SUMMARY:
Our comments include observations, suggestions, clarification requests and future discussions. Also, there are a few where we are in need of (or have initiated) discussions with OAQPS.

DETAILS:

1) p. 1-1 (Intro and Proj Background)

- Fenceline – Please confirm that the "perimeter fence line" is an actual physical fence line that would prevent public access to contiguous property owned by the facility.

  Bowie has confirmed to ADEQ that the perimeter fence line will be an actual physical fence to prevent public access.

2) p. 1-3

- Suggestion – Make statement that project is less than significant for lead (Pb).

  The statement noting SO_2 and VOCs are less than significant has been revised in the final impact analysis to include lead.

3) p. 2-1 (Reg Status)

- 5th listed bullet (visibility) – Add … Assessment of the project's impacts to visibility, including Class II areas. (See comment #16)

  In the previous impact report that supported the October 2010 application for this project, visibility impacts at Class II were assessed (the Fort Bowie National Historic Site at the request of NPS). ADEQ confirmed with Bowie that this previous Class II visibility analysis has been updated.

4) p. 2-2 (Tribal Lands)

- Nearby Tribal Land – Also reference other nearby Tribal Lands, e.g., Tohono O'odham.

  Bowie has referenced additional tribal lands outside the 50 mile radius in the final analysis report. Also please note, the protocol included a typographical error which identified "affected states" as within 50 km, versus 50 mi. This has been corrected in the final impact analysis.

5) p. 3-8 (Particulate Matter)

- Qualitative analysis – R9 may later follow-up on this. At a minimum, the draft guidance of March 2013 PM2.5 should be adhered to.

  Bowie has revised this passage in the impact analysis report to note the referenced guidance will be followed.

6) p. 3-12 (Nitrogen Dioxide)

- List of sources – What is the criteria of the list of sources? Based on Class I, Class II, emissions, etc.?

The "list of sources" included all permitted sources (both Class I and Class II) within 50 km of the proposed Bowie facility. The emissions shown in the Table are PTE from the most recent permitting action from each source.

- Isolated source – R9 will follow-up with OAQPS regarding the interpretation and level of additional detail here for Bowie being characterized as an isolated source with respect to monitoring site justification. Also, we noted that the level of detail for CO is much more specific and detailed than NOx.

  ADEQ has considered if the proposed Bowie facility is located in an isolated area that is generally free of the impact of point and area sources. ADEQ has compiled a list of all PM and NO_x permitted sources within 50 km. The "20/D" method (often referred to as "Q/D" method) was used to evaluate if these sources could have a significant impact in the project impact area, and only the Apache generating station located 50.1 km distant exceeds the 20/D screening threshold (this source was explicitly included in the cumulative modeling). This analysis indicates that the project area will not be significantly impacted by nearby point and area sources. The Bowie Power Station would be located in an area with low population (less than 1,000 people in Town of Bowie). As with much of rural southern Arizona, the surrounding land use is a mixture of undisturbed desert and agriculture. After consideration of these factors, ADEQ has determined that the Bowie Project will be located in an isolated area, and therefore representative monitoring data from regional background sites can be used to satisfy the PSD preconstruction monitoring requirements.

  Regarding the level of detail for CO vs. NO_x; greater detail for justification of the NO_x data as representative was included in the previous protocol and in the impact analysis of the October 2010 application, while proposing representative CO data is new to this protocol and therefore covered in greater detail. Additionally, in August 2012, a significant revision to the PSD permit for the Willcox Compressor Station was issued to El Paso Natural Gas, who used the Deming, NM NO_x data (as found in the Bowie October 2012 application) as representative background.

7) p. 3-13 (Table of NOx sources)

- Tons Per Year - What was the date cut-off for the PTE? The concern is whether or not any subsequent significant revisions that may have more emissions (or less) are considered/reflected.

  PTE values for sources located in AZ are current to December 2012. To ADEQ's knowledge, based on no new permitting activity initiated by the subject sources, the values would be current to August 2013. Bowie has similarly confirmed validity of the data for the subject sources in NM through August 2013.

8) p. 3-17 (Background Concentration)

- Isolated source – See comment #6. As a for example, we/R9 recently did permit a project in a relatively similar setting. We did not consider that project an isolated source.

  Please see response to Item #6.

9) p. 4-1 (Project Emission Sources)

- Fugitives – If there are vehicles used for O&M and operations, their fugitive emissions should be included in the tpy.

  ADEQ has considered fugitive emissions from O&M vehicle travel as inconsequential. The facility will receive deliveries of consumable chemicals on a once per week and once per month frequency.

- Model assumptions – Modeled values should be based on worst-case operating assumptions (e.g., partial load, low temperature, etc.), when applicable.

  ADEQ determined the source does use worst case operating scenarios for comparison to short-term hour standards, and a representative mix of different operating scenarios for annual emissions. Load screening was performed to determine worst-case stack parameters for the turbines/duct burners and, in some cases where there was a trade-off between stack parameters and emissions, multiple emissions scenarios were modeled for short-term standards, including 1-hour, 3-hour, and 24-hour SO_2 (not a PSD pollutant) and 24-hour $PM_{10}/PM_{2.5}$. CO was modeled using worst-case emissions paired with worst-case stack parameters determined through screening. 1-hour NO_2 modeling paired maximum seasonal emissions with seasonal stack parameters.

10) p. 5-3 (Soil and vegetation impacts)

- Assumptions – See comment #16

  Please see response to #16.

11) p. 5-5 (Cooling Tower Emissions)

- PM2.5 fraction of PM10 - R9 will follow-up with OAQPS regarding the assumption of the PM2.5 fraction of PM10. We note in Table 4-1, the cooling tower PM2.5 fraction at 2.0 tpy is estimated at 46%-47% of the PM10 estimate (of 4.3 tpy).

  ADEQ finds Bowie's estimation of cooling tower PM_{10} and $PM_{2.5}$ emissions as acceptable. ADEQ is interested in any follow-up information you may have obtained from OAQPS regarding this topic.

12) p. 5-7 (Met data)

- Site-specific data – We would like more information (e.g., can follow-up with ADEQ) to better understand the selected data. Are more years of met data (beyond

Apr 2001-Apr 2002) available? Generally would use up to 5 years, if available, per App. W.

Bowie collected 1-year of on-site data in 2001-2002. This meets Appendix W requirements and no additional on-site data is available.

13) p. 5-14 (AERMOD, Prelim Analysis, PVMRM)

- Missing hourly ozone values – We would like more information (e.g., can follow-up with ADEQ) to better understand how the missing values will be determined to be representative. For example, we'd like to make sure whether the preceding hourly data (December 2001) are conservative.

It must be noted that there are only 3 missing days of ozone data in May 2001 and 7 days in January 2002. During these periods, valid preceding hourly data were inserted on a daily basis. There is no way to determine whether the "fill-in" data are typical because there are no other ozone stations in the vicinity of Chiricahua NM for comparison. Ozone will vary with meteorology and therefore using data from a different year would also not show how representative the data are. Given these limitations, using data from the most recent previous day or hour, or interpolating over a few missing hours using the ozone concentrations before and after, seems to be the most likely method to replicate the missing data.

14) p. 5-14 (NO2/NOx ratios)

- In addition to CAPCOA 2011 – We request that Bowie conduct an additional survey for NO2/NOx in-stack ratios (ISRs) for the 3 types of equipment outlined. The CAPCOA guidance does not reflect more current ISRs.
- Turbine Start-up / Shutdown (SU/SD) – For the turbine NOx modeling, separate ISRs should be used. The ISR during SU/SD is greater than during normal operations. (We can discuss more with you all, if needed.)

EPA's official ISR database includes only eight entries for combustion turbines, none of which may be considered a valid comparison to the Bowie equipment due to considerable differences in capacity, type of fuel used and other parameters such as make/model and emission controls. The "alpha" database (composed of data which does not satisfy EPA's requirements for the formal collection effort) offers a much larger population of entries which come closer to matching the Bowie equipment (although no ideal match could be found), which present ratios well below that selected by the source from the CAPCOA guidance.

The maximum ISR found in the EPA approved database for any boiler is 0.018 versus Bowie's proposed value of 0.1.

Bowie's ICE emergency fire pump is not required to be included in the 1-hr NO_2 NAAQS analysis because of EPA's intermittent modeling guidance; hence ADEQ believes no further justification for use of the CAPCOA default ISR for the annual averaging period for that emissions unit is necessary.

ADEQ finds Bowie's proposed ISR values conservative and acceptable given the limited reference data currently available.

15) p. 6-1 (Class I Area Analyses)

- Closest Class I Areas – Please include applicable nearby Class I areas in New Mexico - http://www.epa.gov/visibility/class1.html.
  (We recall that for the El Paso Natural Gas Willcox project, there was a U.S. FWS Class I area in New Mexico.)
  (We can discuss more with you all, if needed.)

Bowie has provided as an addendum to the application, a revised list of Class I areas to include all those within 300 km of the proposed facility. Please note ADEQ has forwarded this addendum to EPA R9 under a separate e-mail.

16) p. 7-1 (Additional Impacts Analysis)

We will forward information for this item.

- Soils and Vegetation – While we have a screening guidance document, we also have other examples of how soils and vegetation have been addressed. However, we do not recommend using the NAAQS secondary standards as a comparison. We will forward this information, based on the FR Notice of the final rule for the NO2 and SO2 NAAQS standards.
- Class II Visibility Impairment – A Class II visibility impairment analysis is needed. This would include federal and state areas, recreational sites, etc. We/R9 require identifying areas, doing a VISCREEN analysis, etc.
- Growth – We will forward you information that includes examples from other R9 projects.
  (We can discuss more with you all, if needed.)

ADEQ is interested in reviewing the material EPA has described. Please note that Bowie is already planning for a Class II visibility analysis, and ADEQ is not intending to rely upon the NAAQS for the soils and vegetation analysis thresholds.