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Pensacola, Florida 32520

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BUREAU OF AIR REGULATION



Certified Mail

August 22, 2002

Greg DeAngelo
Florida Department of Environmental Protection
Division of Air Resources Management
2600 Blair Stone Road
Mail Station #5510
Tallahassee, Florida 32399-2400

Dear Mr. DeAngelo:

RE: LANSING SMITH ELECTRIC GENERATING PLANT
WATERWALL TUBE REPLACEMENT PROJECT
PERMIT No: 0050014-001-AV

Thank you for meeting with us on August 19, 2002 regarding the Lansing Smith Unit 2 waterwall tube replacement project. Enclosed, pursuant to your request is a project summary worksheet outlining the details of the project along with our determination of no emissions increase.

If you have any questions regarding this project or the protocol development for the Lansing Smith Unit 2 waterwall project, please call me at (850) 444.6527.

Sincerely,

A handwritten signature in black ink that reads "G. Dwain Waters Q.E.P.".

G. Dwain Waters, Q.E.P.
Air Quality Programs Supervisor

cc: w/att: Jim. Vick, Gulf Power Company
Marie Largilliere, Gulf Power Company
Trey Hall, Gulf Power Company
Michael Burroughs, Gulf Power Company
Vicky Sullivan, Southern Company Services
Grady Moore, Balch & Bingham
Gary Perko, Hopping, Green & Sams
Ms. Sandra Veazey, FDEP Northwest District Office, Pensacola, Florida

LANSING SMITH WATERWALL REPLACEMENT PROJECT SUMMARY

08-22-02

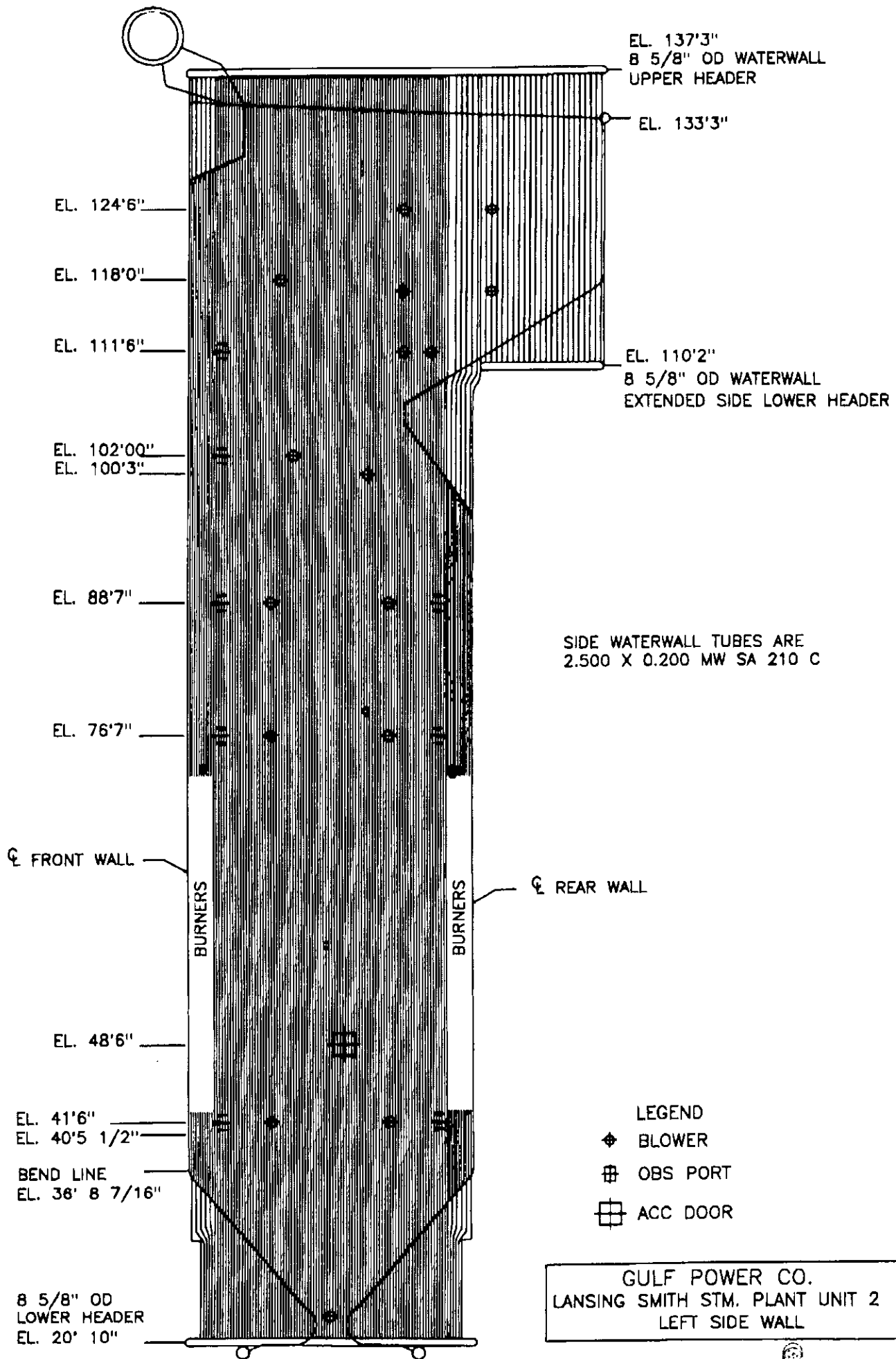
Background: Lansing Smith Unit 2 was placed in commercial operation in 1967. The Unit 2 Boiler was designed by Combustion Engineering and has a permitted capacity at 2,246.2 MBTU/hr heat input utilizing coal as its primary fuel. The normal full load of Unit 2 is approximately 205 MW. The unit is capable of burning No. 2 Fuel Oil and On-specification Used Oil at a lower heat input capacity. In 1988, Unit 2 was selected as a Clean Coal Technologies Low NO_x Burner Demonstration Project by the Department of Energy and EPA. In 1991, the unit was retrofitted with a separated Low-NO_x Concentric Firing System (LNCFS) and separated overfired air dampers (SOFA) to facilitate a reduction in NO_x emissions. The lower oxygen (O₂) levels resulting from the operation of the low NO_x burner system have caused a corrosive environment in the furnace. While the unit has been able to achieve lower emissions levels, the erosion and corrosion of the waterwall tubes have been greatly accelerated in the heat affected zone. Additional testing of the boiler indicates that numerous waterwall tubes also have significant damage as a result of water chemistry excursions which occurred in 2000 and 2001. The damage is evidenced by a heavy buildup of minerals in the internal part of the tubes. This buildup quickly attacks the inside of the tube resulting in a thick edge that splits about 12 to 36 inches due to the internal corrosion.

Project Description: With erosion on the external portion of the tubes due to low NO_x burner operation and corrosion in the internals due to water chemistry excursions, it is necessary to replace the waterwall tubes in the boiler to retain its current operating capacity. The tubes could not be repaired economically. This replacement requires cutting out the waterwall tubes from the lower ring headers up to just below the steam drum in the penthouse. No work will be performed on the steam drum. This is a vertical length of about 120 ft. The surface area is approximately 19,340 square feet. The replacement waterwall tubes are made of the same materials as the old and no new capacity or operational changes will result from the replacement. The cost of the materials is estimated to be \$3.5 million dollars. The project will take approximately 16 weeks to complete and is scheduled to begin in January, 2003. Attachment (1) is a side view drawing of the boiler with accompanying elevations and dimensions.

Emissions Evaluation: An evaluation of the emissions before and after this project was conducted. First, it is clear from the project description and engineering summarized above that the project will have no effect on the emissions rate of the unit. This is true for all pollutants. The replacement waterwall tubes will have the same design and capacity as the existing tubes. The boiler will fire coal and produce steam in the same manner as before the project. Therefore, there will be no impact on the emissions rate of the unit. Second, because the unit has already begun normal operations, a comparison of actual emissions before the project with projected actual emissions after the project was made. The baseline chosen was the twenty-four months in the five-year pre-project period over which the unit maintained highest availability. We believe this period is representative of normal source operation. The baseline emissions are shown below, along with projected future emissions calculated from Gulf Power's production cost model that is used to project fuel requirements. The future period chosen is the first two years after the project, 2004-2005. Because our production cost model provides projections only on a calendar year basis, the future projections begin with January 2004. As the calculations below show, emissions are projected to decrease after the project. Accordingly, the project will not result in an increase in emissions at the unit.

Emissions Comparison Smith Unit 2

<u>Baseline dates</u>	<u>Pollutant</u>	<u>Before</u>	<u>After</u>	<u>Change</u>
9/98 - 8/00	SO ₂	25,098	6,512	-18,586
	NO _x	2,875	2,458	-417
	PM	206	130	-76
<u>Future Predicted Emissions</u>		<u>2004</u>	<u>2005</u>	<u>Avg.</u>
	SO ₂	5,471	7,552	6,512
	NO _x	2,487	2,429	2,458
	PM	131	128	130



GULF POWER CO.
LANSING SMITH STM. PLANT UNIT 2
LEFT SIDE WALL