AMERICAN SYNTHETIC RUBBER COMPANY

STRATEGIC TOXIC AIR REDUCTION (STAR) ENVIRONMENTAL ACCEPTABILITY DEMONSTRATION

Prepared for:

American Synthetic Rubber Company
4500 Camp Ground Road
Louisville, KY 40216

Prepared by:

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500 West Jefferson, Suite 1600
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May 12, 2017

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Report Basis:

The analysis presented in this report is based on emissions information, previous modeling inputs, and other data furnished to AECOM by ASRC and/or third parties. AECOM has relied on this information as furnished, and is neither responsible for nor has confirmed the accuracy of this information. The data, site conditions and other information used is generally applicable as of May 2017, and the conclusions of this report are therefore applicable only to that time frame.

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1.0 Introduction / Summary

1.1 Background

American Synthetic Rubber Company (ASRC) requested that AECOM update its previous Revised Strategic Toxic Air Reduction (STAR) Environmental Acceptability Demonstration for 2013 and 2014 (September 17, 2015) ("2015 Report").[1] In conjunction with ASRC's ongoing evaluation, ASRC has implemented actions to reduce fugitive emissions. Due to these actions, ASRC has achieved significant reduction in fugitive emissions over the past two years. ASRC is confident that these reductions will be maintained and improved upon.

As a result, ASRC has informed AECOM that it is withdrawing its previous request to modify the environmental acceptability goal applicable to emissions of all toxic air contaminants from all processes on industrial property. ASRC is continuing to request a modification of the environmental acceptability goal applicable to emissions of an individual toxic air contaminant from an individual process on non-industrial property for emissions of 1,3-butadiene for emissions from the Flare on the same basis as that modification was originally requested in the *Request for Modification of the EA Goal Applicable to a Single Process for a Single TAC: Flare and Plant-Wide Fugitive Emissions* (June 30, 2007). That request was conditionally approved by the Louisville Metro Air Pollution Control District (District) in 2008. ASRC is submitting a revised request for modification of the environmental acceptability goals applicable to emissions of an individual toxic air contaminant from an individual process on industrial and non-industrial property for fugitive emissions of 1,3-butadiene.

Therefore, ASRC requested that AECOM update its air dispersion modeling based on limited acrylonitrile (AN) and 1,3 butadiene (BD) fugitive emissions, and other minor changes (discussed below). This Report presents the results of AECOM's analysis and modeling efforts to address that request, and serves as ASRC's revised environmental acceptability demonstration in accordance with District Regulation 5.21.

For this latest air dispersion modeling analysis, AECOM used the modeling files for its 2015 Report as the starting point. Before the 2015 Report, previous ASRC modeling had been performed on a piecemeal basis. That is, when new modeling was performed, only the new information was modeled and the results of that new modeling were added to the previous modeling results. For this Report, AECOM performed comprehensive modeling of all facility emissions subject to STAR.

1.2 Modeling Approach Summary

AECOM gathered information from the previous air dispersion modeling, conducted a quality assurance review of that information with both ASRC and the District, and merged the model inputs (with corrections where needed) into a comprehensive site-wide model. The vast majority of the model inputs and emissions were unchanged from previous modeling. All the specific changes to the model

[1] The 2015 Report addressed calendar year 2013 and 2014 toxic air contaminant (TAC) emissions from the Louisville facility to demonstrate compliance with the District's STAR Program environmental acceptability (EA) goals. (That report was prepared by the wholly owned AECOM subsidiary URS; however, AECOM is now the official name of the company.)

inputs or risk estimation approach are detailed in Section 2.0 of this Report, but it is worth highlighting the more significant changes.

1. The 2015 risk modeling for 1,3 butadiene fugitive emissions was based on 2013 actual emissions of 6994.6 pounds. The PTE emissions scenarios used actual fugitive emissions because it is not possible to estimate a PTE for fugitive leaks from piping and other components subject to the Leak Detection and Repair program. District policy recognizes the indeterminate nature of a PTE for fugitive emissions and allows use of actual fugitive emissions or a requested limit in STAR environmental acceptability demonstrations. Due to ongoing actions implemented by ASRC, fugitive emissions have been significantly reduced from 2013 levels. Accordingly, ASRC is requesting an annual limit on fugitive emissions of 1,3 butadiene of 4,694 pounds, which has been used in this modeling. This limit results in modeled cumulative cancer risk from all TACs/all process on both industrial and non-industrial property below the STAR environmental acceptability (EA) goals applicable to emissions of all TACs from all processes on both industrial and non-industrial property.

2. Similarly, previous modeling of acrylonitrile fugitive emissions was based on 2013 actual emissions. To allow for yearly variability in actual fugitive emissions in the future, and to keep modeled cumulative cancer risk from all TAC/all process on both industrial and non-industrial property below the EA goals, ASRC is requesting an annual limit on fugitive emissions of acrylonitrile of 295 pounds, which has been used in this modeling.

1.3 QUASAR for Cumulative Cancer Risk Evaluation

STAR requires cumulative risk reporting for emissions of all toxic air contaminants (TACs) from all processes; however, emissions of some TACs from some processes have their point of maximum impact at different locations than emissions of other TACs from other processes. Consequently, summing the maximum impact for each TAC is overly conservative and results in reporting a higher than actual cumulative risk. Instead, the AECOM QUASAR method[2], which requires conducting an additional air dispersion modeling run for a surrogate "risk emission" from each emission source, determines the actual cumulative risk at every individual receptor. Therefore, it can identify the actual location and risk level associated with the maximum cumulative risk. AECOM used the QUASAR method of risk modeling to determine the maximum cumulative risk for the emissions of all TACs from all processes at ASRC.

The risk-adjusted emission rates (lb/hr / $\mu g/m^3$) modeled using the QUASAR approach are presented in the emissions tables in Appendix B.

1.4 Summary of Results

STAR environmental acceptability for stack emissions[3] for each individual TAC/individual process was evaluated based on maximum potential to emit of the TAC/process. STAR environmental

[2] A detailed explanation of the QUASAR methodology is presented in AECOM's March 16, 2006 APCD Workshop #2 presentation: "*URS Tier 4 Aggregate Risk Modeling – "QUASAR"-Quantitative URS Approach to STAR Aggregate Risk*".

[3] Stack emissions include un-captured emissions of styrene from Finishing Line 7 based upon PTE and 90% capture efficiency.

acceptability for fugitive emissions of each individual TAC was evaluated based on the requested annual emission limit for that TAC.

Significant conservativeness is built into the health risk assessment process by use of several overlapping layers of conservative assumptions. As a result, actual risks to public health are expected to be significantly less than the worst-case assessment process used to demonstrate compliance with the EA goals. Additional information about the conservative nature of the analysis is presented in Section 4.0.

The complete results of all the STAR modeling are presented in Section 4.0 of this Report. Table 1.1 highlights the key results, including the maximum cancer risk on both industrial and non-industrial property for comparison to the following EA goals:

- Cumulative Cancer Risk - All TACs from all processes (facility wide risk);
- Cumulative Cancer Risk - All TACs from all new and modified processes; and
- Cancer Risk - Single TAC/single process for the two processes with the highest risk:
  - Flare emissions of 1,3 butadiene; and
  - Plantwide fugitive emissions of 1,3 butadiene.

Table 1.1 Select STAR Modeling Results – Cancer Risks

		EA Goal (EAGc)	Modeled Risk
		Cancer Risk (x 10^{-6})	
All TACs/All Processes	Industrial	75	74.69
All TACs/All Processes	Non-Industrial	7.5	6.02
All TACS/New & Modified Processes	Industrial	38	2.78
All TACS/New & Modified Processes	Non-Industrial	3.8	0.53
Single TAC/Single Process (1,3 Butadiene/Flare)	Industrial	10	3.12
Single TAC/Single Process (1,3 Butadiene/Flare)	Non-Industrial	1	1.93
Single TAC/Single Process (1,3 Butadiene/Piping Fugitives)	Industrial	10	63.36
Single TAC/Single Process (1,3 Butadiene/Piping Fugitives)	Non-Industrial	1	3.04

As highlighted in Table 1.1, the modeling did show exceedances of the EA goals. Specifically:

- The EA Goal for cancer risk for emissions of a single TAC from a single process had modeled exceedances for 1,3 butadiene emissions for two process:
  - Plantwide fugitive emissions at both industrial and non-industrial locations; and
  - Emissions from the Flare at the point of maximum impact on non-industrial locations.

All other estimated maximum risks associated with the modeled ground level concentrations of non-de minimis TACs emitted from the facility are below applicable EA goals.

2.0 Changes for this EA Demonstration

2.1 Model Input Changes

Except as discussed below, the air dispersion model input parameters, including emission rates, source characterization (e.g. point vs volume vs area), air dispersion model, receptor grid, meteorological data, stack parameters (i.e. height, location, exhaust temperature and flowrate), and building parameters used by AECOM were the same as in AECOM's 2015 Report. AECOM confirmed that all TACs emitted in greater than de minimis quantities were included in the model inputs.

Based on our review of the modeling inputs, and consistent with the provisions of the STAR Program, AECOM made the following updates to the model input parameters:

- The rate of fugitive emissions of 1,3 butadiene was set to 4,694 pounds per year consistent with the limit requested by ASRC.
- Emissions of 1,3 butadiene from the Flare/Thermal Oxidizer have been reduced from 1070 pounds per year to 950 pounds per year to reflect the required control efficiency of 99.99%.
- The rate of fugitive emissions of acrylonitrile was set to 295 pounds per year consistent with the limit requested by ASRC.
- All TAC emissions associated with Boilers 3 and 4 have been removed. Previously, these boilers were dual fuel boilers that could burn both fuel oil and natural gas. ASRC has given up the ability to burn fuel oil. As natural gas-only boilers, emissions of all TACs from these boilers are considered de minimis. Regulation 5.21, Section 2.7.
- In 2008, ASRC planned to install a new Finishing Line 7 and proposed replacements for Finishing Lines 1-4. ASRC postponed the replacement of Finishing Lines 1-4 in 2008, but did make some changes to equipment that is controlled by the Flare/Thermal Oxidizer and Flare [Note: The equipment that is controlled is upstream of Finishing Line 5]. While it was conservatively assumed for the 2015 Report that these changes were modifications, it has been confirmed by both ASRC and the District that no modifications were made. Since Category 4 TACs are only required to be modeled for new and modified processes, styrene emissions from existing and unmodified processes/process equipment controlled by the Flare/Thermal Oxidizer and Flare were removed from the model inputs. Therefore, for this updated modeling, only the styrene emissions associated with the new Finishing Line 7 have been included.
- Emissions of sulfuric acid mist, a non-carcinogenic Category 2 TAC, were not addressed in the 2015 Report but have been included in this Report. (Sulfuric acid mist had been included in a modeling report submitted to the District before 2015). AECOM modeled the maximum allowed emissions of 1.73 pounds per hour of sulfuric acid mist for this Report.
- Previous modeling reports had assumed that emissions of hydrochloric acid (HCl) from the coal boilers were de minimis. Upon further review, it was determined that maximum

potential controlled emissions of HCl, a non-carcinogenic Category 2 TAC, are not de minimis. AECOM modeled the maximum potential controlled emissions of 2.17 pounds per hour of HCl for this Report.

- Upon a close review of the non-industrial receptor grid, it became apparent that the grid was originally generated by creating a receptor grid with 100 meter spacing starting from the center of the facility. Receptors that were on industrial property were then removed. This is an acceptable method for generating a receptor grid. But, it meant that a few receptors along the nearest non-industrial property to the south of the facility were approximately 80 meters further from the facility than the actual edge of the non-industrial property. Therefore, in accordance with accepted good modeling practice, AECOM added an additional row of receptors to better capture the nearest edge of non-industrial property.

3.0 Information on TACs Not Required To Be Evaluated

AECOM reviewed the list of TACs previously modeled to determine if any were emitted in quantities below the TAC-specific de minimis threshold. AECOM determined that the following TACs had been included in previous modeling, but are emitted in quantities below the TAC-specific de minimis threshold from each emitting process (coal boilers) based on maximum potential to emit: lead[4], benzene, bromoform, chloroform, hydrogen fluoride, trivalent chromium, and methylene chloride. See Appendix B.

The STAR Category 2 TACs cobalt and manganese are also emitted by the coal boilers; however, neither was reported in the 2006 TRI. See Appendix C. In accordance with Regulation 4.14.1, Group 1 sources, such as ASRC, may exclude emissions of Category 2 TACs from existing sources from their EA demonstrations if the TAC was not reported to EPA in the 2006 TRI. Therefore, AECOM did not include these TACs in the air dispersion modeling runs for this Report.

[4] The current Title V permit includes a combined limit of 0.00114 pounds of lead per hour from both boilers. This equates to 9.9864 pounds per year. These values are below the de minimis values of 0.043 pound per hour and 38.4 pounds per year, respectively. Therefore, lead emissions from the coal boilers are de minimis.

4.0 Model Setup and Inputs

Modeling Methodology

Air dispersion modeling is a mathematical estimation of impacts from emissions sources within a given area. Several factors affect the concentration and transportation of pollutants in the atmosphere, including meteorological conditions, site configuration, emission release characteristics, and surrounding terrain. For this modeling analysis, the latest version of ISCST3 was used. This is a "Tier 4" model, as defined by the STAR Program. Regulation 5.22.

ISCST3 is an air dispersion model that incorporates concepts such as planetary boundary layer theory and the emissions of contaminants from multiple sources/buildings simultaneously. The latest version of ISCST3 also incorporates the Plume Rise Model Enhancements (PRIME) building downwash algorithms, which provide a more realistic handling of downwash effects than previous approaches. All model options were set to regulatory standard "default."

Source Inputs

There are three different types of sources at the ASRC facility that were used in the modeling analysis for the non-de minimis sources: point, volume and area sources. Other than as described in Section 2.0, all source parameters came from the previous 2015 modeling files, and are summarized in Table A-1 in Appendix A.

Modeling of potential to emit, both for individual TACs and cumulatively, was based on the maximum annual TAC emissions for each point source and the requested limits for fugitive emissions. The specific emissions rates entered into the model (in units of pounds per hour) were provided by ASRC and are summarized in Table B-1 in Appendix B.

Receptor Grid

The modeling was performed using two separate receptor grids. One was set up to find the maximum impact to compare with the industrial EA goals and the second was set up to find the maximum impact to compare with the non-industrial EA goals. The industrial receptor grid used for this modeling is exactly the same as used in ASRC's previous modeling, while the non-industrial receptor grid is exactly the same except for the addition of a few more receptors as described above. The industrial receptor grid has "fenceline" receptor spacing every 20 meters and receptors in the area immediately surrounding the facility's property boundary every 20 meters. The non-industrial receptor grid, which begins at some distance out from the facility, has receptor spacing radiating out from the facility spaced approximately every 100 meters.

Meteorological Data

This modeling analysis used the same surface and upper air meteorological data as that used in previous modeling and originally obtained from the District. This data is posted on District's website for this purpose (five years of data from 1990 through 1994).

Building Downwash

The latest version of U.S. EPA's Building Profile Input Program (BPIP) was used to determine building downwash parameters for the modeling analysis. Figure A-1 in Appendix A shows a diagram of the source locations, the facility fence line, and the building orientations for reference. Table A-2 in Appendix A contains a summary of the building heights and tiers used in the model.

Terrain

This modeling analysis assumes flat, non-elevated terrain as specified by the STAR modeling guidance from the District. This is a reasonable description of the area immediately surrounding the ASRC facility.

5.0 Modeling Results

5.1 Modeled Exceedances

This section compares the modeling results (µg/m^3) and health risk (Rc and HQ) to the EA goals. The results show maximum impacts that are below most of the EA goals. The modeled emissions that exceed the EA goals are summarized in Table 4.1.

Table 4.1 – STAR Goals with Modeled Exceedances

STAR Program Goal		EA Goal (EAGc)	Modeled Risk
		Cancer Risk (x 10^{-6})	
Single TAC/Single Process (1,3 Butadiene/Flare)	Non-Industrial	1	1.93
Single TAC/Single Process (1,3 Butadiene/Fugitive Emissions)	Industrial	10	63.36
Single TAC/Single Process (1,3 Butadiene/Fugitive Emissions)	Non-Industrial	1	3.04

All other estimated maximum impacts associated with the modeled ground level concentrations of non-de minimis TACs emitted from the facility are below the applicable EA goals, and are fully detailed in the tables in Appendix D.

The maximum modeled ambient impacts and risks presented in this Report are for the points of highest impact. Impacts typically dissipate quickly as one moves away from the point of maximum concentration. For example, the above indicated increased cancer risk of 63.36 x 10^{-6} for 1,3 butadiene fugitive emissions on industrial property is located at a single point on the northern fenceline of the facility (near the Flare Thermal Oxidizer). Figure 4.1 below shows this point of maximum impact (red circle) and also shows constant risk isopleths from this risk modeling run. Modeled risks above the EA goal of 10 x 10^{-6} only extend approximately 200 meters beyond the fenceline. The total area above the EA goal is small. Similarly, the areas with modeled risks above the EA goal of 1 x 10^{-6} on non-industrial property are relatively small as shown in Figures 4.2 and 4.3.

Figure 4.1 ASRC 1,3 Butadiene Fugitive Emission Risk - Industrial

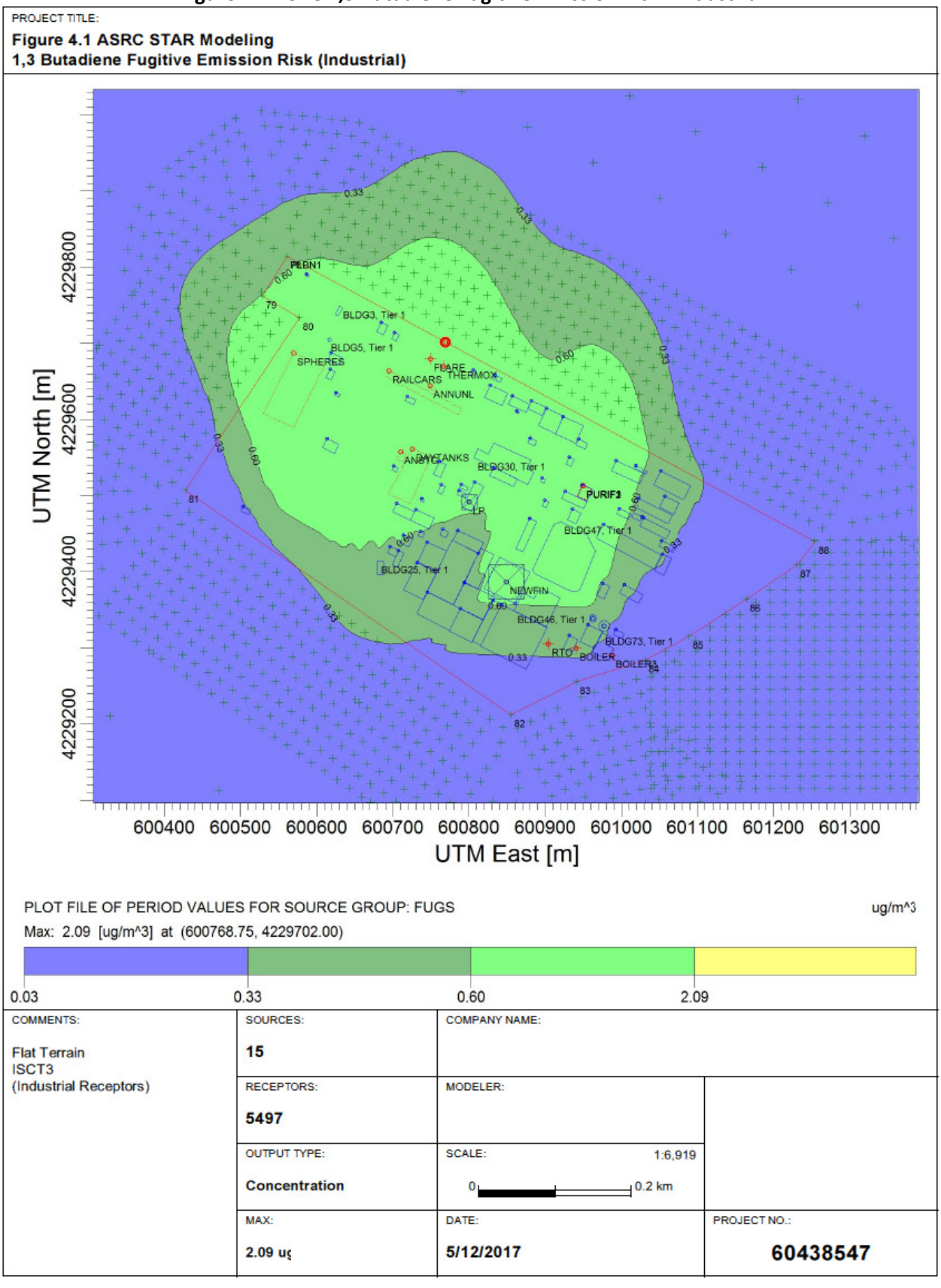


Figure 4.2 ASRC 1,3 Butadiene Fugitive Emission Risk – Non-Industrial

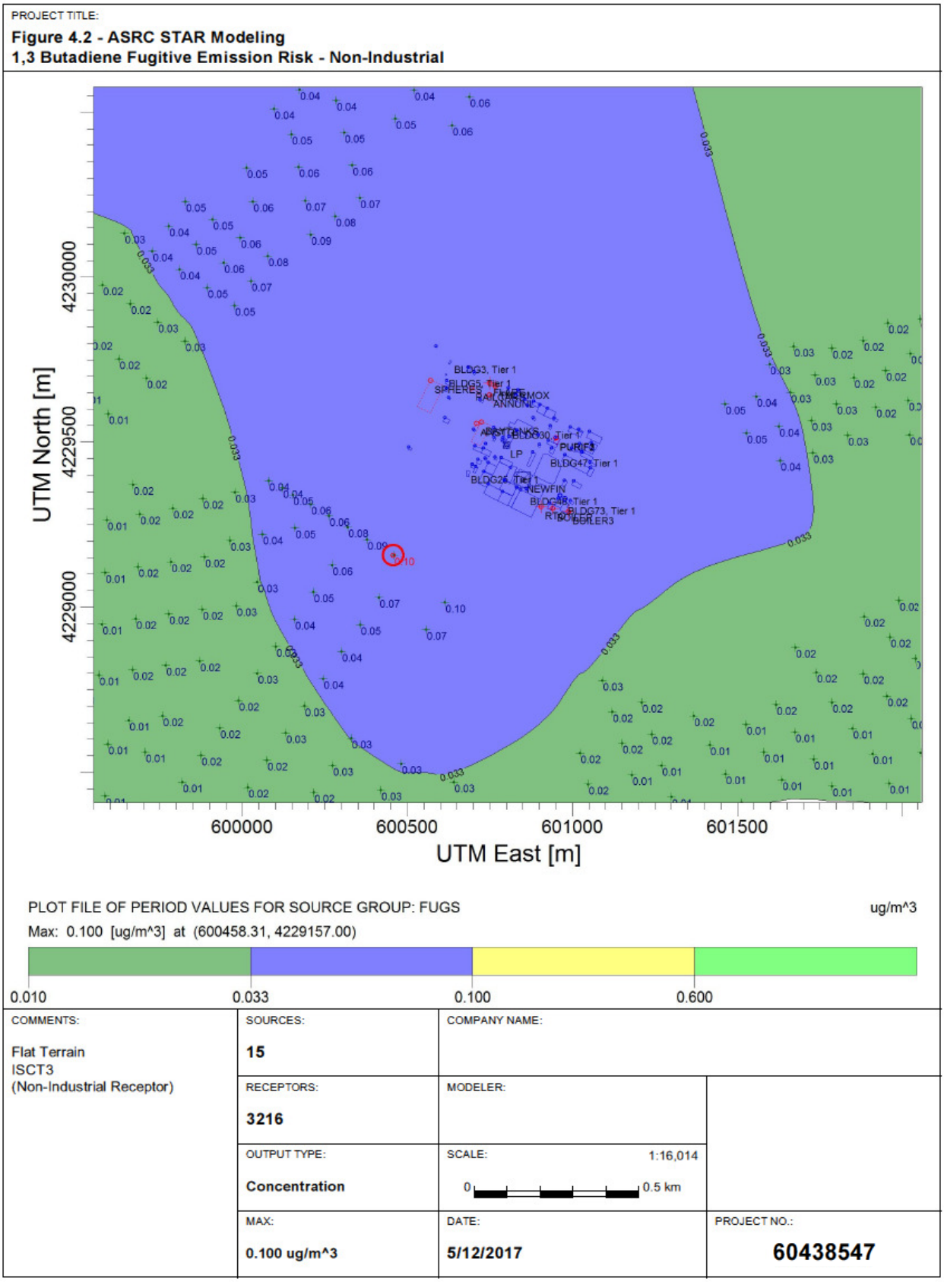
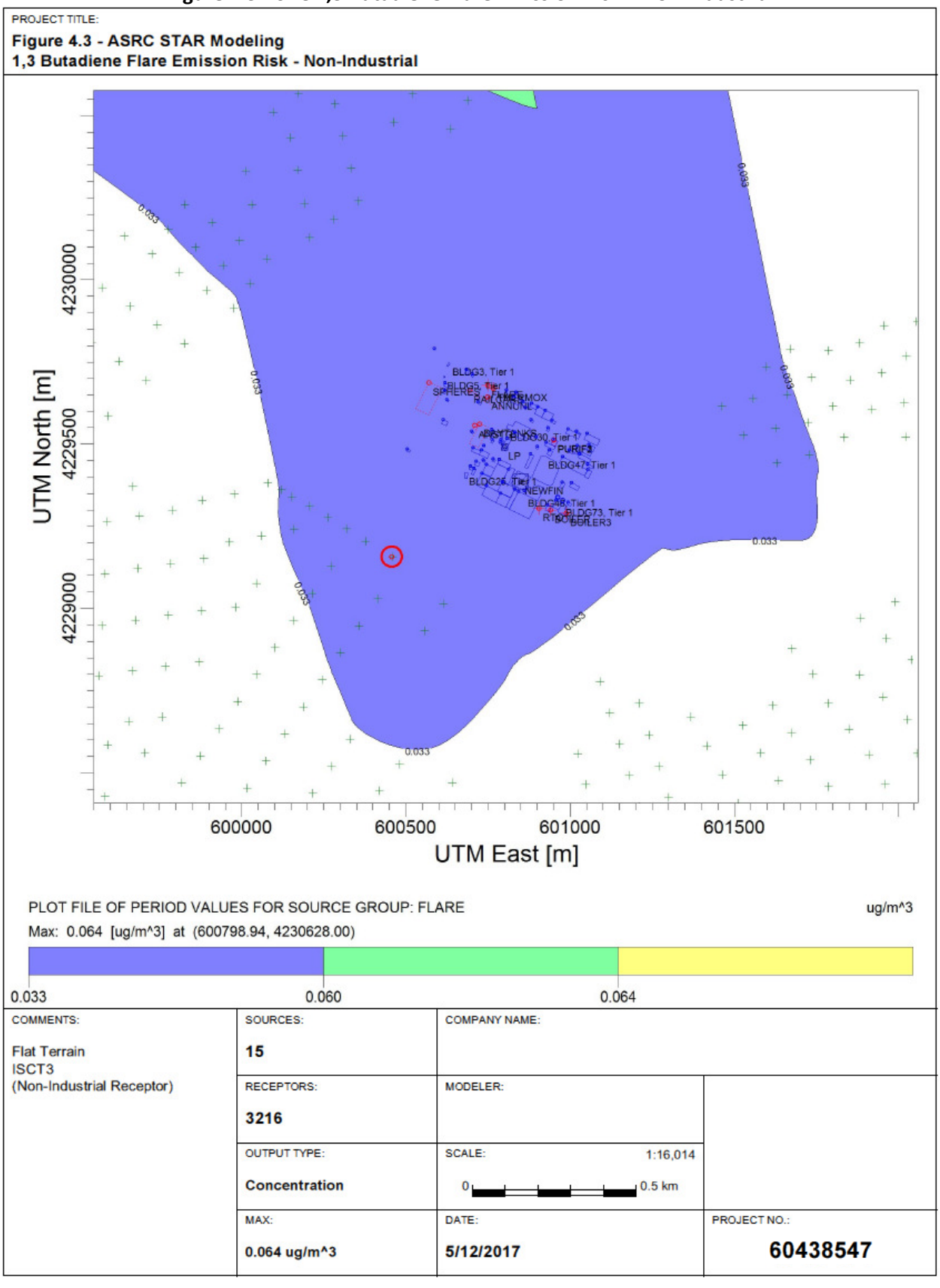


Figure 4.3 ASRC 1,3 Butadiene Flare Emission Risk – Non-Industrial



5.2 Detailed Results Summary Tables

Appendix D contains tables detailing the modeling results for emissions of non-de minimis TACs and cumulative risk for both industrial and non-industrial property. For each process, the tables contain (moving from left to right across the table):

- Source ID and Stack Description;
- The maximized emissions in units of pounds per year (not included for cumulative risk);
- The UTM coordinates (location) where the model indicates the maximum annual average ground-level concentration occurs;
- The maximum annual average ground-level concentration (not applicable for cumulative risk);
- The calculated "screening" level cancer risk (R_C – based on BAC_C) in units of 1 in a million (1 x 10^{-6}) and corresponding maximum Health Quotient (HQ – based on BAC_{NC}) for both industrial and non-industrial property; and
- The TAC specific Benchmark Ambient Concentration (BAC) for carcinogenic effects (BAC_C) and non-carcinogenic effects (BAC_{NC}).

The applicable EA goals (EAGs) listed in the tables are specified in Regulation 5.21 Sections 3.1, 3.6.1, and 3.6.2. In summary, these EAGs are:

1. EAG_C (compared to R_C) for single process/single TAC equals:
   - On industrial and roadway property, 10.0;
   - On non-industrial/non-roadway property, 1.0
2. EAG_{NC} (compared to HQ) for single process/single TAC equals:
   - On industrial and roadway property, 3.0;
   - On non-industrial/non-roadway property, 1.0
3. EAG_{NC} (compared to HQ) for all processes/single TAC equals:
   - On industrial and roadway property, 3.0;
   - On non-industrial/non-roadway property, 1.0
4. EAG_C (compared to RC) for all processes/all TACs equals:
   - On industrial and roadway property, 75;
   - On non-industrial/non-roadway property, 7.5
5. EAG_C (compared to RC for all new or modified processes/all TACs equals:
   - On industrial and roadway property, 38;
   - On non-industrial/non-roadway property, 3.8.

The tables in Appendix D show that the estimated maximum risks associated with the modeled ground level concentrations of all TAC emissions from the ASRC non-de minimis processes are below the EAGs except as noted in Section 4.1.

5.3 Conservative Nature of Results

The actual risks to public health are expected to be significantly less than the worst-case assessment used to demonstrate compliance with the EA goals described in this Report. Significant

conservativeness is built into the health risk assessment process. This modeling is based on maximized emissions that were calculated based on the best available engineering and test data, and several overlapping layers of conservative assumptions. The results are not indicative of the facility's actual emissions. Actual emissions from the facility are anticipated to be substantially lower than the emissions modeled in this Report.

Additionally, to account for scientific uncertainty about the cancer risk estimates for exposure to low concentrations of toxic compounds, EPA uses conservative assumptions expected to reflect the "upper bounds" of possible risk in developing the factors used to estimate the risk associated with a given modeled concentration. Actual risk, at the exposures presented in this study, is likely to be less than presented in this Report.

Another important consideration is the human exposure assumptions. Most of the risks are chronic risks, such as cancer, that require long-term exposure. One would not expect to get cancer from a single day, or even a single year of exposure to the maximum concentrations determined by the modeling described in this Report. The chronic risk estimates presented in this Report conservatively assume that an individual is continuously exposed at the point of maximum ground-level impact from the facility for a period of 70 continuous years. This is obviously a conservative assumption.

Appendix A

Source Parameters

Table A-1
Source Parameters

Point Source

Source ID	Description	X Coord. [m]	Y Coord. [m]	Base Elevation [m]	Release Height [m]	Gas Exit Temperature [K]	Gas Exit Velocity [m/s]	Inside Diameter [m]
THERMOX	Thermal Oxidizer	600766.72	4229669.56	128	18.29	1088.71	2.86	1.83
BOILER	COAL FIRED BOILERS - 2	600940.69	4229299.22	128	53.34	341.483	18.288	2.21
RTO	RTO	600904.4	4229305.41	128	15.24	372.594	13.106	2.438
FLARE	RAILCAR AREA	600749.39	4229679.63	128	64.38	1273	20	0.457

Volume Sources

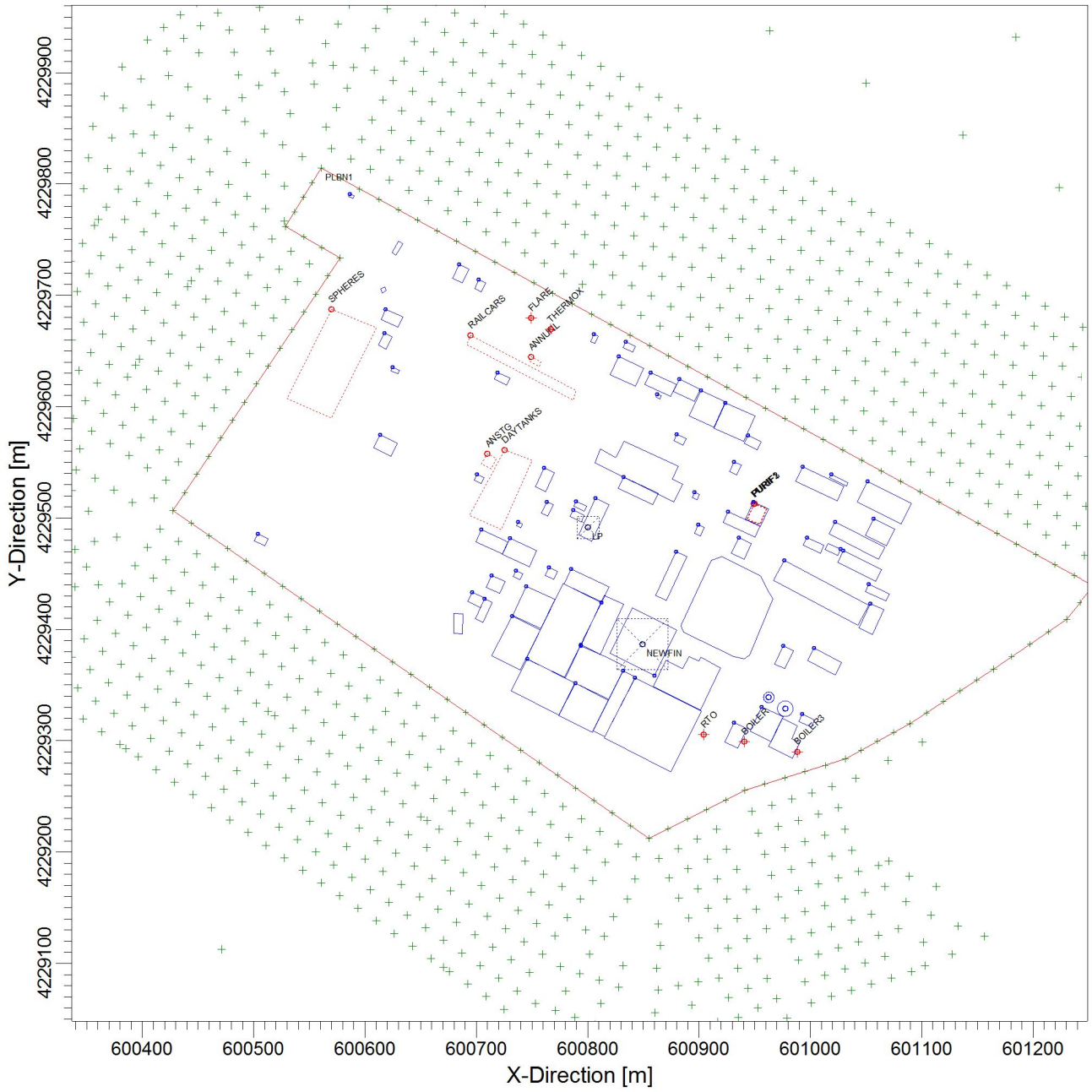
Source ID	Description	X Coord. [m]	Y Coord. [m]	Base Elevation [m]	Release Height [m]	Side Length [m]	Initial Lateral Dimension [m]	Initial Vertical Dimension [m]
LP	VOLUME SOURCE - LIQUID POLYMER	600800.26	4229491.5	128	9.14	19.999	4.65	13.95
NEWFIN	New Finishing	600834.81	4229366.23	128	18.29	45.679	10.62	4.96

Area Poly Sources

Source ID	Description	X Coord. [m]	Y Coord. [m]	Base Elevation [m]	Release Height [m]	Initial Vertical Dimension [m]	No. Vertices (or sides)
DAYTANKS	TANK FARM	600725.23	4229561.35	128	1	1.42	4
PURIF1	PURIFICATION	600949.27	4229512.69	128	1.52	6.38	4
PURIF2	PURIFICATION	600949.5	4229513	128	4.57	6.38	4
PURIF3	PURIFICATION	600949.95	4229513.18	128	7.62	6.38	4
SPHERES	BD SPHERE AREA	600569.79	4229687.41	128	2	3.54	4
RAILCARS	RAILCAR AREA	600694.81	4229664	128	1	1.42	4
ANNUNL	Acrylonitrile Unloading	600749.11	4229644.62	128	1	1	4
ANSTG	Acrylonitrile Storage	600710.02	4229557.75	128	1	1	4

PROJECT TITLE:

ASRC STAR Modeling
Figure A-1 Sources and Buildings



COMMENTS:	SOURCES: **15**		
	RECEPTORS: **5117**		
		SCALE: 1:5,740 0 0.2 km	
			PROJECT NO.: **60438547**

AERMOD View - Lakes Environmental Software

Table A-2

ASRC Star Modeling

BPIP (Dated: 04274)

DATE : 9/ 2/2015
TIME : 12:10:59
ASRC Star Modeling

Number of buildings to be processed : 77

BLDG1 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER COORDINATES X	Y
BLDG1	1	1	3.05	4		
					600702.26	4229714.26 meters
					600708.44	4229711.37 meters
					600704.62	4229703.19 meters
					600698.44	4229706.07 meters

BLDG2 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER COORDINATES X	Y
BLDG2	1	2	5.18	4		
					600684.49	4229727.62 meters
					600693.21	4229723.56 meters
					600687.38	4229711.07 meters
					600678.66	4229715.13 meters

BLDG3 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER COORDINATES X	Y
BLDG3	1	3	4.57	4		
					600630.18	4229748.74 meters
					600634.01	4229746.11 meters
					600627.90	4229735.93 meters
					600624.16	4229738.29 meters

BLDG4 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER COORDINATES X	Y
BLDG4	1	4	4.57	4		
					600586.50	4229791.07 meters
					600590.22	4229789.57 meters
					600589.16	4229786.95 meters
					600585.44	4229788.45 meters

BLDG5 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG5	1	5	4.57	4			
						600614.05	4229706.09 meters
						600618.14	4229707.39 meters
						600619.17	4229704.28 meters
						600615.57	4229702.03 meters

BLDG6 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG6	1	6	6.10	4			
						600618.68	4229687.62 meters
						600633.81	4229680.57 meters
						600629.55	4229671.44 meters
						600614.43	4229678.49 meters

BLDG7 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG7	1	7	4.57	4			
						600617.48	4229666.00 meters
						600624.30	4229662.52 meters
						600618.81	4229651.75 meters
						600611.99	4229655.22 meters

BLDG8 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG8	1	8	4.57	4			
						600625.00	4229635.39 meters
						600631.05	4229632.56 meters
						600629.62	4229629.48 meters
						600623.57	4229632.30 meters

BLDG9 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG9	1	9	4.57	4			
						600613.62	4229574.59 meters
						600629.02	4229567.08 meters
						600623.38	4229555.50 meters
						600607.97	4229563.01 meters

BLDG10 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG10	1	10	4.57	4			
						600503.57	4229485.99 meters
						600513.25	4229481.48 meters
						600510.25	4229475.04 meters
						600500.57	4229479.56 meters

BLDG11 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG11	1	11	4.57	4			
						600719.09	4229630.74 meters
						600730.24	4229625.54 meters
						600727.49	4229619.64 meters
						600716.34	4229624.83 meters

BLDG12 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG12	1	12	4.57	4			
						600700.81	4229539.16 meters
						600706.85	4229536.34 meters
						600704.34	4229530.96 meters
						600698.30	4229533.78 meters

BLDG13 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG13	1	13	4.57	4			
						600805.64	4229665.18 meters
						600809.53	4229663.36 meters
						600806.40	4229656.64 meters
						600802.50	4229658.46 meters

BLDG14 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG14	1	14	3.05	4			
						600834.17	4229658.26 meters
						600843.04	4229654.13 meters
						600840.60	4229648.89 meters
						600831.73	4229653.02 meters

BLDG15 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG15	1	15	6.71	4			
						600827.83	4229645.13 meters
						600850.49	4229634.56 meters
						600842.91	4229618.31 meters
						600820.25	4229628.88 meters

BLDG16 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG16	1	16	6.10	4			
						600760.92	4229545.05 meters
						600770.06	4229540.79 meters
						600762.16	4229523.86 meters
						600753.03	4229528.12 meters

BLDG17 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG17	1	17	4.57	4			
						600763.27	4229514.66 meters
						600769.05	4229511.96 meters
						600764.29	4229501.76 meters
						600758.51	4229504.45 meters

BLDG18 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG18	1	18	4.57	4			
						600737.56	4229496.58 meters
						600741.45	4229494.77 meters
						600739.82	4229491.28 meters
						600735.93	4229493.09 meters

BLDG19 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG19	1	19	4.57	4			
						600730.11	4229481.95 meters
						600754.29	4229470.68 meters
						600747.53	4229456.18 meters
						600723.35	4229467.46 meters

BLDG20 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG20	1	20	4.57	4			
						600704.69	4229489.62 meters
						600728.38	4229478.57 meters
						600723.29	4229467.66 meters
						600699.60	4229478.70 meters

BLDG21 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG21	1	21	4.57	4			
						600735.81	4229452.77 meters
						600741.72	4229450.01 meters
						600739.15	4229444.50 meters
						600733.24	4229447.26 meters

BLDG22 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG22	1	22	6.10	4			
						600713.70	4229448.50 meters
						600725.79	4229442.86 meters
						600720.85	4229432.25 meters
						600708.76	4229437.89 meters

BLDG23 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG23	1	23	4.57	4			
						600696.41	4229433.33 meters
						600707.68	4229428.07 meters
						600703.73	4229419.59 meters
						600692.45	4229424.85 meters

BLDG24 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG24	1	24	4.57	4			
						600707.43	4229427.55 meters
						600714.41	4229424.30 meters
						600705.89	4229406.03 meters
						600698.91	4229409.29 meters

BLDG25 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG25	1	25	4.57	4			
						600679.70	4229414.59 meters
						600688.01	4229413.84 meters
						600687.37	4229395.98 meters
						600679.88	4229396.38 meters

BLDG26 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG26	1	26	5.49	4			
						600856.55	4229630.85 meters
						600879.78	4229620.02 meters
						600874.70	4229609.14 meters
						600851.47	4229619.97 meters

BLDG27 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG27	1	27	3.96	4			
						600882.13	4229624.62 meters
						600901.12	4229615.76 meters
						600896.11	4229605.00 meters
						600877.11	4229613.86 meters

BLDG28 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG28	1	28	4.57	4			
						600862.65	4229611.43 meters
						600866.28	4229609.74 meters
						600864.96	4229606.92 meters
						600861.34	4229608.61 meters

BLDG29 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG29	1	29	5.18	4			
						600880.11	4229575.19 meters
						600888.43	4229571.32 meters
						600885.68	4229565.41 meters
						600877.36	4229569.29 meters

BLDG30 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER X	COORDINATES Y
BLDG30	1	30	8.53	9		
					600806.75	4229549.66 meters
					600811.37	4229561.88 meters
					600825.24	4229554.16 meters
					600825.44	4229554.90 meters
					600832.65	4229569.12 meters
					600881.31	4229546.58 meters
					600876.06	4229534.97 meters
					600885.33	4229530.65 meters
					600877.36	4229514.29 meters

BLDG31 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER X	COORDINATES Y
BLDG31	1	31	15.54	4		
					600832.10	4229536.82 meters
					600863.31	4229522.26 meters
					600858.48	4229511.91 meters
					600827.27	4229526.46 meters

BLDG32 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER X	COORDINATES Y
BLDG32	1	32	9.14	4		
					600789.63	4229515.08 meters
					600799.15	4229510.64 meters
					600796.99	4229506.01 meters
					600787.47	4229510.45 meters

BLDG33 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER X	COORDINATES Y
BLDG33	1	33	9.14	4		
					600786.89	4229507.04 meters
					600797.02	4229502.32 meters
					600794.38	4229496.64 meters
					600784.24	4229501.37 meters

BLDG34 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER X	COORDINATES Y
BLDG34	1	34	9.14	4		
					600807.17	4229517.76 meters
					600818.99	4229512.25 meters
					600803.58	4229479.22 meters
					600791.77	4229484.73 meters

BLDG35 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG35	1	35	5.79	4			
						600765.08	4229455.65 meters
						600773.14	4229451.89 meters
						600769.82	4229444.78 meters
						600761.76	4229448.53 meters

BLDG36 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG36	1	36	9.14	4			
						600785.00	4229454.02 meters
						600819.14	4229438.09 meters
						600812.78	4229424.46 meters
						600778.64	4229440.38 meters

BLDG37 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG37	1	37	10.39	4			
						600745.02	4229438.83 meters
						600770.40	4229427.00 meters
						600758.13	4229400.69 meters
						600732.75	4229412.52 meters

BLDG38 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG38	1	38	9.02	4			
						600812.42	4229424.24 meters
						600779.56	4229356.86 meters
						600744.89	4229373.77 meters
						600777.75	4229441.15 meters

BLDG39 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG39	1	39	5.55	4			
						600732.03	4229412.06 meters
						600757.50	4229399.08 meters
						600739.33	4229363.42 meters
						600713.86	4229376.40 meters

BLDG40 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG40	1	40	7.50	4			
						600745.57	4229373.52 meters
						600788.51	4229351.64 meters
						600774.00	4229323.16 meters
						600731.06	4229345.04 meters

BLDG41 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG41	1	41	5.55	4			
						600788.91	4229351.52 meters
						600818.76	4229336.31 meters
						600804.01	4229307.35 meters
						600774.15	4229322.56 meters

BLDG42 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG42	1	42	5.55	4			
						600794.11	4229386.08 meters
						600833.80	4229366.72 meters
						600819.25	4229336.90 meters
						600779.56	4229356.26 meters

BLDG43 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG43	1	43	8.53	4			
						600793.87	4229385.42 meters
						600814.95	4229430.64 meters
						600832.49	4229422.46 meters
						600811.41	4229377.24 meters

BLDG44 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG44	1	44	5.91	4			
						600831.76	4229362.73 meters
						600842.75	4229357.13 meters
						600815.43	4229303.51 meters
						600804.44	4229309.12 meters

BLDG45 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG45	1	45	5.94	4			
						600842.42	4229356.76 meters
						600902.19	4229326.30 meters
						600874.58	4229272.11 meters
						600814.80	4229302.57 meters

BLDG46 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG46	1	46	14.23	8			
						600859.00	4229348.60 meters
						600869.99	4229371.93 meters
						600885.45	4229364.79 meters
						600890.92	4229375.50 meters
						600900.03	4229371.39 meters
						600901.91	4229374.95 meters
						600919.45	4229365.48 meters
						600901.32	4229327.51 meters

BLDG47 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG47	1	47	3.05	11			
						600920.73	4229465.63 meters
						600955.14	4229447.99 meters
						600962.78	4229432.61 meters
						600966.48	4229427.41 meters
						600945.65	4229376.86 meters
						600940.82	4229373.72 meters
						600931.40	4229375.67 meters
						600886.42	4229397.51 meters
						600883.88	4229402.99 meters
						600884.45	4229404.57 meters
						600911.13	4229461.77 meters

BLDG48 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG48	1	48	9.14	4			
						600879.60	4229470.00 meters
						600888.98	4229465.62 meters
						600870.44	4229425.86 meters
						600861.06	4229430.23 meters

BLDG49 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG49	1	49	10.06	4			
						600935.59	4229482.42 meters
						600947.04	4229477.08 meters
						600940.53	4229463.13 meters
						600929.09	4229468.47 meters

BLDG50 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG50	1	50	3.05	4			
						600899.44	4229494.13 meters
						600904.87	4229491.59 meters
						600901.33	4229484.00 meters
						600895.90	4229486.53 meters

BLDG51 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG51	1	51	3.05	4			
						600896.16	4229523.10 meters
						600900.47	4229521.09 meters
						600898.25	4229516.34 meters
						600893.94	4229518.35 meters

BLDG52 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG52	1	52	13.72	4			
						600926.15	4229505.85 meters
						600954.86	4229492.46 meters
						600950.38	4229482.85 meters
						600921.67	4229496.24 meters

BLDG53 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG53	1	53	5.27	4			
						600948.90	4229514.66 meters
						600962.49	4229508.32 meters
						600955.16	4229492.58 meters
						600941.56	4229498.92 meters

BLDG54 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG54	1	54	5.36	4			
						600931.54	4229550.57 meters
						600938.00	4229547.56 meters
						600933.83	4229538.61 meters
						600927.36	4229541.62 meters

BLDG55 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG55	1	55	5.79	4			
						600901.61	4229614.52 meters
						600923.82	4229604.16 meters
						600913.25	4229581.51 meters
						600891.05	4229591.86 meters

BLDG56 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG56	1	56	8.53	4			
						600923.62	4229603.59 meters
						600950.29	4229591.71 meters
						600940.12	4229568.87 meters
						600913.45	4229580.75 meters

BLDG57 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG57	1	57	8.53	4			
						600944.04	4229574.08 meters
						600955.93	4229568.53 meters
						600952.56	4229561.30 meters
						600940.66	4229566.84 meters

BLDG58 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG58	1	58	6.10	4			
						600993.18	4229545.96 meters
						601030.19	4229528.70 meters
						601024.03	4229515.48 meters
						600987.02	4229532.74 meters

BLDG59 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER X	COORDINATES Y
BLDG59	1	59	6.22	4		
					601022.28	4229496.56 meters
					601066.81	4229473.87 meters
					601061.31	4229463.07 meters
					601016.78	4229485.76 meters

BLDG60 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER X	COORDINATES Y
BLDG60	1	60	4.27	4		
					601051.62	4229532.92 meters
					601091.00	4229512.86 meters
					601081.72	4229494.64 meters
					601042.34	4229514.70 meters

BLDG61 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER X	COORDINATES Y
BLDG61	1	61	4.11	4		
					601018.67	4229539.47 meters
					601033.99	4229531.66 meters
					601032.38	4229528.51 meters
					601017.07	4229536.31 meters

BLDG62 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER X	COORDINATES Y
BLDG62	1	62	4.11	4		
					601057.03	4229499.45 meters
					601075.94	4229490.23 meters
					601068.60	4229475.18 meters
					601049.69	4229484.41 meters

BLDG63 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER X	COORDINATES Y
BLDG63	1	63	4.57	4		
					601029.68	4229470.51 meters
					601063.91	4229453.82 meters
					601058.73	4229443.18 meters
					601024.49	4229459.88 meters

BLDG64 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG64	1	64	3.20	4			
						601027.15	4229472.05 meters
						601024.52	4229466.41 meters
						601013.26	4229471.66 meters
						601015.89	4229477.31 meters

BLDG65 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG65	1	65	3.96	4			
						600997.04	4229482.65 meters
						601012.22	4229475.58 meters
						601008.94	4229468.54 meters
						600993.76	4229475.62 meters

BLDG66 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG66	1	66	5.03	4			
						601052.67	4229440.38 meters
						601071.03	4229431.82 meters
						601068.02	4229425.37 meters
						601049.66	4229433.93 meters

BLDG67 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG67	1	67	7.01	4			
						600976.54	4229462.11 meters
						601052.53	4229421.71 meters
						601042.86	4229403.52 meters
						600966.87	4229443.92 meters

BLDG68 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG68	1	68	3.41	4			
						601054.05	4229423.17 meters
						601065.94	4229417.63 meters
						601055.67	4229395.61 meters
						601043.79	4229401.15 meters

BLDG69 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG69	1	69	3.05	4			
						601003.49	4229383.19 meters
						601028.23	4229370.04 meters
						601022.24	4229358.77 meters
						600997.50	4229371.92 meters

BLDG70 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG70	1	70	3.05	4			
						600975.62	4229385.00 meters
						600984.81	4229380.71 meters
						600977.29	4229364.57 meters
						600968.10	4229368.86 meters

BLDG71 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG71	1	71	15.24	4			
						600992.79	4229324.05 meters
						601003.90	4229318.86 meters
						601000.78	4229312.16 meters
						600989.66	4229317.34 meters

BLDG72 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG72	1	72	15.24	4			
						600956.09	4229330.45 meters
						600975.42	4229321.44 meters
						600965.16	4229299.44 meters
						600945.84	4229308.45 meters

BLDG73 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER	COORDINATES X	Y
BLDG73	1	73	15.24	7			
						600974.43	4229320.27 meters
						600975.00	4229319.96 meters
						600988.44	4229313.39 meters
						600983.25	4229301.63 meters
						600990.48	4229298.79 meters
						600983.91	4229283.90 meters
						600962.37	4229294.76 meters

BLDG74 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER COORDINATES X	Y
BLDG74	1	74	15.24	4		
					600931.46	4229316.27 meters
					600943.07	4229310.86 meters
					600934.98	4229293.53 meters
					600923.38	4229298.94 meters

BLDG75 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER COORDINATES X	Y
BLDG75	1	75	15.24	8		
					600977.46	4229335.75 meters
					600972.52	4229333.71 meters
					600970.48	4229328.77 meters
					600972.52	4229323.84 meters
					600977.46	4229321.79 meters
					600982.39	4229323.84 meters
					600984.44	4229328.77 meters
					600982.39	4229333.71 meters

BLDG76 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER COORDINATES X	Y
BLDG76	1	76	15.24	8		
					600962.68	4229343.68 meters
					600959.30	4229342.28 meters
					600957.90	4229338.90 meters
					600959.30	4229335.52 meters
					600962.68	4229334.12 meters
					600966.06	4229335.52 meters
					600967.46	4229338.90 meters
					600966.06	4229342.28 meters

BLDG 77 has 1 tier(s) with a base elevation of 137.20 METERS

BUILDING NAME	TIER NUMBER	BLDG-TIER NUMBER	TIER HEIGHT	NO. OF CORNERS	CORNER COORDINATES X	Y
BLDG 77	1	77	18.29	4		
					600860.06	4229358.71 meters
					600819.97	4229378.27 meters
					600839.85	4229419.02 meters
					600879.94	4229399.47 meters

Appendix B

Emissions Modeled and Coal Boiler PTE

Table B-1
Potential to Emit

		Acrylonitrile	1,3-BD	Styrene	Arsenic	Cadmium	Hexavalent Chromium	Nickel	Formaldehyde	Sulfuric Acid	HCl	Risk
	BAC_C (ug/m^3):	**0.015**	**0.033**	**1.7**	**0.00023**	**0.00056**	**0.000083**	**0.0038**	**0.077**			
Source ID	**Description**	[lb/hr]	[lb/hr]	[lb/hr]	[lb/hr]	[lb/hr]	[lb/hr]	[lb/hr]	[lb/hr]	[lb/hr]	[lb/hr]	**Risk Emission Rate (lb/hr/ µg/m^3)**
THERMOX	Thermal Oxidizer	0.000019	0.1084									3.28755
FLARE	Flare	0.00434	2.1699									66.04253
BOILER	Coal Fired Boilers - 2			0.05014	7.43E-03	9.24E-04	1.43E-03	5.07E-03	4.35E-03	1.73	2.17	52.61810
RTO	Regen. Therm Oxid.			0.04738								0.02787
LP	Liquid Polymer	0.01515	0.059569									2.81539
NEWFIN	Synthetic Rubber			2.78539								1.63846
DAYTANKS	Tank Farm		0.126671									3.83850
PURIF1	Purification		0.063335									1.91925
PURIF2	Purification		0.063335									1.91925
PURIF3	Purification		0.031664									0.95952
SPHERES	BD Sphere Area		0.063335									1.91925
RAILCARS	Railcar Area		0.127935									3.87683
ACNUNL	Acrylonitrile Unloading	0.00337										0.22453
ACNSTG	Acrylonitrile Storage	0.01515										1.01027
	Total Fugitives lbs/yr:	295.00	4694.0									
	Total Emissions lbs/yr:	333.18	24651.93	24400.00	65.079	8.095	12.540	44.444	38.095	15154.8	19047.385	

Table B-2
Coal Boiler PTE

ASRC CALCULATIONS
COAL FIRED BOILERS - 2

BOILER RATING **212 MMBTU/HR EACH**
COAL HEAT CONTENT **23.4 MMBTU/TON**
COAL USAGE **9.060 TONS/HR EACH**
FF CONTROL EFF **99.80%**
SCRUBBER EFF **90.00% (for HCl and HF abatement)**

	CONTROLLED*		EACH EMISSIONS	TOTAL EMISSIONS			Both Boilers Combined Deminimis	Deminimis
HAP	**FACTOR**	**UNITS**	**LBS/HR**	**LBS/HR**	**G/SEC**	**LBS/YR**	lb/hr	lb/yr
ARSENIC	4.10E-04	lbs/ton	3.71E-03	7.429E-03	9.36E-04	65.079	0.00012	0.11
CADMIUM	5.10E-05	lbs/ton	4.62E-04	9.241E-04	1.16E-04	8.095	0.0003	0.27
CHROMIUM	1.81E-04	lbs/ton	1.64E-03	3.280E-03	4.13E-04	28.730	0.1	109.5
CHROMIUM (VI)	7.90E-05	lbs/ton	7.16E-04	1.431E-03	1.80E-04	12.540	0.000045	0.04
LEAD**	NA	lbs/ton	1.14E-03	1.140E-03	1.44E-04	9.986	0.043	38.4
NICKEL	2.80E-04	lbs/ton	2.54E-03	5.074E-03	6.39E-04	44.444	0.0021	1.82

* - AP-42, TABLE 1.1-18

** - Lead has a combined limit of 0.00114 lb/hr from both furnaces.

	UNCONTROLLED		EACH EMISSIONS	TOTAL EMISSIONS*			Both Boilers Combined Deminimis	Deminimis
HAP	**FACTOR**	**UNITS**	**LBS/HR**	**LBS/HR**	**G/SEC**	**LBS/YR**	lb/hr	lb/yr
HCl	1.20E+00	lbs/ton	1.09E+01	2.174E+00	2.74E-01	19047.385	10.8	9600
HF	1.50E-01	lbs/ton	1.36E+00	2.718E-01	3.42E-02	2380.923	7.56	6720
Formaldehyde	2.40E-04	lbs/ton	2.17E-03	4.349E-03	5.48E-04	38.095	0.042	36.96
Benzene	1.30E-03	lbs/ton	1.18E-02	2.356E-02	2.97E-03	206.347	0.24	216
Bromoform	3.90E-05	lbs/ton	3.53E-04	7.067E-04	8.90E-05	6.190	0.49	436.8
Chloroform	5.90E-05	lbs/ton	5.35E-04	1.069E-03	1.35E-04	9.365	0.023	20.64
Methylene chloride [Dichlor	2.90E-04	lbs/ton	2.63E-03	5.255E-03	6.62E-04	46.031	54	48000

Appendix C

2006 TRI Emissions

ASRC 2006 TRI Reported Emissions

TAC Cat	Facility	Fugitive Air Emissions	Point Source Air Emissions	Total
	AMERICAN SYNTHETIC RUBBER CO.4500 CAMPGROUND RD, LOUISVILLE KENTUCKY 40216 (JEFFERSON)	*170,229*	*479,833*	
1	1,3-BUTADIENE (325 - Chemicals)	2,400	5,960	8,360
4	ACRYLIC ACID (325 - Chemicals)	28	68	96
1	ACRYLONITRILE (325 - Chemicals)	98	5	103
2	AMMONIA (325 - Chemicals)	5	0	5
2	HYDROCHLORIC ACID (1995 AND AFTER "ACID AEROSOLS" ONLY) (325 - Chemicals)	0	11,815	11,815
2	HYDROGEN FLUORIDE (325 - Chemicals)	0	1,477	1,477
2	LEAD COMPOUNDS (325 - Chemicals)	0	15	15
3	MERCURY COMPOUNDS (325 - Chemicals)	0	2	2
4	STYRENE (325 - Chemicals)	380	20,674	21,054
2	SULFURIC ACID (1994 AND AFTER "ACID AEROSOLS" ONLY) (325 - Chemicals)	0	3,810	3,810
4	TITANIUM TETRACHLORIDE (325 - Chemicals)	5	2	7
2	TOLUENE (325 - Chemicals)	167,313	436,005	603,318

Appendix D

Results Tables

2017 Potential to Emit

Table D-1a: Industrial/ Roadway Cumulative Risk Results
ALL SOURCES

Last Updated: 5/12/2017

		Location of Maximum		
Source ID	Stack Description	Easting (m)	Northing (m)	Cumulative Risk (vs 75)
ALL	All Sources	600768.75	4229702	74.69

Table D-1b: Non-Industrial/Non-Roadway (Residential) Cumulative Risk Results
ALL SOURCES

Last Updated: 5/12/2017

		Location of Maximum		
Source ID	Stack Description	Easting (m)	Northing (m)	Cumulative Risk (vs 7.5)
ALL	All Sources	600613.56	4229014.5	6.02

Table D-1c: Industrial/ Roadway Cumulative Risk Results
NEW OR MODIFIED SOURCES ONLY

Last Updated: 5/12/2017

		Location of Maximum		
Source ID	Stack Description	Easting (m)	Northing (m)	Cumulative Risk (vs 38)
RISKNEW	New or Mod Sources	600805.69	4229246.5	2.78

Table D-1d: Non-Industrial/Non-Roadway (Residential) Cumulative Risk Results
NEW OR MODIFIED SOURCES ONLY

Last Updated: 5/12/2017

		Location of Maximum		
Source ID	Stack Description	Easting (m)	Northing (m)	Cumulative Risk (vs 3.8)
RISKNEW	New or Mod Sources	600613.56	4229014.5	0.53

Table D-2a: Industrial/ Roadway Results for 1,3 Butadiene

BAC_C (ug/m^3)	BAC_{NC} (ug/m^3)
0.033	2.00

Last Updated: 5/10/2017

			Location of Maximum				
Process ID	**Stack Description**	**13BD Emissions (lb/hr)**	**Easting (m)**	**Northing (m)**	**Concentration ($\mu g/m^3$)**	**Risk R_c (EAG_c=10)**	**Risk HQ (EAG_{NC}=3.0)**
THERMOX	Thermal Oxidizer	0.1084	600829.12	4229896.50	0.01541	0.47	0.01
FLARE	Flare	2.1699	600837.50	4230119.50	0.10304	3.12	0.05
Fugitives	Fugitives	0.5358	600768.75	4229702.00	2.09095	63.36	1.05
ALL	All sources	2.17	600768.75	4229702	2.09095	63.36	1.05

Note: EAGs for Industrial property incorporate the adjustment factor specified by the LMAPCD in Reg 5.21, paragraph 3.6.

Table D-2b: Non-Industrial/Non-Roadway (Residential) Results for 1,3 Butadiene

BAC_C (ug/m^3)	BAC_{NC} (ug/m^3)
0.033	2.00

Last Updated: 5/10/2017

			Location of Maximum				
Process ID	**Stack Description**	**Emissions (lb/hr)**	**Easting (m)**	**Northing (m)**	**Concentration ($\mu g/m^3$)**	**R_c (EAG_c=1.0)**	**HQ (EAG_{NC}=1.0)**
THERMOX	Thermal Oxidizer	0.1084	600798.94	4230628	0.00743	0.23	0.004
FLARE	Flare	2.1699	600798.94	4230628	0.06359	1.93	0.032
Fugitives	Fugitives	0.5358	600458.31	4229157.00	0.10042	3.04	0.050
ALL	All sources	2.17	600458.31	4229157	0.15503	4.70	0.078

Table D-3a: Industrial/ Roadway Results for Acrylonitrile

BAC_C (ug/m^3)	BAC_{NC} (ug/m^3)
0.015	2.00

Last Updated: 5/12/2017

			Location of Maximum				
Process ID	**Stack Description**	**AN Emissions (lb/hr)**	**Easting (m)**	**Northing (m)**	**Concentration ($\mu g/m^3$)**	**Risk R_c (EAG_c=10)**	**Risk HQ (EAG_{NC}=3.0)**
FLARE	Flare	4.34E-03	600837.50	4230119.50	0.00021	0.01	0.0001
Fugitives	Fugitives	3.37E-02	600768.75	4229702.00	0.14794	9.86	0.074
ALL	All sources	3.80E-02	600768.75	4229702.00	0.14794	9.86	0.074

Note: EAGs for Industrial property incorporate the adjustment factor specified by the LMAPCD in Reg 5.21, paragraph 3.6.

As shown in the two right-hand columns of the above table, all individual processes have industrial area cancer risks (R_c) < 10 and HQ < 3.0. This complies with the STAR Goals.

Table D-3b: Non-Industrial/Non-Roadway (Residential) Results for Acrylonitrile

BAC_C (ug/m^3)	BAC_{NC} (ug/m^3)
0.015	2.00

Last Updated: 5/12/2017

			Location of Maximum				
Process ID	**Stack Description**	**AN Emissions (lb/hr)**	**Easting (m)**	**Northing (m)**	**Concentration ($\mu g/m^3$)**	**Risk R_c (EAG_c=1.0)**	**Risk HQ (EAG_{NC}=1.0)**
FLARE	Flare	4.34E-03	600798.94	4230628	0.00013	0.01	0.0001
Fugitives	Fugitives	3.37E-02	600613.56	4229014.5	0.00703	0.47	0.004
ALL	All sources	3.80E-02	600613.56	4229014.5	0.00713	0.48	0.004

As shown in the two right-hand columns of the above table, all individual processes have non-industrial/non-roadway (residential) area cancer risks (R_c) < 1.0 and HQ < 1.0. This complies with the STAR Goals.

Table D-4a: Industrial/ Roadway Results for Styrene

BAC_C (ug/m^3)	BAC_{NC} (ug/m^3)
1.70	1000

Last Updated: 5/10/2017

			Location of Maximum				
Process ID	**Stack Description**	**STY Emissions (lb/hr)**	**Easting (m)**	**Northing (m)**	**Concentration ($\mu g/m^3$)**	**Risk R_c (EAG_c=10)**	**Risk HQ (EAG_{NC}=3.0)**
RTO	Regen. Therm Oxid.	0.04738	600959.31	4229261	0.02493	0.01	0.0000
NEWFIN	Synthetic Rubber	2.78539	600805.69	4229246.5	2.77209	1.63	0.003
ALL	All sources	2.88	600805.69	4229246.5	2.77843	1.63	0.003

Note: EAGs for Industrial property incorporate the adjustment factor specified by the LMAPCD in Reg 5.21, paragraph 3.6.

As shown in the two right-hand columns of the above table, all individual processes have industrial area cancer risks (R_c) < 10 and HQ < 3.0. This complies with the STAR Goals.

Table D-4b: Non-Industrial/Non-Roadway (Residential) Results for Styrene

BAC_C (ug/m^3)	BAC_{NC} (ug/m^3)
1.70	1000

Last Updated: 5/10/2017

			Location of Maximum				
Process ID	**Stack Description**	**STY Emissions (lb/hr)**	**Easting (m)**	**Northing (m)**	**Concentration ($\mu g/m^3$)**	**Risk R_c (EAG_c=1.0)**	**Risk HQ (EAG_{NC}=1.0)**
RTO	Regen. Therm Oxid.	0.04738	600026.88	4229989	0.00178	0.001	0.0000
NEWFIN	Synthetic Rubber	2.78539	600613.56	4229014.5	0.52524	0.31	0.001
ALL	All sources	2.88	600613.56	4229014.5	0.52709	0.31	0.001

As shown in the two right-hand columns of the above table, all individual processes have non-industrial/non-roadway (residential) area cancer risks (R_c) < 1.0 and HQ < 1.0. This complies with the STAR Goals.

Table D-5a: Industrial/ Roadway Results for Arsenic

BAC_C (ug/m^3)	BAC_{NC} (ug/m^3)
0.00023	0.015

Last Updated: 5/10/2017

			Location of Maximum				
Process ID	**Stack Description**	**As Emissions (lb/hr)**	**Easting (m)**	**Northing (m)**	**Concentration ($\mu g/m^3$)**	**Risk R_c (EAG_c=10)**	**Risk HQ (EAG_{NC}=3.0)**
BOILER	Coal Fired Boilers - 2	7.43E-03	601054.69	4229774.5	2.27E-04	0.99	0.015
ALL	All sources	7.43E-03	601054.69	4229774.5	2.27E-04	0.99	0.015

Note: EAGs for Industrial property incorporate the adjustment factor specified by the LMAPCD in Reg 5.21, paragraph 3.6.

As shown in the two right-hand columns of the above table, all individual processes have industrial area cancer risks (R_c) < 10 and HQ < 3.0. This complies with the STAR Goals.

Table D-5b: Non-Industrial/Non-Roadway (Residential) Results for Arsenic

BAC_C (ug/m^3)	BAC_{NC} (ug/m^3)
0.00023	0.015

Last Updated: 5/10/2017

			Location of Maximum				
Process ID	**Stack Description**	**As Emissions (lb/hr)**	**Easting (m)**	**Northing (m)**	**Concentration ($\mu g/m^3$)**	**Risk R_c (EAG_c=1.0)**	**Risk HQ (EAG_{NC}=1.0)**
BOILER	Coal Fired Boilers - 2	7.43E-03	601462.13	4229615	1.35E-04	0.59	0.009
ALL	All sources	7.43E-03	601462.13	4229615	1.35E-04	0.59	0.009

As shown in the two right-hand columns of the above table, all individual processes have non-industrial/non-roadway (residential) area cancer risks (R_c) < 1.0 and HQ < 1.0. This complies with the STAR Goals.

Table D-6a: Industrial/ Roadway Results for Cadmium

BAC_C (ug/m^3)	BAC_{NC} (ug/m^3)
0.00056	0.02

Last Updated: 5/10/2017

			Location of Maximum				
Process ID	**Stack Description**	**Cd Emissions (lb/hr)**	**Easting (m)**	**Northing (m)**	**Concentration ($\mu g/m^3$)**	**Risk R_c (EAG_c=10)**	**Risk HQ (EAG_{NC}=3.0)**
BOILER	Coal Fired Boilers - 2	9.24E-04	601054.69	4229774.5	2.83E-05	0.05	0.001
ALL	All sources	9.24E-04	601054.69	4229774.5	2.83E-05	0.05	0.001

Note: EAGs for Industrial property incorporate the adjustment factor specified by the LMAPCD in Reg 5.21, paragraph 3.6.

As shown in the two right-hand columns of the above table, all individual processes have industrial area cancer risks (R_c) < 10 and HQ < 3.0. This complies with the STAR Goals.

Table D-6b: Non-Industrial/Non-Roadway (Residential) Results for Cadmium

BAC_C (ug/m^3)	BAC_{NC} (ug/m^3)
0.00056	0.02

Last Updated: 5/10/2017

			Location of Maximum				
Process ID	**Stack Description**	**Cd Emissions (lb/hr)**	**Easting (m)**	**Northing (m)**	**Concentration ($\mu g/m^3$)**	**Risk R_c (EAG_c=1.0)**	**Risk HQ (EAG_{NC}=1.0)**
BOILER	Coal Fired Boilers - 2	9.24E-04	601462.13	4229615	1.67E-05	0.03	0.001
ALL	All sources	9.24E-04	601462.13	4229615	1.67E-05	0.03	0.001

As shown in the two right-hand columns of the above table, all individual processes have non-industrial/non-roadway (residential) area cancer risks (R_c) < 1.0 and HQ < 1.0. This complies with the STAR Goals.

Table D-7a: Industrial/ Roadway Results for Hexavalent Chromium

BAC_C (ug/m^3)	BAC_{NC} (ug/m^3)
0.000083	0.008

Last Updated: 8/7/2015

			Location of Maximum				
Process ID	**Stack Description**	**CrIV Emissions (lb/hr)**	**Easting (m)**	**Northing (m)**	**Concentration ($\mu g/m^3$)**	**Risk R_c (EAG_c=10)**	**Risk HQ (EAG_{NC}=3.0)**
BOILER	Coal Fired Boilers - 2	1.43E-03	601054.69	4229774.5	4.38E-05	0.53	0.005
ALL	All sources	1.43E-03	601054.69	4229774.5	4.38E-05	0.53	0.005

Note: EAGs for Industrial property incorporate the adjustment factor specified by the LMAPCD in Reg 5.21, paragraph 3.6.

As shown in the two right-hand columns of the above table, all individual processes have industrial area cancer risks (R_c) < 10 and HQ < 3.0. This complies with the STAR Goals.

Table D-7b: Non-Industrial/Non-Roadway (Residential) Results for Hexavalent Chromium

BAC_C (ug/m^3)	BAC_{NC} (ug/m^3)
0.000083	0.008

Last Updated: 8/7/2015

			Location of Maximum				
Process ID	**Stack Description**	**CrIV Emissions (lb/hr)**	**Easting (m)**	**Northing (m)**	**Concentration ($\mu g/m^3$)**	**Risk R_c (EAG_c=1.0)**	**Risk HQ (EAG_{NC}=1.0)**
BOILER	Coal Fired Boilers - 2	1.43E-03	601462.13	4229615	2.59E-05	0.31	0.003
ALL	All sources	1.43E-03	601462.13	4229615	2.59E-05	0.31	0.003

As shown in the two right-hand columns of the above table, all individual processes have non-industrial/non-roadway (residential) area cancer risks (R_c) < 1.0 and HQ < 1.0. This complies with the STAR Goals.

Table D-8a: Industrial/ Roadway Results for Nickel

BAC_C (ug/m^3)	BAC_{NC} (ug/m^3)
0.0038	0.014

Last Updated: 5/10/2017

			Location of Maximum				
Process ID	**Stack Description**	**Ni Emissions (lb/hr)**	**Easting (m)**	**Northing (m)**	**Concentration ($\mu g/m^3$)**	**Risk R_c (EAG_c=10)**	**Risk HQ (EAG_{NC}=3.0)**
BOILER	Coal Fired Boilers - 2	5.07E-03	601054.69	4229774.5	1.55E-04	0.04	0.011
ALL	All sources	5.07E-03	601054.69	4229774.5	1.55E-04	0.04	0.011

Note: EAGs for Industrial property incorporate the adjustment factor specified by the LMAPCD in Reg 5.21, paragraph 3.6.

As shown in the two right-hand columns of the above table, all individual processes have industrial area cancer risks (R_c) < 10 and HQ < 3.0. This complies with the STAR Goals.

Table D-8b: Non-Industrial/Non-Roadway (Residential) Results for Nickel

BAC_C (ug/m^3)	BAC_{NC} (ug/m^3)
0.0038	0.014

Last Updated: 5/10/2017

			Location of Maximum				
Process ID	**Stack Description**	**Ni Emissions (lb/hr)**	**Easting (m)**	**Northing (m)**	**Concentration ($\mu g/m^3$)**	**Risk R_c (EAG_c=1.0)**	**Risk HQ (EAG_{NC}=1.0)**
BOILER	Coal Fired Boilers - 2	5.07E-03	601462.13	4229615	9.19E-05	0.02	0.007
ALL	All sources	5.07E-03	601462.13	4229615	9.19E-05	0.02	0.007

As shown in the two right-hand columns of the above table, all individual processes have non-industrial/non-roadway (residential) area cancer risks (R_c) < 1.0 and HQ < 1.0. This complies with the STAR Goals.

Table D-9a: Industrial/ Roadway Results for Formaldehyde

BAC_C (ug/m^3)	BAC_{NC} (ug/m^3)
0.077	9.00

Last Updated: 5/10/2017

			Location of Maximum				
Process ID	**Stack Description**	**Formaldehyde Emissions (lb/hr)**	**Easting (m)**	**Northing (m)**	**Concentration (µg/m^3)**	**Risk R_c (EAG_c=10)**	**Risk HQ (EAG_{NC}=3.0)**
BOILER	Coal Fired Boilers - 2	4.35E-03	601054.69	4229774.5	1.33E-04	0.00	0.0000
ALL	All sources	4.35E-03	601054.69	4229774.5	1.33E-04	0.00	0.0000

Note: EAGs for Industrial property incorporate the adjustment factor specified by the LMAPCD in Reg 5.21, paragraph 3.6.

As shown in the two right-hand columns of the above table, all individual processes have industrial area cancer risks (R_c) < 10 and HQ < 3.0. This complies with the STAR Goals.

Table D-9b: Non-Industrial/Non-Roadway (Residential) Results for Formaldehyde

BAC_C (ug/m^3)	BAC_{NC} (ug/m^3)
0.077	9.00

Last Updated: 5/10/2017

			Location of Maximum				
Process ID	**Stack Description**	**Formaldehyde Emissions (lb/hr)**	**Easting (m)**	**Northing (m)**	**Concentration (µg/m^3)**	**Risk R_c (EAG_c=1.0)**	**Risk HQ (EAG_{NC}=1.0)**
BOILER	Coal Fired Boilers - 2	4.35E-03	601462.13	4229615	7.88E-05	0.00	0.0000
ALL	All sources	4.35E-03	601462.13	4229615	7.88E-05	0.00	0.0000

As shown in the two right-hand columns of the above table, all individual processes have non-industrial/non-roadway (residential) area cancer risks (R_c) < 1.0 and HQ < 1.0. This complies with the STAR Goals.

Table D-10a: Industrial/ Roadway Results for Sulfuric Acid

BAC_C (ug/m^3)	BAC_{NC} (ug/m^3)
NA	1.00

Last Updated: 5/10/2017

			Location of Maximum				
Process ID	**Stack Description**	**H_2SO_4 Emissions (lb/hr)**	**Easting (m)**	**Northing (m)**	**Concentration ($\mu g/m^3$)**	**Risk R_c (EAG_c=10)**	**Risk HQ (EAG_{NC}=3.0)**
BOILER	Coal Fired Boilers - 2	0.00E+00	601054.69	4229774.5	5.30E-02	NA	0.053
ALL	All sources	0.00E+00	601054.69	4229774.5	5.30E-02	NA	0.053

Note: EAGs for Industrial property incorporate the adjustment factor specified by the LMAPCD in Reg 5.21, paragraph 3.6.

As shown in the two right-hand columns of the above table, all individual processes have industrial area cancer risks (R_c) < 10 and HQ < 3.0. This complies with the STAR Goals.

Table D-10b: Non-Industrial/Non-Roadway (Residential) Results for Sulfuric Acid

BAC_C (ug/m^3)	BAC_{NC} (ug/m^3)
NA	1.00

Last Updated: 5/10/2017

			Location of Maximum				
Process ID	**Stack Description**	**H_2SO_4 Emissions (lb/hr)**	**Easting (m)**	**Northing (m)**	**Concentration ($\mu g/m^3$)**	**Risk R_c (EAG_c=1.0)**	**Risk HQ (EAG_{NC}=1.0)**
BOILER	Coal Fired Boilers - 2	0.00E+00	601462.13	4229615	3.13E-02	NA	0.031
ALL	All sources	0.00E+00	601462.13	4229615	3.13E-02	NA	0.031

As shown in the two right-hand columns of the above table, all individual processes have non-industrial/non-roadway (residential) area cancer risks (R_c) < 1.0 and HQ < 1.0. This complies with the STAR Goals.

Table D-11a: Industrial/ Roadway Results for Hydrochloric Acid

BAC_C (ug/m^3)	BAC_{NC} (ug/m^3)
NA	20.00

Last Updated: 5/10/2017

			Location of Maximum				
Process ID	**Stack Description**	**HCl Emissions (lb/hr)**	**Easting (m)**	**Northing (m)**	**Concentration ($\mu g/m^3$)**	**Risk R_c (EAG_c=10)**	**Risk HQ (EAG_{NC}=3.0)**
BOILER	Coal Fired Boilers - 2	0.00E+00	601054.69	4229774.5	6.66E-02	NA	0.003
ALL	All sources	0.00E+00	601054.69	4229774.5	6.66E-02	NA	0.003

Note: EAGs for Industrial property incorporate the adjustment factor specified by the LMAPCD in Reg 5.21, paragraph 3.6.

As shown in the two right-hand columns of the above table, all individual processes have industrial area cancer risks (R_c) < 10 and HQ < 3.0. This complies with the STAR Goals.

Table D-11b: Non-Industrial/Non-Roadway (Residential) Results for Hydrochloric Acid

BAC_C (ug/m^3)	BAC_{NC} (ug/m^3)
NA	20.00

Last Updated: 5/10/2017

			Location of Maximum				
Process ID	**Stack Description**	**HCl Emissions (lb/hr)**	**Easting (m)**	**Northing (m)**	**Concentration ($\mu g/m^3$)**	**Risk R_c (EAG_c=1.0)**	**Risk HQ (EAG_{NC}=1.0)**
BOILER	Coal Fired Boilers - 2	0.00E+00	601462.13	4229615	3.94E-02	NA	0.002
ALL	All sources	0.00E+00	601462.13	4229615	3.94E-02	NA	0.002

As shown in the two right-hand columns of the above table, all individual processes have non-industrial/non-roadway (residential) area cancer risks (R_c) < 1.0 and HQ < 1.0. This complies with the STAR Goals.