

Dispersion Modeling Training Series

Course Two – Productivity Hacks in Dispersion Modeling

Section IV – Air Quality Analysis Report Template

EXECUTIVE SUMMARY

List company name, site name, and permit number, if assigned.
Include list of standards included for this analysis. Below is just a subset.

| standard_name | standard_value |
|--------------------------------|----------------|
| CO 1-HR SIL | 2000 |
| CO 8-HR SIL | 500 |
| CO 8-HR SMC | 575 |
| CO 1-HR NAAQS | 40000 |
| CO 8-HR NAAQS | 10000 |
| NO2 1-HR SIL | 7.5 |
| NO2 ANNUAL SIL | 1 |
| NO2 ANNUAL SMC | 14 |
| NO2 1-HR NAAQS | 188 |
| NO2 ANNUAL NAAQS | 100 |
| NO2 ANNUAL CLASS II INCREMENT | 25 |
| NO2 ANNUAL CLASS I INCREMENT | 2.5 |
| PM10 24-HR SIL | 5 |
| PM10 ANNUAL SIL | 1 |
| PM10 24-HR SMC | 10 |
| PM10 24-HR NAAQS | 150 |
| PM10 24-HR CLASS II INCREMENT | 30 |
| PM10 24-HR CLASS I INCREMENT | 8 |
| PM10 ANNUAL CLASS II INCREMENT | 17 |
| PM10 ANNUAL CLASS I INCREMENT | 4 |
| PM2.5 24-HR SIL | 1.2 |
| PM2.5 ANNUAL SIL | 0.3 |
| PM2.5 24-HR NAAQS | 35 |
| PM2.5 ANNUAL NAAQS | 12 |
| PM2.5 24-HR CLASS II INCREMENT | 9 |
| PM2.5 24-HR CLASS I INCREMENT | 2 |

| standard_name | standard_value |
|---------------------------------|----------------|
| PM2.5 ANNUAL CLASS II INCREMENT | 4 |
| PM2.5 ANNUAL CLASS I INCREMENT | 1 |
| SO2 1-HR SIL | 7.8 |
| SO2 3-HR SIL | 25 |
| SO2 24-HR SIL | 5 |
| SO2 ANNUAL SIL | 1 |
| SO2 24-HR SMC | 13 |
| SO2 1-HR NAAQS | 196 |
| SO2 3-HR NAAQS | 1300 |
| SO2 24-HR NAAQS | 365 |
| SO2 ANNUAL NAAQS | 80 |
| SO2 3-HR CLASS II INCREMENT | 512 |
| SO2 3-HR CLASS I INCREMENT | 25 |
| SO2 24-HR CLASS II INCREMENT | 91 |
| SO2 24-HR CLASS I INCREMENT | 5 |
| SO2 ANNUAL CLASS II INCREMENT | 20 |
| SO2 ANNUAL CLASS I INCREMENT | 2 |

MODELING RESULTS

Criteria Pollutants

Preliminary Impacts

| Air Contaminant | Avg. Time | Scenario | GLCmax ($\mu\text{g}/\text{m}^3$) | SIL ($\mu\text{g}/\text{m}^3$) | Full Analysis (Yes/No) |
|-----------------|-----------|----------|-------------------------------------|----------------------------------|------------------------|
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NAAQS

| Air Contaminant | Avg. Time | Scenario | GLCmax (µg/m³) | Background (µg/m³) | TOTAL Conc (µg/m³) | Standard (µg/m³) | Compliance (Yes/No) |
|-----------------|-----------|----------|----------------|--------------------|--------------------|------------------|---------------------|
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Increment

| Air Contaminant | Avg. Time | Scenario | GLCmax (µg/m³) | Standard (µg/m³) | Compliance (Yes/No) |
|-----------------|-----------|----------|----------------|------------------|---------------------|
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State regulated air contaminants

State Air Quality Standards

| Air Contaminant | Avg. Time | Scenario | GLCmax (µg/m³) | Standard (µg/m³) | Compliance (Yes/No) |
|-----------------|-----------|----------|----------------|------------------|---------------------|
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Air toxics

| Air Contaminant | Avg. Time | Scenario | GLCmax (µg/m³) | Standard (µg/m³) | Compliance (Yes/No) |
|-----------------|-----------|----------|----------------|------------------|---------------------|
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SITE LOCATION

Area Map –

Insert images of map here and various scales.



Schools -

| School Name | Address | Contact |
|-------------|---------|---------|
| | | |
| | | |
| | | |

Monitor Locations - **Have Background analysis in Appendix**

| Air Contaminant | Avg. Time | Monitor Name | AQS ID | Design Value ($\mu\text{g}/\text{m}^3$) |
|-----------------|-----------|--------------|--------|---|
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Class I Areas

| Name | Agency | Contact |
|------|--------|---------|
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Nonattainment Areas

| Air Contaminant | Standard | Classification |
|-----------------|----------|----------------|
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Air Pollutant Watch List Areas

| Air Contaminant | APWL ID |
|-----------------|---------|
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Meteorological Stations

| Surface Station | Upper Air Station | Years | Base Elevation (m) | Roughness Length (m) |
|-----------------|-------------------|-------|--------------------|----------------------|
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Elevation Data Files

| File Name | Format Type | Coordinate System |
|-----------|-------------|-------------------|
| | | |
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PROJECT-LEVEL INFORMATION

List of Modeling Input files (Appendix)

| standard_name | scenario_name | file_name |
|---------------|---------------|-----------|
| | | |
| | | |

List of Modeling Results files (Appendix)

| standard_name | scenario_name | file_name | generating_file_name |
|---------------|---------------|-----------|----------------------|
| | | | |
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Control Pathway Options

Modeling Scenarios

| Scenario_name | Description |
|---------------|-------------|
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Receptor Grid (Appendix)

Downwash (Appendix)

| building_id | tier_id | height_m |
|-------------|---------|----------|
| | | |
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SOURCE-LEVEL INFORMATION

Permit equivalence of source IDs

| permit_source_id | modeled_source_id |
|------------------|-------------------|
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Emission Rates – Criteria Pollutants

| modeled_source_id | air_contaminant | scenario_name | lb/hr | g/sec |
|-------------------|-----------------|---------------|-------|-------|
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Emission Rates – State regulated air contaminants

| modeled_source_id | air_contaminant | scenario_name | lb/hr | g/sec |
|-------------------|-----------------|---------------|-------|-------|
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Emission Rates – Air Toxics

| modeled_source_id | air_contaminant | scenario_name | lb/hr | g/sec |
|-------------------|-----------------|---------------|-------|-------|
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NaviKnow

Source parameters in SI and English units

Points

| modeled_source_id | height_m | height_ft | temp_K | temp_F | vel_m_s | vel_f_s | dia_m | dia_ft |
|-------------------|----------|-----------|--------|--------|---------|---------|-------|--------|
| | | | | | | | | |
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Volumes

| modeled_source_id | height_m | height_ft | σ_y_m | σ_y_ft | σ_z_m | σ_z_ft |
|-------------------|----------|-----------|--------------|---------------|--------------|---------------|
| | | | | | | |
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Areas

| modeled_source_id | height_m | height_ft | width_m | width_ft | length_m | length_ft | angle | σ_z_m |
|-------------------|----------|-----------|---------|----------|----------|-----------|-------|--------------|
| | | | | | | | | |
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Area Circle

| modeled_source_id | height_m | height_ft | radius_m | radius_ft | σ_z_m |
|-------------------|----------|-----------|----------|-----------|--------------|
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Source Characterizations

ADD APPENDICES AS APPROPRIATE

- Background concentrations analysis
- Listing of input and output files
- Listing of buildings and tiers, with elevation and heights
- Calculations for flare characteristics to point source characteristics