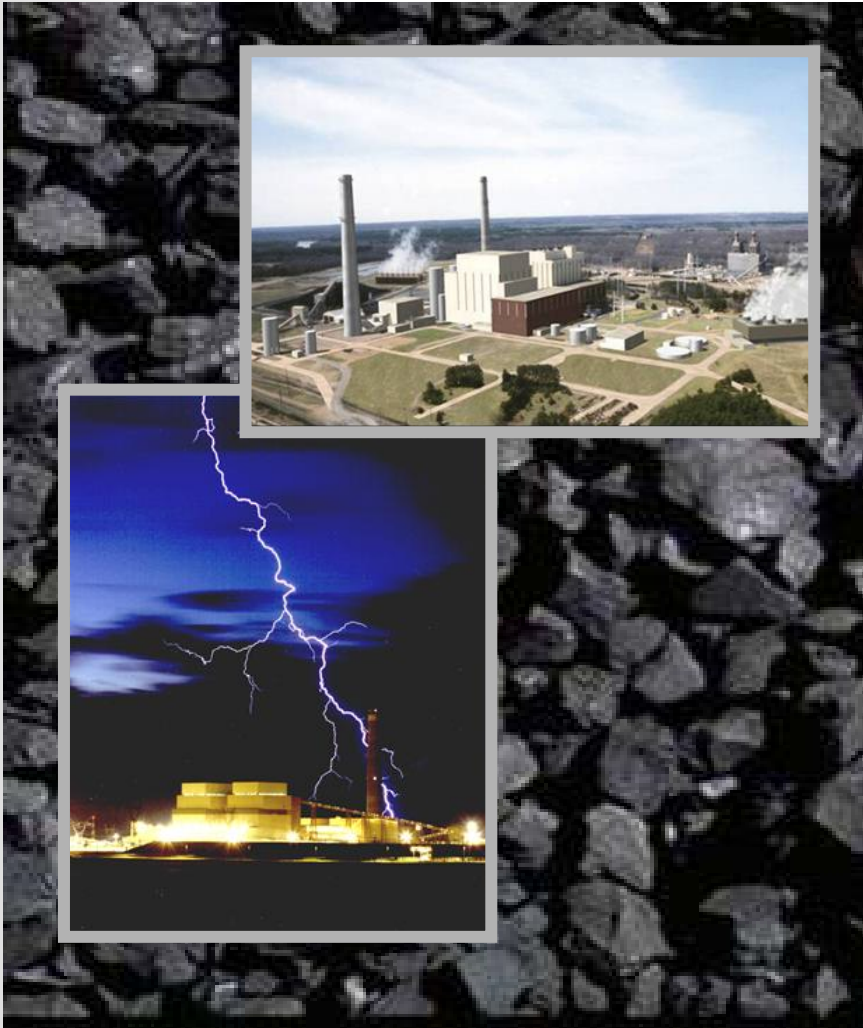




WE BRING IT ALL TOGETHER



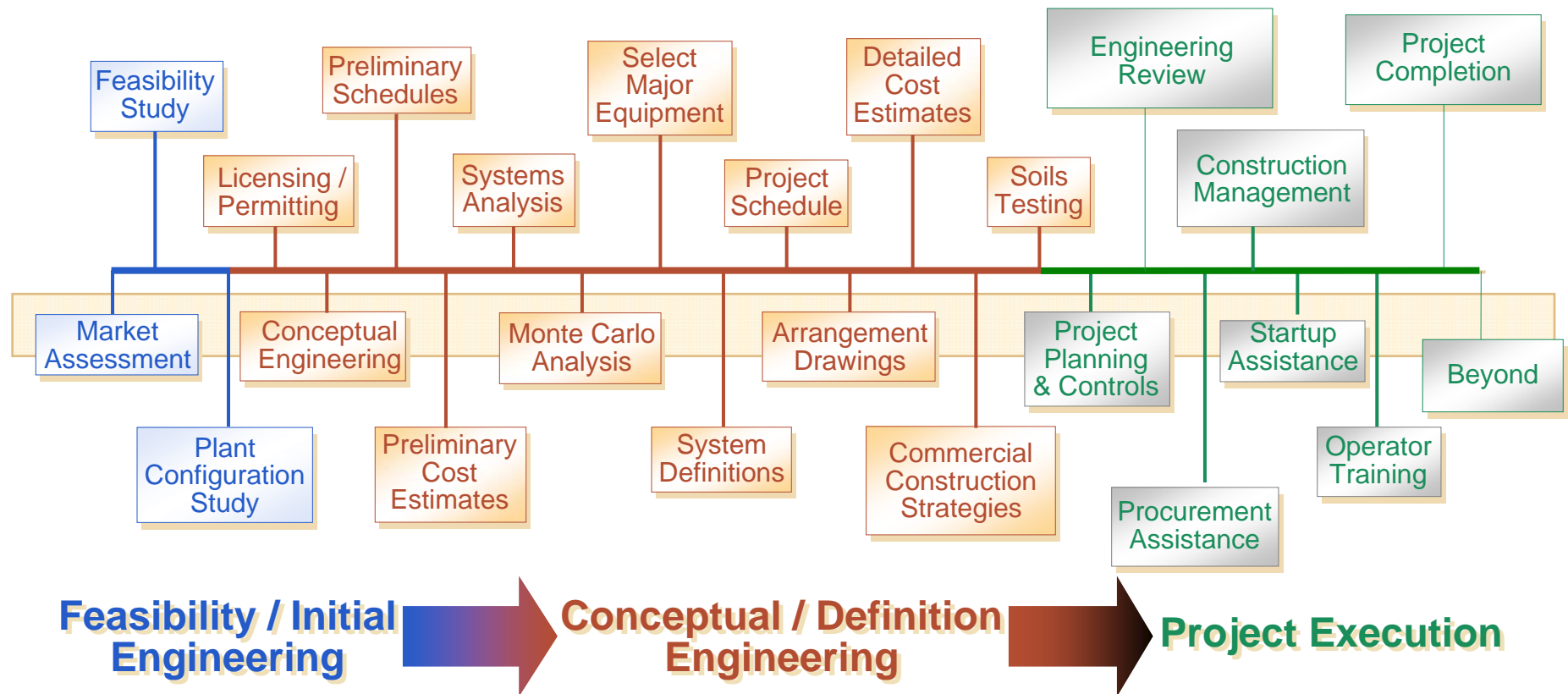
MMEA Presentation

***Building New Baseload
Generation in the Midwest***

Black & Veatch
May 11, 2006



Process Steps for New Generation



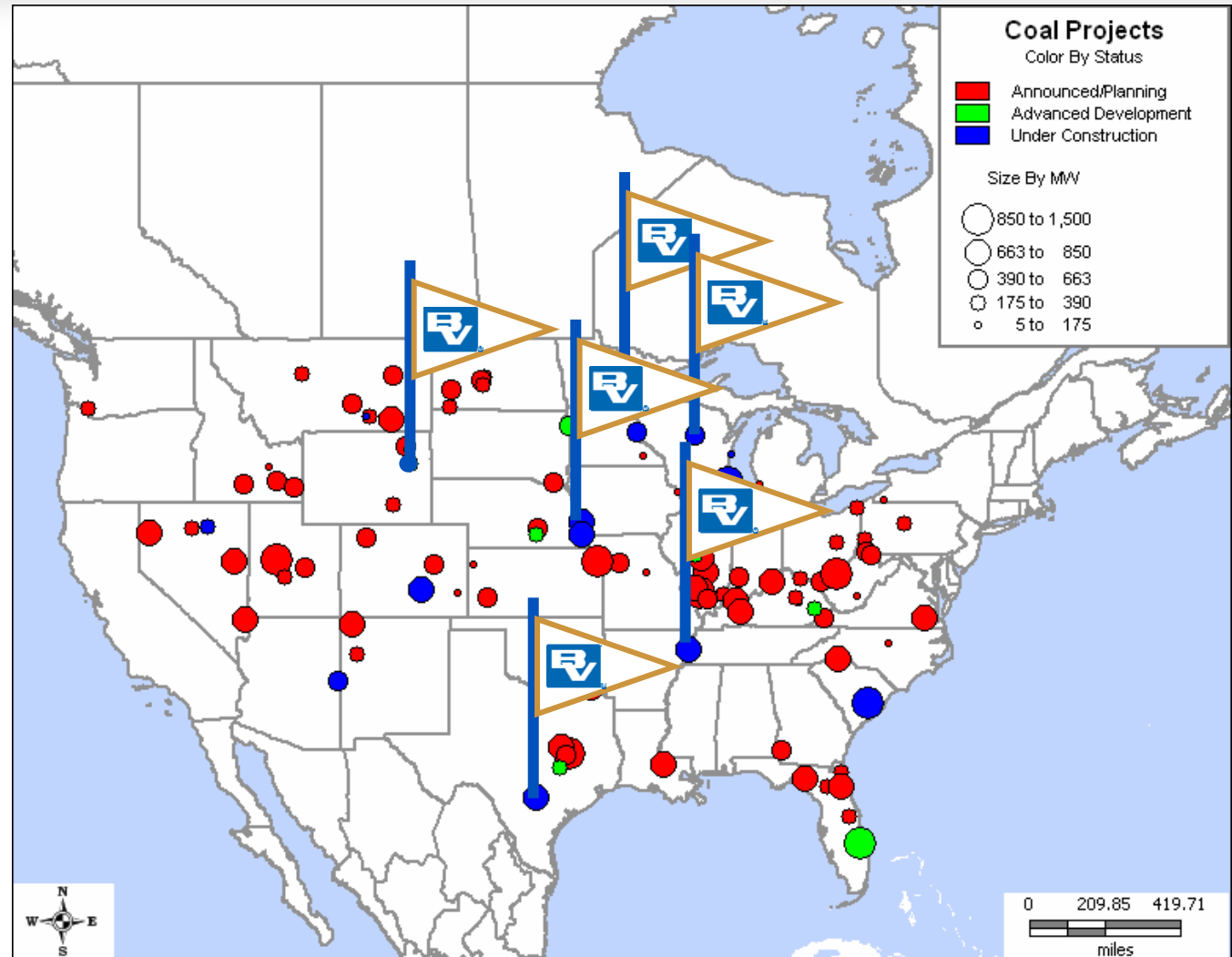
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U.S. Energy Market Signals Remain Favorable for New Coal-Fired Generation

Over 80 GW of Planned New U.S. Coal Projects

Of the 16 Units Under Construction, We Are Involved In 6



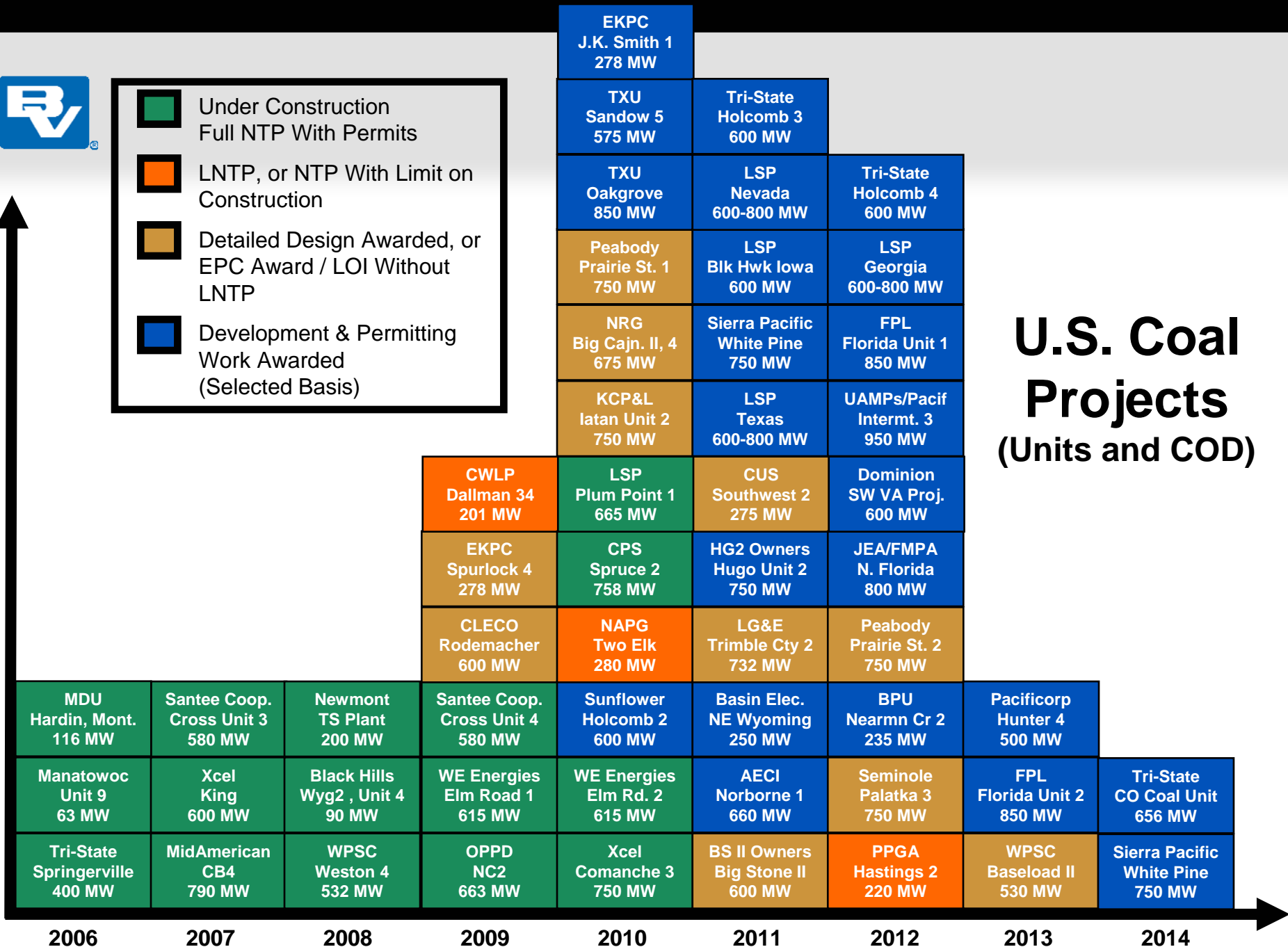
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- Under Construction
Full NTP With Permits
- LNTP, or NTP With Limit on
Construction
- Detailed Design Awarded, or
EPC Award / LOI Without
LNTP
- Development & Permitting
Work Awarded
(Selected Basis)

Units

U.S. Coal Projects (Units and COD)





Black & Veatch Current Coal Projects

Owner	Project	Project Size	Scope	COD
Sumitomo Corporation	Tanjung Jati B Power Plant	2 x 660 MW	EP	2006
PT Sumber Segara	Primadaya (PT S2P)	2 x 300 MW	OE	2006
Xcel Energy	King Rehabilitation Project	600 MW	Ep	2007
BESCL	Bhilai, India	2 x 250 MW	Ep	2007
Black Hills Energy	Wygen 2 Unit 4	1 x 90 MW	OE / P	2008
WPSC	Weston Unit 4	532 MW	Ep, Field Engr., SU	2008
OPPD	Nebraska City Unit 2	663 MW	EPC	2009
CWLP	Dallman Unit 34	201 MW	EPC	2009
CPS	J.K. Spruce Unit 2	758 MW	EPC	2010
LS Power	Plum Point Energy Station	665 MW	EPC	2010
Big Stone II Ownership Group	Big Stone II	600 MW	EpCM	2011
Chugach Electric Association, Inc.	Alaska Coal Project	1 x 130 MW	Conceptual Engineering / Cost Estimate	2011
PPGA	Whelan Energy Center 2	220 MW	Conceptual Design / Permitting Support	2012

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CWLP Dallman 34, Springfield, Illinois

- 201 MW PC Subcritical Unit
- Designed to Burn High Sulfur Illinois Coals
- Contract Signed: October 3, 2005
- B&V Role: EP
- KIC Role: C
- EPC JV: KIC and B&V
- FW Boiler, Toshiba Turbine Generator
- FF, Wet FGD, Wet ESP
- Scheduled Completion: September 2009



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CWLP Dallman 34, Springfield, Illinois



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New Generation Project Layout and Design Basis





Site Plan



FACILITIES LEGEND				
ID	FACILITY	PROVIDEN	PHASE	REMARKS
1	ADMIN BUILDING
2
3
4
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6
7
8
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GENERAL LEGEND		

NOTES

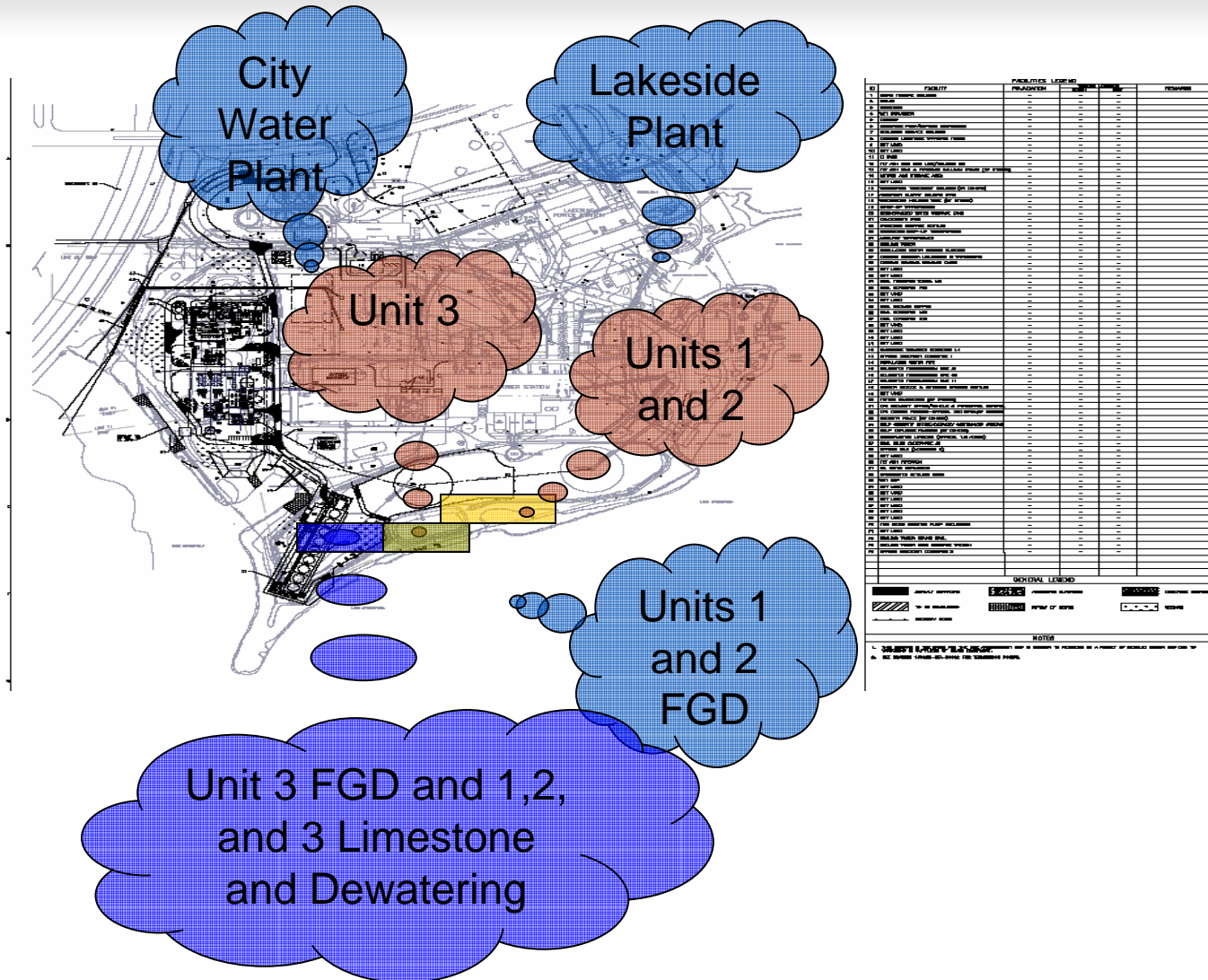
1. ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.

2. SEE SHEET 1000-01-010 FOR TYPICAL PANELS.

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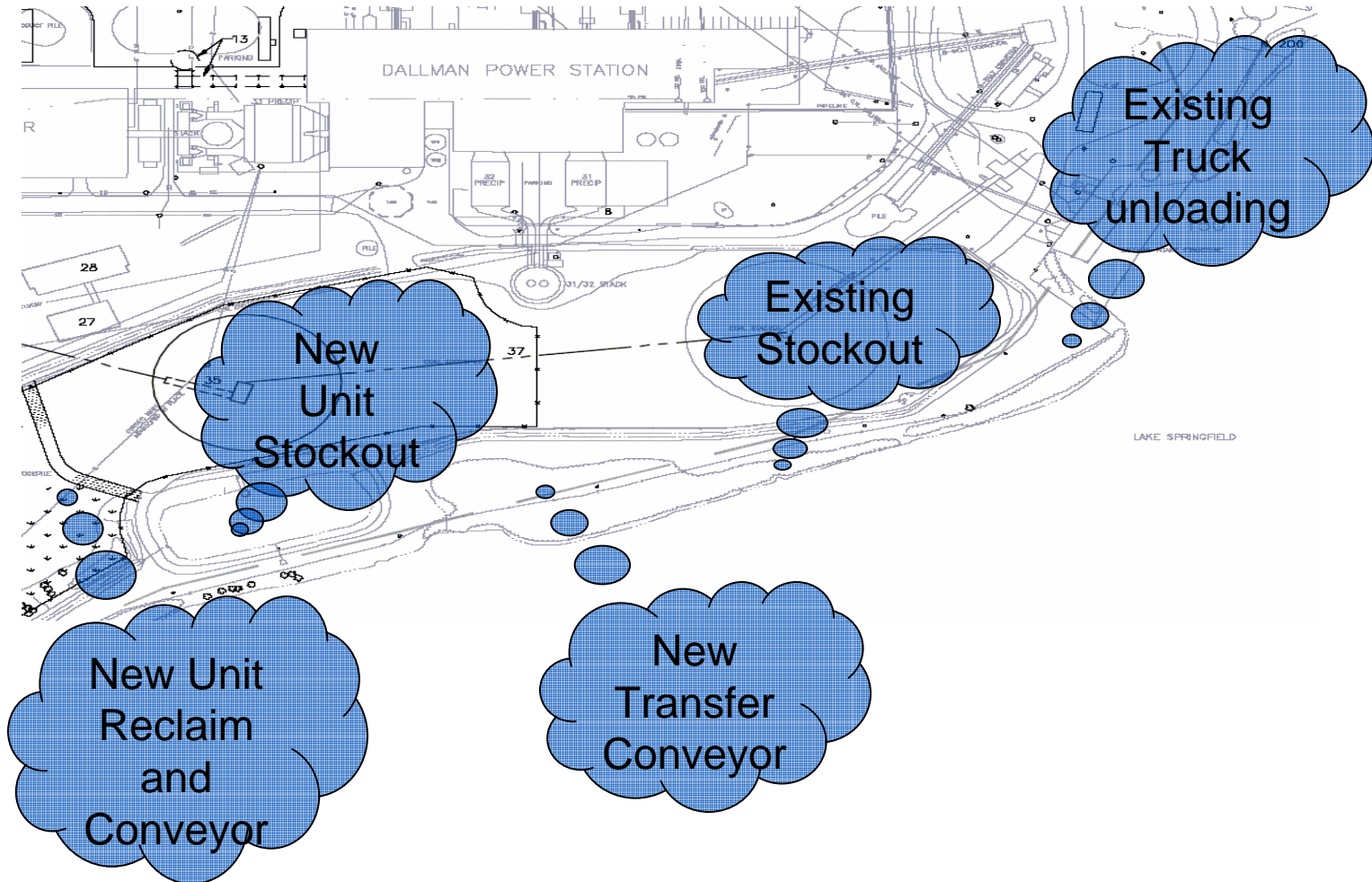
Dallman Site



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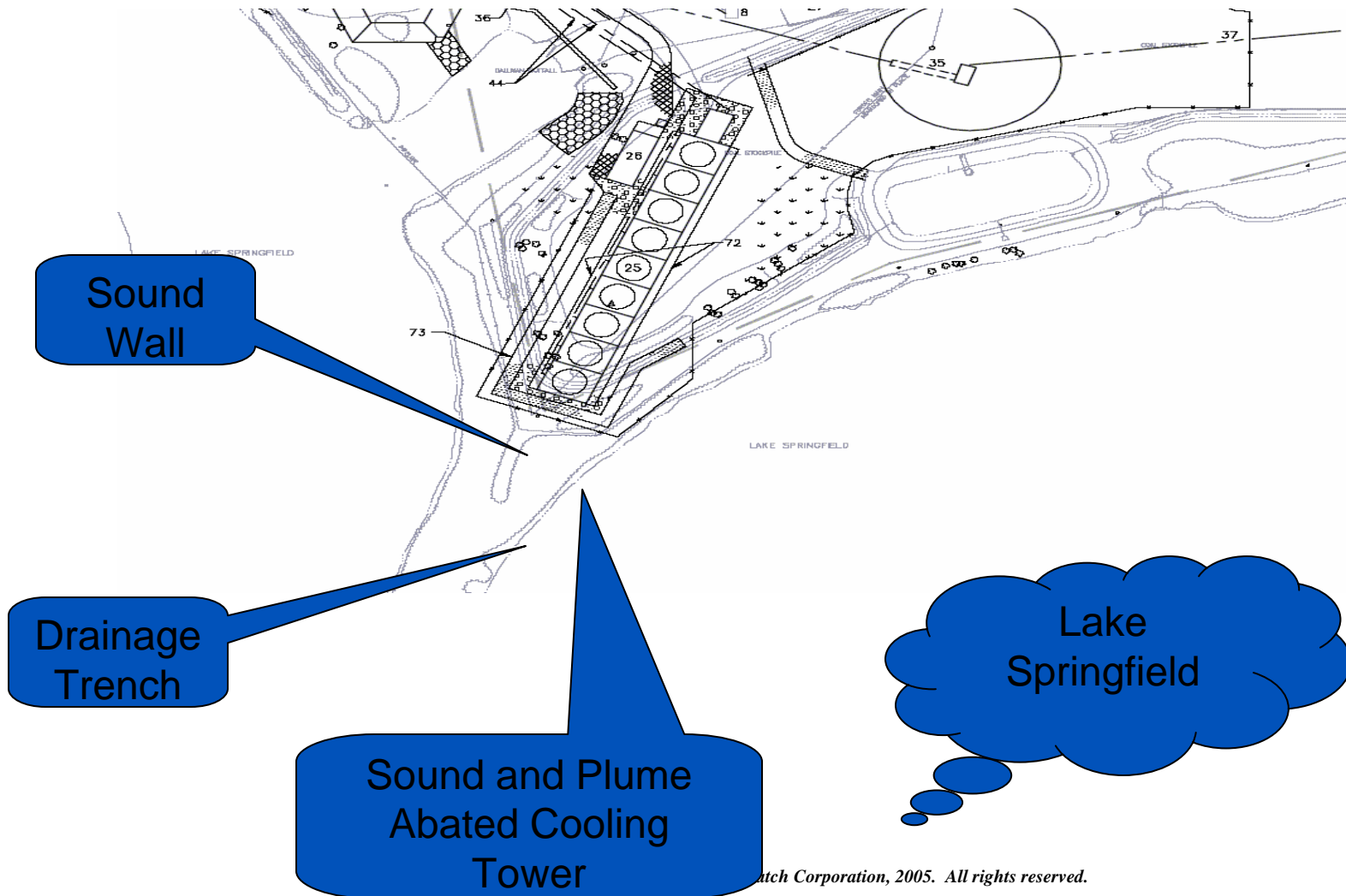
Coal Pile



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Cooling Tower



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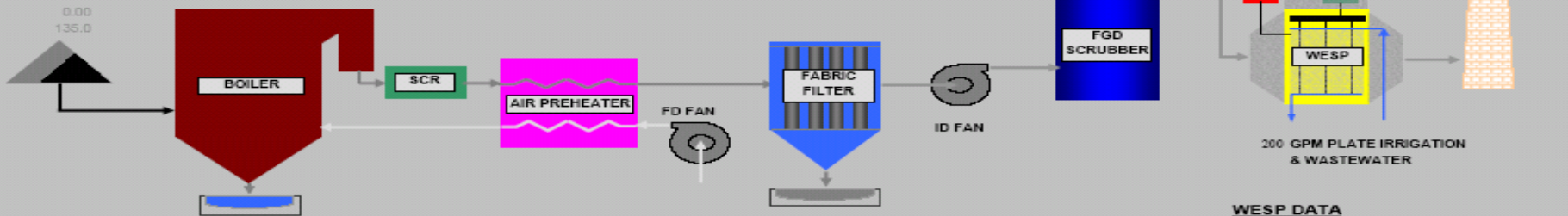


Overall AQCS

PLANT CONFIGURATION WITH HORIZONTAL WESP

CUSTOMER **BLACK & VEATCH CORPORATION** 582 FT ASL - SITE ELEVATION
 PLANT **CWLP SPRINGFIELD PROJECT** 60 DEG F STD TEMP
 LOCATION **SPRINGFIELD, IL** 29.92 IN. Hg STD BAROM PRESS
 PROPOSAL NO. **3105JFR - REV 1**

BOILER HEAT INPUT 1981 MMBTU/HR
 ELECTRICAL OUTPUT 200 MWg



PROCESS DATA

	FGD OUTLET (SYSTEM)	WESP OUTLET (SYSTEM)	FGD OUTLET (EA SCRUBBER)	WESP OUTLET (EA WESP)
SIZE - MWg	200	200	200	200
VOLUME - ACFM(w)	614,090	617,251	614,090	617,251
MASS FLOW - LB/HR(w)	2,355,925	2,365,699	2,355,925	2,365,699
MOISTURE - %(v)	17.5	17.4	17.5	17.4
TEMPERATURE - DEG F	135	135	135	135
PRESSURE - IN WC	4.00	3.48	4.00	3.48
SO2 - ppmv(d)	53.8	53.5	53.8	53.5
SO3(EQUIV) - ppmv(d)	40.3	1.0	40.3	1.0
HCl - ppmv(d)	0.0	0.0	0.0	0.0
PM - gr/DSCF	0.007	0.0002	0.007	0.0002
DROPLETS - gr/ACF	0.065	0.0022	0.065	0.0022

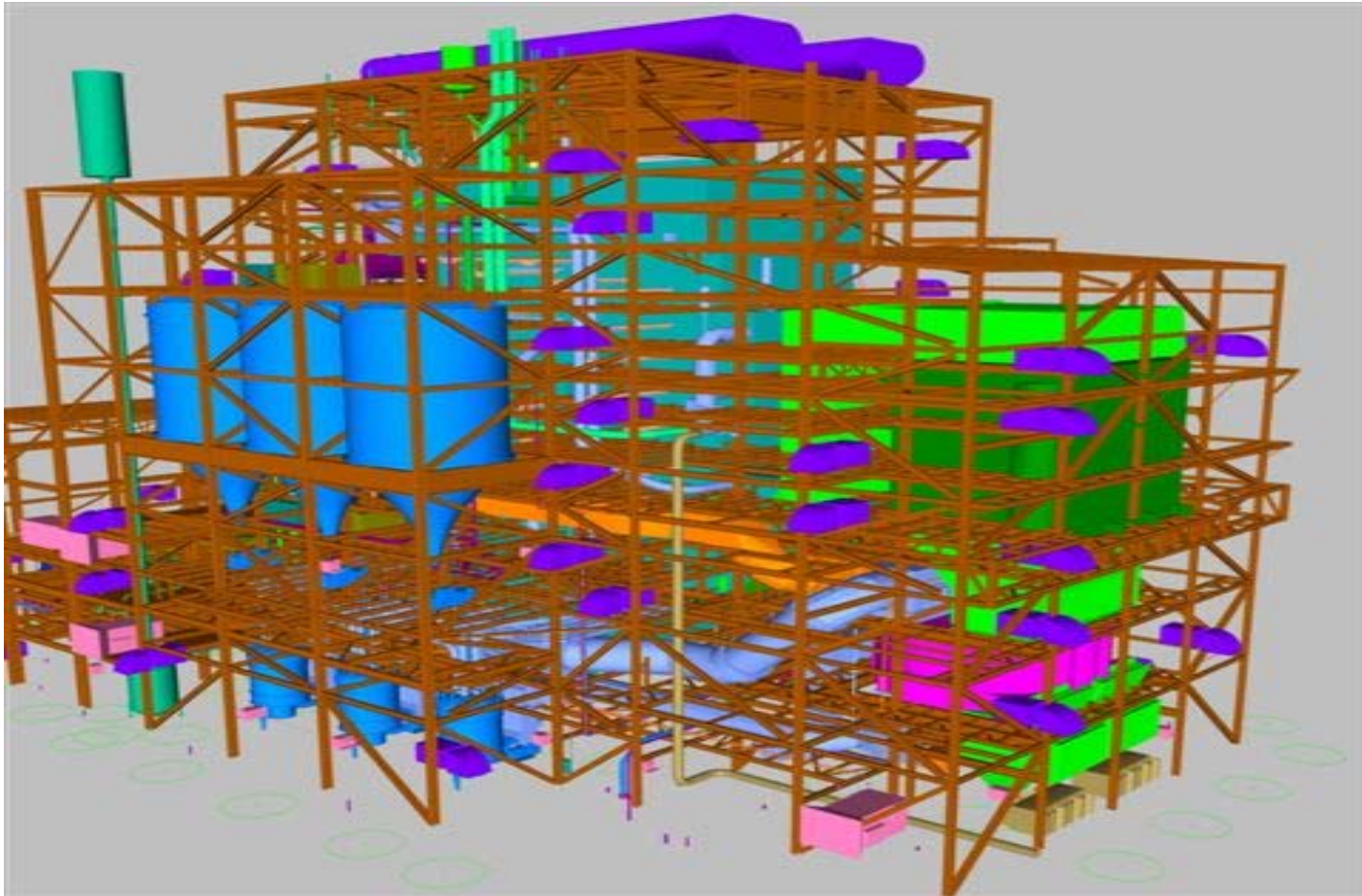
WESP DATA

TOTAL WIDTH	41.00 FT
TOTAL HEIGHT	51.08 FT
TOTAL LENGTH	27.33 FT
INSTALLED WEIGHT	310 TONS
GAS TREATMENT TIME	1.4 SEC
WESP FIELDS	4 SERIES
	2 PARALLEL
INSTALLED POWER	619 KW
AVG OPERATING POWER	206 KW
PM REMOVAL	97.6 %
H2SO4 REMOVAL	97.6 %
PM OUTLET	0.0003 LB/MMBTU
H2SO4 OUTLET	0.0033 LB/MMBTU

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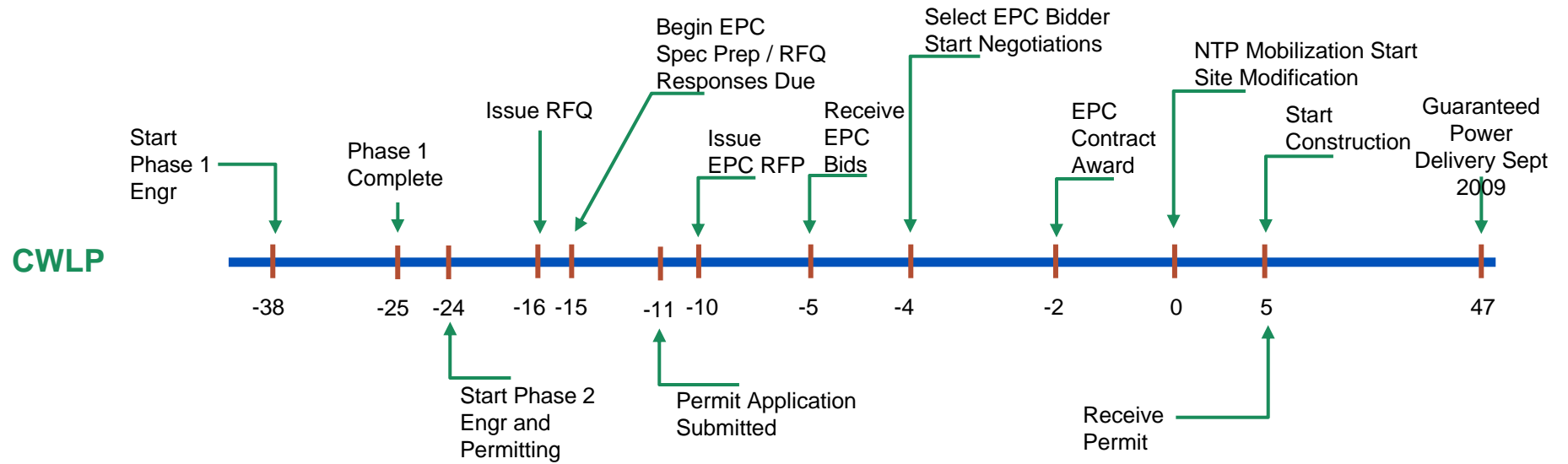
City of Springfield 3-D Model



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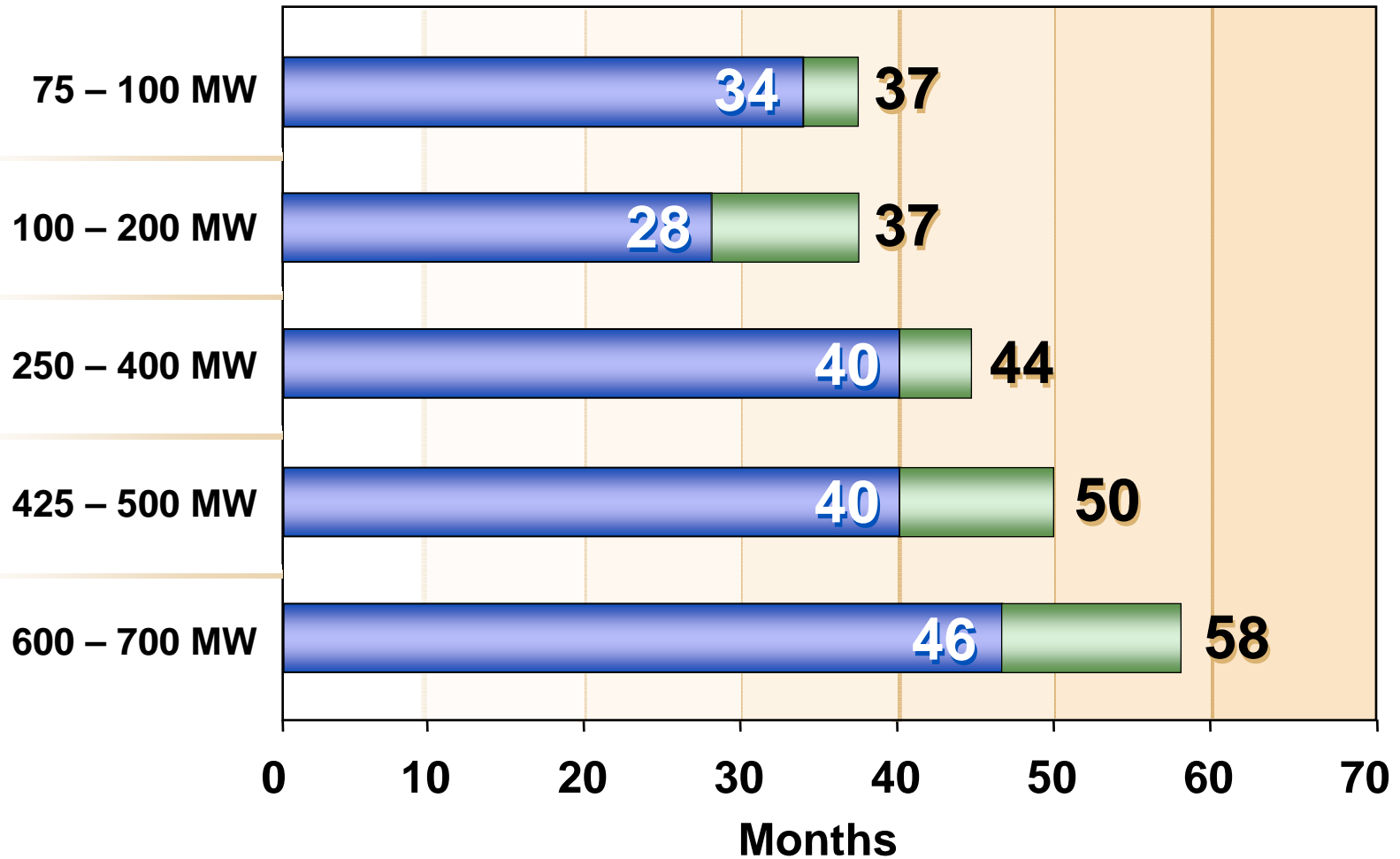
Project Schedule



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Actual U.S. Coal Plant Construction Schedules

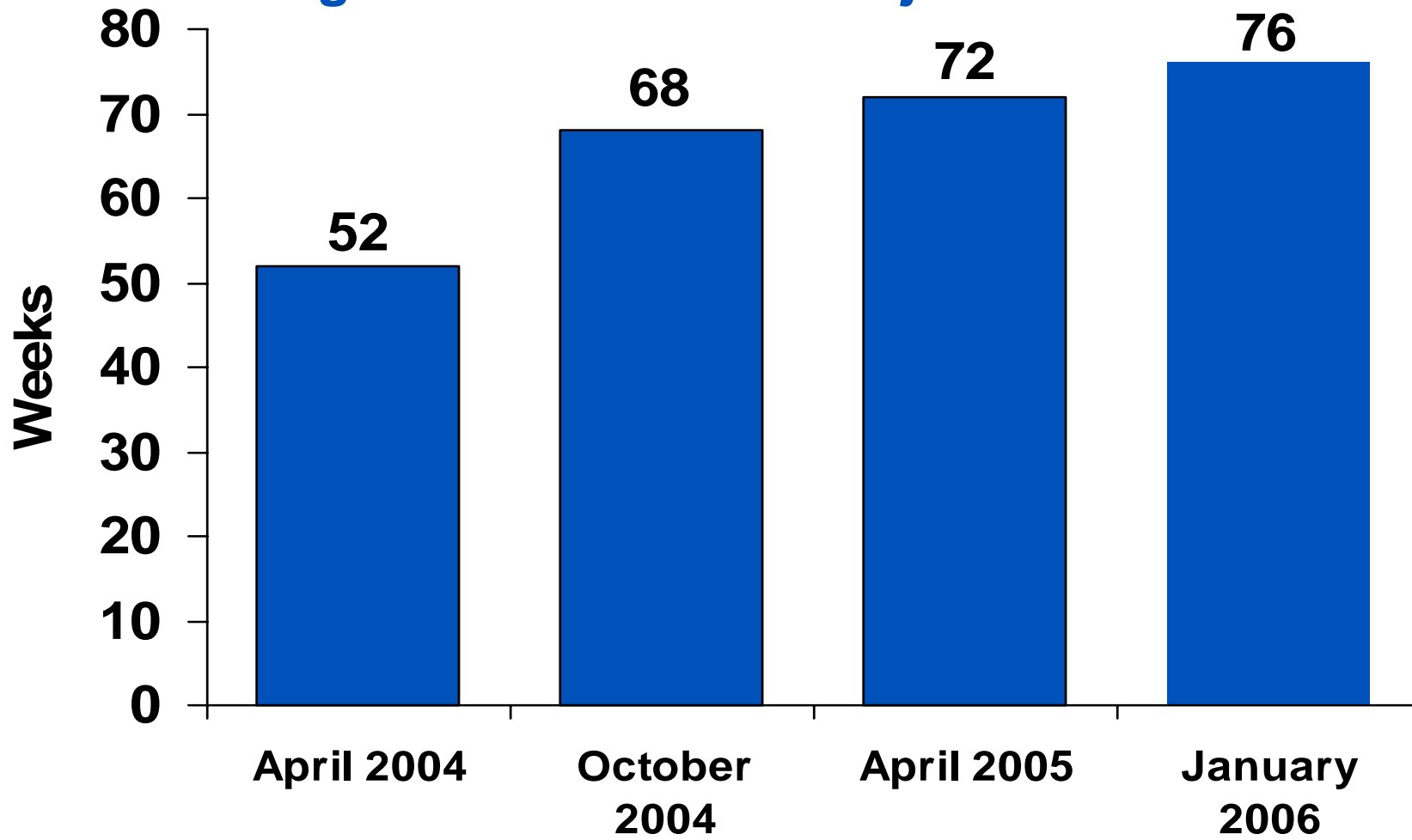


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Market and Sourcing Example – Pipe Material to Fabricator Lead Times

Significant Factor in Project Schedules

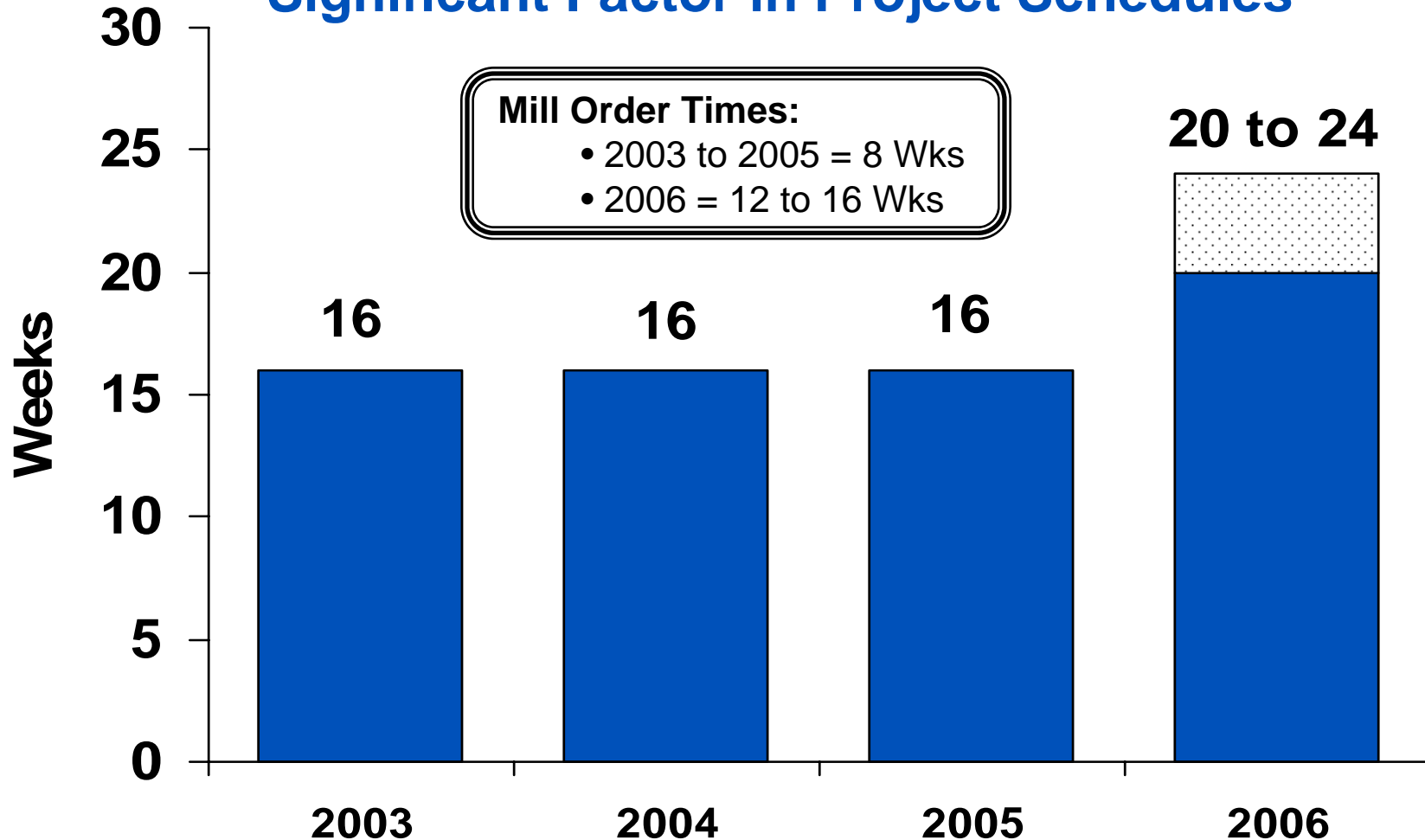


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Market and Sourcing Example – Total Structural Steel Mill Order Lead Times

Significant Factor in Project Schedules

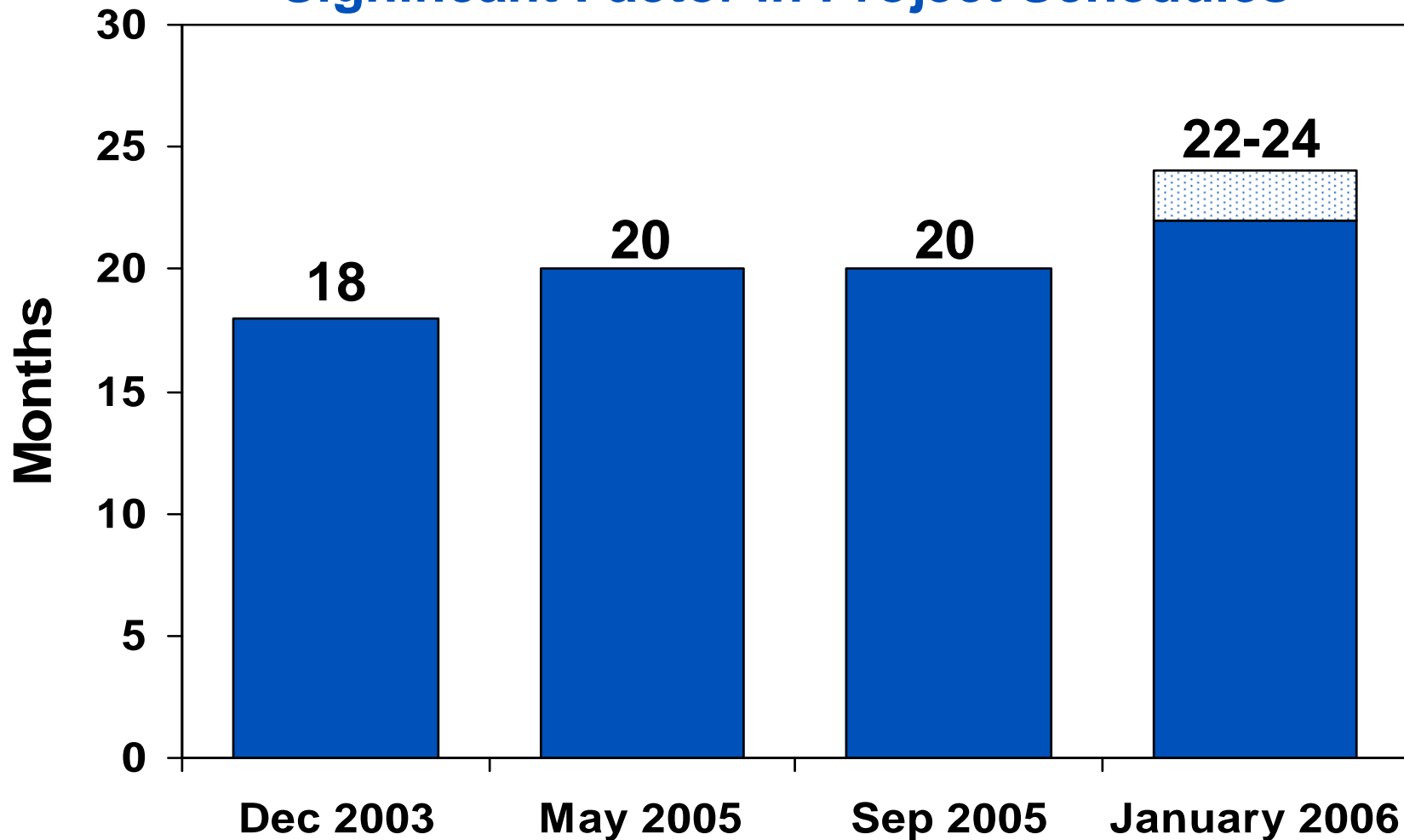


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Market and Sourcing Example – Steam Turbine Lead Times

Significant Factor in Project Schedules



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Escalation Summary – Market and Sourcing

Increasing Coal Plant Costs

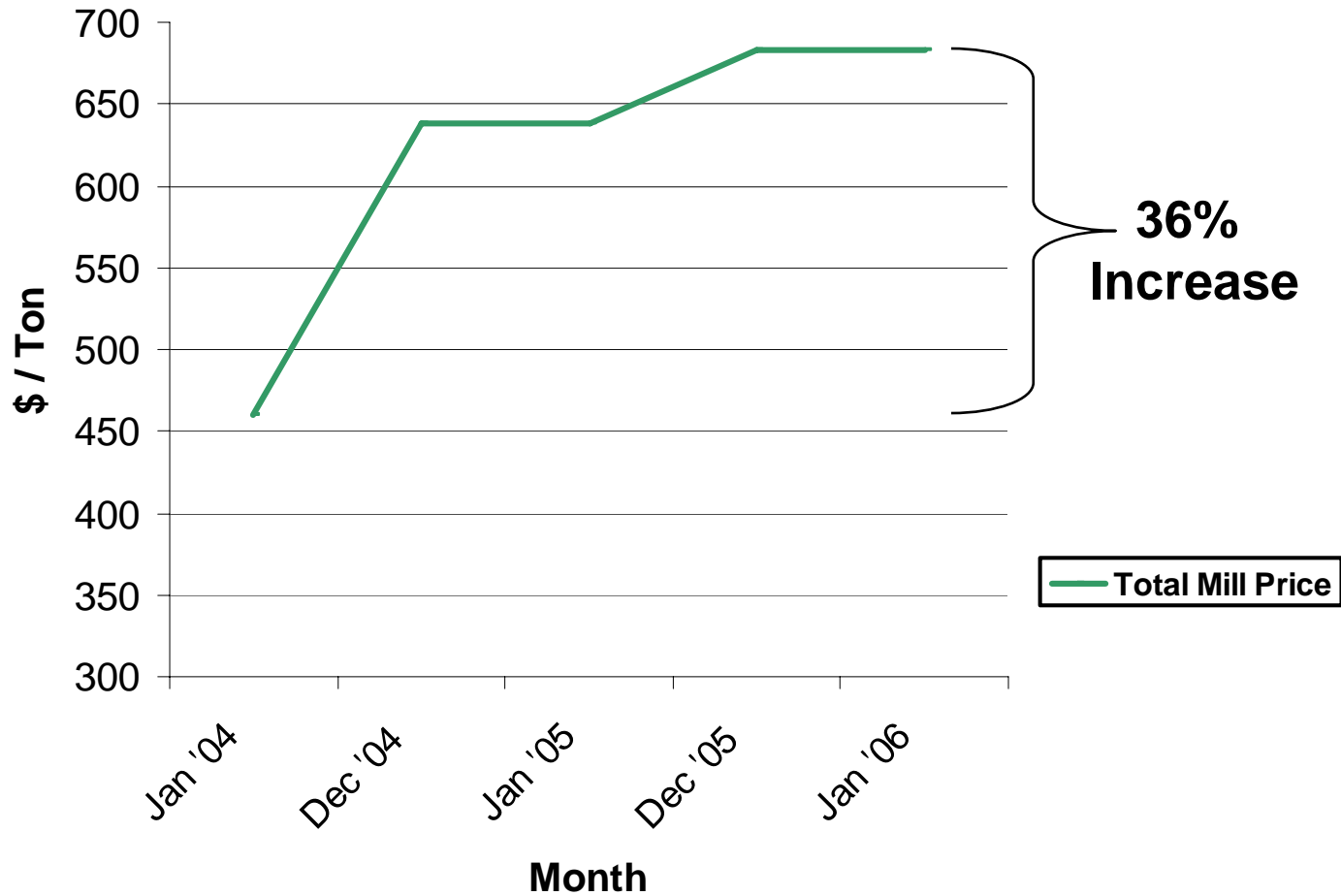
- Price Escalation on Commodities Such as Steel, Copper and Alloy Have Driven Prices and Lead Times Up Dramatically
- AQCS Equipment Extremely Tight Market Due to Ongoing Retrofit Work (30% Materials Required)
- Boiler Prices Increasing (30% Materials Required)

The E&C Industry Is Also “Tight” With a Limited Number of Capable Players

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Escalation Example – Steel



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Escalation – Labor

As-Stated Escalation Rates for Midwest Coal Project

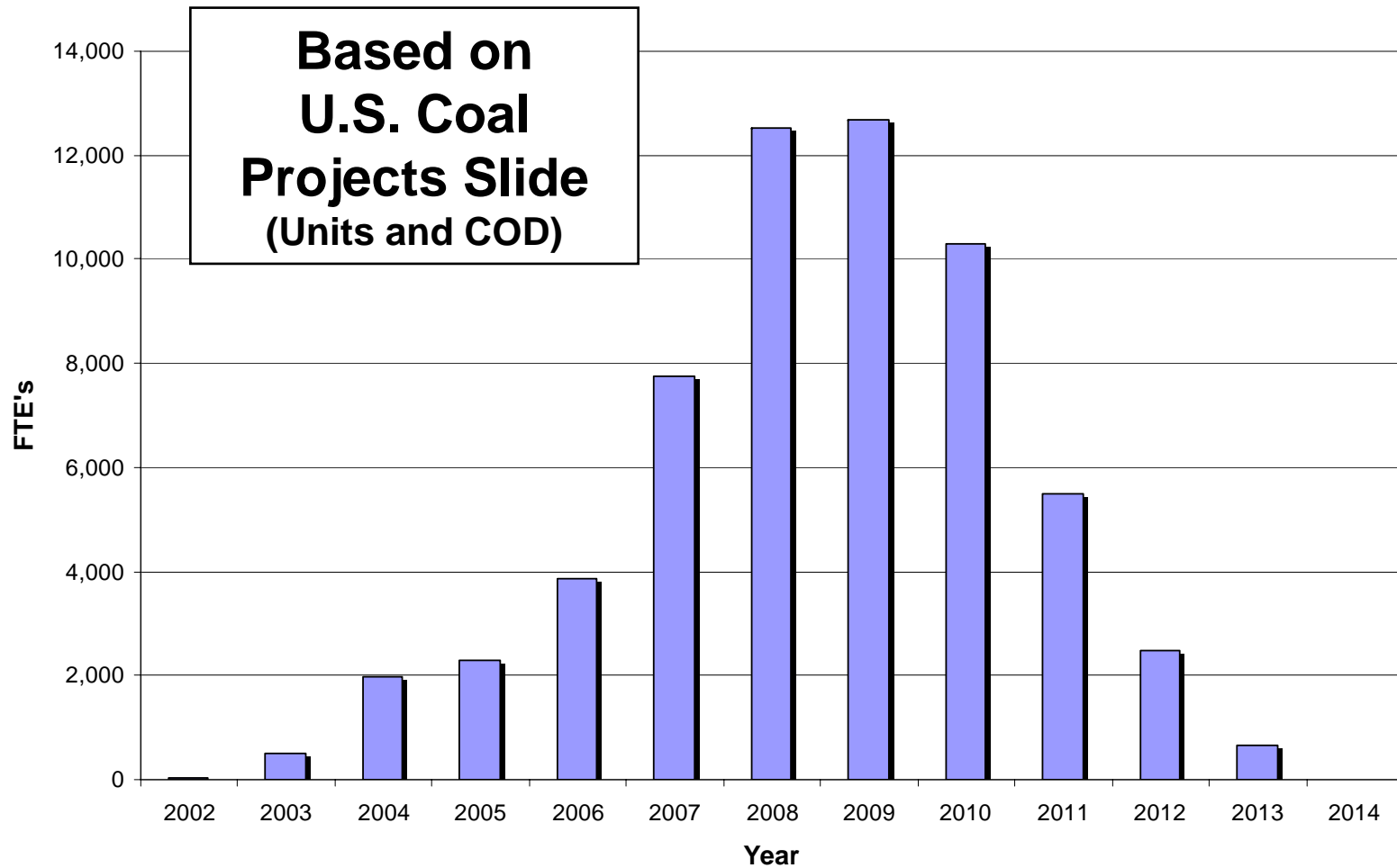
Craft	2005 Rate	2006 Rate	2007 Rate	Annual Escalation Rate
Operators	\$28.06	\$29.56	\$31.06*	5.3%
Laborers	\$19.50	\$20.70	\$21.90*	6.1%
Millwright	\$30.00	\$31.85	\$33.70	6.2%
Ironworker	\$25.10	\$26.95	\$28.80	7.4%
Carpenter	\$25.65	\$27.50	\$29.35	7.2%
Pipefitter	\$32.73	\$34.83	\$36.93	6.4%
Electricians	\$30.73	\$32.58*	\$34.43*	6.0%
Boilermaker	\$27.80	\$28.60	\$30.10	5.2%
			Average	6.2%

*Future Estimate

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Total Craft Labor Full Time Equivalents (FTEs)



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Equipment Suppliers – Boilers

Domestic Based

- Alstom Power
- Babcock & Wilcox
- Foster Wheeler
- Babcock Power

International Based

- IHI, Inc.
- Mitsubishi Power
- Mitsui Babcock
- Babcock Hitachi

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Equipment Suppliers – STGs

- Alstom Power
- General Electric
- Mitsubishi Power
- Siemens Westinghouse
- Toshiba
- Hitachi
- Fuji

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Equipment Suppliers – FGD, Fabric Filters and Electrostatic Precipitators

	Dry FGD	Wet FGD	FF	Dry ESP	Wet ESP
Alstom Power	X	X	X	X	X
Babcock Power	X	X			
Babcock & Wilcox	X	X	X	X	X
Chiyoda		X			
Hamon RC	X		X	X	
Hitachi		X			
Wheelabrator	X	X	X	X	X
AdvaTech (MHI & URS)		X			
Marsulex		X			

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