

Assumptions and Calculations used by the ADEQ in developing spreadsheet handouts for the June 25, 2014 Stakeholder meeting.

- 1) Data presented in the handouts were obtained from [Technical Support Document: 2012 Data Using eGRID Methodology](#) and [Technical Support Document: Goal Computation – Appendix 7](#) spreadsheets or calculated based on data from the [Technical Support Document: 2012 Data Using eGRID Methodology](#) spreadsheet.
- 2) ADEQ staff performed calculations to determine the Capacity Utilization % and CO<sub>2</sub> emission rate for each facility. The calculation methodology was consistent with EPA’s calculation methodology outlined in the Goal Computation Technical Support Document available at <http://www2.epa.gov/carbon-pollution-standards/clean-power-plan-proposed-rule-technical-documents>.
- 3) Capacity Utilization % was calculated according to the following formula:

$$\% \text{ Capacity Utilized in 2012} = \frac{\text{Electricity Generation (MWh)}}{\text{Nameplate Capacity (MW)} \times 8784(h)} \times 100$$

This formula was developed to be consistent with the formula used by EPA documented in the Goal Computation Technical Support document to calculate a 70 % capacity factor for NGCC utilization.

$$70 \% \text{ Capacity Factor} = \text{Nameplate Capacity (MW)} \times 8784(h) \times 70\%$$

- 4) Emission Rate was calculated according to the following formula:

$$\text{Emission Rate in 2012} = \frac{\text{Carbon Dioxide Emissions (tons)} \times \frac{2000 \text{ lb}}{\text{ton}}}{\text{Net Energy Output (MWh)}}$$

Emission rates calculated in ADEQ spreadsheets are based on the amount of carbon emitted and the net energy output for each facility during 2012. The calculated emission rates do not account for potential changes in the rates due to changes in utilization. For units where Net Energy Output was  $\leq 0$  MWh, no emission rates were calculated.

- 5) Treatment of Useful Thermal Output from Combined Heat and Power (CHP) units: Useful thermal output was not included in the Capacity Utilization % formula because it is not available for redispatch purposes. In EPA’s 2012 Data using eGRID Methodology spreadsheet, EPA provided a net MWh value for useful thermal output for each CHP unit. This MWh value was added to each unit’s Electricity Generation to come up with the Net Energy Output for each unit. The Emission Rate calculation included useful thermal output by using Net Energy Output in the denominator instead of Electricity Generation. This is consistent with EPA methodology discussed in pages 7 and 8 of the Goal Computation Technical Support Document.