



Wisconsin Power and Light Company
Corporate Headquarters

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July 31, 2014

Ms. Sandra J. Paske
Secretary to the Commission
Public Service Commission of Wisconsin
610 North Whitney Way
Madison, WI 53707-7854

RE: Joint Application of Wisconsin Power and Light
Company, Wisconsin Public Service Corporation,
And Madison Gas and Electric Company for a
Certificate of Authority to install Emissions
Reduction Systems at the Columbia Energy Center
Units 1 and 2

Docket No. 05-CE-138

Dear Ms. Paske,

In compliance with Order Point No. 3 in Docket No. 05-CE-138 Wisconsin Power and Light Company hereby submits this progress report to the Public Service Commission of Wisconsin on the referenced Emission Reduction Project for the second quarter, 2014.

Should you have any questions please feel free to contact me directly at (608) 458-3924.

Sincerely,

/s/ Scott Smith
Scott Smith
Director Regulatory Affairs
Alliant Energy
Wisconsin Power and Light Company

Columbia Energy Center Emission Reduction Project Progress Report – Second Quarter 2014

Certificate of Authority, Order Point #3: Submittal of Quarterly Progress Report
Wisconsin Power and Light Company – Docket 05-CE-138

Project Summary

- The estimated cost of the approved project cost was \$627,000,000, excluding AFUDC. Order Point No. 2 requires notification to the Commission if, among other items, “the project costs ... may exceed the estimate cost by more than 10 percent.” As of this update the project is forecasted to be completed under the approved cost. The project is currently projected to cost approximately \$599,000,000. The Project Cost to Date table below (Page 8) provides an update on expenditures.
- Construction started on February 23, 2012. As specified in Order Point No. 3a of in the Commission’s Order, WPL notified the Commission of the commencement of construction activities at the Columbia Energy Center. As of June 30, 2014, the overall project is approximately 99.4% complete (Engineering, Procurement, and Construction), which is slightly ahead of schedule.
- Construction progressed fairly well through the spring, losing some time due to the wet weather for the quarter.
- The tie-in outage for Unit 2 outage began on January 18 and was completed on February 25 (five days early). The Unit 1 outage started on April 12 and finished on May28 (six days early).
- Owner initiated changer orders continue to be minimal and still make up less than one percent of the project cost.

Permitting Status

- Site erosion control plans continue to be reviewed and updated with the Town of Pacific on a quarterly basis with no issues.

Engineering Status

- As of the end of June 2014, engineering was about 99.5% complete for the project. Several engineering activities were executed to support the project schedule, most pertaining to commissioning and start-up activities. Primary activities this period included:
 - Civil/Structural Engineering Summary
 - Finalizing project record drawings
 - Finalize drawings for the site finishing work
 - Mechanical Engineering Summary
 - Finalizing project record drawings
 - Continued execution of the AQCS “furnish and erect” contract with Babcock and Wilcox.
 - Continued coordination of start-up and commissioning activities as well as emissions and performance testing.
 - Continued issuing final equipment instruction manuals.
 - Electrical/Control Engineering Summary
 - Finalizing project record drawings.
 - Continued issuing final equipment instruction manuals.

- Substation/Transmission Line Engineering
 - All work is complete

- Overall Black and Veatch Engineering Progress
 - Civil/Structural 99.8% Complete
 - Mechanical 99.3% Complete
 - Electrical/Control 99.4% Complete
 - Power Delivery 100% Complete
 - Overall 99.5% Complete

Procurement Status

- Procurement activities were executed to support the project schedule. There are no new contracts required. Primary activities included:
 - Capital and inventory spare parts continue to be ordered and delivered.
 - Continued close out of BVC (Black and Veatch Construction, Inc.) subcontracts

Construction Status

- On-site construction manpower continued to decrease to an average of approximately 100 people in June. The number of craft labor is expected to drop further in the third quarter 2014 as the insulators and sheet metal workers complete their remaining work (ductwork insulation and lagging and insulated roof and wall panels) and the Unit 1 tie-in outage is completed. All major contractors will be demobilized from the site by the end of the third quarter.
- All major deliveries have been received. Baghouse bags and cages have been delivered and installed in the Unit 2 Pulse Jet Fabric Filter. Deliveries of bags and cages for Unit 1 are complete and installation was completed in early March. Spare parts continue to be delivered and will continue through the end of 2014.
- Babcock and Wilcox (B&W) completed erecting the Spray Dryer Absorbers (SDA), Pulse Jet Fabric Filters (PJFF), and ductwork and support steel from the existing units and the new equipment including the SDA inlet ducts on Unit 1. The erection of the SDAs and PJFFs for Unit 1 and Unit 2 have been completed.
- Mechanical, electrical, civil, and insulation contracts are complete with only punchlist items remaining.
- All new ductwork for Unit 1 and Unit 2 has been erected and insulated.
- Completed the factory acceptance test of the Ovation digital control system (DCS), shipped to the job site, and installed. The DCS for Unit 2 has been tied in to the existing plant system and all commissioning checks have been completed. The DCS tie-in for Unit 1 is expected to occur during the Unit 1 outage in April 2014.
- Continued the construction waste recycling program. The goal is to recycle 75% or more of the construction waste. For the overall project, the recycling program has a waste diversion or recycle rate of greater than 82.5% with nearly 2,400 tons of material being recycled.
- The Site Finishing contractor is on-site and installing the final site grading and storm water runoff system, performing final grading of roads, and blacktopping project and plant roads. All of this work should be completed by the end of the third Quarter.

- Overall Construction Progress
 - AQCS Equipment 99.9% Complete
 - Site Development 100% Complete
 - Site Finishing 46.4% Complete
 - General Construction – Substructures 100% Complete
 - General Construction – Superstructures 99.7% Complete
 - Steel Silo Construction 100% Complete
 - Pre-engineered Metal Building Constr. 100% Complete
 - Metal Wall and Roof Panel Constr. 99.8% Complete
 - Electrical Construction 100% Complete
 - Insulation and Lagging Constr. 100% Complete
 - Mechanical Construction 100% Complete
 - Resistivity Testing 100% Complete
 - Topographic and Underground Survey 100% Complete
 - Ductwork Assessment and Scaffolding 100% Complete
 - **Overall 98.9% Complete**

- Project Quality Control/Quality Assurance
 - There have been no unresolved quality issues on the project to-date.
- Site Safety
 - There have been no lost time accidents on the project since construction started.
 - There were no recordable incidents for the reporting period (April through June 2014). The project total of recordable injuries remains at nine.
 - The project has now worked over 1,850,000 hours without a lost time accident.

Start-up and Commissioning

- Through the end of June 2014, 54 of 54 total start-up packages have been received back from construction. The following activities were completed during this period:
 - The tie-in outage for Unit 1 was completed six days ahead of schedule and the unit was restarted on May 28.

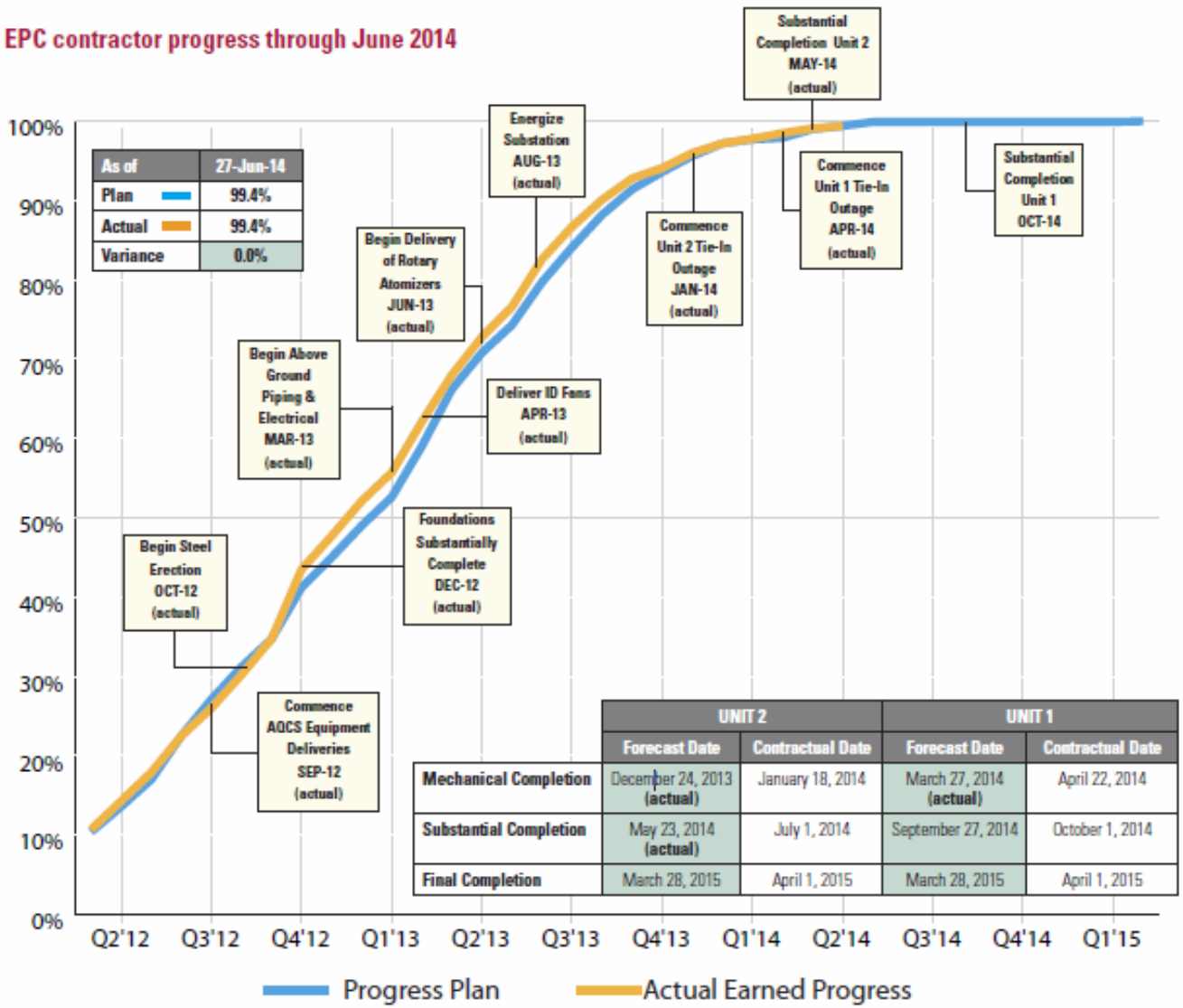
- Training
 - Planning is underway for additional, refresher training for the operators to be administered during the third quarter.

- Unit 2:
 - The scrubber/baghouse systems continue to perform well from an emissions perspective.
 - Contract guarantee and environmental performance testing has been completed and the final report has been issued. Unit 2 passed all of the tested parameters with good margins. No further testing is required.
 - Upon receiving the written guarantee and environmental test report, Unit 2 and common equipment was declared substantially complete on May 23. Per the contract, the supplier is obligated to demonstrate system reliability via a 60 day reliability test. This test was started at noon on June 7 and will run through the first full week of August, unless there are equipment issues which may extend the test.

- Although sulfur dioxide and mercury removal has been good, the atomizers, used to spray the slurry into the spray dryer vessel, have had issues with vibration. The issues have been traced to atomizer motor assembly procedures. One-by-one the motors were removed and sent back to the manufacturer (Baldor) for repair and testing. Two spare atomizers have been utilized during this work.
- Atomizer lube oil coolers have not performed as expected. Overtime, calcium carbonate builds-up in the system and restricts flow resulting in lube oil temperatures higher than expected. Babcock and Wilcox has traced the issue to cooling water quality that is out of specification with their design standards. WPL is working with Babcock and Wilcox to identify and implement a solution. Improvements should be completed by the third quarter.
- Unit 1:
 - Unit 1 was back on line from the tie-in outage on May 28. After performing flue gas distribution checks, lime and recycle slurry were first injected on May 31.
 - On June 1, the scrubber was already performing at the guaranteed level for sulfur dioxide removal of 0.04 lb SO₂/MMBTU.
 - Activated carbon injection was started on June 10. Mercury emissions dropped immediately. A calcium bromide solution is also used in conjunction with activated carbon for improved activated carbon collection efficiency and was also started on June 10. Since this time, mercury emissions have been demonstrated to be below the guaranteed emission rate of 0.8 pounds per trillion BTU.
 - Performance and emission guarantee testing was completed on Unit 1 during the week of July 7 through 11.

Construction Progress Chart

EPC contractor progress through June 2014



Construction Photographs



Overall construction looking northwest



Overall construction looking southwest



Ductwork tie-in on Unit 1 building



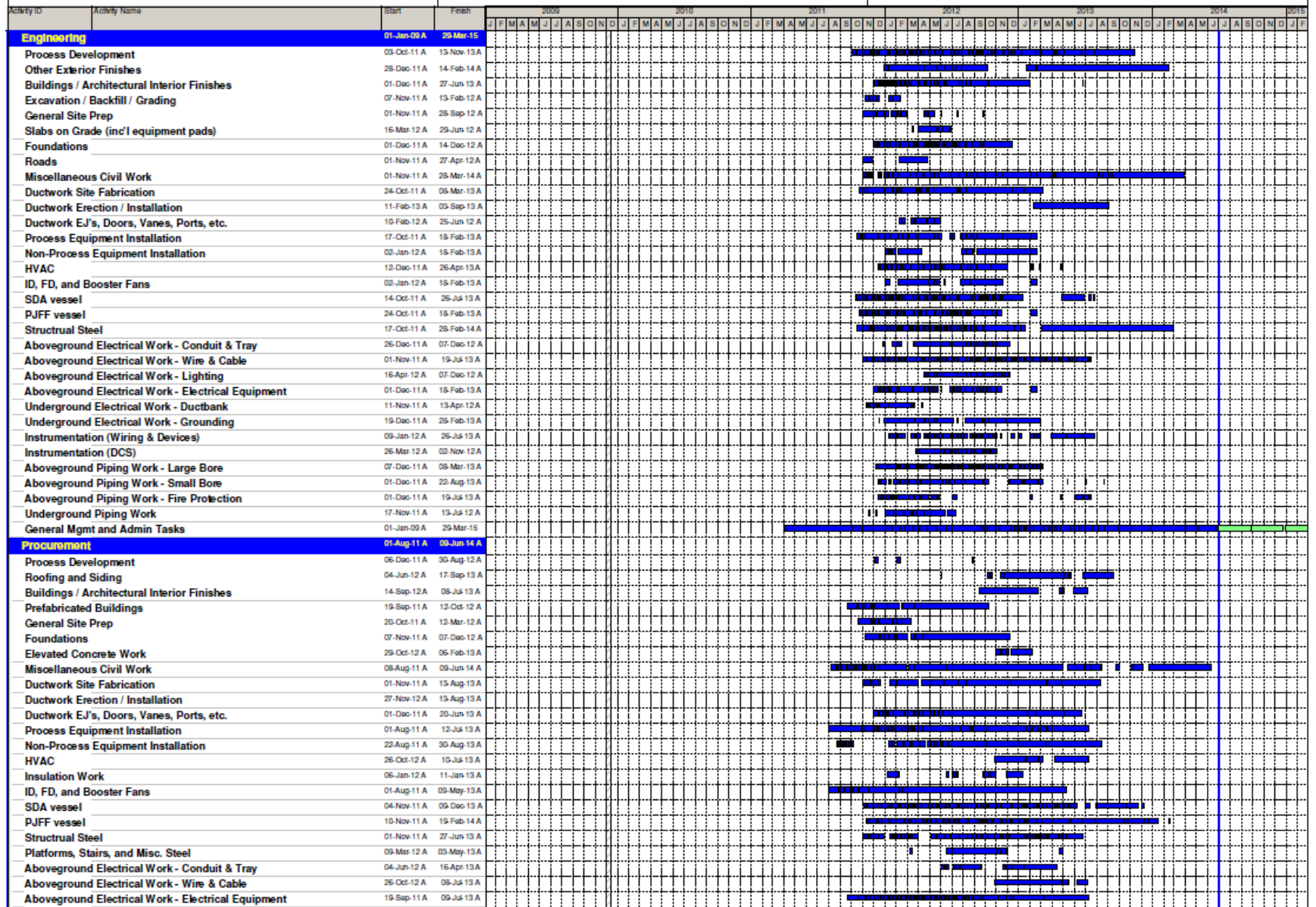
Installing site drainage west of electrical building

Project Cost to Date

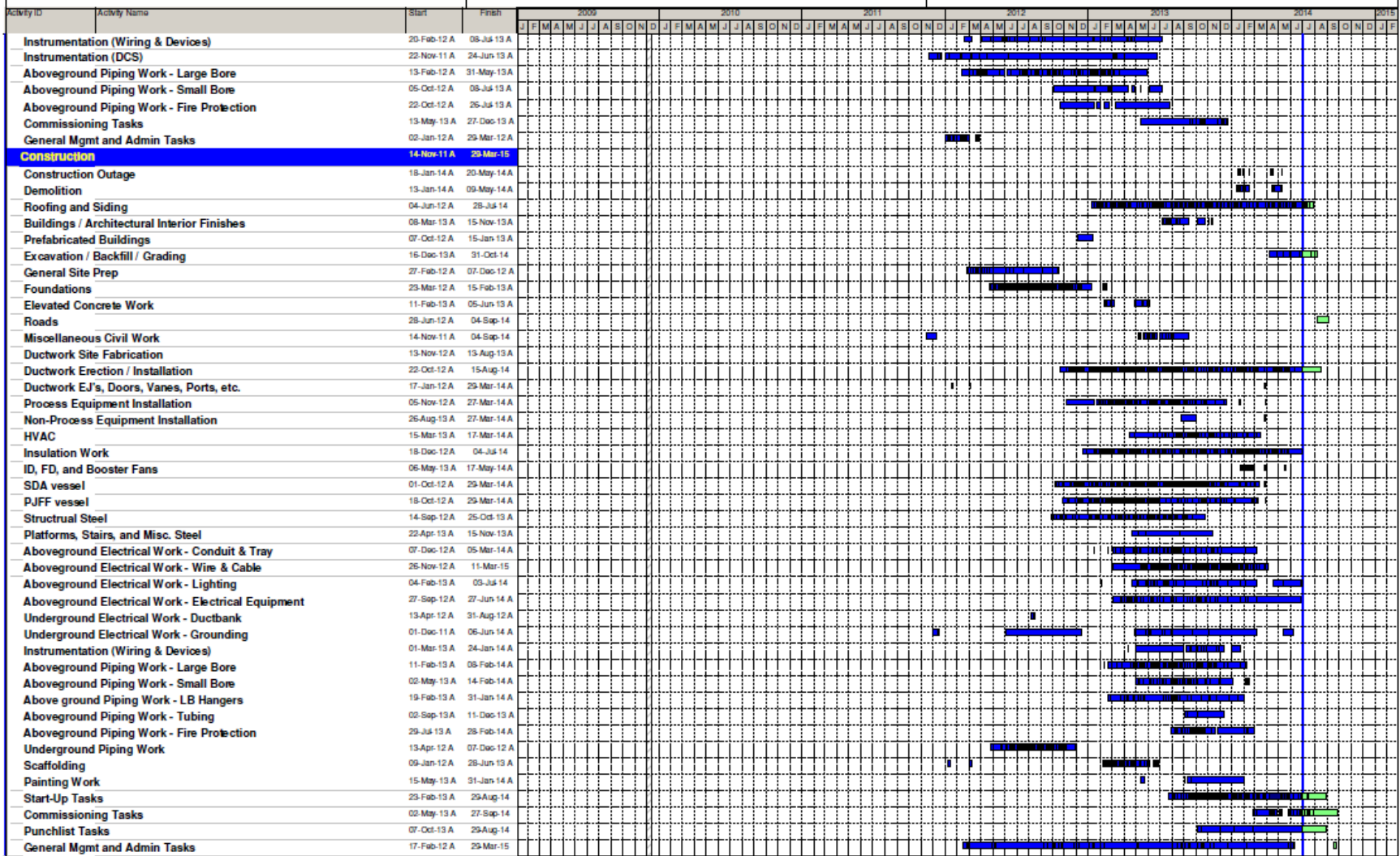
Columbia 1&2 Emissions Reduction Systems		
PSCW Docket: 5-CE-138		
Quarterly Progress Report - For PSCW		
Actual Project Costs - Through June 30, 2014		
AFUDC Excluded		
Updated CA Reporting Format		
Description	CA Cost (\$)	Actual Spend (\$) June 30, 2014
Engineering	40,113,778	40,546,753
Procurement - Materials	26,164,798	26,411,994
Procurement - Equipment		
AQCS Equipment	191,648,839	191,661,806
Balance of Equipment	42,081,182	46,427,498
Construction - Subcontractors	208,042,468	206,976,264
Construction - Contractors (CM & Start-up)	39,948,935	38,267,909
Subtotal EPC Contract	548,000,000	550,292,224
Applicant's Cost	79,000,000	29,533,361
Total Project Cost	627,000,000	579,825,586

Project Schedule – Page 1

Printed: 09-Jul-14 10:48 CEC AQCS Project Summary Schedule Data Date: 30-Jun-14



█ Remaining Level of Effort █ Actual Work
█ Actual Level of Effort █ Remaining Work



█ Remaining Level of Effort █ Actual Work
█ Actual Level of Effort █ Remaining Work