**Cooling Tower Emission Summary**
**Arglass Yamamura, LLC.**
**Valdosta Gerorgia**

A: **Two (2) Open Circuit Non-Contact Cooling Towers of process water system; Concept one operating one standby**

| | | |
|---|---|---|
| Number of Cooling Towers in Operation | 1 | and an additional one on standby |
| One Cooling Tower Water Circulating Rate | 370 | cubic meter/hr/cooling tower at 5000kW cooling capacity |
| | 6.2 | cubic meter/min/cooling tower |
| | 1,629 | gal/min/cooling tower |
| | 97,744 | gal/hr/cooling tower |

| Operating Amount per Cooling Tower | | Operating Time |
|---|---|---|
| **Amount Processed** | **Units** | **Hours** |
| 856,234,513 | Gallons/yr | 8760 |

| Air Contaminant | Emission Factors per Cooling Tower (lb/hr) | PTE (ton/yr/tower) | PTE from Operating Towers (ton/yr) |
|---|---|---|---|
| PM-10 | 0.489 | 2.14 | 2.14 |
| PM-2.5 | 0.489 | 2.14 | 2.14 |
| PM | 0.489 | 2.14 | 2.14 |
| VOC | 0.0163 | 0.07 | 0.07 |

**Emissions Calculations per Cooling Tower**

| | | | |
|---|---|---|---|
| Average Circulating Water Flow Rate | | 97,744 | gal/hr/cooling tower @88 degrees F = 31°C |
| Average Annual Solid Concentration in water | | 3,000 | ppmv |
| Average Annual VOC Concentration in water | | 100.0 | ppmv |
| | | 0.020% | AP-42 Table 13.4-1 for induced draft drift in cooling towers |
| Drift Volume | | 19.55 | gal/hr/cooling tower |
| Water Density | | 8.3453 | lb/gal |
| Drift Mass | | 163.14 | lb/hr/cooling tower |
| | PM/PM10/PM2.5 | 0.4894 | lb/hr based on 3,000 ppmv of total solids in cooling water |
| | VOC | 0.0163 | lb/hr based 100 ppmv of VOCs in cooling water |

Methodology
PM: 97,744 gal/hr x 0.02% drift x 3000 ppm ÷ 1,000,000 = 0.4849 lb/hr of PM
VOC: 97,744 gal/hr x 0.02% drift x 100 ppm ÷ 1,000,000 = 0.0163 lb/hr of VOC