

Schedule WPD-30  
Public Service Company of Colorado  
Semi-Annual Progress Report for the  
Comanche Project

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF COLORADO

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SEMI-ANNUAL PROGRESS REPORTS OF PUBLIC SERVICE COMPANY OF COLORADO FOR THE COMANCHE PROJECT	) ) Docket No. 05M-511E )
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**Semi-Annual Progress Report**

**Comanche Expansion Project**

December 14, 2009

## INTRODUCTION

Under paragraph 15 of the Comprehensive Settlement Agreement dated December 3, 2004, approved by the Commission by Decision No. C05-0049 (January 21, 2005) in Consolidated Dockets 04A-214E, 04A-215E, and 04A-216E, Public Service Company of Colorado ("PSCo" or "Company") is required to file semi-annual progress reports with the Commission with respect to various aspects of the construction of Comanche 3. Paragraph 15 of the Comprehensive Settlement Agreement reads as follows:

15. The Company shall file progress reports with the Commission semi-annually, beginning June 1, 2005 and ending with the first report after Comanche 3 reaches commercial operation, regarding the progress of construction and the commercial operation date of Comanche 3. The progress reports shall contain the status of each vendor contract (including updated information on contracts under negotiation) and a narrative, which summarizes bids received and the selection process employed for each vendor contract. The progress reports shall also set forth the force majeure clauses in each vendor contract and in any subcontract let by Utility Engineering Corporation or by Public Service. The progress reports shall provide the account balances for all Comanche Project expenditures. The progress reports also shall include budgeted versus actual status with respect to the milestone payment schedule, differences in status between the projected and actual overall construction schedule and the status of on-going permit applications. Any material departure from the milestone payment schedule or the construction schedule will have a narrative explaining the departure accompanying it. Continuing property records shall be timely maintained and available for inspection. Finally, the progress reports shall list any material design or scope change orders. Public Service reserves the right to file bid and financial information under seal and to seek highly confidential protection for this information.

As required, the Company reports on the following aspects of Comanche 3 construction in the period from June 1, 2009 until November 30, 2009. This information is being filed under seal as Highly Confidential. Detailed cost data and

bid information is being provided in this period's report and must not be publicly disclosed to preserve the bidding and contracting process.

### **OVERALL PROJECT STATUS**

Currently there are just under 500 personnel on site. Manpower reached its peak in late August of 2008 and has been declining. Overall Unit 3 Construction progress is about 99% complete. The schedule has been impacted by Shaw construction delays and by boiler tube repairs being performed by Alstom. Shaw construction delays were in the area of piping and electrical work, which have delayed startup activities including backfeed and bypass operation. In early October, we experienced several tube leaks in the upper water walls. Upon further investigation, it was determined there was a material issue that was corrected through modifying the welding procedure and adding post weld heat treatment (to relieve high material stress that were leading to failure). This corrective action is in progress and should be completed by mid-December. More details on the history of the boiler water wall tube issues are included at the end of this section.

Several key activities were completed this reporting period. Steam blows were completed on 8-17-09, SCR catalyst loading was completed on 8-30-09, backfeed was completed on 9-4-09, vacuum was pulled on 9-12-09, bypass operation began in late September, and first fire on coal was completed on 10-7-09. Shaw is also making progress on the boiler feed pumps assembly, wiring

and checkout. The first boiler feed pump was on turning gear in early November. The down-time on the boiler is allowing Shaw's critical path construction activities to catch up. With good progress on boiler tube repairs in the coming weeks, we should re-start the boiler in bypass operation by mid-December. Site final grading and paving is in progress and is scheduled to be complete by the end of December. The coal handling and unloading system has been completed and placed into service.

Given the current delays, we now believe we can achieve an in-service date by mid-January. We continue to work with the contractors to assist them in completing their work, including removing work from their scope and providing supplemental labor to assist on certain systems.

Progress photos of the current status of construction are included at the end of this report.

### **HISTORY OF BOILER TUBE ISSUES**

On March 10, 2009, the Comanche Unit 3 boiler successfully passed the hydrostatic test at pressures up to 5900 psig (or 150% normal operating pressure). This was a key milestone for the project and typically passing this test is a good gauge that the boiler field welding and shop fabrication efforts were sound.

## PUBLIC VERSION

In May, Alstom Power (boiler supplier and erector) began conducting routine flow tests of all the boiler water wall circuits to ensure all tubes have proper flow for tube cooling and thermal performance. During this testing, Alstom determined 33 tubes were totally blocked and 73 tubes indicated low flow. Through the use of a boroscope, it was determined that about 30% of the tubes had weld push through (welding material that was deposited in the inside of the tube), which caused the tube to be partially blocked. The other tubes had construction debris left in them, which was easily removed. Alstom ended up having to cut out 23 of the tubes that had reduced flow areas below the 85% requirement and that could not be cleared by other means. This work was completed on May 21, 2009 with no impact to project schedule.

On June 24, 2009, the boiler was fired for the first time on natural gas in preparation for steam blows. Steam blows started on July 6<sup>th</sup> and were completed on August 17, 2009. The steam blow process is intended to help remove debris and particles for the boiler and piping circuits prior to admitting steam directly to the steam turbine. Everything was tracking on schedule and there was no indication of any pending tube leak problems at this point. In fact, the boiler was performing very well at this point in the start-up process.

After completion of the steam blows, we removed the steam blow temporary pipe and restored the STG valves during late August through mid September. On September 29<sup>th</sup>, vacuum was pulled on the condenser and steam bypass

operation began (a process for final clean up of steam quality prior to admitting steam to turbine). Steam bypass operations were going well with steam quality nearing acceptance standards. Although we lost a few weeks in September due to delays from our BOP contractor, we were still tracking for an early November in-service date as presented in our October 8, 2009 schedule.

Late on October 9<sup>th</sup>, visual signs of a tube leak were seen on the west boiler water wall. This was the first tube leak we experienced since passing the boiler hydrotest. On October 10<sup>th</sup>, the boiler was brought off line to investigate the source of the leaks and to make the needed water wall tube repairs. Alstom found 23 areas with definitive leaks, and they replaced or repaired welds on 31 tubes. Alstom stated the reason for the majority of the leaks was associated with an improper weld procedure for the replacement of the membrane materials between tubes that occurred during the repairs made in May for the low flow conditions. The weld procedure was corrected by Alstom engineers, and the repairs were completed on October 23<sup>rd</sup>.

The unit was brought back up on line on October 24<sup>th</sup>, and we ran for a short period prior to coming down to replace a flange seal on the Steam Turbine High Pressure casing. The repair was completed, and the unit was back up and operating in bypass mode on October 25<sup>th</sup>. Early in the morning of October 26<sup>th</sup>, the project again experienced visible steam leaks in the boiler and came down for repairs. This news was reported to the PUC during the rate case

hearings that week, and it was stated that we needed to investigate the cause of these leaks before we could establish a timeline for return to start-up.

There were 14 tubes that were found to have leaks. These tubes were quickly repaired, and on October 31<sup>st</sup>, a hydrotest was performed to confirm the adequacy of the repairs made by Alstom and evaluate the integrity of the remaining tubes. During the hydrotest, 15 additional leaks were discovered. At this point, Alstom and Xcel Energy determined that the boiler needed to be evaluated in more detail before resuming start-up efforts. Alstom requested that the boiler be scaffolded to perform the repairs and that they could take the time to perform prudent testing of all areas of concern and make the proper repairs.

Since November 1<sup>st</sup>, more information on the cause of these tube cracks has been provided to us by Alstom. The majority of these issues are caused by shop welds that have hydrogen-induced cracking or cold cracking. It is believed that the high stresses causing the cracking are originating from the membrane welds. Alstom has modified their weld procedure and has developed a post-weld heat treatment (PWHT) procedure to correct this issue in the future, which will temper the microstructure, reducing susceptibility to crack initiation/propagation. These shop welds were made in Alstom's shop in Bruno, Czech Republic. Recently, we have been told by Alstom that they experienced the same cold cracking problem with T-23 tubes on 5 boilers they supplied for China and Taiwan in the 1990s. A similar problem was already experienced on the KCP&L Iatan Unit 2, which is



about 4 months behind the Comanche schedule. The problems at latan Unit 2 were experienced before hydrotesting of that unit, so Alstom assumed we would not experience a similar event and had not told us of this material related issue on other units. To date, we have not received a satisfactory answer as to why the lesson learned on T-23 tube cracking on past boilers was not incorporated into Alstom's fabrication process for our boiler. The T-23 tube material was picked for its long term wear properties.

There are 2,376 locations where non-destructive examination testing will take place. Of these tubes tested, approximately 309 have been replaced due to cracking. All 2,376 tubes will be PWHT. After PWHT, these tubes will be radiographed (RT) again to confirm no additional cracks have developed. To date, we have completed approximately 82% of the RT testing and have been averaging approximately 13% reject rate. The project is taking the time now to perform a quality inspection and repair, which the project feels is prudent, and to resolve any issues that can be found in hopes of preventing any future boiler water wall tube issues. Our current projection of resuming our start-up is shown on the attached project schedule. We are currently projecting a project in-service date of around January 15, 2010.

## **STATUS OF CONTRACTS**

### **Major Contracts**

Boiler (Furnish & Erect)

A contract was awarded to Alstom Power on August 31, 2005, for [REDACTED]. Alstom Power has completed 100% of their detailed design, approximately 99.5% of their construction and 99.7% of their overall work. Thirty-three contract change orders have been issued resulting in a total cost increase of [REDACTED]

[REDACTED]

Air Quality Control System – Unit 3 (Furnish & Erect)

A contract was awarded to Babcock & Wilcox (B&W) on October 7, 2005, for [REDACTED]. B&W has completed 100% of their design, and 100% of their construction. Fourteen contract change orders have been issued resulting in a total cost increase of [REDACTED]

[REDACTED]

Balance of Plant (Furnish & Erect)

A contract was awarded to Shaw – Stone and Webster (SSW) on February 2, 2006, for [REDACTED]. SSW has completed 99.9% of their detailed engineering and 97.6% of their construction. Final electrical & controls, site grading, paving, painting, heating and lighting are in progress. Thirty-three contract change orders have been issued resulting in a cost increase of [REDACTED]

[REDACTED]

[REDACTED] Towards the end of 2008, it became apparent to PSCo that Shaw would not be able to

complete their work on time to support a Fall 2009 in-service date. We started supplementing Shaw work (at their protest) in November 2008. We are currently utilizing several contractors to supplement Shaw's work. These contractors were selected because of their proven performance record in other areas of the project. This work includes installation of piping systems for boiler drains, auxiliary steam, wastewater, ash water, recycle water, treated water, ammonia, carbon dioxide, fly ash and instrument air in the boiler and AQCS areas. The supplemental work being performed by other contractors is being completed on time to support the currently projected in-service date.

### **Other Contracts**

#### Unit 3 Coal Unloading and Handling System

A target price contract was awarded to Roberts & Schaefer (R&S) on February 26, 2007 for [REDACTED]. R&S is complete with construction and startup of the system. Two contract change orders have been issued resulting in a cost increase of [REDACTED]

#### Unit 3 - Boiler Electrical Construction (Shaw removed scope)

A contract was awarded to Frauenshuh Power Development (FPD) LLC on November 10, 2008 for [REDACTED]. The contract includes electrical raceway, cabling and terminations associated with the Unit 3 boiler, which was removed from Shaw's scope. The work includes electrical installations for FD fans, PA

fans, boiler circulating pump, windboxes, coal pulverizers, coal feeders, air pre-heaters, SCR, lighting, fire alarm system and receptacles. This work is complete, except for the lighting, which is not currently complete. Six contract change orders have been issued for a cost increase of [REDACTED]

[REDACTED]

[REDACTED]

Unit 3 Boiler Mechanical Piping (Shaw removed scope)

A contract was awarded to AZCO on January 12, 2009 for [REDACTED]. Two contract change orders have been issued for the cost increase of [REDACTED].

The contract included installing mechanical piping in the boiler area that Shaw had abandoned or was late in completing.

Unit 3 AQCS Mechanical Piping (Shaw removed scope)

A contract was awarded to B&W on February 2, 2009 for [REDACTED]. One contract change order has been issued for a cost increase of [REDACTED]. The contract included installing mechanical piping in the AQCS area that Shaw had abandoned or was late in completing.

**BID EVALUATION PROCESS**

All major contracts have been evaluated using a process that lays out the evaluation criteria and ranking of the bidders to determine the total evaluated cost of each proposal. These evaluations include: proposal base cost, technical

quality, life cycle cost, bidders experience, cash flow requirements, ability to meet schedule, agreement to meet terms and conditions, operating/maintenance costs, financial condition of company and securities proposed.

### **UTILITY ENGINEERING SERVICES**

Utility Engineering (UE) has provided [REDACTED] worth of engineering and design services acting as the Owner's engineer for the conceptual design efforts, permitting assistance, specification preparation and bid evaluation efforts. They have also been involved in the design efforts associated with systems that impact current plant operations and in the interface with the local community.

On April 8, 2005, Xcel Energy sold UE to Zachary, and thus UE is no longer an affiliate of Xcel Energy. However, we continue to utilize the services of UE for various project tasks.

### **PARTNERSHIP AGREEMENTS**

There is nothing new to report for this period. Refer to previous reports for the details of the partnership agreements.

### **ESCALATION**

We track escalation trends that have the potential to impact the project budget. Trends in commodity indices for carbon steel, copper, alloys, and diesel fuel

have shown actual index values exceeding initial price escalation estimates.

Trends for labor and foreign currency escalation have also shown fluctuations from set escalation rates.

All escalation adjustments are reflected on Highly Confidential Attachment 12.0.

The escalation provisions of these contracts have been previously submitted under past semi-annual reports.

### **PROJECT FINANCIAL PERFORMANCE**

We have included a number of attachments to show the financial performance as of April 30, 2009 on the Comanche Project. The term "BUDGET" used in these attachments is the Revised Construction Cost Estimate as defined in the Settlement Agreement. The term "FORECAST" is the current expected contract value of the planned contracts. Highly Confidential Attachment 1.0 shows the overall project FORECAST by FERC accounts. Highly Confidential Attachment 2.0 shows the annual FORECAST by FERC account, including actual expenditures through April 2009. Highly Confidential Attachment 3.0 shows the Actual Expenditures by month for each FERC account. Highly Confidential Attachment 4.0 compares the BUDGET to actual costs for year-to-date and current year. Highly Confidential Attachment 4.0 also shows the current year and at-completion FORECASTS.

Highly Confidential Attachment 5.0 compares the BUDGET to the FORECAST.

We currently have [REDACTED] under contract or [REDACTED] of the total project direct cost. Our current forecast is compared with our previously submitted Revised Construction Cost Estimate included as Highly Confidential Attachment No. 11.0.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

The budgets shown in Highly Confidential Attachment 5.0 are divided into direct costs and indirect costs. The direct costs have been formatted into contracting packages to most efficiently manage the project. The five major contracts account for around [REDACTED] of total project costs. Other contract types include:



1) Contracts impacting existing plant operations [REDACTED], 2) site development contracts [REDACTED], 3) other contracts [REDACTED] and 4) miscellaneous purchase orders [REDACTED].

PSCo's indirect costs account for [REDACTED] of total project costs. Portions of the indirect budgets have been allocated to various other accounts. Examples of these allocations include the engineering and design budget, where a portion of the original is allocated to the BOP contract and a portion to our Owner's engineer contract. Another example is the material and labor escalation budget. This budget is allocated to all of the equipment purchases and labor contracts to bring the cost basis of the original estimate from 2003 dollars to actual contract dollar amounts. Another example is the tax budget. This budget, with the exception of the initial payment to the City of Pueblo, is allocated to all of the contracts with taxable material and equipment. During the development of the bid packages for the major contracts, Xcel Energy began to allocate these indirect costs into the proper contract packages. These values are indicated as the budget amounts listed in the descriptions for each contract awarded to-date and shown in Highly Confidential Attachment 5.0.

In order to properly manage the project budget, costs were formatted into the method used to contract for the work, as opposed to the method we used to develop our initial overall project cost estimate. We have a detailed database that tracks our original PUC estimate previously filed under seal with the PUC as

Highly Confidential Exhibit 87 to the current contracting approach. This database tracks all costs incurred back to the original cost estimate, will be used for the duration of the project and is available for future auditing purposes by Commission Staff. Reports are filed based on the contracting method used for the project to streamline reporting efforts to the Commission and to our partners.

### **PROJECTED VS. ACTUAL CONSTRUCTION SCHEDULE**

The project is now projecting an in-service date by mid January, 2010 for Comanche 3, which is a three and one half month slip from previous information filed in the Application for a Certificate of Public Convenience and Necessity in Docket No. 04A-216E. We are experiencing schedule challenges mainly caused by the Boiler tube failures and the BOP contractors poor craft productivity, which is pushing the Mechanical and Substantial Completion dates for the plant later than the original plan. A current Level 2 Critical Path Schedule is included as Attachment 6.0. Start-up activities are currently in progress.

### **STATUS OF PERMITS**

A complete list of permits required and issued for the Comanche Project is included as Attachment 10.0.

On March 15, 2009, PSCo received a letter from the Colorado Air Pollution Control Division (APCD) requesting an updated case-by-case Maximum Achievable Control Technology (MACT) analysis for Comanche Unit 3. Due to

the recent vacatur of the Federal Clean Air Mercury Rule (CAMR), EPA is requiring that all new coal-fired electric generating units constructed between March 29, 2005 and March 14, 2008 complete this case-by-case analysis for mercury and other hazardous air pollutants. A case-by-case MACT analysis was completed for Comanche Unit 3 as part of the original air emission permit application in August 2004. The APCD made a preliminary MACT determination and agreed that the proposed limit of  $20 \times 10^{-6}$  lbs/MW-hr was in fact the case-by-case MACT for Unit 3. The final air emission permit for Comanche Unit 3 incorporates this mercury emission limit. However, the permit does not refer to this limit as "MACT" for mercury because in March 2005, the mercury cap and trade program under CAMR replaced the mercury MACT requirements for coal-fired utility boilers. The current limit, however, is required by the December 2004 Settlement Agreement between the Company and numerous environmental and public-interest organizations. Without this settlement, the mercury limit for Comanche 3 would have been much less stringent under CAMR. The current limit of  $20 \times 10^{-6}$  lbs/MW-hr, while not referred to as MACT, is in fact based on the case-by-case MACT analysis submitted with the original permit application for this project and preliminarily approved by the APCD.

The Company has had two meetings with the APCD to discuss the scope and extent of the updated case-by-case MACT analysis for Comanche Unit 3. Given that EPA will be finalizing a MACT for mercury for coal-fired electric generating units by late 2011, which Comanche 3 will have to meet, the Company agreed

with APCD that it is prudent at this time to undertake a limited update of its 2004 MACT analysis. An updated case-by-case MACT analysis for Comanche Unit 3 was submitted to the APCD on July 24, 2009. The Company believes that the update will require only a minor permit modification and will not impact the start-up date for Comanche 3.

In early October, the APCD issued a letter to Xcel Energy indicating they had all the information they needed to process our updated MACT analysis and that construction of Unit 3 can proceed with the original permits issued for the project. The APCD has now completed their review of the updated MACT analysis for Unit 3 and anticipates issuing a revised Unit 3 air emission permit for public comment and review in the next few weeks.

On July 2, 2009 WildEarth Guardians (WEG) filed a lawsuit against PSCo alleging that the Company violated the Clean Air Act by constructing Comanche 3 without a final MACT determination from the Colorado Department of Health and Environment. PSCo disputes these claims and has filed a motion to dismiss the suit. Comanche 3 was constructed with state of the art emission controls and pursuant to a valid air permit issued by the APCD. On October 28, 2009, WEG filed a motion for a preliminary injunction, seeking to enjoin PSCo from constructing, modifying, or operating Comanche 3 prior to receiving a final MACT determination. PSCo strongly opposes the injunction. Among other issues, PSCo believes that WEG has failed to establish a substantial likelihood of

prevailing on the merits of the suit and that therefore there is no valid legal basis upon which an injunction should be issued.

**DESIGN OR SCOPE CHANGE ORDERS**

We are tracking changes on conditions that have the potential to impact the project budget. For this reporting period, there are no adjustments to the previously submitted Revised Construction Cost Estimate included as Highly Confidential Attachment 11.0. A list of all previously submitted adjustments by type is included as Highly Confidential Attachment 12.0. These adjustments are defined in Highly Confidential Attachment C of the Settlement Agreement.

The Escalation section of this report provides an explanation of the trends in commodity indices and foreign currency exchange rates that have impacted the project budget.

Respectfully submitted this 14th day of December 2009.

**ATTACHMENTS**

- 6.0 Unit 3 Level 2 Schedule
- 7.0 Bid Evaluations
- 8.0 Force Majeure
- 9.0 Escalation Provisions
- 10.0 Permitting Status
- 13.0 Progress Photos

Unit 3 Level 2 Schedule

Activity ID	Activity Name	Original Start Duration	Finish	2010											
				Dec	Jan	Feb	Mar	Apr	May	Jun	Jul				
<b>XCEL Integrated Startup for PUC 12-10-09</b>															
XLXSU8530	Make Repairs and re-Hydrotest Boiler	174	10-Dec-08	05-Jul-10											
XLXSU8530	Remove Scaffold	4	14-Dec-08	13-Dec-09											
XLXSU8410	Fill Boiler	1	17-Dec-08	17-Dec-09											
XLXSU8340	Restart & check Steam Quality	5	18-Dec-09	23-Dec-09											
XLXSU1055	Steam Admission to Turbine/ reach 3600 RPM	1	23-Dec-09	23-Dec-09											
XLXSU6780	Turbine No Load Checks	2	23-Dec-09	24-Dec-09											
XLXSU1065	First Steam to Turbine	0	26-Dec-09	23-Dec-09											
XLXSU1115	Generator No Load Checks	2	27-Dec-09	27-Dec-09											
XLXSU2800	Synchronization Checks	2	28-Dec-09	28-Dec-09											
XLXSU6785	T-G Load up to 20%	2	28-Dec-09	29-Dec-09											
XLXSU1070	Generator Synchronize on Gas	0	29-Dec-09	29-Dec-09											
XLXSU2560	Generator Synchronize	0	30-Dec-09	30-Dec-09											
XLXSU2810	Turbine Heat Soak (20% load)	1	30-Dec-09	30-Dec-09											
XLXSU8070	Unit Off Line / Overspeed Test and No load Test	1	30-Dec-09	30-Dec-09											
XLXSU8250	Bypass Valve Response Test on Gen Brkr Open	1	30-Dec-09	30-Dec-09											
XLXSU8080	Re-Synchronization & Load to 20%	1	02-Jan-10	02-Jan-10											
XLXSU1560	Load Rejection Testing 20% Gas only	4	03-Jan-10	06-Jan-10											
XLXSU1080	FIRE ON COAL (with intent to raise Load past 20%)	2	07-Jan-10	08-Jan-10											
XLXSU1450	SSC In Service	2	07-Jan-10	08-Jan-10											
XLXSU8190	Restart & Ramp to 25% Load & MHI 8 hr Hold	2	07-Jan-10	08-Jan-10											
XLXSU1110	Ramp up Plant to Full load	10	07-Jan-10	16-Jan-10											
XLXSU8270	Steam Quality Hold	2	09-Jan-10	10-Jan-10											
XLXSU1045	Start operation Steam Driven Boiler Feed Pump A	4	09-Jan-10	12-Jan-10											
XLXSU1125	Start operation Feedwater heaters	4	09-Jan-10	12-Jan-10											
XLXSU2670	Boiler Combustion & Hot Air Testing	18	09-Jan-10	26-Jan-10											
XLXSU1440	Fly ash Removal in service - Move Ash	2	10-Jan-10	11-Jan-10											
XLXSU7842	Recycle ash system in service	2	10-Jan-10	11-Jan-10											
XLXSU8200	Ramp to 50% Load & MHI 8 hr Hold	2	11-Jan-10	12-Jan-10											
XLXSU8260	Steam Quality Hold	2	13-Jan-10	14-Jan-10											
XLXSU1095	Start Operation Steam Driven Boiler Feed Pump B	3	13-Jan-10	15-Jan-10											
XLXSU7360	Steam Temp Initial Tuning - Superheater	3	13-Jan-10	15-Jan-10											
XLXSU7420	Steam Temp Initial Tuning - Reheater	3	13-Jan-10	15-Jan-10											
XLXSU7380	Soot Blowers in Service	5	13-Jan-10	17-Jan-10											
XLXSU7390	Water Canons in Service	5	13-Jan-10	17-Jan-10											
XLXSU1480	Feedwater Heater level Tuning	30	13-Jan-10	11-Feb-10											
XLXSU1670	PLANNED IN-SERVICE DATE	0	15-Jan-10*												
XLXSU8220	Ramp to 75% Load & MHI 8 hr Hold	2	16-Jan-10	17-Jan-10											
XLXSU7370	BF Pumps Tuning	30	18-Jan-10	14-Feb-10											
XLXSU8280	Steam Quality Hold	2	18-Jan-10	19-Jan-10											
XLXSU8230	SDA Spraying on Recycle Ash	21	18-Jan-10	07-Feb-10											
XLXSU8240	Ramp to 100% Load	2	20-Jan-10	21-Jan-10											
XLXSU1490	First Plant Full load	0	21-Jan-10*												
XLXSU1050	Safety valve Setting and Test	4	22-Jan-10	25-Jan-10											
XLXSU1090	Full Load Combustion Adjustment and Tuning (75-100% load)	30	22-Jan-10	20-Feb-10											
XLXSU2410	First Sprays Atomizers W/Lime	18	11-Feb-10	28-Feb-10											
XLXSU1530	FGD Operation / Tuning	1	21-Feb-10	21-Feb-10											
XLXSU1520	Runback Testing	1	21-Feb-10	21-Feb-10											

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LEVEL 2 CRITICAL PATH SCHEDULE

BYPASS OPERATION TO FINAL ACCEPTANCE

Date	Revision	Checked	Approved
December 10, 2009			

Actual Work

Remaining Work

Critical Remaining Work

Milestone

Unit 3 Level 2 Schedule

Activity ID	Activity Name	Original Start Duration	Finish	2010												
				Dec	Jan	Feb	Mar	Apr	May	Jun	Jul					
XLXSU100	SCR Operation / Tuning	5 21-Feb-10	25-Feb-10													
XLXSU7400	Load Rejection Testing 50%	1 28-Feb-10	28-Feb-10													
XLXSU2830	Cool down	2 01-Mar-10	02-Mar-10													
XLXSU2840	Strainer Removal Outage	7 03-Mar-10	09-Mar-10													
XLXSU8290	Alstom Ramp Rate Guarantee	1 10-Mar-10	10-Mar-10													
XLXSU8300	Alstom Minimum Stable Load Test	2 10-Mar-10	11-Mar-10													
XLXSU2850	Restart & Ramp to Full Load	7 10-Mar-10	16-Mar-10													
XLXSU2880	Sorbent Injection System - Operation	3 14-Mar-10	16-Mar-10													
XLXSU8210	Performance Testing - Sorbent Consumption	2 17-Mar-10	18-Mar-10													
XLXSU3230	Performance Testing - Ash Handling Capacity	3 17-Mar-10	19-Mar-10													
XLXSU1630	Performance Testing - Balance of Plant PTC 46	5 17-Mar-10	21-Mar-10													
XLXSU1640	Performance Testing - Steam Turbine & FW Heater	5 17-Mar-10	21-Mar-10													
XLXSU2780	Air Permit Emissions Testing	5 17-Mar-10	21-Mar-10													
XLXSU3220	Alstom Emissions & Performance Guarantee Tests P...	5 17-Mar-10	21-Mar-10													
XLXSU1620	Performance Testing - Lime Reagent Usage & Bal of...	5 22-Mar-10	26-Mar-10													
XLXSU2820	Performance Testing -other Contract Requirements	5 22-Mar-10	26-Mar-10													
XLXSU1660	Performance Testing Complete for Substantial Comp...	1 27-Mar-10	27-Mar-10													
XLXSU2440	SUBSTANTIAL COMPLETION	0	27-Mar-10													
XLXSU3720	COMMERCIAL OPERATION	0	27-Mar-10													
XLXSU1510	Remote Load Control Testing	4 28-Mar-10	31-Mar-10													
XLXSU2790	Generator Unit Model Validation Testing	10 28-Mar-10	06-Apr-10*													
XLXSU2450	Reliability Testing & Minimum Turndown	30 28-Mar-10	26-Apr-10*													
XLXSU2910	Punchlist and Closeout	88 28-Mar-10	05-Jul-10													
XLXSU2470	Final Acceptance (Acceptance per Contract)	0	05-Jul-10*													

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LEVEL 2 CRITICAL PATH SCHEDULE  
BYPASS OPERATION TO FINAL ACCEPTANCE

Date	Revision	Checked	Approved
December 10, 2009			

■ Actual Work  
■ Remaining Work  
■ Critical Remaining Work  
◆ Milestone



## **ATTACHMENT 7.0 – BID EVALUATIONS**

No major contracts have been awarded on the Comanche Expansion Project since June 1, 2009.

## **ATTACHMENT 8.0 – FORCE MAJEURE**

No major contracts have been awarded on the Comanche Expansion Project since June 1, 2009.

**ATTACHMENT NO. 9.0 – ESCALATION PROVISIONS**

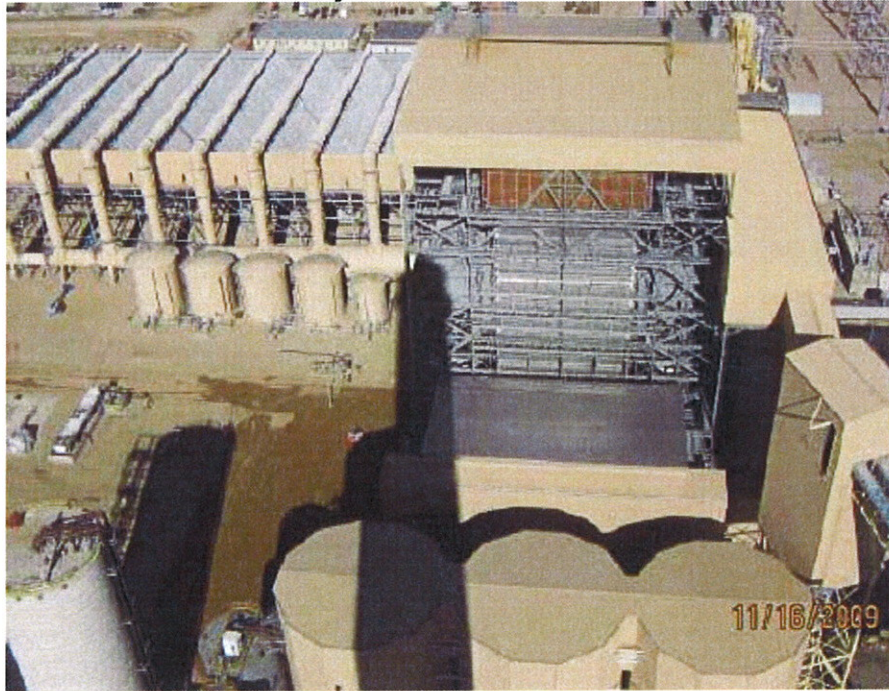
No major contracts have been awarded on the Comanche Expansion Project since June 1, 2009.

Permit Description	Permit #	Date Issued/Date Modified	Expirations Date
<b>Air Permits</b>			
Construction permit - Haul Roads	04PB1022	7/5/2005, 5/15/2009	
Construction permit - Fly Ash, Flue Gas Desulfurization Waste and Spent Sorbent Handling and Storage	04PB1021	7/5/2005	
Construction Permit: Sorbent Handling Operations for Units 1, 2, and 3	04PB1020	7/5/2005	
Construction Permit: Lime Handling Operations for Units 1, 2, and 3	04PB1019	7/5/2005, 9/12/2007	
Construction Permit: Recycle Ash Handling for Units 1, 2, and 3	04PB1018	7/5/2005, 11/7/2008	
Construction Permit: Coal Storage and Handling	04PB1017	7/5/2005, 9/12/2007	
Construction Permit: Cooling Water Tower (hybrid design)	04PB1016	7/5/2005, 12/8/2008	
Construction Permit: Unit 3 Supercritical Pulverized Coal Fired Boiler (equipped) with dry-low Nox burners, over-fire air, selective catalytic reduction, lime spray dryer, Sorbet injection, and baghouse)	04PB1015	7/5/2005	
Construction Permit: Unit 2 - lime spray dryer and low Nox burners	11PB859	7/5/2005	
Construction Permit: Unit 1 - lime spray dryer and low Nox burners	04PB1439	7/5/2005	
Construction Permit: Emergency Generator	08PB1178	12/8/2009	
Land Development Permit - Land Development activities associated with site preparation	06PB0254L	5/19/2005	6/1/2010
Boiler Evaporation Permit - Authorization for evaporation of pond water in Unit 1 and 2 boilers	05PB0418	7/6/2005	2/1/2006, Work Completed no extension to permit required
<b>Wastewater Permits</b>			
Construction Stormwater Discharge Permit - Discharge of Stormwater from Construction Area	COR-030000	7/1/2007	6/30/2012
Construction Dewatering Permit-Discharge of groundwater encountered during construction	COG-071993	8/11/2005	General Permit in administrative extension
Authorization to discharge construction dewatering and hydrostatic test water to existing wastewater treatment system	Authorization in a letter	8/15/2005	
<b>Waste Permits</b>			
Special Use Permit: Issued by Pueblo County for disposal of evaporation pond materials	#2005-006	5/25/2005	
Special Use Permit: Issued by the City of Pueblo for ash disposal expansion	#058-2005	9/27/2005	
<b>Other</b>			
FAA Stack Height Permit		7/1/2005	

	Permits to be obtained from Pueblo Regional Building Department through the design process. Permits to be in place prior to starting Construction.		
<b>Various Building Permit;</b>			
	0514930- Misc. Permit 0515186 Bldg. Permit Foundations, 0518404 Misc. Permit, 0518777 Chimney Bldg. Permit	9/22/2005	
- Stack			
- Construction Trailers	0607010 Bldg. Permit	4/27/2006	
- Turbine Building		2007	
- Field Erected Tanks		2007	
- PDC- Buildings		2007	
County Grading Permit	Authorization in Letter	7/7/2005	
County Access Agreement		9/6/2005	
County Access Road Construction Permit - (Fugitive Dust)	Application Submitted on 4/13/06	9/6/2006	
County Access Road Stormwater Permit	COR-039724	6/30/2007	
Access Road Stormwater outfall to Arkansas River: Nationwide Permit No. 7 - Outfall Structure	Action Number 2005 00795	1/24/2006	
Access Road Stormwater crossing of Salt Creek: Nationwide Permit No 14 - Linear Transportation Projects	Action Number 2005 00795	1/24/2006	
CDOT Access Permit	CDOT # 206015	2/2/2006	
Notice to Proceed on Access Permit from CDOT		2/2/2006	
Unit 3 CPCN		1/21/2005	
Annexation		9/12/2005	
Water Agreement		7/20/2005	
Labor Agreement		6/6/2005	
Partnership Agreement		4/8/2005	
Environmental Agreement		12/3/2004	
Transmission Facilities Study		3/8/2005	
Interconnection Agreement		6/10/2005	
Transmission CPCN		9/19/2006	

Progress Photos

COM3 Project Site Taken from Stack



Shaw – Final Grading West of Unit 3



**Beltramo – Paving Complete Around Cooling Tower**



**Alstom – Scaffolding Inside the Furnace**



**Alstom - Water Wall Tube Repairs**



**Alstom – Front Wall Welding New Tube Section**





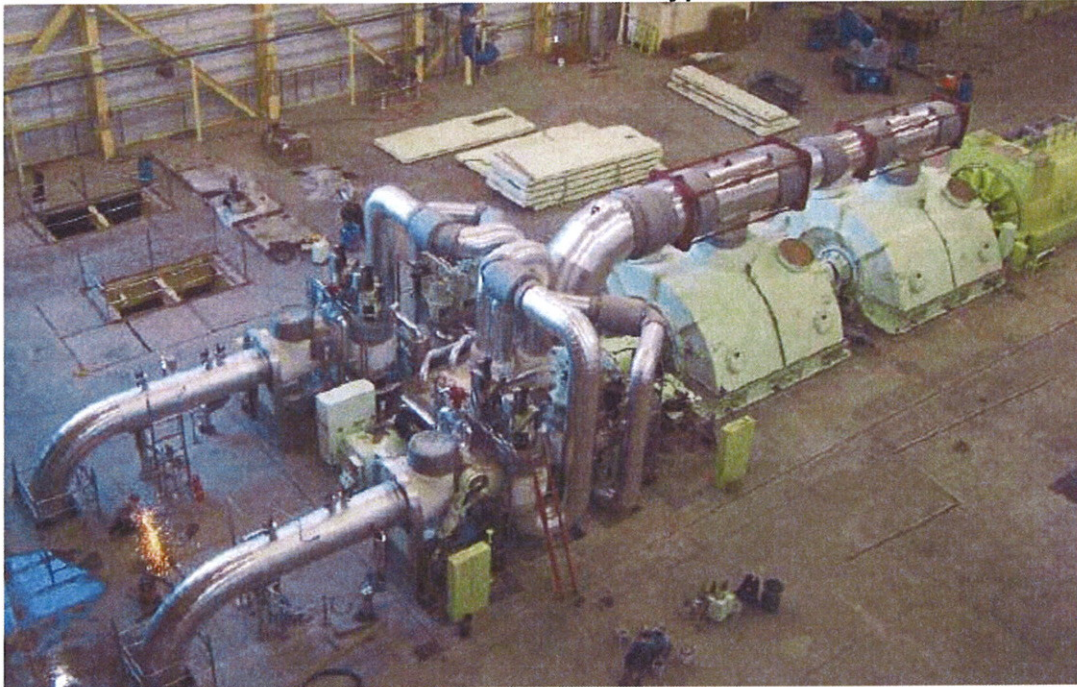
**R&S – Conveyor Transporting Coal for First Fire**



**SSW – Pulled Vacuum**



**SSW – Started Steam Bypass**



**R&S – Bottom Dump in Operation**

