

**EGU Controls; Atlanta Nonattainment Area**

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**NO<sub>x</sub> Control:** Selective Catalytic Reduction (SCR), VISTAS removal efficiency = 82.5 % (VISTAS 2012 Projection Emission Inventory, MACTEC)

**SO<sub>2</sub> Control:** Flue Gas Desulfurization (FGD), required removal efficiency per (uuu) = 95 %, VISTAS removal efficiency = 95 % (VISTAS 2012 Projection Emission Inventory, MACTEC).

**PM Control:** ESPs began operation prior to 2007. The PM<sub>2.5</sub> control factor due to FGD was assumed to be 50% according to Table 5.4-1 on page 5.4-24 of EPA document "Stationary Source Control Techniques Document for Fine Particulate Matter" (EC/R Incorporated, 1998).

**Control Order (Upstream to Downstream):** SCR, ESP, FGD

Attainment Year (Base Year) for Atlanta Maintenance Plan Emissions Inventories is 2008 [note: attainment year for other nonattainment areas is different]

**EGU Control Dates: Atlanta PM2.5 NAA**

<b>Plant/Unit</b>	<b>County</b>	<b>NOx Control Operation (SCR)</b>	<b>NOx Control (SCR) required by rule (sss)<sup>1</sup></b>	<b>SO2 Control Operation (FGD)</b>	<b>SO2 Control (FGD) required by rule (sss)</b>	<b>Other Controls</b>	<b>Comments</b>
Bowen 1	Bartow	2001(ozone season oper.)	6/1/10	6/1/10	6/1/10	LNB/OFA ESP	
Bowen 2	Bartow	2001(ozone season oper.)	6/1/09	5/1/09	6/1/09	LNB/OFA ESP	
Bowen 3	Bartow	2002 (ozone season oper.)	12/31/08	5/1/08	12/31/08	LNB/OFA ESP	
Bowen 4	Bartow	2002 (ozone season oper.)	12/31/08	12/1/08	12/31/08	LNB/OFA ESP	
Branch 1	Putnam		12/31/13		12/31/13	LNB ESP	GA Power has filed request to GA PSC to shut down Unit 1 in 2013 <sup>2</sup>
Branch 2	Putnam		12/31/13		12/31/13	LNB ESP	GA Power has filed request to GA PSC to shut down Unit 2 in 2013 <sup>2</sup>
Branch 3	Putnam		6/1/15		6/1/15	LNB ESP	
Branch 4	Putnam		6/1/15		6/1/15	LNB ESP	
McDonough 1	Cobb		4/30/12 <sup>3</sup>		4/30/12 <sup>3</sup>	LNB/OFA, ESP	Will replace with one gas-fired generating block in 2012 Q2
McDonough 2	Cobb		12/31/11 <sup>3</sup>		12/31/11 <sup>3</sup>	LNB/OFA, ESP	Will replace with two gas-fired generating blocks in 2011 Q4

Plant/Unit	County	NOx Control Operation (SCR)	NOx Control (SCR) required by rule (sss) <sup>1</sup>	SO2 Control Operation (FGD)	SO2 Control (FGD) required by rule (sss)	Other Controls	Comments
Wansley 1	Heard	2002 (ozone season oper.)	12/31/08	12/1/08	12/31/08	LNB/OFA ESP	
Wansley 2	Heard	2003 (ozone season oper.)	12/31/09	5/1/09	12/31/09	LNB/OFA ESP	
Yates 1	Coweta		No requirement	prior to 2008 – but not required	12/31/08	LNB ESP	
Yates 2 - 5	Coweta		No requirement		No requirement	ESPs	
Yates 6	Coweta		6/1/15		6/1/15	LNB ESP	
Yates 7	Coweta		6/1/15		6/1/15	LNB ESP	

(1) year-round operation required

(2) Source: Georgia Power Integrated Resource Plan, updated August 2011

(3) Georgia Power will shut down McDonough's coal-fired Units 1 and 2 by these dates and replace them with three new gas-fired combined cycle (combustion turbine and duct burner) blocks of 840 MW each. Annual potential emissions from the three generating blocks were estimated in the PSD Preliminary Determination dated November 2007 (see Permit Application No. 17297 and Permit 4911-067-0003-V-02-2 ). NOx emissions from each block will be controlled by an SCR and a low-NOx burner.

	Blk 4 annual emissions	Blk 5 annual emissions	Blk 6 annual emissions
SO2 (tons)	19	19	18
NOx( tons)	217	217	200
PM10 (tons)	203	203	175

### Bowen – Removal Efficiencies of Added Controls

Plant/Unit	2008 Controls NOx SO2 PM/Hg	Controls Added after 2008 NOx SO2 PM/Hg	Removal Efficiency of Added Controls	Efficiency Basis	Requirement for additional control	Comments
Bowen 1	SCR (ozone season) LNB/OFA	SCR Oct - April	82.5 %	VISTAS inventory	Rule (sss)	
	none	FGD (bubbler)	95%	VISTAS inventory	Rules (sss) and (uuu)	
	ESP	FGD cobenefit	50%	EPA <sup>1</sup>		
Bowen 2	SCR (ozone season) LNB/OFA	SCR Oct - April	82.5 %	VISTAS inventory	Rule (sss)	
	none	FGD (bubbler)	95%	VISTAS inventory	Rules (sss) and (uuu)	
	ESP	FGD cobenefit	50%	EPA <sup>1</sup>		
Bowen 3	SCR (ozone season) LNB/OFA	SCR Oct - April	82.5 %	VISTAS inventory	Rule (sss)	
	FGD (bubbler) – SEE COMMENT	FGD (bubbler) full year operation – SEE COMMENT	95% - SEE COMMENT	VISTAS inventory	Rules (sss) and (uuu)	FGD was started up in May 2008 and operated for partial year
	ESP	FGD cobenefit	50%	EPA <sup>1</sup>		
Bowen 4	SCR (ozone season) LNB/OFA	SCR Oct - April	82.5 %	VISTAS inventory	Rule (sss)	
	none	FGD (bubbler)	95%	VISTAS inventory	Rules (sss) and (uuu)	
	ESP	FGD cobenefit	50%	EPA <sup>1</sup>		

(1) Table 5.4-1 on page 5.4-24 of EPA document "Stationary Source Control Techniques Document for Fine Particulate Matter" (EC/R Incorporated, 1998).

**Branch – Removal Efficiencies of Added Controls**

<b>Plant/Unit</b>	<b>2008 Controls</b> NOx SO2 PM/Hg	<b>Controls Added after 2008</b> NOx SO2 PM/Hg	<b>Removal Efficiency of Added Controls</b>	<b>Efficiency Basis</b>	<b>Requirement for additional control</b>	<b>Comments</b>
Branch 1	LNB	SCR	82.5 %	VISTAS inventory	Rule (sss)	GPC has filed request to GA PSC to shut down Unit 1 in 2013
	none	FGD (bubbler)	95%	VISTAS inventory	Rules (sss) and (uuu)	
	ESP	FGD cobenefit	50%	EPA <sup>1</sup>		
Branch 2	LNB	SCR	82.5 %	VISTAS inventory	Rule (sss)	GPC has filed request to GA PSC to shut down Unit 2 in 2013
	none	FGD (bubbler)	95%	VISTAS inventory	Rules (sss) and (uuu)	
	ESP	FGD cobenefit	50%	EPA <sup>1</sup>		
Branch 3	LNB	SCR	82.5 %	VISTAS inventory	Rule (sss)	
	none	FGD (bubbler)	95%	VISTAS inventory	Rules (sss) and (uuu)	
	ESP	FGD cobenefit	50%	EPA <sup>1</sup>		
Branch 4	LNB	SCR	82.5 %	VISTAS inventory	Rule (sss)	
	none	FGD (bubbler)	95%	VISTAS inventory	Rules (sss) and (uuu)	
	ESP	FGD cobenefit	50%	EPA <sup>1</sup>		

(1) Table 5.4-1 on page 5.4-24 of EPA document "Stationary Source Control Techniques Document for Fine Particulate Matter" (EC/R Incorporated, 1998).

### Wansley – Removal Efficiencies of Added Controls

Plant/Unit	2008 Controls NOx SO2 PM/Hg	Controls Added after 2008 NOx SO2 PM/Hg	Removal Efficiency of Added Controls	Efficiency Basis	Requirement for additional control	Comments
Wansley 1	SCR (ozone season) LNB/OFA	SCR Oct - April	82.5 %	VISTAS inventory	Rule (sss)	
	none	FGD (bubbler)	95%	VISTAS inventory	Rules (sss) and (uuu)	
	ESP	FGD cobenefit	50%	EPA <sup>1</sup>		
Wansley 2	SCR (ozone season) LNB/OFA	SCR Oct - April	82.5 %	VISTAS inventory	Rule (sss)	
	none	FGD (bubbler)	95%	VISTAS inventory	Rules (sss) and (uuu)	
	ESP	FGD cobenefit	50%	EPA <sup>1</sup>		

(1) Table 5.4-1 on page 5.4-24 of EPA document "Stationary Source Control Techniques Document for Fine Particulate Matter" (EC/R Incorporated, 1998).

**Yates – Removal Efficiencies of Added Controls**

<b>Plant/Unit</b>	<b>2008 Controls</b> NOx SO2 PM/Hg	<b>Controls Added after 2008</b> NOx SO2 PM/Hg	<b>Removal Efficiency of Added Controls</b>	<b>Efficiency Basis</b>	<b>Requirement for additional control</b>	<b>Comments</b>
Yates 1	LNB	SCR	82.5 %	VISTAS inventory	Rule (sss)	
	FGD (bubbler)	FGD operation required by rule (sss)	No additional removal	VISTAS inventory; CAMD records	Rules (sss) and (uuu)	CAMD SO2 emissions records for 2006 – 2010 indicate that FGD operating essentially year-round prior to 2007.
	ESP, FGD cobenefit	FGD operation required by rule (sss)	No additional removal			
Yates 6	LNB	SCR	82.5 %	VISTAS inventory	Rule (sss)	
	none	FGD (bubbler)	95%	VISTAS inventory	Rules (sss) and (uuu)	
	ESP	FGD cobenefit	50%	EPA <sup>1</sup>		
Yates 7	LNB	SCR	82.5 %	VISTAS inventory	Rule (sss)	
	none	FGD (bubbler)	95%	VISTAS inventory	Rules (sss) and (uuu)	
	ESP	FGD cobenefit	50%	EPA <sup>1</sup>		

(1) Table 5.4-1 on page 5.4-24 of EPA document "Stationary Source Control Techniques Document for Fine Particulate Matter" (EC/R Incorporated, 1998).