

**APPENDIX C – PARADISE MATRIX OF OPERATIONAL FLOWS  
FOR PAF UNIT 3 FGD ADDITION AND DBA/AA TOXICITY TESTING**

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| Paradise Matrix of Operational Flows for PAF Unit 3 FGD Addition and DBA/AA Toxicity Testing   |   |                          |                  |                     |                  |          |               |                       |
|--|---|--------------------------|------------------|---------------------|------------------|----------|---------------|-----------------------|
| JCAP DSN001 mgd Basis  | FGD & DBA Basis   | Units 1 & 2 FGD Effluent |                  | Unit 3 FGD Effluent |                  | JCAP mgd | % FGD in JCAP | mg/L DBA or AA        |
|  |   | FGD Effluent (mgd)       | % Slurry Density | mgd                 | % Slurry Density |          |               |                       |
| Maximum mitigation using no extra water flow (38 mgd, pre-PAF Unit 3 addition and no thickeners on 1 and 2 FGD)  | Pre-PAF Unit 3 FGD DBA without thickeners   | 3.3                      | 12               | 0.0                 | ----             | 38.0     | 8.7           | 69.5                  |
|  | Pre-PAF Unit 3 FGD DBA with thickeners  | 0.7                      | 15               | 0.0                 | ----             | 37.3     | 1.8           | 14.6                  |
|  | With PAF Unit 3 FGD DBA without thickeners  | 3.3                      | 12               | 1.0                 | 30               | 39.0     | 11.0          | 67.7                  |
|  | With PAF Unit 3 FGD DBA with thickeners   | 0.7                      | 15               | 1.0                 | 30               | 38.3     | 4.4           | 14.2                  |
| Flow used for Aug/Sep pond testing (33 mgd, pre-PAF Unit 3 addition, no thickeners on 1 and 2 FGD, and max NPDES flows)  | With PAF Unit 3 FGD DBA with Thickeners (assumed thickeners dropped discharge to 0.3 times 3.6 mgd) | 1.08                     | 29.5             | 1.2                 | 30               | 31.7     | 7.2           | 28.3<br>(See Note #1) |
| Expected water flow (26 mgd, pre-PAF Unit 3 addition, no thickeners on 1 and 2 FGD)  | Pre-PAF Unit 3 FGD DBA without thickeners   | 3.3                      | 12               | 0.0                 | ----             | 26.0     | 12.7          | 101.5                 |
|  | Pre-PAF Unit 3 FGD DBA with thickeners  | 0.7                      | 15               | 0.0                 | ----             | 25.3     | 2.7           | 21.5                  |
|  | With PAF Unit 3 FGD DBA without thickeners  | 3.3                      | 12               | 1.0                 | 30               | 27.0     | 15.9          | 97.8                  |
|  | With PAF Unit 3 FGD DBA with thickeners   | 0.7                      | 15               | 1.0                 | 30               | 26.3     | 6.4           | 20.7                  |
| Low flow range (18 mgd, pre-PAF Unit 3 addition, no thickeners on 1 and 2 FGD)   | Pre-PAF Unit 3 FGD DBA without thickeners   | 3.3                      | 12               | 0.0                 | ----             | 18.0     | 18.3          | 146.7                 |
|  | Pre-PAF Unit 3 FGD DBA with thickeners  | 0.7                      | 15               | 0.0                 | ----             | 17.3     | 3.9           | 31.5                  |
|  | With PAF Unit 3 FGD DBA without thickeners  | 3.3                      | 12               | 1.0                 | 30               | 19.0     | 22.6          | 138.9                 |
|  | With PAF Unit 3 FGD DBA with thickeners   | 0.7                      | 15               | 1.0                 | 30               | 18.3     | 9.2           | 29.7                  |
| Unit 3 Off – extremely low flow range (12 mgd, pre-PAF Unit 3 addition, no thickeners on 1 and 2 FGD)<br><br>Note: Some operation of Unit 3 fly ash pumps and/or stilling pumps would be required to get 12 mgd  | Pre-PAF Unit 3 FGD DBA without thickeners   | 3.3                      | 12               | 0.0                 | ----             | 12.0     | 27.5          | 220.0                 |
|  | Pre-PAF Unit 3 FGD DBA with thickeners  | 0.7                      | 15               | 0.0                 | ----             | 11.3     | 6.0           | 48.2                  |
|  | With PAF Unit 3 FGD DBA without thickeners  | 3.3                      | 12               | 1.0                 | 30               | 13.0     | 33.1          | 203.1                 |
|  | With PAF Unit 3 FGD DBA with thickeners   | 0.7                      | 15               | 1.0                 | 30               | 12.3     | 13.7          | 44.3                  |
| <p>Note 1: The pond flows were set at the 7.2 percent FGD flow ratio that would be present after PAF Unit 3 FGD addition and with Units 1 and 2 discharging only 0.3 times 3.6 mgd due to addition of thickeners, with thickener discharge going straight to disposal with no additional dilution. Due to slightly higher-DBA concentration prior to PAF Unit 3 FGD going into operation, the DBA concentration was calculated without the 1.2 mgd PAF Unit 3 FGD flow.</p> <p>Note 2: Assume PAF Unit 3 FGD slurry discharge flow is 1.2 mgd.</p> <p>Note 3: Assume thickener slurry density is 40 percent for Units 1 and 2.</p> |   |                          |                  |                     |                  |          |               |                       |

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