



NOTE:
 1. Flows are in US GPM.
 2. WFGD makeup water source is from Clearwell Pond.
 3. Flows include water from hydration in gypsum.
 4. Flows to and from common system are for WFGD Unit 4 only (Denoted by *)
 5. Conditions at Rated Load: 5,122 MBtu/HR, 6 lb/Mbtu SO₂

NO.	DATE	REVISIONS AND RECORD OF ISSUE	DRN	DES	CHK	PDE	APP
B	2/23/2011	ISSUED FOR CLIENT REVIEW	SNG	SNG	MCP		
A	1/20/2011	ISSUED FOR IN HOUSE REVIEW	SNG	SNG	MCP		

BLACK & VEATCH

ENGINEER SNG DRAWN SNG
 CHECKED DATE

2/23/2011

LG&E/KU - MILL CREEK STATION
 PHASE II: AIR QUALITY CONTROL STUDY

UNIT 4
 WFGD WATER MASS BALANCE

PROJECT	DRAWING NUMBER	REV
168908	M4WMB-1	B
CODE		
AREA		



Owner:	LG&E/ KU	Computed by	Sunee
Plant:	Mill Creek	Unit	4
Project No.	168908	File No.	41.0812
Title:	UNIT 4 WFGD WATER MASS BALANCE		Date:
	Rev. B		

WATER QUALITY SUMMARY

	Makeup Water	Chloride Bleed	Entained Water in Filter Cake (Note 2)
Flow, gpm	986.0	0.0	62.0
Ca, mg/L	56.72	868	16,806
Mg, mg/L	15.68	961	19,467
Cl, mg/L	38.95	12,000	12,000
SiO ₂ , mg/L	5.77	5.77	5.77
Total Hardness, mg/L as CaCO ₃	206.68	6,121	122,024
TSS, mg/L	13.65	43,526	2,692,181
Fly ash, lb/hr	0.00	21	56
Inerts, lb/hr	0.00	148	1,976
CaSO ₄ -2H ₂ O, lb/hr	0.00	1,555	77,474
CaSO ₃ -1/2H ₂ O, lb/hr	0.00	106	493

NOTE:

1. WFGD Makeup Water is from Clearwell Pond. The ratio mixture of clearwell pond water is 57% Service Water, 21.5% Cooling Tower Blowdown Unit 3 and 21.5% Cooling Tower Blowdown Unit 4.
2. Flow includes water from hydration in gypsum.