ILLINOIS POLLUTION CONTROL BOARD
October 21, 2009

IN THE MATTER OF:	)	
	)	
PETITION OF ROYAL FIBERGLASS POOLS, INC. FOR AN ADJUSTED STANDARD FROM 35 ILL. ADM. CODE 215.301	)	AS 09-4
	)	(Adjusted Standard - Air)

HEARING OFFICER ORDER

Attached to this order are the Board's follow-up questions based on the parties' responses to the pre-hearing questions. The parties may file written responses before hearing, or be prepared to address the questions at hearing.

IT IS SO ORDERED.

Carol Webb

Carol Webb
Hearing Officer
Illinois Pollution Control Board
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AS 09-4 ROYAL FIBERGLASS POOLS
BOARD QUESTIONS FOR PETITIONER AND IEPA

These questions are directed to both Royal Fiberglass Pools and the Illinois Environmental Protection Agency to be addressed before or at hearing.

1. **Question 19(b)** of the Hearing Officer Order asked, "Would you also please comment on proposing a condition that would require a re-evaluation of the adjusted standard if the ozone NAAQS is revised."

   Royal responded that "a reevaluation would be of little value." Royal Resp. to HOO 6-4-09 at 7.

   The Agency responded, "IEPA believes that a condition requiring re-evaluation is necessary in this rulemaking...If changes are deemed necessary, the Illinois EPA will initiate a rulemaking before the Board at that time." Ag. Resp. to HOO 6-4-09 at 2.

   Would the Agency please clarify if this comment is intended to suggest that a condition should be included in the adjusted standard language requiring the re-evaluation of the adjusted standard if there is a change in the ozone? Or was this comment simply to clarify that a rulemaking is the usual course of action when changes are deemed necessary?

2. **Question 21(d)** of the Hearing Officer Order asked, "Please comment on the results of the Air Quality Impact Analysis if the ozone increment were added to the 8-hour background air quality reading of the 4th highest measured ozone concentration from the past 4 consecutive years."

   Royal responded that Royal does not have ready access to the 4-year data and that the Scheffe method "is not mathematically compatible with assessments of eight-hour average impacts." Royal Resp. to HOO 6-4-09 at 8.

   Royal characterized the air quality impact from the adjusted to be "negligible." Royal Resp. to HOO 6-4-09 at 7. Royal estimated the 1-hr average ozone increment to be 4 ppb. The Agency stated that it believes the air quality impact to be "negligible" and (later in its response to 21(d)) that, "USEPA has not provided more recent guidance to address ozone impacts on an 8-hour basis."

   The Board directs the parties to the following documents and asks for further clarifications regarding the air quality impacts.

   USEPA GUIDANCE

   USEPA guidance regarding the estimation of the 8-hour ozone increment from the 1-hour increment using a scaling factor of 0.7 (+/- 0.2).

[See USEPA, Support Center for Regulatory Air Models. *Screening Procedures for Estimating the Air Quality Impact of Stationary Sources - Revised.* Research Triangle Park, North Carolina. USEPA-454/R-92-019. October 1992 page 15. http://www.epa.gov/oppt/exposure/presentations/efast/usepa_1992b_sp_for_estim_aqi_of_ss.pdf (Attachment 1.)]

[Also see discussion of Scheffe Method and the two footnotes on Page 5 of 7 of the US Department of Agriculture Letter dated 12-22-2003. http://gc.energy.gov/NEPA/nepa_documents/EIS/eis0342/letter2.pdf (Attachment 2.)]

OZONE MONITORING DATA

The ozone concentrations monitored during 2004-2007 for the 1-hour and 8-hour averaging periods appear in the Illinois Annual Air Quality Reports available on IEPA's website.

2007: http://www.epa.state.il.us/air/air-quality-report/2007/air-quality-report-2007.pdf, p. 48
2006: http://www.epa.state.il.us/air/air-quality-report/2006/air-quality-report-2006.pdf, p.48
2005: http://www.epa.state.il.us/air/air-quality-report/2005/air-quality-report-2005.pdf, p. 51
2004: http://www.epa.state.il.us/air/air-quality-report/2004/air-quality-report-2004.pdf, p.50
(See Attachment 3.)

(a) In light of the information above, please comment on the results of the Air Quality Impact Analysis if the scaled ozone increment were added to the 8-hour background air quality reading of the 4th highest measured ozone concentration from the most recent 3 years.

(b) Please comment on how this value relates to the 75 ppb 8-hour NAAQS.

(c) Please indicate if the air quality impact from the adjusted standard would still be considered negligible.

3. **Question 22** of the Hearing Officer Order asked, "Since Hamilton County ozone monitoring stations already show exceedences of the 8-hour ozone standard of 75 ppb, would you please comment on including a condition in the adjusted standard limiting Royal Pools VOM emitting operations on ozone action days where ambient conditions are likely to exceed the 75 ppb 8-hour ozone standard?"

Royal responded in opposition to such a condition "since it would be unworkable from a logistical standpoint. It would require Royal to monitor every day whether the ambient conditions are 'likely to exceed' the ozone standard. This raises the question of what 'likely to exceed' means. More importantly, it would require Royal to then contact its employees on a daily basis to inform them whether to come into work that day." Royal Resp. HOO 6-4-09

at 8-9.

The Agency responded that the IEPA has no objection to such a condition. Ag. Resp. to HOO 6-4-09 at 2-3.

Again, the Board directs the parties to the following information and asks for further comments on a potential condition in the adjusted standard limiting Royal Pools VOM emitting operations on ozone action days.

AIR QUALITY IMPACT ANALYSIS

Royal's Air Quality Impact Analysis is based on the Scheffe Method: "VOC/NOx Point Source Screening Tables" by Richard D. Scheffe, September 1988. http://ndep.nv.gov/bapc/download/model/scheffe.pdf

The Scheffe document states,

> "To determine an ozone impact the user is required to apply best estimates of maximum daily NMOC emissions rate, and estimated annual mass emissions rates of NMOC and NOx which are used to determine NMOC/NOx ratio for ascribing the applicable column in Table 1 or 2. The reasons for basing application on daily maximum NMOC emissions rates are (1) to avoid underestimates resulting from discontinuous operations and (2) the underlying modeling simulations are based on single day episodes. The NMOC emissions rates in Tables 1 and 2 are given on an annual basis; consequently the user must project daily maximum to annual emissions rates illustrated in the example application given below. One purpose of the technique is to provide a simple, non-resource intensive tool; therefore, annual NMOC/NOx emissions ratios are used because consideration of daily fluctuations would require a screening application applied to each day." P. 5-6.

(a) Since the Scheffe method bases the ozone increment on the daily maximum NMOC emissions rate, would you please comment on the calculation below estimating the daily impact of the ozone increment of 4 ppb as represented in the petition?

29.76 tons / year x 2000 lb / ton / (52 weeks / year x 5 days / week) =
229 lb / day maximum

OZONE ACTION DAYS

Ozone Action Days (aka: Air Pollution Action Days) are set forth by the Illinois Partners for Clean Air. (http://www.cleantheair.org/overview.shtml) An ozone action day is declared when the Air Quality Index is "unhealthy" at levels of 100 or greater.

The Air Quality Index can be calculated by going to the Air Quality Index Calculator

at http://www.airnow.gov/index.cfm?action=aqi_calc.conc_aqi_calc . When ozone concentration is 75 ppb, the Air Quality Index is 100.

IEPA and USEPA partner with others on providing Local Air Quality Conditions and Forecasts on the website AirNow.gov. Besides current conditions, the AirNow.gov website provides forecasts for the next day. Although air quality information for Jefferson and Hamilton County are not available on this website, such information is available for the nearby St. Louis (Metro-east) area. (http://www.airnow.gov/ Select State: Illinois, Select Region: St. Louis (Metro-east)). The AirNow.gov website also provides "EnviroFlash" for prompt notification of forecasted ozone action days through email or cell phone.
(http://www.airnow.gov/index.cfm?action=airnow.local_state)

(b) Although Royal's emissions are not considered in the St. Louis (Metro-east) area, the local air monitoring station for Royal in Hamilton County does indicate that days do occur where the ozone concentrations are above 75 ppb. This results in an Air Quality Index greater than 100. While Ozone Action Days are not declared for Hamilton or Jefferson County, would the Agency please clarify if these days typically coincide with ozone action days for the St. Louis (Metro-east) area?

(c) Since the Agency has indicated the IEPA would have no objection to including a condition regarding VOM limitations on ozone action days, would the Agency please elaborate on how this might be done?

1) Does the Agency recommend a numeric emission limitation? If so, should VOM emissions be limited to 229 lb/day on ozone action days in order to ensure the daily environmental impact of the adjusted standard is no greater than what was represented in the petition as "negligible"? Does the Agency suggest a different numerical limit or a different way to limit VOM emissions on ozone action days?

2) To show compliance with this possible condition, does the Agency believe the VOM limitation could be documented simply through recordkeeping of Royal's operations on ozone action days without additional air monitoring?

3) Is air quality information available to Royal in a real time format for the Hamilton air monitoring station? If so, would it be possible for Royal to rely on such information to limit its VOM emissions?

4) If not, does the Agency recommend that Royal rely on forecasts made for the St. Louis (Metro-east) area for ozone action days since this is the closest monitoring area that provides forecasts and alerts? Would the Agency recommend that Royal observe ozone actions days as those days where the St. Louis (Metro-east) air monitoring system measures an Air Quality Index of 100 or greater?

(d) Would Royal please comment on how it might comply with this possible condition?

1) In order to ensure the daily environmental impact of the adjusted standard is no greater than what was represented in the petition as "negligible", would Royal please consider ways to track operations showing how VOM emissions are limited as might be suggested by the Agency (such as no more than 229 lb/day) on ozone action days?

2) Would Royal please address the steps it would take to determine when there will be an ozone action day?

3) Would Royal please address how it would keep records of its operations (without additional air monitoring) on ozone action days to ensure compliance with this condition?

CERTIFICATE OF SERVICE

It is hereby certified that true copies of the foregoing order were mailed, first class, on October 21, 2009, to each of the persons on the attached service list.

It is hereby certified that a true copy of the foregoing order was hand delivered to the following on October 21, 2009:

John T. Therriault
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ATTACHMENT 1

Excerpts from:

USEPA, Support Center for Regulatory Air Models. *Screening Procedures for Estimating the Air Quality Impact of Stationary Sources - Revised.* Research Triangle Park, North Carolina. USEPA-454/R-92-019. October 1992.

http://www.epa.gov/oppt/exposure/presentations/efast/usepa_1992b_sp_for_estim_aqi_of_ss.pdf

EPA-454/R-92-019

Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Air and Radiation
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

October 1992

If $v_s < 1.5u_s$, account for stack tip downwash using Equation 4.7. If elevated terrain is to be accounted for, then reduce the computed plume height for each wind speed by the maximum terrain elevation above stack base.

2. For each wind speed and stability considered in (1), find the maximum 1-hour $\chi u/Q$ from Figure 4-2 (rural)[9] or 4-3 (urban).[20] Compute the maximum 1-hour concentration for each case, using

$$\chi_1 = Q \frac{\chi u/Q}{u_s}$$

and select the highest concentration computed.

B. For low-level sources with no plume rise ($h_e = h_s$), find the maximum 1-hour $\chi u/Q$ from Figure 4-2 (rural case - assume F stability) or 4-3 (urban case - assume E stability). Compute the maximum 1-hour concentration, assuming a 10m wind speed of 1 m/s. Adjust the wind speed from 10m to stack height using Equation 3.1 and the appropriate exponent.

$$\chi_1 = Q \frac{\chi u/Q}{u_s}$$

Step 5. Obtain concentration estimates for the averaging times of concern. The maximum 1-hour concentration (χ_1) is the highest of the concentrations estimated in Step 4, Procedures (a) - (c). For averaging times greater than 1-hour, the maximum concentration will generally be less than the 1-hour value. The following discussion describes how the maximum 1-hour value may be used to make an estimate of maximum concentrations for longer averaging times.

The ratio between a longer-term maximum concentration and a 1-hour maximum will depend upon the duration of the longer averaging time, source characteristics, local climatology and topography, and the meteorological conditions associated with the 1-hour maximum. Because of the many ways in which such factors interact, it is not practical to categorize all situations that will typically result in any

specified ratio between the longer-term and 1-hour maxima. Therefore, ratios are presented here for a "general case" and the user is given some flexibility to adjust those ratios to represent more closely any particular point source application where actual meteorological data are used. To obtain the estimated maximum concentration for a 3-, 8-, 24-hour or annual averaging time, multiply the 1-hour maximum (χ_1) by the indicated factor:

Averaging Time	Multiplying Factor
3 hours	0.9 (±0.1)
8 hours	0.7 (±0.2)
24 hours	0.4 (±0.2)
Annual	0.08 (±0.02)

The numbers in parentheses are recommended limits to which one may diverge from the multiplying factors representing the general case. For example, if aerodynamic downwash or terrain is a problem at the facility, or if the emission height is very low, it may be necessary to **increase** the factors (within the limits specified in parentheses). On the other hand, if the stack is relatively tall and there are no terrain or downwash problems, it may be appropriate to **decrease** the factors. Agreement should be reached with the Regional Office prior to modifying the factors.

The multiplying factors listed above are based upon general experience with elevated point sources. The factors are only intended as a rough guide for estimating maximum concentrations for averaging times greater than one hour. A degree of conservatism is incorporated in the factors to provide reasonable assurance that maximum concentrations for 3-, 8-, 24-hour and annual values will not be underestimated.

Step 6. Add the expected contribution from other sources to the concentration estimated in Step 5. Concentrations due to other sources can be estimated from measured data, or by computing the effect of existing sources on air quality in the area being studied. Procedures for estimating such concentrations are given in Section 4.5.5. At this point in the analysis, a first approximation of maximum short-term ambient

ATTACHMENT 2

US Department of Agriculture Letter dated 12-22-2003
(See discussion of Scheffe Method and the two footnotes on Page 5 of 7.)

http://gc.energy.gov/NEPA/nepa_documents/EIS/eis0342/letter2.pdf

Letter 2

United States Department of Agriculture | Forest Service | Pacific Northwest Region | ..O. Box 3623 Portland, OR 97208-3623 333 First Avenue Portland, OR 97204

File Code:2580

Date: December 22, 2003

Philip Sanchez
Superintendent Umatilla Agency
Bureau of Indian Affairs
P.O. Box 520
46807 B Street
Pendleton, OR 97801

Dear Mr. Sanchez:

The Air Resources portion of the WANAPA Draft EIS has been reviewed – the following comments are submitted for your review and consideration. As a result of potentially adverse effects on Class I areas and the Columbia River Gorge National Scenic Area (CRGNSA) of steadily increasing pollutant loadings in the Columbia Basin this office has a well established interest and concern over new basin emission sources such as WANAPA. We did not receive a copy of the draft document and we're not aware of its existence until late in the comment period. Holiday schedules are also a factor leading to these comments being somewhat general and cursory and perhaps do not do justice to issues described below.

Within a 50km radius of the proposed WANAPA facility there has been substantial industrial point source emission growth. The most significant is the Boardman Coal Fired Power Plant built in 1979 – since that time a large number of smaller sources have been built and a number of gas fired power plants have recent permits but are not yet constructed. While the WANAPA facility would be a significant addition to this mix of sources its impact alone is relatively small in comparison to the total air pollution loading in this area. Under NEPA a cumulative effect analysis, particularly of the power plant sources is required. The WANAPA draft document does not adequately recognize this pre-existing problem – to put these issues in perspective a full cumulative analysis is needed. We do not discount the risk to human health from this cumulative effect, however as a land management agency, our concerns are focused on the effect from WANAPA and the surrounding array of existing and permitted sources on cultural resources, visibility, and acid (sulfur & nitrogen) deposition in the Columbia River Gorge National Scenic Area and on the surrounding Class 1 wilderness and parks. This cumulative effect should be analyzed and disclosed.

2-1

The analysis provided in the draft document borrowed heavily from the WANAPA PSD permit application analysis. The analysis required under NEPA compared to that normally provided for PSD is quite different. In PSD the analysis focuses primarily on the individual source effects with a minimal amount of analysis on the contribution to effects in Class I areas from the background sources or background conditions. By being single source focused PSD analyses tend to discount and minimize effects since the intent is to secure a permit for a client. The intent under NEPA is full disclosure of environmental effects. This NEPA analysis reads like a PSD application and as such is inadequate – particularly on the cumulative effect perspective discussed in the previous paragraph.

Responses to Letter 2

2-1 Cumulative Impacts in Class 1 Areas. Class I areas are areas such as National Parks and Wilderness Areas that are designated for special protection under the Clean Air Act. Impacts of NO_2, PM_{10}, visibility, nitrate, and sulfate deposition in Class 1 areas resulting from Wanapa have been evaluated using the CALPUFF dispersion modeling system and its associated pre- and post-processing algorithms. The information included below also is available in the PSD application, on file with the USEPA. Impacts were assessed at the following Class I areas:

- Eagle Cap Wilderness Area
- Goat Rocks Wilderness Area
- Mount Adams Wilderness Area
- Strawberry Mountain Wilderness Area
- Mount Hood Wilderness Area
- Columbia River Gorge (not technically a Class 1 area, but evaluated in the Class 1 impact analysis)

Air quality impacts of NO_2 and PM_{10} in the Class 1 areas are provided in the Final EIS in Section 3.5.2.2.

Dry and wet deposition results from Wanapa are summarized in **Tables** [illegible] and [illegible], and are compared to appropriate deposition significance thresholds established in Federal Land Manager guidance. Acid deposition in the Columbia River Gorge is of particular interest in the analysis, as acid deposition affects not only natural resources, but also cultural resources such as rock art in and near the Columbia River Gorge. The results of the modeling analysis demonstrate that potential impacts from Wanapa would be far below the deposition significance thresholds, including an impact of less than 5 percent of the significance threshold in the Columbia River Gorge.

2-1 Cont'd

TABLE
NITROGEN DEPOSITION ANALYSIS RESULTS

Class I Area	Maximum Nitrogen Deposition Flux (kg/ha/yr)	Location of Maximum Impact	
		X (km)	Y (km)
Eagle Cap	0.000228	408.965	201.127
Goat Rocks	0.000102	113.990	286.053
River Gorge	0.000247	144.100	197.499
Mount Adams	0.000173	106.239	255.923
Mount Hood	0.000167	106.373	167.993
Strawberry Mountain	0.000124	321.326	68.133

TABLE
SULFUR DEPOSITION ANALYSIS RESULTS

Class I Area	Maximum Sulfur Deposition Flux (kg/ha/yr)	Location of Maximum Impact	
		X (km)	Y (km)
Eagle Cap	0.000048	408.965	201.127
Goat Rocks	0.000021	113.990	286.053
River Gorge	0.000048	144.100	197.499
Mount Adams	0.000036	106.239	255.923
Mount Hood	0.000038	106.373	167.993
Strawberry Mountain	0.000026	321.326	68.133

Visibility impacts from Wanapa are summarized in Table , and compared to the 5 percent extinction criterion established in Federal Land Manager1 guidance. This threshold represents a perceptible change in visibility.

Responses to Letter 2

TABLE
VISIBILITY ANALYSIS RESULTS

Class I Area	$?b_{ext}$ Maximum Impact (%)[1]	Location of Maximum Impact		Date of Maximum Impact	# of Days >5%
		X (km)	Y (km)		
Eagle Cap	0.77%	450.411	149.251	4/14/1998	0
Goat Rocks	1.16%	120.832	286.134	10/1/1998	0
River Gorge	1.97%	143.958	201.494	10/26/1998	0
Mount Adams	2.37%	110.874	255.953	1/4/1999	0
Mount Hood	0.94%	103.322	179.574	1/3/1999	0
Strawberry Mountain	1.16%	328.837	68.519	1/24/1999	0

[1]Values listed under "maximum impact" are the maximum predicted percent change in light extinction coefficient.

The modeled changes in the extinction rate from Wanapa are less than the 5 percent threshold at each Class I area on all days of the year.

Though the extinction rate from Wanapa's impacts is below the appropriate threshold, we conducted additional review to assess the cumulative effect on visibility in the Class I areas from this project and other past, present, and reasonably foreseeable projects in the Northwest. The results of this analysis are presented below.

[1]The Federal Land Managers include the land management agencies under the U.S. Department of the Interior (U.S. Forest Service, BLM, and National Park Service).

Several air quality modeling analyses have been conducted by the Bonneville Power Administration (BPA) to assess the cumulative impacts of power generation projects in the Northwest and their impacts on Class I areas. The BPA's Phase I study examined the air quality impacts of 45 proposed combustion turbines in BPA's service area in the Northwest. Two scenarios were modeled in this study: a worst-case scenario that included the impacts from all 45 facilities (totaling 24,000 MW of generation), and a second scenario that included impacts from 28 facilities (totaling 11,000 MW of generation). Both analyses account for much more future power generation development than is currently expected in the Northwest. The results of the BPA study showed no violations of any National Ambient Air Quality Standard for criteria pollutants such as SO_2, NO_x, and PM_{10}. The study did, however, indicate that visibility degradation was a potential area of concern.[1]

[1]Bonneville Power Authority, "Phase I Results – Regional Air Quality Modeling Study," August 1, 2001.

2-1 Cont'd

Several air quality modeling analyses have been conducted by the Bonneville Power Administration (BPA) to assess the cumulative impacts of power generation projects in the Northwest and their impacts on Class I areas. The BPA's Phase I study examined the air quality impacts of 45 proposed combustion turbines in BPA's service area in the Northwest. Two scenarios were modeled in this study: a worst-case scenario that included the impacts from all 45 facilities (totaling 24,000 MW of generation), and a second scenario that included impacts from 28 facilities (totaling 11,000 MW of generation). Both analyses account for much more future power generation development than is currently expected in the Northwest. The results of the BPA study showed no violations of any National Ambient Air Quality Standard for criteria pollutants such as SO_2, NO_x, and PM_{10}. The study did, however, indicate that visibility degradation was a potential area of concern.[1]

Since the Phase I study, additional studies of regional visibility have been performed that removed power development projects that have since been canceled from the list of sources considered in the modeling studies. A recent study for the Plymouth Generating Facility evaluated impacts from the following baseline source group on nearby Class I areas.[2]

- Fredonia Facility
- Rathdrum Power
- Frederickson Power
- Coyote Springs 2
- Goldendale Energy Project
- Hermiston Power Project
- Chehalis Generating Facility
- Goldendale (The Cliffs)
- Big Hanford Project
- Mint Farm Generation
- Wallula Power Project
- Satsop CT Project – Phase I
- Satsop CT Project – Phase II
- Wanapa Energy Center
- Plymouth Generation

[1]Bonneville Power Authority, "Phase I Results – Regional Air Quality Modeling Study," August 1, 2001.

[2]Plymouth Generating Facility, "Contribution to Regional Haze."

The Plymouth Generating Facility study was evaluated using the same MM5 meteorological data set as the Class I area impact analysis for Wanapa. Additionally, the range of dates for the meteorological data from the two analyses (March 19, 1998 to March 16, 1999) is identical. For these reasons, the results from these two analyses may be compared on a day-by-day basis. For every date that the Plymouth Generating Facility analysis resulted in a visibility impact greater than 5 percent at any Class I area, the impacts from Wanapa's analysis for that same date are provided for comparison in **Tables** ____ and ____. Dates with impacts from Wanapa greater than 0.4 percent are bolded in the tables.

Responses to Letter 2

Table ____
Wanapa Energy Center and Cumulative Visibility Impacts Comparison

Class I Area	Season	Date	Cumulative Δb_{ext} (%)	Wanapa Δb_{ext} (%)
Columbia Gorge National Scenic Area	Fall	10/6/1998	7.99	0.00
Columbia Gorge National Scenic Area	Fall	10/21/1998	5.05	0.00
Columbia Gorge National Scenic Area	Fall	10/30/1998	7.10	1.30
Columbia Gorge National Scenic Area	Fall	11/3/1998	8.52	0.00
Columbia Gorge National Scenic Area	Fall	11/7/1998	5.84	0.00
Columbia Gorge National Scenic Area	Winter	12/23/1998	12.51	0.00
Columbia Gorge National Scenic Area	Winter	1/3/1999	8.60	1.11
Eagle Cap Wilderness Area	Fall	9/29/1998	5.13	0.26
Mt. Adams Wilderness Area	Winter	12/23/1998	6.94	1.71
Mt. Adams Wilderness Area	Winter	1/4/1999	5.01	2.37
Mt. Hood Wilderness Area	Fall	10/19/1998	5.29	0.57
Mt. Hood Wilderness Area	Fall	11/3/1998	7.58	0.00
Mt. Hood Wilderness Area	Winter	12/22/1998	6.82	0.00
Mt. Hood Wilderness Area	Winter	12/23/1998	8.03	0.00
Mt. Hood Wilderness Area	Winter	1/2/1999	5.00	0.93
Mt. Hood Wilderness Area	Winter	1/3/1999	16.70	0.94

[1]The "Oil-Fired Winter" result includes emissions from the Fredonia and Chehalis power plants operating in an oil-fired mode.

Table ____
Wanapa Energy Center and Cumulative Visibility Impacts Comparison on Winter Days with Oil-Firing at Fredonia and Chehalis Facilities

Class I Area	Season	Date	Cumulative Δb_{ext} (%)	Wanapa Δb_{ext} (%)
Columbia Gorge National Scenic Area	Oil-Fired Winter	12/17/1998	5.57	0.00
Columbia Gorge National Scenic Area	Oil-Fired Winter	12/23/1998	12.51	0.00
Columbia Gorge National Scenic Area	Oil-Fired Winter	1/3/1999	8.60	1.11
Columbia Gorge National Scenic Area	Oil-Fired Winter	1/26/1999	5.13	0.03
Goat Rocks Wilderness Area	Oil-Fired Winter	1/7/1999	6.15	0.01
Goat Rocks Wilderness Area	Oil-Fired Winter	1/23/1999	7.20	0.00
Mt. Adams Wilderness Area	Oil-Fired Winter	12/23/1998	6.95	1.71
Mt. Adams Wilderness Area	Oil-Fired Winter	1/1/1999	6.04	0.00
Mt. Adams Wilderness Area	Oil-Fired Winter	1/4/1999	5.02	2.37
Mt. Hood Wilderness Area	Oil-Fired Winter	12/22/1998	6.82	0.00
Mt. Hood Wilderness Area	Oil-Fired Winter	12/23/1998	8.03	0.00
Mt. Hood Wilderness Area	Oil-Fired Winter	1/2/1999	5.76	0.93
Mt. Hood Wilderness Area	Oil-Fired Winter	1/3/1999	16.72	0.94

The total number of days with extinction rate changes from Wanapa greater than 0.4 percent and with cumulative impacts greater than 5 or 10 percent are summarized in **Table** ____.

Responses to Letter 2

2-1 Cont'd

The total number of days with extinction rate changes from Wanapa greater than 0.4 percent and with cumulative impacts greater than 5 or 10 percent are summarized in Table [redacted].

Table [redacted]
Total Days with Wanapa Energy Center Impacts >0.4 percent and Cumulative Impacts >5 percent or 10 percent
Days with Wanapa Energy Center Contribution

Class I Area	Days with Cumulative Change in Extinction >5%	Days with Cumulative Change in Extinction >10%
Eagle Cap Wilderness Area	0	0
Goat Rocks Wilderness Area	0	0
Columbia Gorge National Scenic Area	2	0
Mt. Adams Wilderness Area	2	0
Mt. Hood Wilderness Area	3	1
Strawberry Mountain Wilderness Area	0	0

Letter 2 Continued

2-2 From a suite of long term monitoring in the Columbia River Gorge there is ample evidence of existing adverse effects on visibility (from IMPROVE monitoring), on ecosystem disturbance from lichen monitoring, and on cultural resources. Additionally there is ample evidence of risk from high ozone concentrations. Existing deposition rates in the Gorge are approximately 10-12 kg/ha/yr for both sulfur and nitrogen. Comparing these rates to a critical load estimate of 1-2 kg/ha/yr it is evident that deposition rates are well in excess of that needed to maintain healthy undisturbed ecosystem conditions. Very real concern exists about harm to other cultural resources (such as rock art) from the acidic component of this deposition – as the federal agency with responsibility for the Columbia River Gorge National Scenic area the Treaty Rights Tribes have requested our assistance in protecting these cultural resources from the damaging effects of air pollution. In winter the Gorge is the primary outlet of polluted stagnant air draining out of the Columbia Basin. With the close proximity of the river channel, which acts as a natural drainage channel in winter, a substantial contribution to this problem comes from the industrialized region around Umatilla. There is a significant body of information as well as previous documentation in prior NEPA documents detailing these concerns. These issues are not recognized or addressed in the Air Resources portion of the WANAPA Draft EIS document.

Conversely, in summer there is evidence of high ozone levels in the Eastern Gorge – under westerly summertime flow this ozone background is transported into the basin and is potentially made worse by basin emission sources. At times the prevailing flows reverse in summer and higher ozone concentrations are re-circulated back into the gorge and up the east slopes of the adjacent Cascades Class I areas. While WANAPA is a small incremental contributor to this potential problem it does contribute and as such an analysis and disclosure of the issue should be provided.

We take the protection of cultural resources in the CRGNSA very seriously. This is an issue the Umatilla Tribe, BIA, and the USDA FS share common ground. We hope you will agree it is an issue that deserves a fair review. We appreciate this opportunity of share our concerns with you. Please include this office in further distributions of information pertaining to this NEPA review.

Sincerely,

Robert G. Bachman

ROBERT G. BACHMAN
Air Resource Specialist

Cc: BPA (Bob Beraud, Tom McKinney) email only

Responses to Letter 2

2-2 An analysis of increases in ozone concentrations resulting from Wanapa emissions was conducted and is available from the USEPA in the Wanapa PSD application. Though ozone is not directly emitted from Wanapa, increases in ozone concentrations may result from photochemical reactions involving VOC and NO_x from the proposed facility.

Windroses of the appropriate meteorological data (Umatilla Army Depot and Walla Walla Regional Airport) for 1995 through 1999 were analyzed for the 6 months that are typically designated as "ozone season" (April-September). The windroses show that winds measured at these stations during the ozone season months from 1995 through 1999 blew from the southwest approximately 30 percent of the time (up to 36 percent for some years), which is more than any other direction. Winds blew from the northeast less than approximately 9 percent of the time. Given the relatively flat terrain of northeastern Oregon and southeastern Washington, it is not expected that the distribution of wind directions would change appreciably from the meteorological stations and the proposed site (approximately 2 miles from the Umatilla Army Depot and approximately 57 miles southwest of the Walla Walla NWS site). Since the proposed facility is located to the northeast of the Columbia River Gorge and Mount Hood Class I areas, emissions from the proposed Wanapa Energy Center can be expected to blow towards these areas approximately 9 percent of the time during the ozone season.

Ozone (O_3) impacts from the proposed Wanapa Energy Center are estimated using the Scheffe Method.1 Based upon the estimated NO_2 and VOC emisstons from the proposed Wanapa Energy Center, the 1-hour ozone increment may be estimated. The 8-hour ozone increment for the proposed facility is estimated from the 1-hour increment using a scaling factor of 0.7.2 The results of the analysis showed that Wanapa would have maximum ozone impacts of 0.0119 ppm (8-hour average) and 0.0171 ppm (1-hour average). National Ambient Air Quality Standards for the 8-hour average is 0.080 ppm and 0.120 ppm for the 1-hour average.

[1] The Scheffe Method is a screening procedure, based upon a series of applications of the Reactive Plume Model-II (RPM-II), which calculates the 1-hour O_3 increment due to VOC and NO_X point sources.
Scheffe, Richard D., *VOC/NO_x Point*. USEPA, Office of Air Quality Planning and Standards. Research Triangle Park, North Carolina. EPA-450/2-78-027R. September 1998.

[2] USEPA, Support Center for Regulatory Air Models. *Screening Procedures for Estimating the Air Quality Impact of Stationary Sources - Revised*. Research Triangle Park, North Carolina. USEPA-454/R-92-019. October 1992.

Responses to Letter 2

TABLE [redacted]
TOTAL OZONE IMPACT INCREMENTS

Averaging Period	Facility Ozone Increment (ppm)	Background Ozone Increment (ppm)	Total Ozone Increment (ppm)	NAAQS Standard (ppm)
8-hour	0.0119	0.0646	0.0765	0.0800
1-hour	0.0170	0.0790	0.0960	0.1200

[1]The Scheffe Method is a screening procedure, based upon a series of applications of the Reactive Plume Model-II (RPM-II), which calculates the 1-hour O_3 increment due to VOC and NO_x point sources.
Scheffe, Richard D., *VOC/NO$_x$ Point*, USEPA, Office of Air Quality Planning and Standards, Research Triangle Park, North Carolina, EPA-450/2-78-027R, September 1998.
[2]USEPA, Support Center for Regulatory Air Models, *Screening Procedures for Estimating the Air Quality Impact of Stationary Sources - Revised*, Research Triangle Park, North Carolina, USEPA-454/R-92-019, October 1992.
[3]USEPA, Office of Air and Radiation, *EPA's Revised Ozone Standard Fact Sheet*, Research Triangle Park, North Carolina, July 17, 1997.

Letter 3 Continued

d. A 25- by 300-foot gravel parking area would be established by BPA along the west side of Ferry Road. BPA would provide and install parking curbs as directed by the District. A controlled access point would be developed for overflow public parking on the remaining open area. The parking area would serve the public users of the adjacent Corps of Engineers operated park area.

3-1 The four items outlined above would be incorporated into a real estate permit to BPA as site-specific conditions. Other than the site-specific conditions, the remaining terms of the permit will follow the standard Department of the Army format.

If Bonneville Power Administration wishes to pursue this expansion given the conditions outlined above, please provide this office with a letter of application. We also need to receive a current aerial photograph of the McNary substation area with the expansion area superimposed on the photo.

If you need further information, please call me at 509-527-7324 or contact me by email at Paul.S.Shampine@usace.army.mil.

Sincerely,

Paul Shampine
Real Estate Specialist

Enclosures

HERRES/RE

GARLAND/RE

BROWN/OD-TN

SHAMPINE/lp

IM-SM

RE

Responses to Letter 3

ATTACHMENT 3

Excerpts from:

The Illinois Annual Air Quality Reports
2004, 2005, 2006, 2007

Table B2

2004
OZONE

STATION	ADDRESS	NUMBER OF DAYS GREATER THAN		HIGHEST SAMPLES (parts per million) 1-HOUR				8-HOUR			
		0.12 PPM	0.08 PPM	1ST	2ND	3RD	4TH	1ST	2ND	3RD	4TH
69 METROPOLITAN QUAD CITIES INTERSTATE (IA - IL)											
ROCK ISLAND COUNTY											
Rock Island	32 Rodman Ave.	0	0	0.082	0.070	0.066	0.064	0.076	0.060	0.059	0.059
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)											
MADISON COUNTY											
Alton	409 Main St.	0	0	0.096	0.092	0.091	0.090	0.080	0.074	0.074	0.074
Edwardsville	Poag Road	0	0	0.101	0.092	0.085	0.082	0.076	0.075	0.068	0.068
Maryville	200 W. Division	0	0	0.105	0.103	0.102	0.100	0.082	0.081	0.080	0.078
Wood River	54 N. Walcott	0	0	0.097	0.097	0.096	0.095	0.081	0.080	0.073	0.073
RANDOLPH COUNTY											
Houston	Twp Rds. 150 & 45	0	0	0.0082	0.074	0.074	0.073	0.069	0.066	0.065	0.064
ST. CLAIR COUNTY											
East St. Louis	13th & Tudor	0	0	0.102	0.094	0.092	0.084	0.078	0.076	0.075	0.073
73 ROCKFORD - JANESVILLE - BELOIT INTERSTATE (IL - WI)											
WINNEBAGO COUNTY											
Loves Park	1405 Maple	0	0	0.081	0.076	0.072	0.069	0.072	0.070	0.067	0.061
Rockford	1500 Post	0	0	0.081	0.079	0.075	0.071	0.074	0.073	0.071	0.064
74 SOUTHEAST ILLINOIS INTRASTATE											
EFFINGHAM COUNTY											
Effingham	Route 45 South	0	0	0.097	0.088	0.078	0.076	0.074	0.073	0.067	0.067
HAMILTON COUNTY											
Dale	Route 142	0	0	0.085	0.081	0.080	0.076	0.072	0.072	0.072	0.071
75 WEST CENTRAL ILLINOIS INTRASTATE											
ADAMS COUNTY											
Quincy	732 Hampshire	0	0	0.078	0.072	0.071	0.070	0.067	0.066	0.064	0.063
JERSEY COUNTY											
Jerseyville	Liberty St.	0	0	0.095	0.093	0.089	0.088	0.077	0.076	0.075	0.073
MACON COUNTY											
Decatur	2200 N. 22nd St.	0	0	0.078	0.071	0.069	0.069	0.066	0.066	0.064	0.064
MACOUPIN COUNTY											
Nilwood	Heaton & DuBois	0	0	0.087	0.084	0.081	0.079	0.080	0.069	0.069	0.068
SANGAMON COUNTY											
Springfield	2875 N. Dirksen	0	0	0.082	0.079	0.078	0.077	0.071	0.066	0.065	0.064

Primary 1-Hour Standard 0.12 ppm; 8-Hour Standard 0.08 ppm

Table B2

2005
OZONE

STATION	ADDRESS	NUMBER OF DAYS GREATER THAN 0.12 PPM	NUMBER OF DAYS GREATER THAN 0.08 PPM	HIGHEST SAMPLES (parts per million) 1-HOUR 1ST	1-HOUR 2ND	1-HOUR 3RD	1-HOUR 4TH	8-HOUR 1ST	8-HOUR 2ND	8-HOUR 3RD	8-HOUR 4TH
69 METROPOLITAN QUAD CITIES INTERSTATE (IA - IL)											
ROCK ISLAND COUNTY											
Rock Island	32 Rodman Ave.	0	0	0.095	0.085	0.078	0.072	0.081	0.078	0.071	0.065
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)											
MADISON COUNTY											
Alton	409 Main St.	0	7	0.116	0.110	0.110	0.106	0.102	0.096	0.092	0.091
Maryville	200 W. Division	1	7	0.130	0.114	0.111	0.111	0.104	0.095	0.092	0.088
Wood River	54 N. Walcott	0	6	0.116	0.109	0.108	0.108	0.099	0.093	0.091	0.087
RANDOLPH COUNTY											
Houston	Twp Rds. 150 & 45	0	0	0.090	0.086	0.082	0.080	0.079	0.078	0.076	0.074
ST. CLAIR COUNTY											
East St. Louis	13th & Tudor	2	6	0.132	0.127	0.120	0.104	0.110	0.103	0.101	0.094
73 ROCKFORD - JANESVILLE - BELOIT INTERSTATE (IL - WI)											
WINNEBAGO COUNTY											
Loves Park	1405 Maple	0	0	0.086	0.083	0.082	0.081	0.079	0.079	0.076	0.075
Rockford	1500 Post	0	0	0.089	0.082	0.081	0.080	0.080	0.079	0.076	0.075
74 SOUTHEAST ILLINOIS INTRASTATE											
EFFINGHAM COUNTY											
Effingham	Route 45 South	0	0	0.080	0.080	0.078	0.077	0.076	0.075	0.073	0.073
HAMILTON COUNTY											
Knight Prairie Twp.	Route 14	0	0	0.087	0.086	0.086	0.085	0.081	0.081	0.080	0.077
75 WEST CENTRAL ILLINOIS INTRASTATE											
ADAMS COUNTY											
Quincy	732 Hampshire	0	0	0.090	0.089	0.085	0.084	0.077	0.076	0.076	0.076
JERSEY COUNTY											
Jerseyville	Liberty St.	0	4	0.108	0.108	0.102	0.102	0.089	0.087	0.087	0.086
MACON COUNTY											
Decatur	2200 N. 22nd St.	0	0	0.093	0.093	0.092	0.089	0.081	0.080	0.077	0.076
MACOUPIN COUNTY											
Nilwood	Heaton & DuBois	0	1	0.097	0.095	0.087	0.087	0.086	0.080	0.078	0.077
SANGAMON COUNTY											
Springfield	2875 N. Dirksen	0	0	0.089	0.088	0.087	0.084	0.078	0.077	0.076	0.075

Primary 1-Hour Standard 0.12 ppm; 8-Hour Standard 0.08 ppm

Table B2

2006
OZONE

STATION	ADDRESS	NUMBER OF DAYS GREATER THAN 0.12 PPM	NUMBER OF DAYS GREATER THAN 0.08 PPM	HIGHEST SAMPLES (parts per million) 1-HOUR 1ST	1-HOUR 2ND	1-HOUR 3RD	1-HOUR 4TH	8-HOUR 1ST	8-HOUR 2ND	8-HOUR 3RD	8-HOUR 4TH
69 METROPOLITAN QUAD CITIES INTERSTATE (IA - IL)											
ROCK ISLAND COUNTY											
Rock Island	32 Rodman Ave.	0	0	0.080	0.078	0.078	0.077	0.075	0.074	0.071	0.070
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)											
MADISON COUNTY											
Alton	409 Main St.	0	1	0.109	0.103	0.101	0.095	0.085	0.080	0.080	0.079
Maryville	200 W. Division	0	1	0.118	0.104	0.097	0.095	0.089	0.084	0.077	0.077
Wood River	54 N. Walcott	0	0	0.105	0.099	0.098	0.090	0.081	0.080	0.078	0.077
RANDOLPH COUNTY											
Houston	Twp Rds. 150 & 45	0	0	0.088	0.087	0.083	0.081	0.077	0.076	0.073	0.072
ST. CLAIR COUNTY											
East St. Louis	13th & Tudor	0	2	0.121	0.111	0.095	0.093	0.098	0.097	0.082	0.077
73 ROCKFORD - JANESVILLE - BELOIT INTERSTATE (IL - WI)											
WINNEBAGO COUNTY											
Loves Park	1405 Maple	0	0	0.073	0.070	0.069	0.068	0.066	0.066	0.064	0.063
Rockford	1500 Post	0	0	0.072	0.071	0.070	0.068	0.068	0.065	0.064	0.063
74 SOUTHEAST ILLINOIS INTRASTATE											
EFFINGHAM COUNTY											
Effingham	Route 45 South	0	0	0.085	0.081	0.074	0.074	0.074	0.071	0.070	0.067
HAMILTON COUNTY											
Knight Prairie Twp.	Route 14	0	0	0.079	0.079	0.074	0.073	0.070	0.068	0.068	0.066
75 WEST CENTRAL ILLINOIS INTRASTATE											
ADAMS COUNTY											
Quincy	732 Hampshire	0	0	0.084	0.080	0.080	0.080	0.076	0.073	0.072	0.071
JERSEY COUNTY											
Jerseyville	Liberty St.	0	0	0.096	0.094	0.090	0.085	0.083	0.079	0.077	0.075
MACON COUNTY											
Decatur	2200 N. 22nd St.	0	0	0.088	0.077	0.076	0.076	0.079	0.073	0.072	0.071
MACOUPIN COUNTY											
Nilwood	Heaton & DuBois	0	0	0.088	0.085	0.082	0.077	0.073	0.071	0.070	0.070
SANGAMON COUNTY											
Springfield	2875 N. Dirksen	0	0	0.084	0.080	0.080	0.077	0.074	0.068	0.066	0.066

Primary 8-Hour Standard 0.08 ppm

Table B2

2007
OZONE

STATION	ADDRESS	NUMBER OF DAYS GREATER THAN 0.12 PPM	0.08 PPM	0.075 PPM	HIGHEST SAMPLES (parts per million) 1-HOUR 1ST	2ND	3RD	4TH	8-HOUR 1ST	2ND	3RD	4TH
69 METROPOLITAN QUAD CITIES INTERSTATE (IA - IL)												
ROCK ISLAND COUNTY												
Rock Island	32 Rodman Ave.	0	0	1	0.090	0.083	0.080	0.077	0.080	0.074	0.072	0.071
70 METROPOLITAN ST. LOUIS INTERSTATE (IL - MO)												
MADISON COUNTY												
Alton	409 Main St.	0	2	13	0.120	0.096	0.095	0.092	0.086	0.085	0.083	0.081
Maryville	200 W. Division	0	4	14	0.123	0.108	0.104	0.101	0.107	0.094	0.091	0.087
Wood River	54 N. Walcott	0	7	18	0.121	0.114	0.103	0.103	0.090	0.089	0.087	0.086
RANDOLPH COUNTY												
Houston	Twp Rds. 150 & 45	0	0	7	0.099	0.093	0.093	0.088	0.082	0.082	0.081	0.079
ST. CLAIR COUNTY												
East St. Louis	13th & Tudor	0	1	4	0.114	0.106	0.093	0.092	0.093	0.081	0.078	0.077
73 ROCKFORD - JANESVILLE - BELOIT INTERSTATE (IL - WI)												
WINNEBAGO COUNTY												
Loves Park	1405 Maple	0	0	1	0.083	0.080	0.078	0.078	0.077	0.075	0.075	0.073
Rockford	1500 Post	0	0	0	0.080	0.078	0.078	0.078	0.074	0.072	0.071	0.071
74 SOUTHEAST ILLINOIS INTRASTATE												
EFFINGHAM COUNTY												
Effingham	Route 45 South	0	0	4	0.088	0.088	0.082	0.081	0.079	0.078	0.078	0.078
HAMILTON COUNTY												
Knight Prairie Twp.	Route 14	0	0	4	0.089	0.085	0.084	0.083	0.084	0.080	0.079	0.076
75 WEST CENTRAL ILLINOIS INTRASTATE												
ADAMS COUNTY												
Quincy	732 Hampshire	0	0	3	0.087	0.080	0.079	0.078	0.082	0.076	0.076	0.075
JERSEY COUNTY												
Jerseyville	Liberty St.	0	1	2	0.100	0.090	0.088	0.087	0.085	0.077	0.075	0.075
MACON COUNTY												
Decatur	2200 N. 22nd St.	0	0	5	0.092	0.084	0.084	0.081	0.079	0.078	0.077	0.077
MACOUPIN COUNTY												
Nilwood	Heaton & DuBois	0	1	1	0.099	0.095	0.089	0.085	0.091	0.075	0.075	0.075
SANGAMON COUNTY												
Springfield	2875 N. Dirksen	0	0	2	0.093	0.090	0.079	0.079	0.081	0.079	0.075	0.072

Primary 8-Hour Standard 0.08 ppm

ATTACHMENT 4

Excerpts from:

"VOC / NOx Point Source Screening Tables"
By Richard D. Scheffe, USEPA

September, 1988

VOC/NOx POINT SOURCE SCREENING TABLES

by Richard D. Scheffe

September, 1988

United States Environmental Protection Agency
Office of Air Quality Planning and Standards
Technical Support Division
Source Receptor Analysis Branch

3.0 SCREENING TABLES

The interpretation or definition of a "rural" or "urban" area within the framework of this technique is intended to be rather broad and flexible. The rationale for having rural and urban tables stems from the need to account for the coupled effect of point source emissions and background chemistry on ozone formation. Background chemistry in the context of this procedure refers to a characterization of the ambient atmospheric chemistry into which a polnt source emits. The underlying model runs used to develop the rural table (Table 1) were performed with spatially invariant background chemistry representative of "clean" continental U.S. areas. Model runs used to develop the urban table (Table 2) are based on background chemistry incorporating daily temporal fluctuatlons of NOx and hydrocarbons asociated with a typical urban atmosphere (refer to Appendix A for details regarding background chemistry). Background chemistry is an important factor in estimating ozone formation; however, characterization of background chemistry is perhaps the most difficult aspect of reactive plume modeling because of data scarcity and the level of resources required to measure or model (temporally and spatially) the components necessary to charcterize the ambient atmospheric along the trajectory of a point source plume.

Recognizing the conflicting needs of using simple characterizations of background chemistries and applylng this screning technique in situations where sources are located in or impact on areas which can not be simply categorized, the following steps should be used to choose an appopriate table:

(1) If the source locatlon and downwind impact area can be decribed as rural and where ozone exceedances have never been reported, choose the rural area table.

(2) If the source location and downwind impact area are of urban characte, choose the urban area table.

(3) If an urban based source potentially can impact a downwind rural area, or a rural based source can potentially impact a downwind urban area, use the highest value obtained from applying both tables.

The VOC point source screninq tables (Tables 1 and 2) provided ozone increments as a function of NMOC (nonmethane organic carbon) mass emissions rates and NMOC/NOx emissions ratios. To determine an ozone impact the user is required to apply best estimates of maximum daily NMOC emissions rate, and estimated annual mass emissions rates of NMOC and NOx which are used to determine NMOC/NOx ratio for ascribing the applicable column in Table 1 or 2. The reasons for basing application on daily maximum NMOC emissions rates are (1) to avoid underestimates resulting from discontinuous operations and (2) the underlying modeling simulations are based on single day episodes. The NMOC emissions rates in Tables 1 and 2 are given on an annual basis; consequently the user must project daily maximum to annual emissions rates illustrated in the example

application given below. One purpose of the technique is to provide a simple, non-resource intensive tool; therefore, annual NMOC/NOx emissions ratios are used because consideration of daily fluctuations would require a screening application applied to each day.

Parameters describing background chemistry, episodic meteorology, and source emissions speciation affect actual ozone impact produced by a point source. However, as a screening methodology the application should be simple, robust and yield conservative (high ozone) values. Thus, only NMOC and Nox emissions rates are required as input to Tables 1 and 2.

Rural Example Application

A manufacturing company intends to construct a facility in an isolated rural location where ozone exceedances have never been observed. The pollution control agency requires that the company submit an analysis showing that operation of the proposed facility will not result in an ozone increment greater than X ppm in order to permit operation. The estimated daily maximum NMOC emissions rate is 9000 lbs/day. The annual estimated emissions rates for NMOC and NOx are 1000 tons/yr and 80 tons/yr, respectively. The company's strategy is to provide a screening analysis using the rural area table to prove future compliance. If the screening result exceeds X ppm, the company will initiate a detailed modeling analysis requiring characterization of source emissions speciation, ambient chemistry, and episodic meteorology.