



## Eraring Power Station - EPA Licence 1429

Rocky Point Rd, Dora Creek NSW 2264

### Environmental Monitoring Data

June 2019



## Unit 1 Boiler Continuous Emission Monitoring Summary

*EPA Identification no. 11 - Air emissions monitoring, Boiler 1 stack discharge to air*

|         | NOX                      |            |            | Particulates      |            |            | SOX                      |            |            |
|---------|--------------------------|------------|------------|-------------------|------------|------------|--------------------------|------------|------------|
|         | ppm (7% O <sub>2</sub> ) |            |            | mg/m <sup>3</sup> |            |            | ppm (7% O <sub>2</sub> ) |            |            |
|         | Daily Ave                | Max Hourly | Min Hourly | Daily Ave         | Max Hourly | Min Hourly | Daily Ave                | Max Hourly | Min Hourly |
| 1 June  | 161                      | 183        | 134        | 12.5              | 15.0       | 10.3       | 234                      | 261        | 222        |
| 2 June  | 156                      | 176        | 121        | 12.8              | 15.4       | 10.8       | 252                      | 272        | 234        |
| 3 June  | 168                      | 188        | 122        | 13.1              | 14.9       | 11.8       | 263                      | 286        | 244        |
| 4 June  | 169                      | 189        | 132        | 13.1              | 16.6       | 10.3       | 243                      | 292        | 223        |
| 5 June  | 170                      | 185        | 141        | 12.6              | 13.5       | 10.4       | 233                      | 269        | 215        |
| 6 June  | 161                      | 181        | 142        | 12.8              | 16.3       | 10.9       | 212                      | 267        | 196        |
| 7 June  | 162                      | 174        | 125        | 12.8              | 13.8       | 11.1       | 225                      | 254        | 203        |
| 8 June  | 159                      | 175        | 116        | 14.0              | 15.9       | 12.3       | 206                      | 222        | 184        |
| 9 June  | 157                      | 183        | 129        | 13.1              | 13.9       | 11.8       | 190                      | 214        | 178        |
| 10 June | 151                      | 171        | 126        | 12.0              | 13.4       | 10.8       | 191                      | 217        | 179        |
| 11 June | 160                      | 181        | 125        | 12.8              | 14.0       | 10.8       | 202                      | 221        | 171        |
| 12 June | 168                      | 184        | 130        | 14.0              | 17.2       | 11.3       | 195                      | 211        | 164        |
| 13 June | 166                      | 208        | 126        | 13.6              | 16.0       | 11.9       | 208                      | 227        | 192        |
| 14 June | 181                      | 200        | 148        | 13.8              | 14.9       | 12.3       | 220                      | 237        | 199        |
| 15 June | 127                      | 158        | 119        | 13.3              | 15.4       | 11.8       | 215                      | 229        | 196        |
| 16 June | 130                      | 137        | 108        | 13.4              | 14.4       | 11.8       | 220                      | 231        | 192        |
| 17 June | 133                      | 175        | 121        | 13.8              | 18.0       | 11.4       | 227                      | 252        | 201        |
| 18 June | 131                      | 165        | 118        | 14.3              | 17.5       | 11.8       | 220                      | 234        | 184        |
| 19 June | 141                      | 181        | 123        | 12.6              | 13.4       | 10.8       | 243                      | 258        | 223        |
| 20 June | 132                      | 150        | 121        | 12.4              | 13.4       | 10.9       | 212                      | 241        | 193        |
| 21 June | 150                      | 168        | 119        | 12.1              | 15.7       | 10.4       | 262                      | 311        | 216        |
| 22 June | 139                      | 162        | 126        | 11.7              | 12.8       | 10.2       | 237                      | 254        | 219        |
| 23 June | 140                      | 154        | 116        | 12.4              | 15.8       | 10.2       | 238                      | 284        | 218        |
| 24 June | 143                      | 157        | 113        | 18.5              | 24.4       | 15.3       | 232                      | 249        | 188        |
| 25 June | 153                      | 165        | 119        | 16.6              | 21.7       | 11.9       | 187                      | 221        | 171        |
| 26 June | 150                      | 163        | 119        | 16.1              | 23.8       | 12.6       | 208                      | 219        | 181        |
| 27 June | 161                      | 180        | 140        | 15.0              | 19.4       | 12.5       | 209                      | 221        | 181        |
| 28 June | 152                      | 168        | 125        | 14.6              | 18.9       | 12.0       | 216                      | 237        | 191        |
| 29 June | 150                      | 171        | 128        | 14.0              | 18.0       | 12.2       | 237                      | 279        | 203        |
| 30 June | 137                      | 166        | 107        | 11.8              | 14.0       | 10.9       | 239                      | 257        | 209        |

## Unit 2 Boiler Continuous Emission Monitoring Summary

*EPA Identification no. 12 - Air emissions monitoring, Boiler 2 stack discharge to air*

|         | NOX                      |            |            | Particulates      |            |            | SOX                      |            |            |
|---------|--------------------------|------------|------------|-------------------|------------|------------|--------------------------|------------|------------|
|         | ppm (7% O <sub>2</sub> ) |            |            | mg/m <sup>3</sup> |            |            | ppm (7% O <sub>2</sub> ) |            |            |
|         | Daily Ave                | Max Hourly | Min Hourly | Daily Ave         | Max Hourly | Min Hourly | Daily Ave                | Max Hourly | Min Hourly |
| 1 June  | 130                      | 190        | 101        | 24.6              | 30.6       | 21.3       | 262                      | 275        | 253        |
| 2 June  | 146                      | 187        | 120        | 22.6              | 27.6       | 19.2       | 266                      | 277        | 247        |
| 3 June  | 134                      | 192        | 109        | 22.0              | 26.3       | 20.1       | 273                      | 289        | 215        |
| 4 June  | 133                      | 180        | 109        | 22.9              | 26.9       | 20.2       | 251                      | 301        | 231        |
| 5 June  | 133                      | 157        | 114        | 22.7              | 27.3       | 20.2       | 230                      | 268        | 208        |
| 6 June  | 157                      | 172        | 123        | 23.6              | 27.5       | 21.3       | 227                      | 270        | 174        |
| 7 June  | 156                      | 175        | 121        | 25.8              | 30.6       | 22.5       | 196                      | 240        | 159        |
| 8 June  | 157                      | 187        | 127        | 29.9              | 35.3       | 25.2       | 224                      | 240        | 196        |
| 9 June  | 152                      | 191        | 115        | 26.7              | 36.6       | 18.5       | 198                      | 216        | 179        |
| 10 June | 139                      | 197        | 114        | 20.7              | 23.9       | 17.3       | 193                      | 211        | 138        |
| 11 June | 154                      | 185        | 121        | 21.2              | 25.1       | 17.8       | 207                      | 213        | 199        |
| 12 June | 158                      | 181        | 116        | 21.7              | 26.1       | 19.3       | 211                      | 221        | 204        |
| 13 June | 164                      | 201        | 122        | 19.9              | 24.0       | 17.3       | 223                      | 230        | 215        |
| 14 June | 175                      | 200        | 129        | 22.4              | 24.6       | 19.4       | 234                      | 249        | 213        |
| 15 June | 165                      | 178        | 139        | 21.9              | 26.0       | 20.2       | 217                      | 236        | 206        |
| 16 June | 168                      | 203        | 131        | 21.2              | 27.5       | 19.4       | 222                      | 234        | 209        |
| 17 June | 182                      | 219        | 151        | 19.2              | 24.1       | 18.0       | 231                      | 251        | 200        |
| 18 June | 167                      | 194        | 130        | 19.0              | 22.8       | 17.3       | 230                      | 244        | 213        |
| 19 June | 159                      | 185        | 132        | 18.6              | 20.0       | 17.1       | 244                      | 263        | 220        |
| 20 June | 167                      | 185        | 139        | 19.9              | 26.1       | 17.7       | 222                      | 246        | 191        |
| 21 June | 152                      | 177        | 131        | 18.9              | 21.3       | 17.2       | 255                      | 277        | 213        |
| 22 June | 147                      | 166        | 117        | 19.4              | 24.3       | 18.1       | 256                      | 277        | 237        |
| 23 June | 148                      | 158        | 122        | 19.1              | 21.4       | 17.8       | 257                      | 288        | 231        |
| 24 June | 153                      | 188        | 124        | 20.8              | 26.3       | 18.3       | 248                      | 266        | 229        |
| 25 June | 151                      | 162        | 129        | 21.3              | 25.2       | 18.3       | 200                      | 223        | 181        |
| 26 June | 156                      | 199        | 128        | 21.8              | 28.4       | 19.4       | 221                      | 229        | 207        |
| 27 June | 158                      | 218        | 139        | 21.3              | 26.9       | 17.4       | 212                      | 229        | 193        |
| 28 June | 142                      | 203        | 121        | 21.6              | 25.8       | 17.3       | 219                      | 238        | 201        |
| 29 June | 133                      | 157        | 111        | 21.1              | 25.8       | 17.0       | 234                      | 271        | 193        |
| 30 June | 133                      | 205        | 104        | 21.2              | 25.4       | 17.5       | 253                      | 292        | 224        |

## Unit 3 Boiler Continuous Emission Monitoring Summary

*EPA Identification no. 13 - Air emissions monitoring, Boiler 3 stack discharge to air*

*Unit 3 out of service 8-16 June 2019 NOx and Sox out of service 17-23, 26 and 30 June 2019. NOx out of service 24 and 27 June 2019.*

|         | NOX                      |            |            | Particulates      |            |            | SOX                      |            |            |
|---------|--------------------------|------------|------------|-------------------|------------|------------|--------------------------|------------|------------|
|         | ppm (7% O <sub>2</sub> ) |            |            | mg/m <sup>3</sup> |            |            | ppm (7% O <sub>2</sub> ) |            |            |
|         | Daily Ave                | Max Hourly | Min Hourly | Daily Ave         | Max Hourly | Min Hourly | Daily Ave                | Max Hourly | Min Hourly |
| 1 June  | 136                      | 165        | 126        | 8.2               | 9.1        | 8.1        | 233                      | 242        | 195        |
| 2 June  | 153                      | 162        | 139        | 7.8               | 8.6        | 7.0        | 244                      | 272        | 196        |
| 3 June  | 142                      | 159        | 132        | 7.6               | 9.2        | 6.9        | 248                      | 274        | 193        |
| 4 June  | 136                      | 143        | 121        | 7.4               | 8.5        | 7.0        | 228                      | 268        | 147        |
| 5 June  | 126                      | 134        | 120        | 7.6               | 8.5        | 7.5        | 216                      | 223        | 196        |
| 6 June  | 128                      | 137        | 116        | 7.9               | 8.6        | 7.5        | 202                      | 250        | 173        |
| 7 June  | 125                      | 138        | 114        | 8.0               | 8.6        | 7.5        | 211                      | 222        | 174        |
| 8 June  | -                        | -          | -          | -                 | -          | -          | -                        | -          | -          |
| 9 June  | -                        | -          | -          | -                 | -          | -          | -                        | -          | -          |
| 10 June | -                        | -          | -          | -                 | -          | -          | -                        | -          | -          |
| 11 June | -                        | -          | -          | -                 | -          | -          | -                        | -          | -          |
| 12 June | -                        | -          | -          | -                 | -          | -          | -                        | -          | -          |
| 13 June | -                        | -          | -          | -                 | -          | -          | -                        | -          | -          |
| 14 June | -                        | -          | -          | -                 | -          | -          | -                        | -          | -          |
| 15 June | -                        | -          | -          | -                 | -          | -          | -                        | -          | -          |
| 16 June | -                        | -          | -          | -                 | -          | -          | -                        | -          | -          |
| 17 June | -                        | -          | -          | 5.3               | 9.8        | 5.1        | -                        | -          | -          |
| 18 June | -                        | -          | -          | 4.8               | 5.1        | 4.7        | -                        | -          | -          |
| 19 June | -                        | -          | -          | 4.9               | 5.0        | 4.5        | -                        | -          | -          |
| 20 June | -                        | -          | -          | 5.3               | 5.5        | 5.0        | -                        | -          | -          |
| 21 June | -                        | -          | -          | 5.1               | 6.0        | 5.0        | -                        | -          | -          |
| 22 June | -                        | -          | -          | 5.0               | 5.5        | 5.0        | -                        | -          | -          |
| 23 June | -                        | -          | -          | 5.4               | 6.0        | 5.0        | -                        | -          | -          |
| 24 June | -                        | -          | -          | 5.4               | 5.5        | 5.0        | 284                      | 293        | 253        |
| 25 June | 182                      | 193        | 153        | 5.7               | 6.6        | 5.0        | 227                      | 276        | 191        |
| 26 June | -                        | -          | -          | 5.3               | 6.1        | 5.1        | -                        | -          | -          |
| 27 June | -                        | -          | -          | 5.2               | 6.1        | 5.1        | 244                      | 261        | 200        |
| 28 June | 178                      | 199        | 148        | 5.1               | 5.1        | 5.1        | 263                      | 286        | 188        |
| 29 June | 181                      | 202        | 158        | 5.5               | 7.4        | 4.8        | 282                      | 343        | 210        |
| 30 June | -                        | -          | -          | 5.5               | 6.3        | 4.8        | -                        | -          | -          |

## Unit 4 Boiler Continuous Emission Monitoring Summary

*EPA Identification no. 14 - Air emissions monitoring, Boiler 4 stack discharge to air.  
Sox out of service 20-23 June and NOx out of service 24 June 2019*

|         | NOX                      |            |            | Particulates      |            |            | SOX                      |            |            |
|---------|--------------------------|------------|------------|-------------------|------------|------------|--------------------------|------------|------------|
|         | ppm (7% O <sub>2</sub> ) |            |            | mg/m <sup>3</sup> |            |            | ppm (7% O <sub>2</sub> ) |            |            |
|         | Daily Ave                | Max Hourly | Min Hourly | Daily Ave         | Max Hourly | Min Hourly | Daily Ave                | Max Hourly | Min Hourly |
| 1 June  | 196                      | 219        | 177        | 13.3              | 14.8       | 11.1       | 300                      | 323        | 291        |
| 2 June  | 196                      | 209        | 175        | 13.9              | 16.0       | 11.3       | 335                      | 358        | 323        |
| 3 June  | 193                      | 209        | 156        | 12.2              | 15.0       | 10.8       | 331                      | 344        | 310        |
| 4 June  | 179                      | 198        | 155        | 12.5              | 15.5       | 11.3       | 301                      | 398        | 152        |
| 5 June  | 178                      | 193        | 149        | 12.5              | 13.9       | 11.8       | 279                      | 302        | 255        |
| 6 June  | 182                      | 198        | 146        | 12.9              | 15.4       | 11.2       | 265                      | 288        | 245        |
| 7 June  | 196                      | 219        | 159        | 13.9              | 16.1       | 12.3       | 278                      | 324        | 236        |
| 8 June  | 194                      | 215        | 162        | 14.0              | 15.7       | 12.4       | 256                      | 270        | 233        |
| 9 June  | 168                      | 187        | 130        | 14.4              | 16.7       | 13.2       | 237                      | 263        | 207        |
| 10 June | 151                      | 167        | 126        | 15.4              | 16.4       | 13.4       | 239                      | 269        | 214        |
| 11 June | 165                      | 204        | 115        | 14.6              | 17.2       | 13.1       | 240                      | 261        | 192        |
| 12 June | 172                      | 199        | 148        | 15.2              | 16.8       | 13.7       | 263                      | 288        | 224        |
| 13 June | 206                      | 239        | 161        | 14.4              | 16.3       | 13.3       | 268                      | 294        | 229        |
| 14 June | 215                      | 240        | 176        | 15.2              | 18.6       | 13.8       | 281                      | 299        | 251        |
| 15 June | 200                      | 215        | 174        | 16.7              | 20.2       | 14.5       | 272                      | 310        | 237        |
| 16 June | 208                      | 280        | 165        | 17.6              | 20.8       | 16.2       | 261                      | 291        | 215        |
| 17 June | 258                      | 294        | 228        | 18.4              | 21.8       | 16.4       | 309                      | 341        | 283        |
| 18 June | 246                      | 279        | 193        | 20.2              | 24.5       | 18.7       | 289                      | 316        | 209        |
| 19 June | 240                      | 286        | 202        | 22.6              | 27.4       | 12.7       | 290                      | 326        | 155        |
| 20 June | 251                      | 274        | 210        | 14.1              | 16.3       | 12.4       | -                        | -          | -          |
| 21 June | 235                      | 258        | 193        | 13.2              | 15.5       | 12.3       | -                        | -          | -          |
| 22 June | 228                      | 253        | 207        | 14.0              | 15.4       | 13.3       | -                        | -          | -          |
| 23 June | 233                      | 276        | 211        | 14.1              | 15.0       | 13.6       | -                        | -          | -          |
| 24 June | -                        | -          | -          | 14.6              | 16.3       | 14.2       | 193                      | 294        | 112        |
| 25 June | 146                      | 224        | 108        | 14.0              | 16.3       | 12.3       | 201                      | 281        | 121        |
| 26 June | 218                      | 234        | 190        | 14.9              | 17.2       | 13.6       | 276                      | 287        | 263        |
| 27 June | 229                      | 252        | 203        | 17.0              | 19.1       | 14.7       | 276                      | 300        | 254        |
| 28 June | 220                      | 249        | 193        | 17.9              | 20.3       | 15.6       | 283                      | 309        | 257        |
| 29 June | 214                      | 246        | 170        | 18.9              | 21.8       | 17.0       | 293                      | 331        | 196        |
| 30 June | 227                      | 245        | 203        | 20.1              | 22.8       | 18.1       | 315                      | 359        | 282        |

## Unit 1 Boiler Emission Test Results

*EPA Identification no. 11 - Air emissions monitoring, Boiler 1 stack discharge to air*

| <u>Name</u>                              | <u>Reading</u> | <u>Units</u>        | <u>Licence Limit</u> | <u>Date</u>   |
|--|----------------|---------------------|----------------------|---------------|
| Cadmium                                  | <0.0002        | mg/m <sup>3</sup>   | 0.2                  | 13-14/11/2018 |
| Carbon Dioxide (Wet)                     | 13.8           | %                   | -                    | 13-14/11/2018 |
| Carbon Monoxide                          | <40            | ppm                 | -                    | 13-14/11/2018 |
| Chlorine                                 | 0.008          | mg/m <sup>3</sup>   | 200                  | 13-14/11/2018 |
| Copper                                   | 0.0003         | mg/m <sup>3</sup>   | -                    | 13-14/11/2018 |
| Dry Gas Density                          | 1.33           | kg/m <sup>3</sup>   | -                    | 13-14/11/2018 |
| Fluoride As HF - Total                   | 8.7            | mg/m <sup>3</sup>   | 50                   | 13-14/11/2018 |
| Hazardous Substances (Metals) - Total    | ≤0.0081        | mg/m <sup>3</sup>   | 1                    | 13-14/11/2018 |
| Hydrogen Chloride                        | 14.4           | mg/m <sup>3</sup>   | 100                  | 13-14/11/2018 |
| Mercury                                  | 0.00020        | mg/m <sup>3</sup>   | 0.2                  | 13-14/11/2018 |
| Moisture                                 | 5.9            | %                   | -                    | 13-14/11/2018 |
| Particulates - Total                     | 1.2            | mg/m <sup>3</sup>   | 50                   | 13-14/11/2018 |
| Stack Gas Molecular Weight               | 29.9           | kg/k-mole           | -                    | 13-14/11/2018 |
| Temperature                              | 127            | degC                | -                    | 13-14/11/2018 |
| Velocity                                 | 14             | m/sec               | -                    | 13-14/11/2018 |
| Volatile Organic Compounds (VOC) - Total | <0.02          | ppm                 | -                    | 13-14/11/2018 |
| Volumetric Flow Rate (Dry At STP)        | 348            | m <sup>3</sup> /sec | -                    | 13-14/11/2018 |

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## Unit 2 Boiler Emission Test Results

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EPA Identification no. 12 - Air emissions monitoring, Boiler 2 stack discharge to air

| <u>Name</u>                              | <u>Reading</u> | <u>Units</u>        | <u>Licence Limit</u> | <u>Date</u>   |
|--|----------------|---------------------|----------------------|---------------|
| Cadmium                                  | <0.0002        | mg/m <sup>3</sup>   | 0.2                  | 27-28/02/2018 |
| Carbon Dioxide (Wet)                     | 12.9           | %                   | -                    | 27-28/02/2018 |
| Carbon Monoxide                          | 14             | ppm                 | -                    | 27-28/02/2018 |
| Chlorine                                 | 0.033          | mg/m <sup>3</sup>   | 200                  | 27-28/02/2018 |
| Copper                                   | 0.0009         | mg/m <sup>3</sup>   | -                    | 27-28/02/2018 |
| Dry Gas Density                          | 1.4            | kg/m <sup>3</sup>   | -                    | 27-28/02/2018 |
| Fluoride As HF - Total                   | 10.4           | mg/m <sup>3</sup>   | 50                   | 27-28/02/2018 |
| Hazardous Substances (Metals) - Total    | ≤0.0097        | mg/m <sup>3</sup>   | 1                    | 27-28/02/2018 |
| Hydrogen Chloride                        | 9.6            | mg/m <sup>3</sup>   | 100                  | 27-28/02/2018 |
| Mercury                                  | 0.00051        | mg/m <sup>3</sup>   | 0.2                  | 27-28/02/2018 |
| Moisture                                 | 7.2            | %                   | -                    | 27-28/02/2018 |
| Particulates - Total                     | 3.4            | mg/m <sup>3</sup>   | 50                   | 27-28/02/2018 |
| Stack Gas Molecular Weight               | 30.5           | Kg/k-mole           | -                    | 27-28/02/2018 |
| Temperature                              | 122            | degC                | -                    | 27-28/02/2018 |
| Velocity                                 | 14             | m/sec               | -                    | 27-28/02/2018 |
| Volatile Organic Compounds (VOC) - Total | <0.06          | ppm                 | -                    | 27-28/02/2018 |
| Volumetric Flow Rate (Dry At STP)        | 336            | m <sup>3</sup> /sec | -                    | 27-28/02/2018 |

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### Unit 3 Boiler Emission Test Results

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EPA Identification no. 13 - Air emissions monitoring, Boiler 3 stack discharge to air

| <u>Name</u>                              |         | <u>Units</u>        | <u>Licence Limit</u> | <u>Date</u>  |
|--|---------|---------------------|----------------------|--------------|
| Cadmium                                  | <0.0002 | mg/m <sup>3</sup>   | 0.2                  | 7-8 May 2019 |
| Carbon Dioxide (Wet)                     | 13      | %                   | -                    | 7-8 May 2019 |
| Carbon Monoxide                          | 126     | ppm                 | -                    | 7-8 May 2019 |
| Chlorine                                 | 0.007   | mg/m <sup>3</sup>   | 200                  | 7-8 May 2019 |
| Copper                                   | 0.00064 | mg/m <sup>3</sup>   | -                    | 7-8 May 2019 |
| Dry Gas Density                          | 1.32    | kg/m <sup>3</sup>   | -                    | 7-8 May 2019 |
| Fluoride As HF - Total                   | 10      | mg/m <sup>3</sup>   | 50                   | 7-8 May 2019 |
| Hazardous Substances (Metals) - Total    | <0.010  | mg/m <sup>3</sup>   | 1                    | 7-8 May 2019 |
| Hydrogen Chloride                        | 9.5     | mg/m <sup>3</sup>   | 100                  | 7-8 May 2019 |
| Mercury                                  | <0.0002 | mg/m <sup>3</sup>   | 0.2                  | 7-8 May 2019 |
| Moisture                                 | 6.7     | %                   | -                    | 7-8 May 2019 |
| Particulates - Total                     | 5.9     | mg/m <sup>3</sup>   | 50                   | 7-8 May 2019 |
| Stack Gas Molecular Weight               | 29.6    | kg/k-mole           | -                    | 7-8 May 2019 |
| Temperature                              | 122     | degC                | -                    | 7-8 May 2019 |
| Velocity                                 | 15      | m/sec               | -                    | 7-8 May 2019 |
| Volatile Organic Compounds (VOC) - Total | <0.008  | ppm                 | -                    | 7-8 May 2019 |
| Volumetric Flow Rate (Dry At STP)        | 345     | m <sup>3</sup> /sec | -                    | 7-8 May 2019 |



## Unit 4 Boiler Emission Test Results

EPA Identification no. 14 - Air emissions monitoring, Boiler 4 stack discharge to air

| <u>Name</u>                              | <u>Reading</u> | <u>Units</u>        | <u>Licence Limit</u> | <u>Date</u>   |
|--|----------------|---------------------|----------------------|---------------|
| Cadmium                                  | <0.0001        | mg/m <sup>3</sup>   | 0.2                  | 20-21/08/2018 |
| Carbon Dioxide (Wet)                     | 13.2           | %                   | -                    | 20-21/08/2018 |
| Carbon Monoxide                          | 54             | ppm                 | -                    | 20-21/08/2018 |
| Chlorine                                 | <0.006         | mg/m <sup>3</sup>   | 200                  | 20-21/08/2018 |
| Copper                                   | 0.00054        | mg/m <sup>3</sup>   | -                    | 20-21/08/2018 |
| Dry Gas Density                          | 1.36           | kg/m <sup>3</sup>   | -                    | 20-21/08/2018 |
| Fluoride As HF - Total                   | 10.5           | mg/m <sup>3</sup>   | 50                   | 20-21/08/2018 |
| Hazardous Substances (Metals) - Total    | ≤0.0093        | mg/m <sup>3</sup>   | 1                    | 20-21/08/2018 |
| Hydrogen Chloride                        | 6.7            | mg/m <sup>3</sup>   | 100                  | 20-21/08/2018 |
| Mercury                                  | 0.0013         | mg/m <sup>3</sup>   | 0.2                  | 20-21/08/2018 |
| Moisture                                 | 6.4            | %                   | -                    | 20-21/08/2018 |
| Particulates - Total                     | 2.6            | mg/m <sup>3</sup>   | 50                   | 20-21/08/2018 |
| Stack Gas Molecular Weight               | 29.7           | kg/k-mole           | -                    | 20-21/08/2018 |
| Temperature                              | 121            | degC                | -                    | 20-21/08/2018 |
| Velocity                                 | 15.5           | m/sec               | -                    | 20-21/08/2018 |
| Volatile Organic Compounds (VOC) - Total | 0.025          | ppm                 | -                    | 20-21/08/2018 |
| Volumetric Flow Rate (Dry At STP)        | 370            | m <sup>3</sup> /sec | -                    | 20-21/08/2018 |

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## Eraring Depositional Dust Gauges

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*EPA Identification no. 18, 25, 26 & 27 - Depositional dust monitoring within 1km of the coal handling operations*

|           | Deposited Matter        |             |           |
|-----------|-------------------------|-------------|-----------|
|           | g/m <sup>2</sup> /month |             |           |
|           | Ash                     | Combustible | Insoluble |
| <b>E2</b> | 0.4                     | 0.2         | 0.6       |
| <b>E4</b> | 0.7                     | 0.8         | 1.5       |
| <b>E6</b> | 0.2                     | 0.1         | 0.3       |
| <b>U6</b> | 0.3                     | 0.3         | 0.6       |

## Water Quality - Lake Monitoring LM10

*EPA Identification no. 4 - The waters of Lake Macquarie located midway between cooling water inlet and Hungary Point*

|                  | Temp  | pH   | Salinity | Dissolved Oxygen |      | Secchi |
|------------------|-------|------|----------|------------------|------|--------|
|                  | degC  |      | ppt      | %                | mg/L | m      |
| <b>Depth/Air</b> | 17.0  |      |          |                  |      |        |
| <b>010cm</b>     | 17.22 | 8.77 | 36.7     | 80.9             | 6.03 | 2.25   |
| <b>050cm</b>     | 17.18 | 8.76 | 36.8     | 78.2             | 5.83 |        |
| <b>100cm</b>     | 17.10 | 8.76 | 36.8     | 75.7             | 5.64 |        |
| <b>150cm</b>     | 17.06 | 8.77 | 36.8     | 75.3             | 5.62 |        |
| <b>200cm</b>     | 17.00 | 8.77 | 36.9     | 78.0             | 5.82 |        |
| <b>Bottom</b>    | 17.00 | 8.77 | 36.9     | 79.9             | 5.98 |        |

## Water Quality - Lake Monitoring LM12

*EPA Identification no. 6 - The waters of Lake Macquarie located at the Eraring/Vales Point mixing zone off Fishery Point*

|                  | Temp  | pH   | Salinity | Dissolved Oxygen |      | Secchi |
|------------------|-------|------|----------|------------------|------|--------|
|                  | degC  |      | ppt      | %                | mg/L | m      |
| <b>Depth/Air</b> | 18.0  |      |          |                  |      |        |
| <b>010cm</b>     | 17.89 | 8.74 | 37.3     | 69.8             | 5.12 | 3.25   |
| <b>050cm</b>     | 17.90 | 8.74 | 37.1     | 70.1             | 5.14 |        |
| <b>100cm</b>     | 17.91 | 8.74 | 37.1     | 68.6             | 5.03 |        |
| <b>150cm</b>     | 17.81 | 8.74 | 37.1     | 70.5             | 5.18 |        |
| <b>200cm</b>     | 17.70 | 8.74 | 37.1     | 73.6             | 5.42 |        |
| <b>250cm</b>     | 17.62 | 8.74 | 37.1     | 76.8             | 5.67 |        |
| <b>300cm</b>     | 17.52 | 8.74 | 37.1     | 73.4             | 5.46 |        |
| <b>350cm</b>     | 17.35 | 8.74 | 37.0     | 71.1             | 5.25 |        |
| <b>400cm</b>     | 17.32 | 8.76 | 37.1     | 69.2             | 5.14 |        |
| <b>450cm</b>     | 17.32 | 8.78 | 37.1     | 69.6             | 5.16 |        |
| <b>500cm</b>     | 17.30 | 8.78 | 37.1     | 68.8             | 5.10 |        |
| <b>550cm</b>     | 17.30 | 8.78 | 37.2     | 67.0             | 4.97 |        |
| <b>600cm</b>     | 17.30 | 8.78 | 37.3     | 68.9             | 4.95 |        |
| <b>650cm</b>     | 17.30 | 8.79 | 37.9     | 61.2             | 4.50 |        |
| <b>700cm</b>     | 17.26 | 8.79 | 37.4     | 60.1             | 4.44 |        |
| <b>Bottom</b>    | 17.26 | 8.79 | 37.5     | 56.6             | 4.20 |        |

## Water Quality - Lake Monitoring LM4

*EPA Identification no. 7 - The northern waters of Lake Macquarie east off Lake Macquarie Yacht Club*

|                  | Temp  | pH   | Salinity | Dissolved Oxygen |      | Secchi |
|------------------|-------|------|----------|------------------|------|--------|
|                  | degC  |      | ppt      | %                | mg/L | m      |
| <b>Depth/Air</b> | 14.0  |      |          |                  |      |        |
| <b>010cm</b>     | 16.49 | 8.77 | 36.5     | 85.6             | 6.48 | 4.25   |
| <b>050cm</b>     | 16.50 | 8.71 | 36.5     | 81.7             | 6.18 |        |
| <b>100cm</b>     | 16.51 | 8.73 | 36.5     | 79.8             | 6.04 |        |
| <b>150cm</b>     | 16.50 | 8.75 | 36.5     | 77.5             | 5.87 |        |
| <b>200cm</b>     | 16.50 | 8.75 | 36.5     | 78.0             | 5.90 |        |
| <b>250cm</b>     | 16.50 | 8.79 | 36.5     | 80.4             | 6.09 |        |
| <b>300cm</b>     | 16.48 | 8.82 | 36.5     | 81.0             | 6.12 |        |
| <b>350cm</b>     | 16.43 | 8.84 | 36.5     | 80.9             | 6.11 |        |
| <b>400cm</b>     | 16.40 | 8.85 | 36.5     | 80.1             | 6.06 |        |
| <b>450cm</b>     | 16.38 | 8.86 | 36.5     | 76.4             | 5.79 |        |
| <b>500cm</b>     | 16.26 | 8.86 | 36.5     | 77.1             | 5.86 |        |
| <b>550cm</b>     | 16.24 | 8.87 | 36.6     | 77.0             | 5.84 |        |
| <b>600cm</b>     | 16.16 | 8.87 | 36.6     | 79.2             | 6.03 |        |
| <b>650cm</b>     | 16.13 | 8.87 | 36.6     | 77.6             | 5.90 |        |
| <b>700cm</b>     | 16.11 | 8.89 | 36.6     | 77.0             | 5.83 |        |
| <b>750cm</b>     | 16.08 | 8.89 | 36.6     | 76.9             | 5.81 |        |
| <b>800cm</b>     | 16.02 | 8.89 | 36.6     | 75.3             | 5.72 |        |
| <b>850cm</b>     | 16.02 | 8.89 | 36.6     | 74.6             | 5.61 |        |
| <b>900cm</b>     | 15.94 | 8.89 | 36.6     | 68.7             | 5.30 |        |
| <b>Bottom</b>    | 15.92 | 8.88 | 36.6     | 63.1             | 5.25 |        |

## Water Quality - Lake Monitoring LM7

*EPA Identification no. 5 - The waters of Lake Macquarie located off old Wangi power station inlet point in Myuna Bay*

|                  | Temp  | pH   | Salinity | Dissolved Oxygen |      | Secchi |
|------------------|-------|------|----------|------------------|------|--------|
|                  | degC  |      | ppt      | %                | mg/L | m      |
| <b>Depth/Air</b> | 16.0  |      |          |                  |      |        |
| <b>010cm</b>     | 19.63 | 8.70 | 37.4     | 84.5             | 6.00 | 4.25   |
| <b>050cm</b>     | 19.71 | 8.70 | 37.3     | 83.3             | 5.91 |        |
| <b>100cm</b>     | 19.74 | 8.70 | 37.3     | 83.6             | 5.92 |        |
| <b>150cm</b>     | 19.76 | 8.70 | 37.3     | 82.6             | 5.85 |        |
| <b>200cm</b>     | 19.73 | 8.70 | 37.3     | 78.9             | 5.62 |        |
| <b>250cm</b>     | 19.69 | 8.70 | 37.3     | 77.6             | 5.51 |        |
| <b>300cm</b>     | 19.41 | 8.71 | 37.3     | 74.7             | 5.31 |        |
| <b>350cm</b>     | 19.16 | 8.71 | 37.2     | 71.9             | 5.15 |        |
| <b>400cm</b>     | 19.00 | 8.72 | 37.2     | 72.1             | 5.18 |        |
| <b>450cm</b>     | 18.90 | 8.75 | 37.2     | 70.4             | 5.07 |        |
| <b>500cm</b>     | 18.46 | 8.77 | 37.2     | 68.5             | 4.96 |        |
| <b>Bottom</b>    | 18.06 | 8.77 | 37.2     | 59.5             | 4.37 |        |

## Eraring Ash Dam Effluent Quality Monitoring

EPA Identification no. 10 - Discharge point below siphon pond weir at Ash Dam

| Name                             | Reading | Units | Licence Limit | Date      |
|----------------------------------|---------|-------|---------------|-----------|
| Total Suspended Solids           | 4       | mg/L  | -             | 6/06/2019 |
| Nitrite and Nitrate as N         | 5220    | ug/L  | -             | 6/06/2019 |
| Phosphorus Reactive as P - Total | 770     | ug/L  | -             | 6/06/2019 |
| Phosphorus as P - Total          | 780     | ug/L  | -             | 6/06/2019 |

### Eraring Cooling Water Inlet Canal

EPA Identification no. 8 - Inlet canal of the cooling water intake from Lake Macquarie

| Name                  | Reading | Units | Licence Limit | Date      |
|-----------------------|---------|-------|---------------|-----------|
| Temperature – Average | 15.8    | deg C | -             | June 2019 |
| Temperature – Minimum | 9.5     | deg C | -             | June 2019 |
| Temperature - Maximum | 18.4    | deg C | -             | June 2019 |

### Eraring Cooling Water Outlet Canal

EPA Identification no. 1 - Cooling water outlet canal to Myuna Bay

| Name                                 | Reading | Units | Licence Limit | Date      |
|--------------------------------------|---------|-------|---------------|-----------|
| Temperature – Average                | 24.7    | deg C | 37.5          | June 2019 |
| Temperature – Minimum                | 20.7    | deg C | 37.5          | June 2019 |
| Temperature - Maximum                | 28.8    | deg C | 37.5          | June 2019 |
| Maximum Daily Discharge from Ash Dam | 33.62   | ML    | 150           | June 2019 |
| Monthly Discharge from Ash Dam       | 278.5   | ML    | -             | June 2019 |

### Emergency Discharge – Toe Drain Pond

EPA Identification no. 17 - Emergency discharge to toe drain collection pond

| Name                     | Reading | Units | Licence Limit | Date      |
|--------------------------|---------|-------|---------------|-----------|
| Nitrite and Nitrate as N | <2      | ug/L  | -             | 6/06/2019 |
| Phosphorus as P – Total  | 96      | ug/L  | -             | 6/06/2019 |

## Groundwater Monitoring

### Groundwater Well – MW01

EPA Identification no. 21 – Groundwater Monitoring Well 01

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| Name                    | Reading | Units  | Date       |
|-------------------------|---------|--------|------------|
| Arsenic                 | <0.2    | ug/L   | 27/06/2019 |
| Cadmium                 | <0.05   | ug/L   | 27/06/2019 |
| Calcium                 | <1000   | ug/L   | 27/06/2019 |
| Chromium                | 0.7     | ug/L   | 27/06/2019 |
| Copper                  | 4.2     | ug/L   | 27/06/2019 |
| Electrical Conductivity | 0.350   | mS/cm  | 27/06/2019 |
| Iron                    | 89      | ug/L   | 27/06/2019 |
| Lead                    | 0.7     | ug/L   | 27/06/2019 |
| Magnesium               | 4000    | ug/L   | 27/06/2019 |
| Manganese               | 55.7    | ug/L   | 27/06/2019 |
| Nickel                  | 6.0     | ug/L   | 27/06/2019 |
| pH                      | 4.87    | pH     | 27/06/2019 |
| Potassium               | 4000    | ug/L   | 27/06/2019 |
| Selenium                | <0.2    | ug/L   | 27/06/2019 |
| Standing Water Level    | 9.72    | metres | 27/06/2019 |
| Zinc                    | 151     | ug/L   | 27/06/2019 |

### Groundwater Well – MW02

EPA Identification no. 22 – Groundwater Monitoring Well 02

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| Name                    | Reading | Units  | Date       |
|-------------------------|---------|--------|------------|
| Arsenic                 | 23.4    | ug/L   | 19/06/2019 |
| Cadmium                 | 0.02    | ug/L   | 19/06/2019 |
| Calcium                 | 328000  | ug/L   | 19/06/2019 |
| Chromium                | 1.6     | ug/L   | 19/06/2019 |
| Copper                  | 1.1     | ug/L   | 19/06/2019 |
| Electrical Conductivity | 13.200  | mS/cm  | 19/06/2019 |
| Iron                    | 9070    | ug/L   | 19/06/2019 |
| Lead                    | 1.3     | ug/L   | 19/06/2019 |
| Magnesium               | 206000  | ug/L   | 19/06/2019 |
| Manganese               | 1290    | ug/L   | 19/06/2019 |
| Nickel                  | 2.3     | ug/L   | 19/06/2019 |
| pH                      | 6.40    | pH     | 19/06/2019 |
| Potassium               | 101000  | ug/L   | 19/06/2019 |
| Selenium                | <2.0    | ug/L   | 19/06/2019 |
| Standing Water Level    | 4.32    | metres | 19/06/2019 |
| Zinc                    | 25      | ug/L   | 19/06/2019 |



## Groundwater Well – MW06

EPA Identification no. 23 – Groundwater Monitoring Well 06

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| Name                    | Reading | Units  | Date       |
|-------------------------|---------|--------|------------|
| Arsenic                 | 7.0     | ug/L   | 19/06/2019 |
| Cadmium                 | <0.02   | ug/L   | 19/06/2019 |
| Calcium                 | 469000  | ug/L   | 19/06/2019 |
| Chromium                | 0.8     | ug/L   | 19/06/2019 |
| Copper                  | <1.0    | ug/L   | 19/06/2019 |
| Electrical Conductivity | 17.000  | mS/cm  | 19/06/2019 |
| Iron                    | 14000   | ug/L   | 19/06/2019 |
| Lead                    | <0.2    | ug/L   | 19/06/2019 |
| Magnesium               | 263000  | ug/L   | 19/06/2019 |
| Manganese               | 400     | ug/L   | 19/06/2019 |
| Nickel                  | 1.2     | ug/L   | 19/06/2019 |
| pH                      | 6.52    | pH     | 19/06/2019 |
| Potassium               | 122000  | ug/L   | 19/06/2019 |
| Selenium                | <2.0    | ug/L   | 19/06/2019 |
| Standing Water Level    | 1.81    | metres | 19/06/2019 |
| Zinc                    | <5      | ug/L   | 19/06/2019 |

## Groundwater Well – EGM/D26

EPA Identification no. 24 – Groundwater Monitoring Well D26  
Groundwater well was dry during sampling in June 2019

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| Name                    | Reading | Units  | Date |
|-------------------------|---------|--------|------|
| Arsenic                 |         | ug/L   |      |
| Cadmium                 |         | ug/L   |      |
| Calcium                 |         | ug/L   |      |
| Chromium                |         | ug/L   |      |
| Copper                  |         | ug/L   |      |
| Electrical Conductivity |         | mS/cm  |      |
| Iron                    |         | ug/L   |      |
| Lead                    |         | ug/L   |      |
| Magnesium               |         | ug/L   |      |
| Manganese               |         | ug/L   |      |
| Nickel                  |         | ug/L   |      |
| pH                      |         | pH     |      |
| Potassium               |         | ug/L   |      |
| Selenium                |         | ug/L   |      |
| Standing Water Level    |         | metres |      |
| Zinc                    |         | ug/L   |      |