Air Quality Impact Analysis Review

Next Generation Processing, LLC.
Haven Gas Plant
Air Quality Construction Permit Application

Source ID No. 1550133
C-10086

Kansas
Department of Health and Environment
Bureau of Air

Permitting Section

November 13, 2012

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I. Introduction

The Next Generation Processing, LLC (NGP) submitted a Prevention of Significant Deterioration (PSD) construction permit application to install and operate a natural gas processing facility (Haven Gas Plant) to be located in Reno County, Kansas.

An Air Quality Impact Analysis (AQIA) was submitted as part of the construction permit application to show the impact of the proposed project on the National Ambient Air Quality Standards (NAAQS). This document summarizes the Kansas Department of Health and Environment (KDHE) review and evaluation of NGP's AQIA.

The PSD construction permit application, with a compact disc (CD) containing the modeling files, was received by KDHE on April 19, 2012. Copies of the PSD construction permit application and the CD containing the modeling files were mailed to EPA Region 7 for their review. Table 1-1 of Section 1.0 of the PSD construction permit application shows the emissions from the proposed Haven Gas Plant. Table 2-1 of Section 2.0 of the permit application shows the new sets of emissions units being proposed by NGP. Section 14.0 of the permit application presents the changes and updates made to the modeling protocol sent on March 12, 2012. Table 14-2 of Section 14.0 of the permit application shows the maximum modeled concentration results of NGP using Tier 3, Ozone Limiting Method (OLM) for Scenario 1. Appendix A of the permit application shows in table form the proposed emissions units and the stack parameters used in modeling. Appendix B of the permit application shows the VISCREEN Level 1 screening results for a Class I area.

On May 3, 2012, NGP sent via email (through KDHE) a letter of request to EPA Region 7 to use the Tier 3, OLM to model the nitrogen dioxide (NO_2) impacts from the proposed sources at the Haven Gas Plant. KDHE forwarded email with the attached letter of request to EPA Region 7 on May 3, 2012.

NGP submitted several updates to their application as summarized on the following account: On May 14, 2012, NGP submitted the results of their two (2) additional alternate modeling scenarios using Tier 3, OLM. On May 29, 2012, NGP submitted their results using Tier 1 (100% conversion of NO_x to NO_2) for Scenario 1. Based on their Tier 1, Scenario 1 modeling results, NGP indicated that they are no longer requesting for approval to use the Tier 3, OLM non-regulatory model options. On May 31, 2012, NGP submitted their Tier 1, Scenario 2 modeling results. On June 11, 2012, NGP submitted the Level 1 VISCREEN analysis results for a Class II area. On June 26, 2012, NGP submitted the Level 2 VISCREEN analysis results for a Class II area. On September 13, 2012, an updated permit application was submitted.

Dispersion modeling for this project includes a demonstration of compliance with NAAQS published recently by the EPA. The NAAQS for 1-hour NO_2 was published on February 9, 2010, with an effective date of April 12, 2010. EPA did not issue significant

impact levels (SILs), significant monitoring concentrations (SMCs), increment and other implementation guidance and tools that are needed for a dispersion modeling analysis for the 1-hour NO_2 NAAQS. Thus, KDHE has developed an interim SIL for the 1-hour NO_2 NAAQS. The KDHE-established interim SIL is to be valid until an EPA promulgated SIL is effective and adopted in the Kansas air quality regulations. Guidance was issued by EPA for an NO_2 1-hour interim SIL on June 29, 2010. In this analysis, the KDHE SIL was used.

On October 20, 2010, the EPA published final SIL values in the Federal Register for 24-hour and annual $PM_{2.5}$ NAAQS, with an effective date of December 20, 2010. These $PM_{2.5}$ SILs will have to be incorporated in the Kansas Air Regulations before they become effective in Kansas. NGP has agreed to conduct modeling using these new standards.

II. Facility Description

The proposed natural gas processing plant is being designed with a throughput capacity of 1.4 billion cubic feet per day (bcfd). Natural gas will be transported to the proposed Haven Gas Plant via Panhandle Eastern Pipeline's interstate gas pipeline. Amine treatment operations will treat the natural gas liquids (NGL) product for carbon dioxide (CO_2) and trace amounts of hydrogen sulfide (H_2S).

Two (2) natural gas fired turbines (GT-01 and GT-02; each with design power output rating of 29,299 hp) will be used for the compression of the processed natural gas from the Haven Gas Plant back to Panhandle Eastern Pipeline's downstream gas pipeline. One (1) natural gas fired turbine generator set (TGS-01; with design power output rating of 6,196 hp) and two (2) natural gas fired engine generator sets (EGS-01 and EGS-02; each with design power output rating of 1,980 hp) will be installed to provide electrical power to the proposed facility.

Oily water will be separated from the natural gas during the dehydration regeneration process, stored in a 100-barrel storage tank, and periodically loaded into tanks trucks and shipped off-site.

The proposed facility location is in rural Reno County, approximately two (2) miles from Haven, Kansas. Reno County is located in central Kansas and is designated as attainment or unclassifiable/ attainment for all pollutants for which the facility is subject to PSD review.

Emissions from the proposed facility were modeled by NGP using three (3) different emission scenarios.

- Scenario 1 assumes all units are operating at 100% load.

- Scenario 2 assumes the two (2) GT-01 and GT-02 gas turbines are operating at 75% load, the TGS-01 turbine generator set is operating at 100% load, the EGS-01 engine generator set is operating at 100% load, and the EGS-02 engine generator set is not operating.

- Scenario 3 assumes the GT-01 gas turbine is operating at 100% load, the GT-02 gas turbine is not operating, the TGS-01 turbine generator set is operating at 100% load, and the EGS-01 and EGS-02 engine generator sets are not operating.

KDHE runs were the same for Scenarios 1 and 2, except in Scenario 2 the EGS-02 engine generator set was operating at 100% load. KDHE did not run Scenario 3 since the sources in this scenario operate at 100% design load capacity. The updated application submitted by NGP on September 13, 2012, includes Scenarios 1 and 2 only.

NGP anticipates no more than six (6) 10-minute start-up and six (6) 10-minute shutdown events per year for each turbine GT-01 and turbine GT-02, for maintenance purposes and expects events to not occur at the same time. NGP also anticipates one (1) 9-minute shutdown and one (1) 20-minute start-up event per year for turbine generator set TGS-01, for maintenance purposes and these will not coincide with start-up/shutdown events of the other turbines. There are no planned start-up/shutdown events for the engine generator sets.

KDHE determined that the intermittent emissions from start-up/shutdown operations of the proposed turbines are *"not continuous enough and not frequently enough to contribute significantly to the annual distribution of daily maximum 1-hour NO_2 concentrations"* and, therefore, these emissions are excluded from compliance demonstration for the 1-hour NO_2 NAAQS, per EPA's memorandum dated March 1, 2011 by Tyler Fox on modeling guidance for 1-hour NO_2 NAAQS.

III. Air Quality Impact Analysis (AQIA) Applicability

The proposed facility is a major source as defined by K.A.R. 28-19-350, Prevention of Significant Deterioration. Therefore, the owner or operator must demonstrate that allowable emission increases from the proposed facility would not cause or contribute to air pollution in violation of:

1) any NAAQS in any air quality control region; or
2) any applicable maximum allowable increase of NO_2 or $PM_{2.5}$ over the baseline concentration in any area (increment).

Emissions from the proposed project and significant emission rate thresholds are listed in Table 1 below. Major sources with pollutant emissions exceeding significant emission rates must undergo PSD review.

Table 1. Emissions From the Proposed Project and PSD Significant Emission Rates

Pollutant	Project Emissions with controls (tpy)	Significant Emission Rate (tpy)	Exceeds Significant Emission Rate?
NO_x	106.45	40	Yes
SO_2	6.29	40	No
PM	14.73	25	No
PM_{10}	14.73	15	No
$PM_{2.5}$	14.73	10	Yes
CO	121.70	100	Yes
VOC	26.31	40	No
Ozone	N/A	40 tpy VOC or 40 tpy NO_x	Yes

IV. Model Selection

A dispersion model is a computer simulation that uses mathematical equations to predict air pollution concentrations based on weather, topography, and emissions data. AERMOD is the current model preferred by EPA for use in nearfield regulatory applications, per 40 CFR Part 51 Appendix W, Section 3.1.2, and Appendix A to Appendix W:

> *"AERMOD is a steady-state plume dispersion model for assessment of pollutant concentrations from a variety of sources. AERMOD simulates transport and dispersion from multiple sources based on an up-to-date characterization of the atmospheric boundary layer. AERMOD is appropriate for: point, volume, and area sources; surface, near-surface, and elevated releases; rural or urban areas; simple and complex terrain; transport distances over which steady-state assumptions are appropriate, up to 50 km; 1-hour to annual averaging times; and continuous toxic air emissions."*

The AERMOD modeling system, Version 12060 (using Lakes Environmental software AERMOD View version 7.4.1), was used by KDHE to evaluate the impacts of the following emissions that will result from the proposed facility:

- 1-hour and annual NO_2;
- 24-hour and annual $PM_{2.5}$;
- 1-hour and 8-hour CO.

The AERMOD modeling system, Version 12060 (using Oris Solutions software BEEST version 10.0), was used by NGP to evaluate the impacts of the following emissions that will result from the proposed facility:

- 1-hour and annual NO_2;
- 24-hour and annual $PM_{2.5}$;
- 1-hour and 8-hour CO.

AERMET Version 11059 was used to prepare meteorological data, which was provided by KDHE to NGP for the years 2006-2010. AERMINUTE Version 11059 was used to process 1-minute ASOS wind data to generate hourly average winds for input to AERMET.

The facility submitted a request for approval of the Tier 3 OLM method for modeling 1-hour and annual NO_2 to EPA Region 7. Details of the requests to use the Tier 3 OLM non-regulatory model options is described in letter attached to NGP's email to KDHE (and forwarded to EPA Region 7) on May 3, 2012.

On May 29, 2012, NGP submitted their Scenario 1 results for 1-hour and annual NO_2 using Tier 1 (100% conversion of NO_x to NO_2). Based on their Tier 1 results, NGP indicated that they are no longer requesting approval to use the Tier 3 OLM non-regulatory model options.

V. Model Inputs

A. Source Data

The emission rates, point locations, and stack parameters for the emission sources used in the model were based on the data presented in the permit application received by KDHE on April 19, 2012 and memo submitted on May 14, 2012 containing results for alternate modeling scenarios.

B. Urban or Rural

A review of United States Geological Survey (USGS) National Land Cover Data (NLCD) for 2006 for the site and a surrounding three (3) kilometer radius was reviewed to determine if rural or urban site classification should be used for modeling. The area was deemed "rural" for air modeling purposes.

C. Terrain

The proposed project was modeled using the Elevated Terrain Mode. AERMAP processor was used by the applicant to process the National Elevation Data (NED) files from the USGS to interpolate elevations at each receptor. The AERMAP processor was used to process the NED files and generate source, building, and receptor heights and hill height scales as applicable.

D. Meteorological Data

Five (5) consecutive years of meteorological data considered representative of the climatology and topography for the proposed facility location was used in the AQIA. AERMET, the meteorological data pre-processor for the AERMOD modeling system, extracts and processes data in order to calculate the boundary layer parameters that are necessary for the calculation of pollutant concentrations within the atmosphere. The surface and upper air measurements used for this analysis were for the years from 2006 to 2010. The upper air data was from the Dodge City Regional Airport (KDDC) meteorological station, WBAN# 13985 and the surface air data was from the Hutchinson Municipal Airport (KHUT) meteorological station, WBAN #13986. Information on these stations is shown in Table 2 below and a wind rose for the cumulative five-year period is provided in Figure 1. Figure 2 shows a map that includes the proposed NGP site, the KDDC and the KHUT airport meteorological stations.

Table 2. Meteorological Data Sites					
Station Type	**Station Name**	**WBAN #**	**Latitude/ Longitude**	**Elevation [m]**	**Years of Data**
Surface Air Station	Hutchinson Municipal Airport (KHUT)	13986	38.0682 / -97.8607	463.6	2006-2010
Upper Air Station	Dodge City Regional Airport (KDDC)	13985	37.7711 / -99.9692	787.0	2006-2010

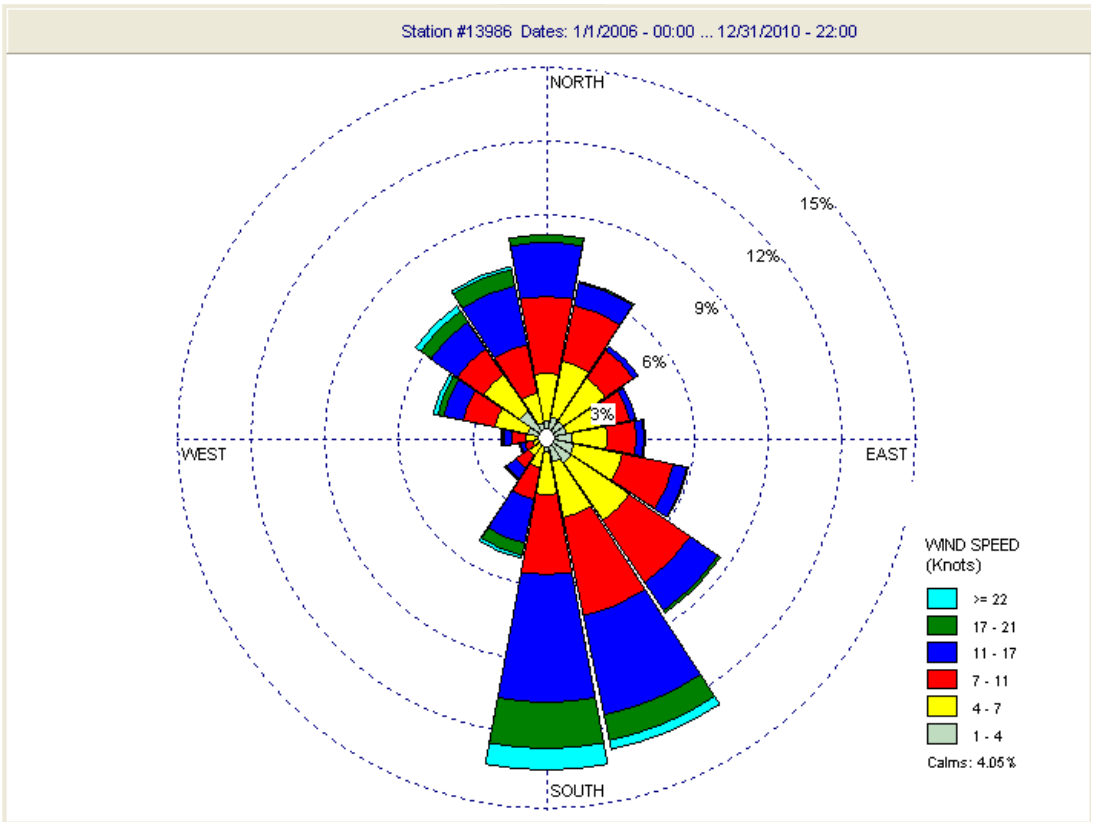

Figure 1. Wind Rose for Years 2006 to 2010

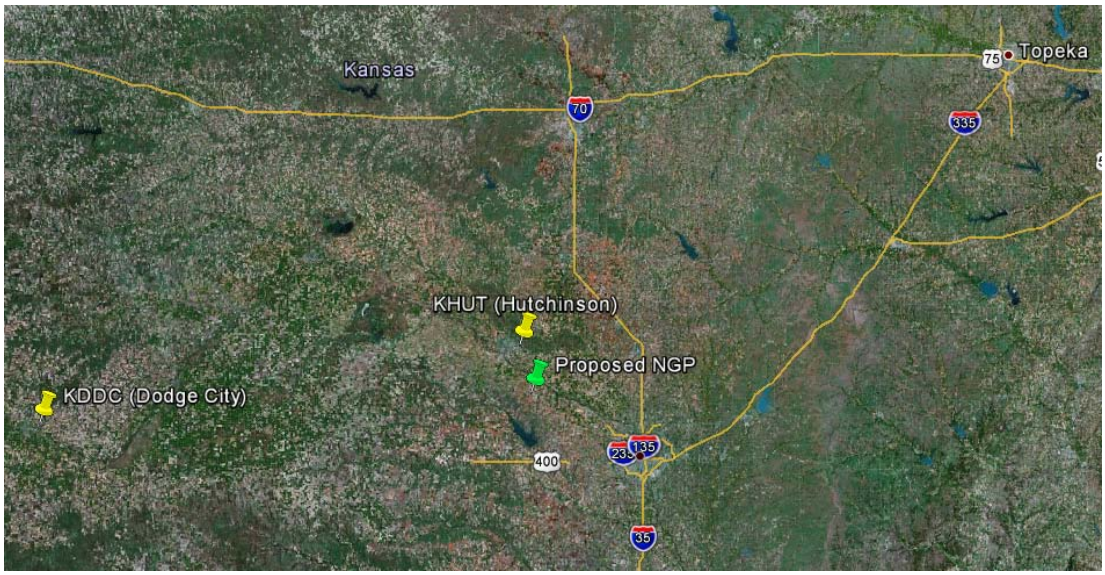

Figure 2. Map (Google Earth) of the Proposed Facility of Next Generation Processing, LLC (NGP), Hutchinson Municipal Airport (KHUT) and Dodge City Regional Airport (KDDC) Meteorological Stations

The surface characteristics for use with the AERMET program were determined using AERSURFACE. Evaluation of a comparison of the distance and the surface characteristics surrounding the KHUT airport meteorological station and the NGP site indicates that the KHUT airport meteorological station data are representative of the application site.

E. Building Downwash

Good Engineering Practice (GEP) stack height for stacks constructed after January 12, 1979 is defined as the greater of

- 65 meters, measured from the ground-level elevation at the base of the stack, and
- Stack height calculated from the following EPA's refined formula:

$$H_g = H + 1.5L$$

Where
H_g = GEP stack height, measured from the ground-level elevation at the base of the stack
H = height of nearby structure(s) measured from the ground-level elevation at the base of the stack

L = lesser dimension of the building height or the greatest crosswind distance of the building also known as maximum projected width, of nearby structure(s)

Emissions released at stack heights greater than GEP are modeled at GEP stack height. Emissions released at or below GEP are modeled at their true release height. Building downwash was calculated using the Building Profile Input Program (BPIP) with plume rise model enhancements (PRIME).

F. Receptors

AERMOD estimates ambient concentrations using a network of points, called receptors, throughout the region of interest. The model uses emissions and weather information to estimate ambient pollutant concentrations at each receptor location. Model receptors are typically placed at locations that reflect the public's exposure to the pollutant. Receptors were placed at 50 meter spacing along the proposed facility's fenceline. The minimum receptors for significant impact modeling for the proposed facility consisted of a multi-tiered grid as shown in Table 3.

Table 3. Receptor Spacing for Significant Impact Modeling for the Proposed Facility

Distance From Facility Boundary (meters)	Receptor Spacing (meters)
Facility Center to 1000	50
1000 to 2,000	100
2,000 to 10,000	250
10,000 to 50,000	1000

Preliminary or screening modeling analysis resulting in a significant impact for any receptors at or beyond the facility fenceline requires a full impact (refined) analysis. The model radius of impact (ROI) was determined by first finding the distance to the farthest receptor showing a concentration greater than the SIL. This distance is then added to 50 kilometers and the area within this radius from the center of the facility is considered to be the ROI.

VI. Significance Determination

In order to determine if a full impact (refined) modeling analysis and/or ambient air monitoring is necessary, a preliminary modeling analysis is first conducted. The preliminary analysis included only the proposed NGP sources to determine if a modeled high first high (HIH) impact (or concentration) will exceed the SIL thresholds. For each pollutant and averaging time that the modeled HIH concentration is below the SIL threshold, no further analysis is necessary for that particular pollutant and averaging time. The SILs and pre-application monitoring thresholds for applicable pollutants and the NGP results from the preliminary modeling analysis are shown in Table 4.

Table 4. Significance Determination Table

Pollutant	Averaging Period	Maximum Predicted Concentration (High First High)[1] ($\mu g/m^3$)	Modeling Significant Impact Level (SIL) ($\mu g/m^3$)	Exceeds SIL?	Pre-application Monitoring Threshold Concentration ($\mu g/m^3$)	Exceeds Monitoring Threshold?
NO_2	Annual	0.33	1	No	14	No
	1-hour	6.76[2]	10[3]	No	N/A	N/A
CO	8-hour	6.62	500	No	575	No
	1-hour	7.69	2000	No	N/A	N/A
$PM_{2.5}$	Annual	0.08	0.3	No	N/A	N/A
	24-hour	0.58	1.2	No	4	No
Ozone	N/A	N/A	N/A	N/A	>100 tpy VOC or NO_x emissions	Yes

The modeled HIH impacts for the proposed facility fall below the modeling SIL for the annual and 1-hour NO_2; 8-hour and 1-hour CO; and annual and 24-hour $PM_{2.5}$ averaging periods. Therefore, the full impact (refined) modeling analysis and/or ambient air monitoring are not required. Ozone exceeds the pre-application monitoring threshold, since NO_x emissions exceed 100 tons per year. NO_x emissions from the proposed project were modeled and all predicted impacts were below the significant impact level, with a maximum predicted impact of 6.76 $\mu g/m^3$. KDHE considers this to be a demonstration that this project will not cause or contribute to a violation of the NO_2 NAAQS or the ozone NAAQS. Ozone monitors in Wichita have shown exceedances of the design value

[1] From facility submittals (the modeled results for annual and 1-hour NO_2 are from the Tier 1, Scenario 2 modeling run.)

[2] For 1-hour NO2, the facility used Tier 1 analysis, which is based on regulatory default options in AERMOD. The facility also modeled using a Tier 3 analysis, OLM, which yielded lower impact estimates. The OLM analysis is considered to be a non-regulatory default, and if submitted for the NAAQS compliance demonstration, requires approval from EPA Region 7.

[3] Interim SIL established by KDHE until EPA publishes a final SIL. The current EPA recommended SIL is 7.5 $\mu g/m^3$. The facility results are also below the EPA recommended SIL.

in 2012. However, exceedances only occurred when winds were from the south or from the east. This plant will be located west of Wichita, and is not expected to contribute to any ozone exceedances, because of its location and because of the relatively low expected emissions. Reno County, where the plant will be located, has less industrial activity, less traffic, and is expected to be impacted less by pollution transported from other locations. Reno County is not expected to be considered part of any future non-attainment area associated with recent ozone exceedances in Sedgwick County. Emission levels discussed are not expected to contribute to changes in Reno County NAAQS attainment.

KDHE has the discretion to allow the use of existing data to satisfy the ambient monitoring requirement if it is representative, of sufficient quality, and current, consistent with the guidance in the EPA New Source Review (NSR) Workshop Manual (page C.18). The Cedar Bluff monitor meets these criteria for this facility. This determination includes consideration of the regional emission profiles influencing the monitor and the characteristics of the airshed surrounding the monitor (i.e., rural vs. urban, etc.). The monitor selected for use in the NGP ambient impact analysis is located at a site that is characteristic of air quality across a broad region, including the area where NGP is expected to be located. The Cedar Bluff site is adequate to be used in developing a reasonable, worst case estimate of the air quality impacts. The Cedar Bluff site, as is expected for Reno County, meets the NAAQS for ozone.

Figure 3 shows isopleths of H1H impacts for annual NO_2. Figure 4 shows isopleths of H1H impacts for 1-hour NO_2 (Tier 1, Scenario 1 analysis, which had the highest impacts). Figure 5 shows isopleths of H1H impacts for 8-hour CO. Figure 6 shows isopleths of H1H impacts for 1-hour CO. Figure 7 shows isopleths of H1H impacts for annual $PM_{2.5}$. Figure 8 shows isopleths of H1H impacts for 24-hour $PM_{2.5.}$

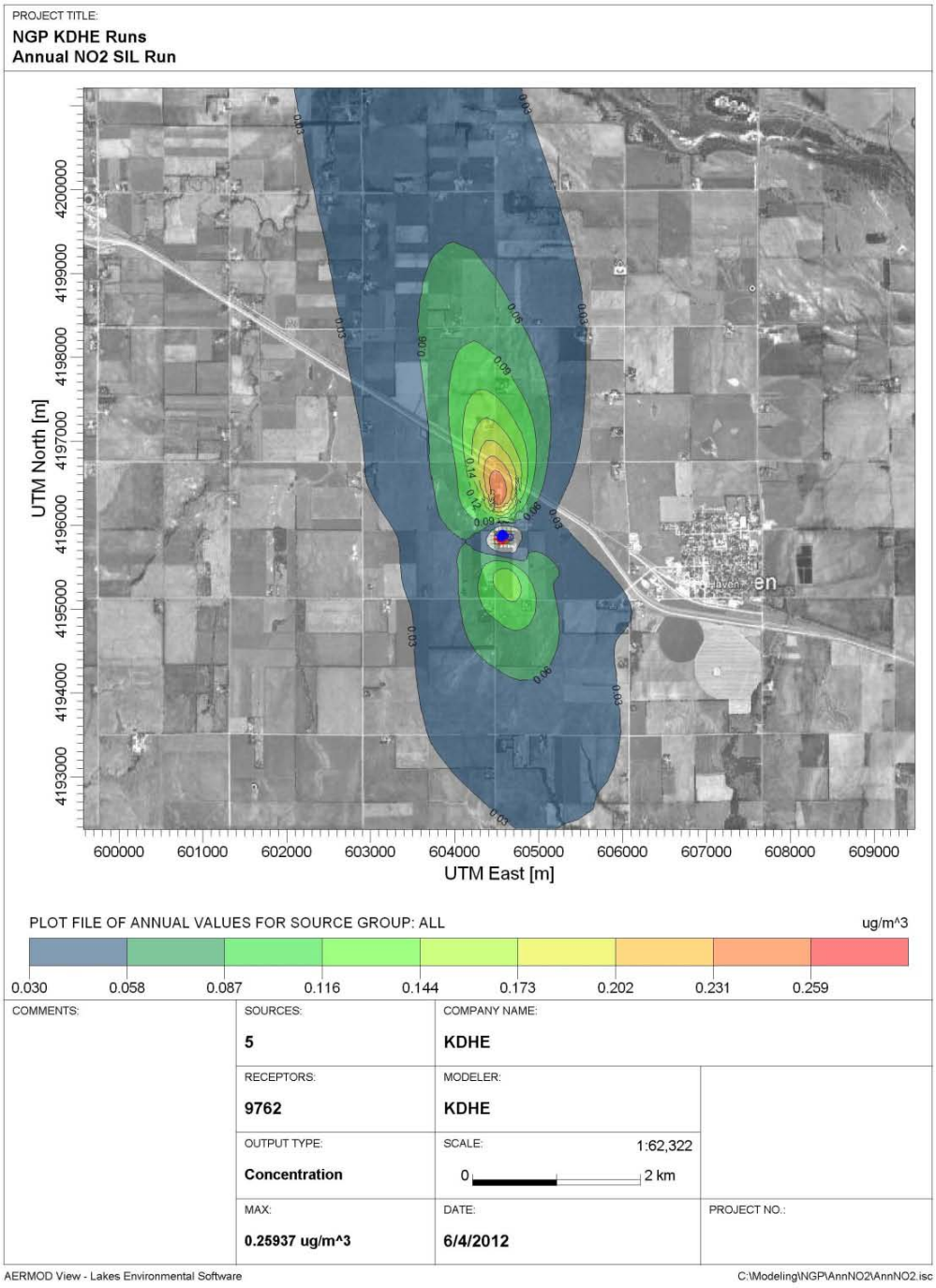

Figure 3. SIL Modeling Isopleths for Annual NO_2

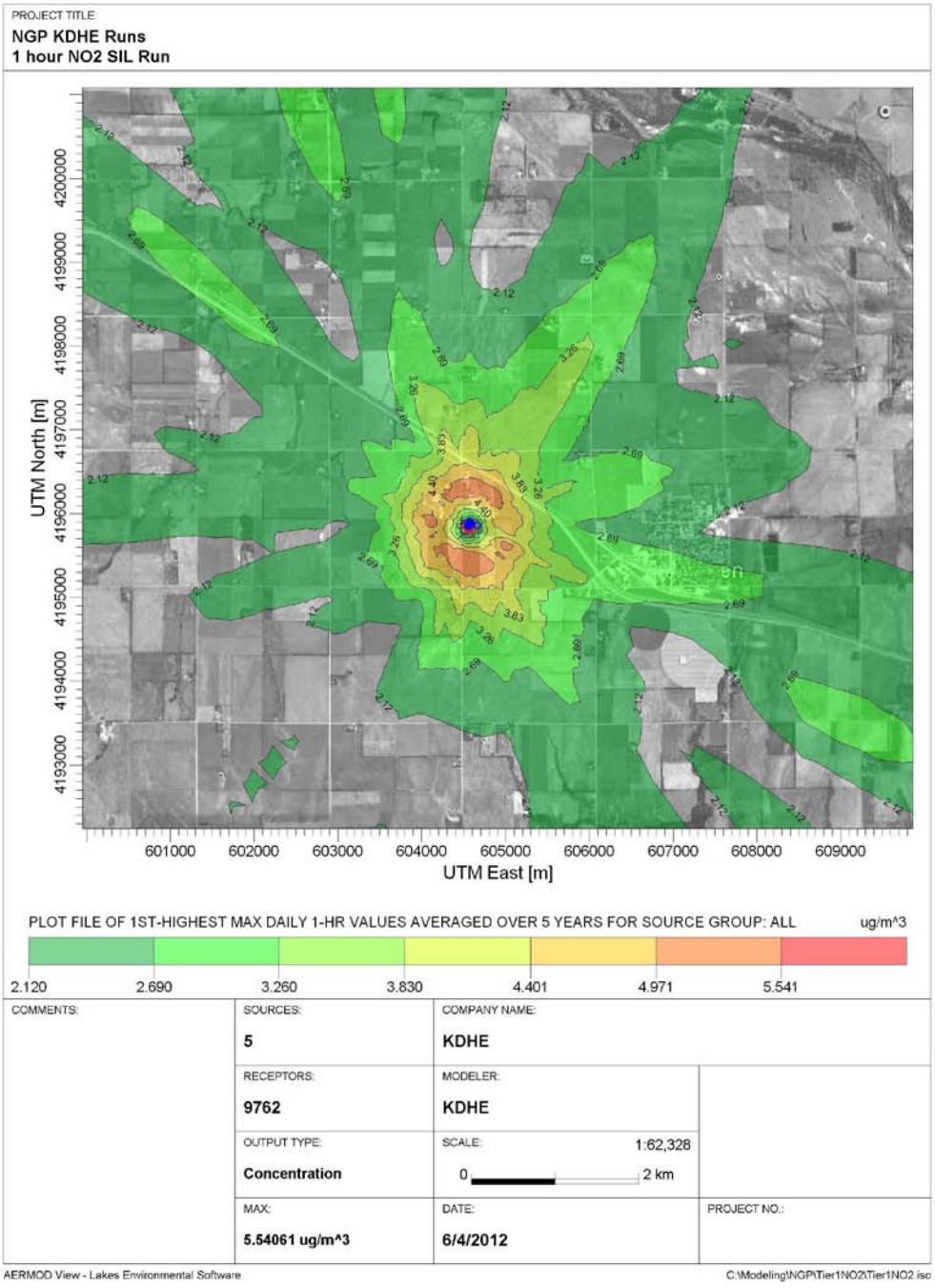

Figure 4. SIL Modeling Isopleths for 1-hour NO_2

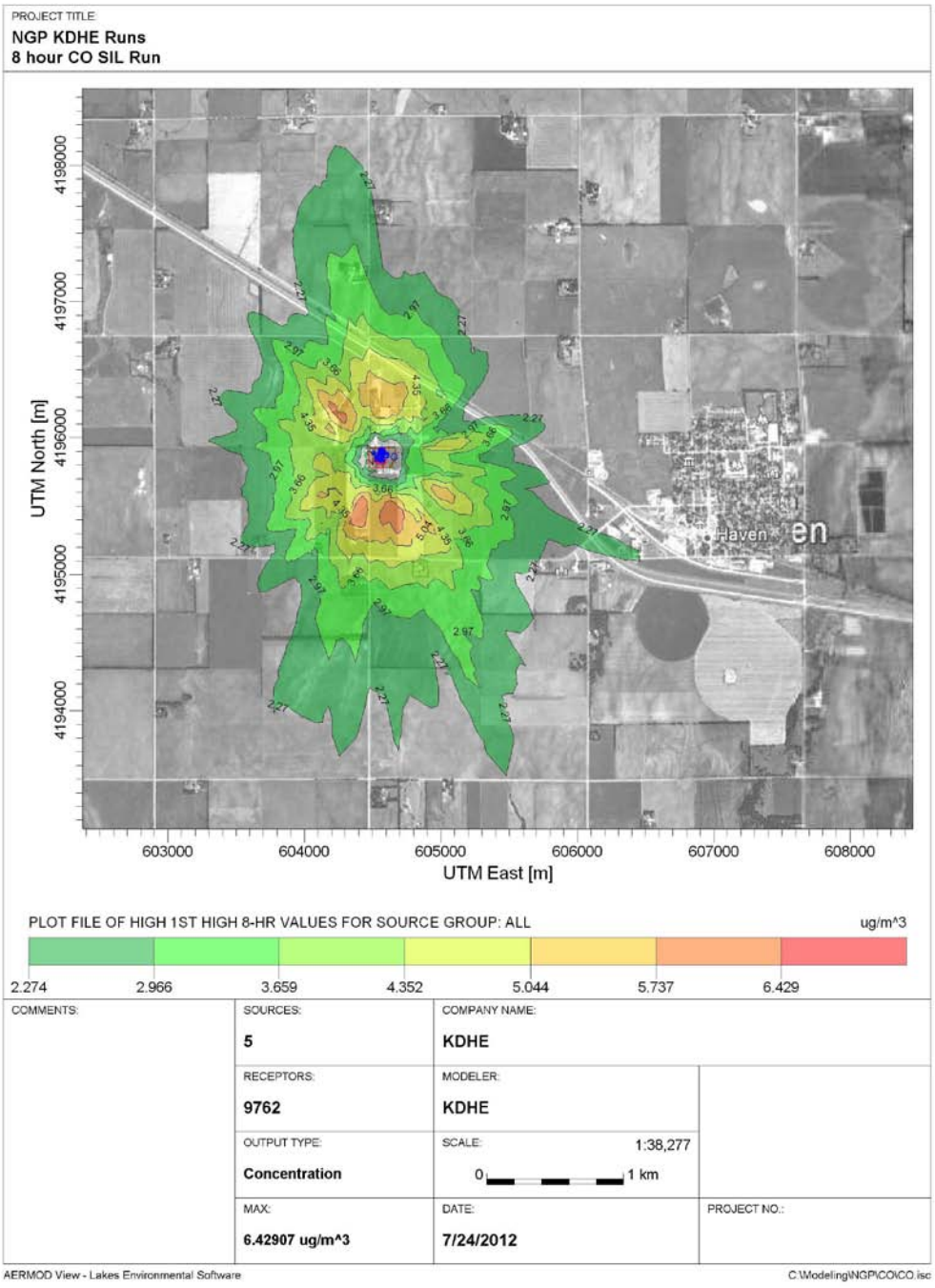

Figure 5. SIL Modeling Isopleths for 8-hour CO

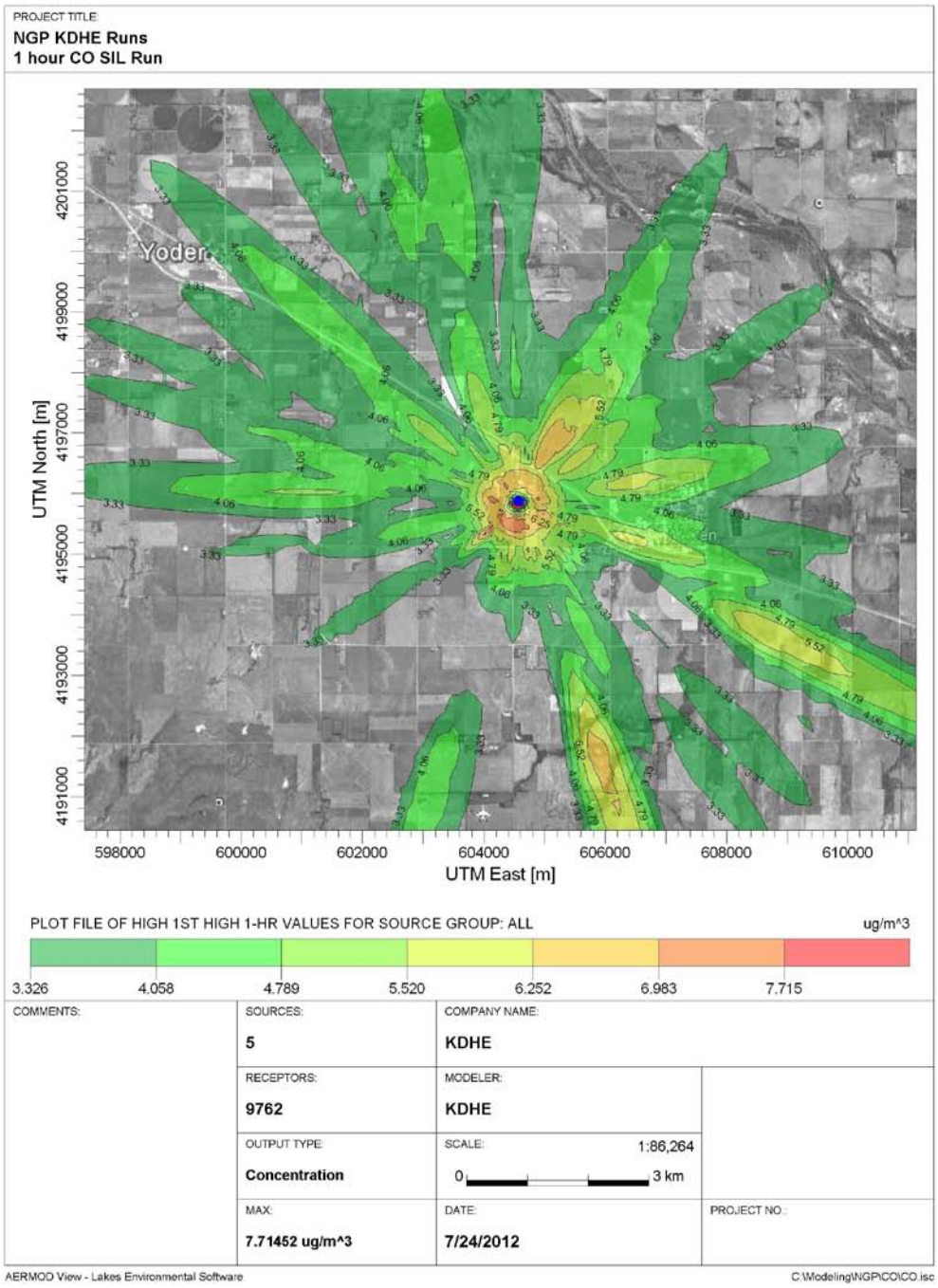

Figure 6. SIL Modeling Isopleths for 1-hour CO

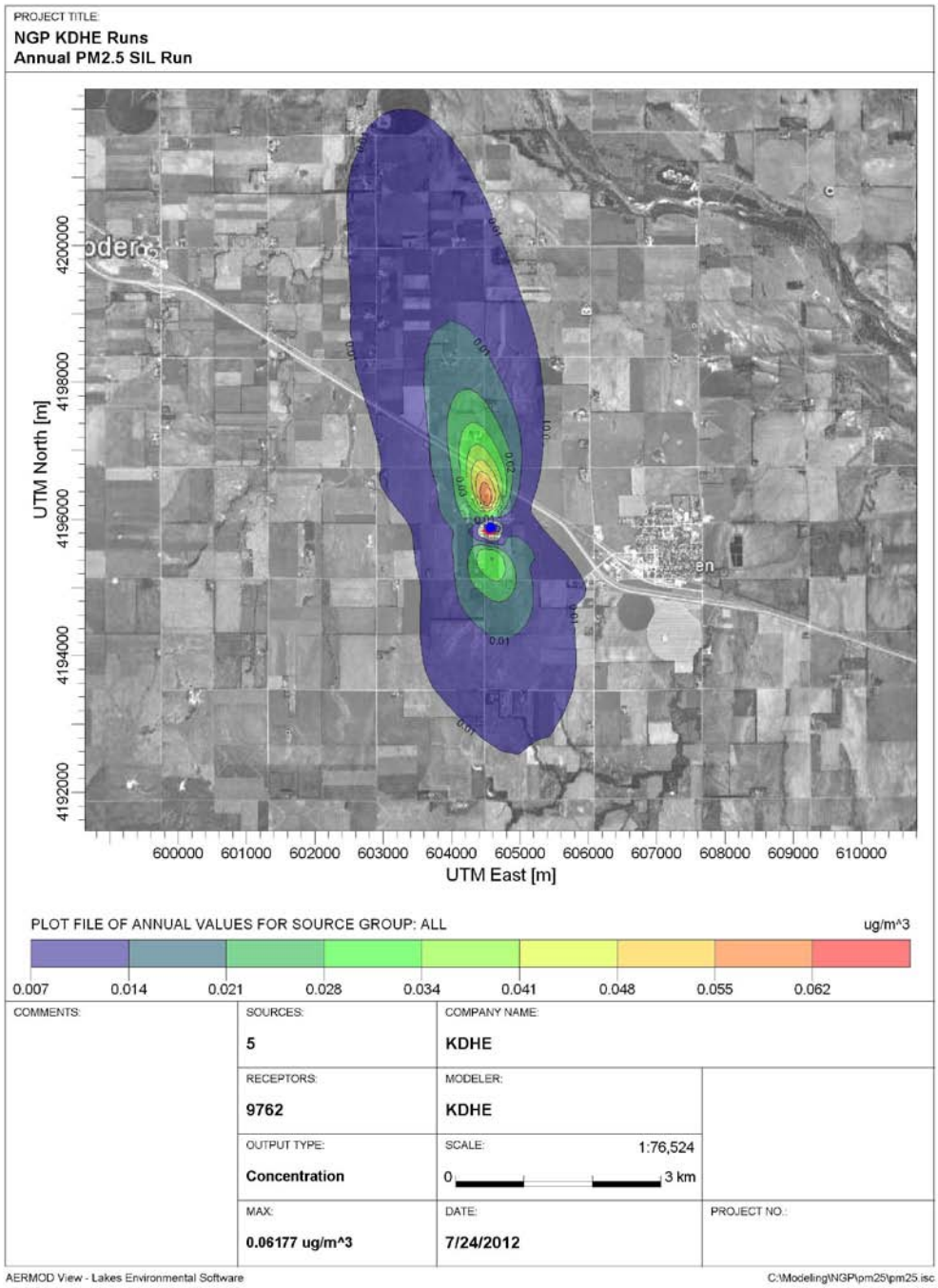

Figure 7. SIL Modeling Isopleths for Annual $PM_{2.5}$

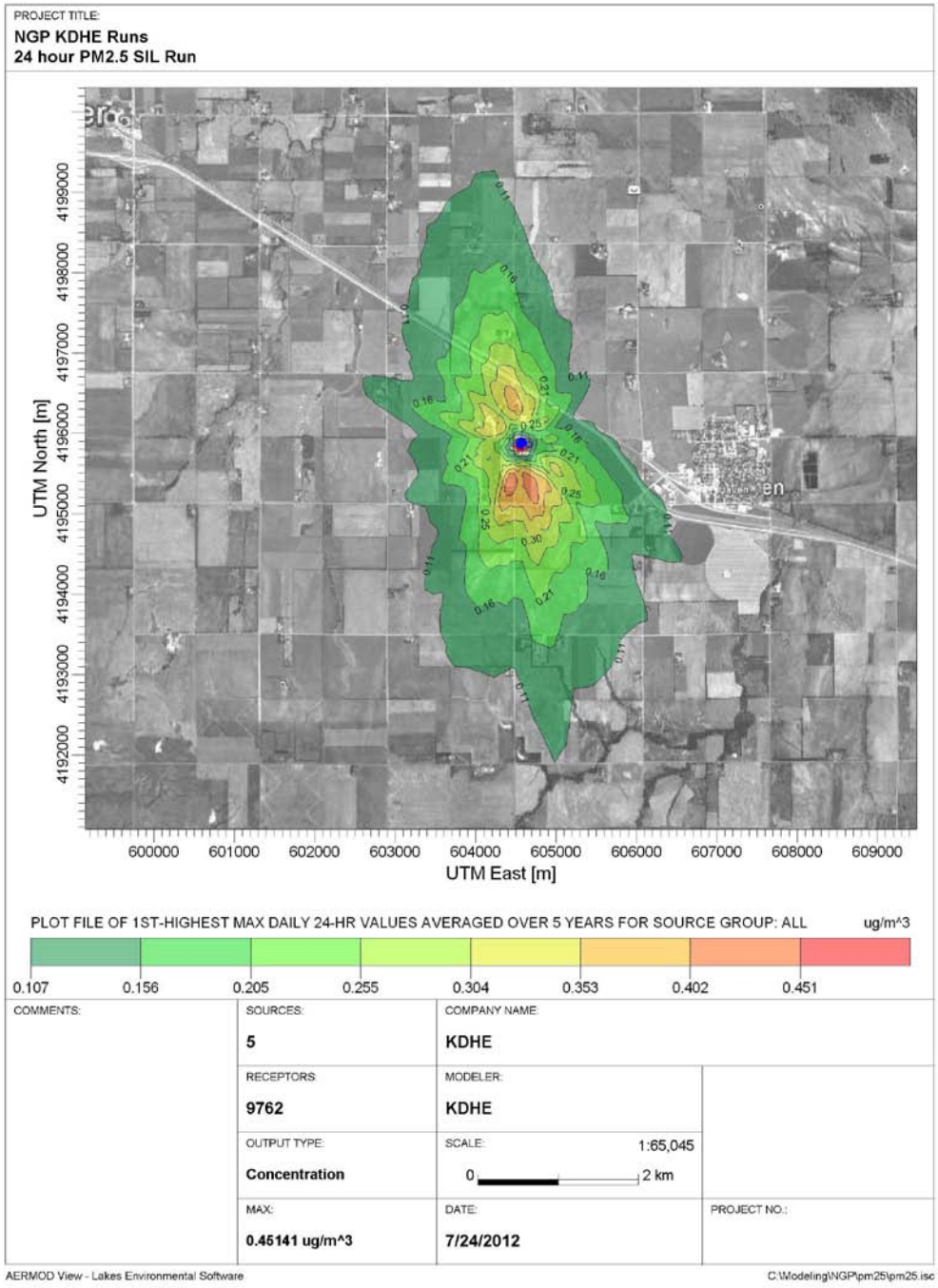

Figure 8. SIL Modeling Isopleths for 24-hour $PM_{2.5}$

VII. Refined/NAAQS Modeling Analysis

The full impact (refined) modeling analysis and/or ambient air monitoring are not required for the proposed facility. The modeled ambient impacts from the proposed project are less than the respective SILs, therefore no further cumulative analysis is required. KDHE considers this to be a sufficient demonstration that the project does not cause or contribute to a violation of the NAAQS.

VIII. PSD Increment Analysis

Since refined modeling was not required, preliminary modeling results were used to demonstrate that the allowable increments were not exceeded for each pollutant and averaging period. The contributions from the proposed project were modeled. The HIH concentration was used for comparison with each pollutant and averaging period. The results are summarized in Table 5:

Table 5. Proposed NGP Facility Increment Consumption

Pollutant	Averaging Period	Modeled Concentration ($\mu g/m^3$)	Class II Increment ($\mu g/m^3$)	% of Increment
NO_2	Annual (H1H)	0.33	25	1.3
$PM_{2.5}$	Annual (H1H)	0.08	4	2.0
	24-hour (H1H)	0.58	9	6.4

EPA has not established a 1-hour Class II maximum allowable increment for NO_2 or CO. Therefore, no calculation of the potential consumption of such increment is possible.

The analyses indicated that concentration levels of all pollutants resulting from the proposed project would comply with applicable PSD Class II increments.

IX. Additional Impact Analysis

In accordance with 40 CFR 52.21(o)(1) and (o)(2), the owner shall provide an analysis of the impairment to visibility, soils and vegetation that would occur as a result of this project and to what extent the emissions from the proposed construction impacts the general commercial, residential, industrial and other growth.

A. Visibility Impacts

NGP conducted a visibility impact analysis for the NO_x and particulate matter emissions from the proposed construction. The facility used the document *"Workbook for Plume Visual Impact Screening Analysis (October, 1992)* and the EPA approved dispersion modeling procedure "VISCREEN" for guidance. The closest Federal Class I Area is the Hercules Glades Wilderness in southwestern Missouri that is located approximately 445 km (277 miles) southeast of the proposed Haven Gas Plant.

The VISCREEN model is designed to determine whether a plume from a facility may be visible from a given vantage point. The primary variables that affect whether a plume is visible or not at a certain location are the quantity of emissions, the types of emissions, the relative location of the emission source and the observer, and the background visibility range.

VISCREEN Level 1 screening analysis was conducted for Hercules Glades Wilderness area. The results indicate that there are no exceedances of the screening criteria inside or outside of the Hercules Glades Wilderness area. Therefore, no additional visual impact screening is required. The results summary and output data for this Class I area are included in Appendix B of the PSD construction permit application.

NGP also did a visibility impact analysis for a local Class II area. They selected the Haven High School, which is approximately three (3) miles from the proposed Haven Gas Plant. The VISCREEN Level 2 analysis results submitted by NGP indicate that there are no exceedances of the screening criteria inside or outside of Class II area. The results summary and output data for this local Class II area are included in Appendix B of the updated PSD construction permit application submitted on September 13, 2012.

B. Soils and Vegetation Impacts

Air pollutants can affect vegetation through direct absorption through the foliage, or uptake from the soil of trace elements deposited in the soil. The effects of air pollution on vegetation can include visible damage to foliage and fruit, changes in metabolic function, adverse changes in plant activity, and crop yield reduction. The effects of air pollutants on vegetation fall into three categories: acute (short

exposure to high concentration), chronic (lower concentration over months or years), and long term (abnormal changes to ecosystems and physiological alterations in organisms that occur gradually over very long time periods).

NGP has conducted an analysis to determine the potential impairment to soils and vegetation that may occur as a result of the proposed Haven Gas Plant. The analysis relied upon the EPA's guidance document*"A Screening Procedure for Impacts of Air Pollution Sources on Plants, Soils, and Animals (December, 1980)"*and the NAAQS to evaluate the potential impacts on soil and vegetation. Table 14-6 of the updated PSD construction permit application submitted by NGP on September 13, 2012 shows the comparison of EPA vegetation sensitivity screening concentrations to the HIH modeled impacts of the proposed Haven Gas Plant. Since the HIH modeled concentrations are well below the sensitivity screening concentration, NGP anticipates that the impacts of the proposed project to soils and vegetation, as well as to animals, will be negligible.

C. Growth Analysis

The construction phase of the proposed project will require numerous temporary construction jobs. Industrial growth is not expected to increase significantly in the area due to the construction of the facility. The operation of the facility will require approximately 10 employees, some of which are anticipated to be hired from the local area. Therefore, the air quality impact attributed to residential growth will be negligible due to small number of employees transferring into the local area in relation to the existing population base. Similarly, associated growth in commercial business and industrial support will be minimal due to close proximity to a large area of commercial and industrial sources of goods and services.

X. Conclusions

The results of the modeling analysis are summarized in Section 14.0, Appendix A, and Appendix B of the PSD construction permit application received by KDHE on April 19, 2012 and in several updates received on May 14, 2012 (alternate modeling scenarios for Tier 3 modeling analysis), May 29, 2012 (Tier 1, Scenario 1 modeling results), May 31, 2012 (Tier 1, Scenario 2 modeling results), June 11, 2012 (Class II are Level 1 VISCREEN analysis results), June 26, 2012 (Class II are Level 2 VISCREEN analysis results), and September 13, 2012 (updated PSD construction permit application).

The modeled impacts for the proposed facility fall below the modeling SIL for the annual and 1-hour NO_2; 8-hour and 1-hour CO; and annual and 24-hour $PM_{2.5}$ averaging periods. Therefore, the full impact (refined) modeling analysis and/or ambient air monitoring are not required. The PSD increment analysis indicates that concentration levels of all pollutants resulting from the proposed project would comply with applicable PSD Class II increments.

The visibility analysis results submitted by NGP indicate that there are no exceedances of the screening criteria, therefore, no adverse impact on visibility from the proposed project. The modeled concentrations from the proposed project are well below the vegetation sensitivity screening concentration and NAAQS, NGP anticipates that the impacts to soils and vegetation, as well as to animals, from the proposed project will be negligible. Similarly, the associated growth in residential, commercial business, and industrial activity are anticipated to be neglible.

KDHE concludes that NGP sufficiently demonstrated that the proposed project does not cause or contribute to a violation of the NAAQS or PSD increment; has no adverse impact on visibility; and has negligible impacts on vegetation and soils, as well as on residential, commercial, and industrial growth.