.6	101.3	101.3	100.9	100.6	100.0	99.6	99.1	101.3
2002	98.3	98.3	99.6	101.0	102.3	104.5	106.0	107.3	109.7	110.4	110.4	110.1	104.8
2003	109.5	109.8	109.4	109.6	109.0	108.8	108.4	108.4	108.7	110.1	110.7	112.0	109.5
2004	115.4	122.5	129.6	139.1	146.8	147.0	151.1	157.9	161.1	163.3	165.7	166.7	147.2
2005	169.6	169.9	166.3	164.1	161.0	156.2	152.7	148.1	152.0	155.6	160.2	160.4	159.7
2006	163.5	160.6 (P)	161.1 (P)	162.6 (P)	167.2 (P)								

P : Preliminary. All indexes are subject to revision four months after original publication.

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Washington, DC 20212-0001

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Fax-on-demand: (202) 691-6325
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Producer Price Index-Commodities

Series Id: WPU101
Not Seasonally Adjusted
Group: Metals and metal products
Item: Iron and steel
Base Date: 8200

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1996	127.0	126.3	125.7	125.9	126.3	126.2	125.8	126.2	126.4	125.5	124.3	124.2	125.8
1997	125.5	126.6	126.2	125.8	126.0	126.1	126.7	126.8	126.8	126.8	127.2	127.0	126.5
1998	127.0	126.6	125.7	125.5	125.3	125.0	124.2	122.6	120.5	117.6	115.6	114.5	122.5
1999	113.9	113.8	112.9	112.8	113.1	113.8	113.4	114.0	113.9	114.3	115.5	117.1	114.0
2000	118.3	118.2	118.4	119.0	118.4	117.6	117.1	116.2	116.1	114.7	112.8	112.4	116.6
2001	112.1	110.6	110.6	110.2	109.9	109.7	110.0	109.9	109.6	108.6	107.6	107.3	109.7
2002	107.1	107.7	109.0	110.8	112.9	114.7	115.9	117.0	118.6	118.9	118.2	117.9	114.1
2003	118.6	120.1	120.7	120.7	119.8	119.2	119.4	120.8	122.0	123.2	125.0	128.4	121.5
2004	134.0	143.6	150.3	154.4	155.3	155.2	166.0	174.2	174.0	178.9	182.4	180.6	162.4
2005	181.2	179.8	176.4	176.9	170.7	162.0	160.0	161.8	169.2	168.0	173.9	173.8	171.1
2006	174.7	175.4 (P)	176.5 (P)	179.2 (P)	183.7 (P)								

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Producer Price Index Industry Data

Series Id: PCU332312332312121
Industry: Fabricated structural metal manufacturing
Product: Iron and steel for industrial buildings
Base Date: 8206

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1996	136.8	137.0	136.9	137.3	137.3	137.0	137.1	137.2	137.3	137.4	137.4	137.3	137.2
1997	137.3	137.3	137.8	137.9	138.0	138.0	138.1	138.1	138.1	138.5	138.5	139.4	138.1
1998	139.4	139.7	140.3	141.1	141.6	142.8	142.8	142.9	143.1	143.0	142.9	143.9	142.0
1999	143.5	143.6	143.7	143.7	143.8	143.9	143.9	144.4	144.4	145.1	146.7	146.9	144.5
2000	146.9	146.7	146.9	146.9	146.9	148.5	148.4	147.7	147.7	147.7	148.4	146.7	147.4
2001	146.4	146.2	146.1	145.3	145.3	144.9	143.9	144.1	144.2	143.4	143.6	143.5	144.7
2002	143.4	142.6	142.3	142.8	142.6	142.4	142.1	141.8	141.7	141.3	140.7	140.4	142.0
2003	139.6	139.4	139.2	138.3	138.3	138.1	138.8	138.8	138.3	138.2	139.5	141.1	139.0
2004	143.1	149.2	152.3	162.1	161.6	171.5	171.8	172.5	172.6	177.6	177.8	177.8	165.8
2005	178.0	178.2	178.5	179.3	179.3	179.3	177.6	177.4	179.0	184.6	184.6	184.8	180.1
2006	186.9	191.6 (P)	190.6 (P)	190.4 (P)	190.6 (P)								

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Producer Price Index-Commodities

Series Id: WPU101706
Not Seasonally Adjusted
Group: Metals and metal products
Item: Steel pipe and tube
Base Date: 8206

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1996	102.9	102.8	103.3	102.9	103.5	103.0	103.2	103.3	103.3	103.7	103.6	103.4	103.2
1997	105.2	105.2	105.4	105.8	106.0	106.9	106.8	106.9	107.7	108.6	108.7	109.2	106.9
1998	108.6	111.7	111.5	111.3	111.0	111.0	110.0	109.5	109.1	108.2	106.8	104.5	109.4
1999	102.9	102.8	102.0	102.4	102.0	102.0	101.5	102.2	102.2	102.7	103.0	104.4	102.5
2000	104.8	104.8	105.6	106.4	107.1	107.5	108.0	107.1	107.6	107.7	106.2	106.0	106.6
2001	105.4	104.4	104.9	104.8	104.3	104.5	104.3	104.0	103.7	103.3	102.6	102.1	104.0
2002	101.2	100.4	101.7	104.7	104.0	107.2	108.2	108.1	110.5	111.1	111.2	111.4	106.7
2003	112.0	113.6	113.2	113.4	112.8	113.2	113.6	113.2	113.0	113.5	113.6	115.1	113.3
2004	118.8	126.2	136.4	152.6	163.4	173.3	179.1	183.9	188.6	191.1	191.5	191.1	166.3
2005	195.9	196.8	197.6	196.4	195.9	193.4	189.2	188.2	189.5	191.2	192.3	193.4	193.3
2006	196.2	194.2 (P)	195.0 (P)	197.1 (P)	198.1 (P)								

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Producer Price Index Industry Data

Series Id: PCU332996332996
Industry: Fabricated pipe & pipe fitting mfg
Product: Fabricated pipe & pipe fitting mfg
Base Date: 8106

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1996	146.3	147.4	147.9	147.9	148.4	148.4	148.5	148.3	149.0	148.7	148.7	148.4	148.2
1997	150.1	150.2	150.5	151.1	151.2	151.6	152.1	152.3	152.5	152.8	152.5	152.3	151.6
1998	152.0	151.9	151.4	151.1	151.6	151.5	150.2	149.9	148.9	149.0	148.5	147.8	150.3
1999	146.1	145.3	144.8	145.1	144.8	145.3	146.4	146.3	146.8	147.2	148.3	148.7	146.2
2000	149.7	149.9	151.5	151.4	151.5	151.2	151.2	151.3	151.2	152.2	152.3	152.4	151.3
2001	152.8	152.6	153.4	152.7	153.0	152.8	153.2	153.1	152.8	152.3	152.5	153.0	152.9
2002	152.5	152.0	152.5	152.7	153.1	152.9	154.0	154.7	154.3	154.9	155.6	155.1	153.7
2003	155.1	155.2	156.3	156.8	157.8	156.0	155.2	155.5	156.2	155.8	154.7	156.5	155.9
2004	159.1	165.7	175.7	184.8	189.0	193.1	193.7	195.9	196.1	199.1	198.8	198.7	187.4
2005	202.7	202.8	204.8	205.6	206.4	206.4	205.9	205.1	204.9	205.9	210.1	212.4	206.1
2006	213.4	214.3 (P)	214.1 (P)	213.8 (P)	214.3 (P)								

P : Preliminary. All indexes are subject to revision four months after original publication.

U.S. Bureau of Labor Statistics
Postal Square Building
2 Massachusetts Ave., NE
Washington, DC 20212-0001

Phone: (202) 691-5200
Fax-on-demand: (202) 691-6325
Data questions: blsdata_staff@bls.gov
Technical (web) questions: webmaster@bls.gov
Other comments: feedback@bls.gov

Nickel

	London Metal Exchange	
	$/Metric Tonne	$/CWT
1/1/2004	$16,690	757.26
1/6/2004	$17,770	806.26
2/2/2004	$15,610	$708.26
3/1/2004	$14,950	$678.31
4/1/2004	$13,885	$630.00
4/28/2004	$10,925	$495.69
5/14/2004	$10,765	$488.43
5/28/2004	$11,980	$543.56
6/11/2004	$12,630	$573.05
6/28/2004	$14,800	$671.51
07/05/04	$15,750	$714.61
07/16/04	$15,050	$682.85
07/30/04	$14,110	$640.20
8/13/2004	$13,250	$601.18
8/30/2004	$12,870	$583.94
9/10/2004	$12,275	$556.94
9/24/2004	$14,750	$669.24
10/8/2004	$16,585	$752.50
10/22/2004	$13,410	$608.47
11/5/2004	$14,030	$636.57
11/19/2004	$13,800	$626.13
12/3/2004	$13,075	$593.27
12/17/2004	$13,305	$603.68
12/31/2004	$15,200	$689.66
1/14/2005	$14,650	$664.70
1/28/2005	$14,625	$663.57
2/11/2005	$15,270	$692.83
2/25/2005	$16,130	$731.85
3/11/2005	$16,205	$735.25
3/25/2005	$16,850	$764.52
4/8/2005	$16,420	$745.01
4/22/2005	$16,245	$737.07
5/6/2005	$16,795	$762.02
5/20/2005	$16,740	$759.53
6/3/2005	$17,290	$784.48
6/17/2005	$16,650	$755.44
7/1/2005	$14,350	$651.09
7/15/2005	$14,705	$667.20
7/29/2005	$14,450	$655.83
8/12/2005	$15,550	$705.54
8/26/2005	$15,015	$681.26
9/8/2005	$14,800	$671.51
9/23/2005	$13,810	$626.59
10/7/2005	$13,090	$593.92
10/21/2005	$11,800	$535.39
11/4/2005	$11,550	$524.05
11/18/2005	$11,925	$541.06
12/2/2005	$12,670	$574.86
12/16/2005	$13,500	$612.52
12/30/2005	$13,375	$606.85
1/13/2006	$14,400	$653.36
1/27/2006	$14,700	$666.97
2/9/2006	$15,270	$692.83
2/24/2006	$14,760	$669.69
3/10/2006	$14,650	$664.70
3/24/2006	$15,060	$683.30
4/7/2006	$16,650	$755.44
4/21/2006	$19,150	$868.87
5/5/2006	$19,945	$904.95
5/19/2006	$21,070	$955.99
6/2/2006	$22,290	$1,011.34

Structural Steel & Copper Pricing Trends

	Structural Steel Monthly Buying Price $/ton				
	Auto Scrap Baseline	Auto Scrap Surcharge	Total Scrap Price	Mill Charges	Mill Price to Fabricators
Dec '03	**$162**	**$0**	**$162**	**$278**	**$440**
Dec '04	**162**	**143**	**305**	**333**	**638**
Dec '05	**162**	**103**	**265**	**418**	**683**
Jan '06	162	88	250	433	683
Feb '06	162	63	225	458	683
Mar '06	162	88	250	433	683
Apr '06	162	88	250	433	683
May '06	162	96	258	445	703

	Copper Metal Monthly Buying Price $/ton London Metal Exchange			NYMEX COMEX CWT
	Per Metric Ton	$ Per Pound	CWT	
Dec '03	**$2,700.0**	**$0.90**	**$90.15**	**$108.50**
Dec '04	**3,279.0**	**1.49**	**$148.77**	**148.70**
Dec '05	**4,584.0**	**2.08**	**$207.99**	**199.00**
Jan '06	4,942.0	2.24	$224.23	223.40
Feb '06	4,965.0	2.25	$225.27	220.80
Mar '06	5,260.5	2.39	$238.68	239.45
Apr '06	6,706.0	3.04	$304.26	310.50
May '06	7,805.0	3.54	$354.13	349.10

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Producer Price Index Industry Data

Series Id: PCU3359293359291
Industry: Other communication and energy wire mfg
Product: Power wire and cable, made in plants that draw wire
Base Date: 8212

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1996	119.7	120.0	120.3	121.0	123.4	120.1	116.2	116.1	115.7	117.6	116.0	117.2	118.6
1997	118.0	118.1	120.2	118.6	119.9	119.5	119.6	119.3	117.7	116.5	115.5	114.0	118.1
1998	112.7	112.6	112.7	113.6	112.1	111.8	111.4	111.0	111.6	112.3	112.0	110.8	112.1
1999	110.2	110.0	111.2	110.9	110.1	109.9	110.7	109.6	112.8	113.3	114.4	112.6	111.3
2000	113.6	115.9	120.7	122.3	124.0	120.9	118.3	118.4	118.9	118.1	118.8	117.3	118.9
2001	117.7	117.8	116.5	114.5	113.2	113.8	109.6	112.3	111.5	110.2	109.9	108.8	113.0
2002	110.4	110.2	111.2	110.4	112.4	111.9	110.0	109.4	108.6	107.6	106.4	108.1	109.7
2003	110.6	108.2	110.8	110.2	116.9	118.3	114.2	119.5	119.2	116.4	116.8	115.5	114.7
2004	118.6	120.1	119.6	128.3	123.7	122.8	122.5	122.0	125.0	134.1	137.3	132.8	125.6
2005	132.9	137.7	139.5	139.3	137.1	142.2	151.9	146.4	153.9	155.1	168.3	177.4	148.5
2006	176.1	170.8 (P)	175.2 (P)	183.2 (P)	194.8 (P)								

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