



City/Mirant Settlement Agreement - Council's Receipt and Consideration of Phase II Project Report

Council Legislative Session

June 22, 2010



AGREEMENT SUMMARY

- Mirant to spend **\$34 M** on Pollution Controls
 - Capital improvements including engineering study
 - Includes particulate controls for fugitive emissions (Phase I - \$2 million) and stack (Phase II - \$32 million)
- Mirant received a **two-stack permit** from VDEQ
 - Operate up to 5 boilers
 - Receive dispersion credit and proceed with the \$35 M stack-merge project
 - Stringent Limits
 - Install PM and CO CEMS in 12 months



Progress

- Stack merge project completed
- Escrow account of \$34 M established
- PM & CO CEMS installed
- PM_{2.5} ambient monitor installed on roof of Riverton Condominium in August 2009
- WorleyParsons selected as the Project Engineer
- EPSCO International hired as City Engineer



Progress on Phase I

- Phase I engineering study completed in April 2009 with five fugitive control options recommended and approved by Council in November 2009
 - Ash loading dust suppression system – ordered, delivery expected this summer
 - Street sweeper – ordered, delivery this summer
 - Mirant New ash loader installation – installed and is operational with temporary power source
 - Drip pans – required a permit modification which will be applied for at the same time as Phase II project
 - Wind screens – revised cost is \$1.02 million



Progress on Phase II

- Phase II is focused on stack PM_{2.5} emissions control technology
- Phase II engineering study completed in April 2010
 - Screened 25 technologies
 - Obtained budgetary proposals from six vendors and prepared budget estimates for four most promising options



Progress on Phase II

- Phase II engineering study completed in April 2010 (continued)
 - Carried out testing of existing ID fans to determine if they are capable of accommodating future baghouse
 - Conducted “Transient Analysis” to evaluate potential for implosion of the boiler system with future baghouse
 - Performed Computational Fluid Dynamic modeling to evaluate opportunities for reducing pressure loss in existing boiler exhaust duct
 - Verified plant existing electrical system to ensure adequate capacity for future baghouse installation



Progress on Phase II

- Phase II engineering study completed in April 2010 (continued)
 - Recommended option - Retrofitting cold electrostatic precipitators (ESP) with polishing baghouses for units #3,4,5 and upgrade of hot ESP for units #1,2
 - Budgetary cost for this option is estimated at \$31.1 million, including \$4.1 million in contingencies
 - Actual number of baghouse conversions can only be known after the contract is signed



Progress on Phase II

- MCMG, in its May 13 meeting, reviewed the draft Phase II report and recommended that Council:
 - Support the conclusions and recommendations in the draft Phase II report which
 - Selects baghouse as the preferred technology
 - Recommends that baghouse conversion of the cold ESP be implemented on boilers #3, 4 and 5 and hot ESP control upgrade be carried out on boilers #1 and 2
 - Ask staff to reconvene the MCMG to decide on new course of action if the final report is significantly different than the present draft report
 - Defer the installation of the wind screens and drip pans (Phase I projects) until the Phase II cost will have been determined accurately



Next Steps

- **In the near term**

- City, Mirant, and VDEQ had 45 days to review this draft Phase II report (deadline June 17, 2010)
 - Comments received were sent to Council and MCMG
- The Engineer then has 60 days to revise and produce the final report (deadline around August 6, 2010)
- Board/ VDEQ to approve the preferred technology
 - Subsequently, VDEQ must issue a permit prior to construction
- The Engineer prepares bid package



Next Steps

- Upon project completion
 - Stack test using EPA methods
 - Include filterable and condensible $PM_{2.5}$
 - Final limits lower of stack test or NAAQS compliant modeling
 - Final limits included in a revised permit
 - Mirant required to maintain and operate controls continuously



Conclusions and Recommendations

- Staff agrees with the conclusions and recommendations of the Engineer's draft Phase II report
- Staff also concurs with the recommendations made by the MCMG on May 13, 2010
- Staff recommends that Council endorse MCMG recommendations

