

# **South Coast Air Quality Management District**

# Guidelines for Participating in the Rule 1402 Voluntary Risk Reduction Program

September 2018

#### **Preface**

This version of the Voluntary Risk Reduction Program Guidelines updates the previous October 2016 version. This is intended to be a "living" document, which staff will update periodically with updated procedures and requirements. The major revisions to this document from the previous October 2016 version include:

- Clarifying required facility information (refer to Section 2.1);
- Clarifying the types of emissions to be included in the emissions inventory;
- Adding a requirement to provide process flow diagram(s) for equipment emitting toxic air contaminants;
- Reorganizing the "Current Facility Risk Characterization" section to match the way the information in the Emissions Inventory Module of CARB's HARP program is listed (refer to Section 2.2);
- Clarifying the required elements of the "Proposed Facility Risk Characterization" section and how to represent proposed changes in the Emissions Inventory file (refer to Section 2.3);
- Clarifying all required elements of the Voluntary Risk Reduction Plan (refer to Sections 2.4 and 2.5); and
- Including screenshots which show required entries using the Emissions Inventory Module of CARB's HARP program (refer to Appendix A Required Entries to EIM).

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#### INTRODUCTION

The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) established a statewide program to inventory air toxics emissions from individual facilities as well as requirements for risk assessment, public notification of potential health risks, and risk reduction. South Coast Air Quality Management District (SCAQMD) Rule 1402 - Control of Toxic Air Contaminants from Existing Sources (Rule 1402)<sup>1</sup> implements various aspects of the AB 2588 program and includes public notification and risk reduction requirements for facilities that are above set thresholds.

Rule 1402 includes a provision to allow facilities to participate in the Voluntary Risk Reduction Program. The Voluntary Risk Reduction Program was developed based on comments from some industry representatives that wanted the opportunity to voluntarily reduce their health risk beyond the Action Risk Level to below the Notification Risk Level in lieu of the standard process. The Voluntary Risk Reduction Program is an alternative to complying with the traditional AB 2588 program and Rule 1402 approach and provides qualifying facilities an opportunity to reduce health risks below the Notification Risk Level with a Modified Public Notification approach that does not require distribution of individual letters and public meetings. The Modified Public Notification will be placed on SCAQMD's website and in the AB 2588 Annual Report in lieu of traditional Public Notification, as described in SCAQMD's "Public Notification Procedures for Facilities Under the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) and Rule 1402").<sup>2</sup> Compliance with AB 2588 and Rule 1402 Public Notification requirements does not replace Proposition 65 and its Public Notification requirements or any other regulatory requirements. This Program will achieve risk reductions both sooner and beyond what is required in the traditional Rule 1402 process as it focuses on implementation of risk reduction measures immediately.

Under Rule 1402, facilities that meet the eligibility requirements and elect to participate in the Voluntary Risk Reduction Program must submit a Voluntary Risk Reduction Plan (VRRP). The VRRP identifies the risk reduction measures that a facility will implement to achieve risk reductions below the Voluntary Risk Threshold. The "Guidelines for Participating in the Rule 1402 Voluntary Risk Reduction Program" specify the guidelines for preparing, approving, and demonstrating implementation of the VRRP:

- 1. The procedures an owner or operator must follow in preparing a VRRP pursuant to (h)(2) of Rule 1402;
- 2. The information that the Executive Officer will use when approving or rejecting the VRRP pursuant to (h)(3) of Rule 1402; and
- 3. The procedures an owner or operator must follow in preparing a Final Implementation Report for the VRRP pursuant to (j)(2) of Rule 1402.

#### 2. PREPARING A VOLUNTARY RISK REDUCTION PLAN

The owner or operator is responsible for preparing a VRRP that identifies the risk reduction measures that shall be implemented in order to reduce the impact of the total facility emissions

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<sup>&</sup>lt;sup>1</sup> http://www.aqmd.gov/docs/default-source/rule-book/reg-xiv/rule-1402.pdf

<sup>&</sup>lt;sup>2</sup> http://www.aqmd.gov/docs/default-source/planning/risk-assessment/pn\_procedures.pdf

below the Voluntary Risk Threshold. Rule 1402 defines the Voluntary Risk Threshold as a Maximum Individual Cancer Risk (MICR) of ten in one million (10 x 10<sup>-6</sup>), a total acute or chronic Hazard Index (HI) of one (1.0) for any target organ system at any receptor location, and the more stringent of either the National Ambient Air Quality Standard (NAAQS) for lead or applicable ambient lead concentration limit in a SCAQMD rule. Only those risk reduction measures that are needed to reduce facility risks below the Voluntary Risk Threshold need to be identified in the VRRP.

Emissions that are routine and predictable must be included, including testing of emergency Internal Combustion Engines (ICE). Emissions from actual emergency use is not considered routine and predictable and do not need to be included. Portable diesel ICEs that are used primarily on-site and for a single purpose or used in a fixed location for most of its life are considered "stationary" and should be included for AB 2588 program purposes.

The facility information and release, device, process, and emissions data must be provided in an Emissions Inventory Module<sup>3</sup> (EIM) database using the Universal Transverse Mercator (UTM) coordinate system with the World Geodetic System (WGS84) datum. While actual information is stored in an associated Microsoft Access database file, the EIM program should be used to verify the accuracy of the entries for two reasons: 1. much of the data is relational and data integrity is more easily verified using the EIM program; 2. data is entered directly into the tables and may not meet the minimum validation requirements when using the EIM program for entry. The minimum information required in the EIM file is shown in Appendix A.

The Voluntary Risk Reduction Plan shall include:

#### 2.1 Facility Information

- Facility Name
- Base Reporting Year as identified by SCAQMD staff
- SCAQMD Facility Identification Number
- Standard Industrial Classification (SIC) and North American Industry Classification System (NAICS) Numbers
- Facility Origin (i.e., address and UTM 11 coordinates in WGS84 in kilometers)
- Facility Contact
  - o Name
  - o Title
  - Phone Number
  - Address
  - E-mail address
- Facility plot plan
  - o Property boundaries (in relative meters to the Facility Origin)
  - Distance scale
  - o Building locations and boundaries (in relative meters to the Facility Origin)
  - o Building heights (in meters, for building downwash calculations)

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<sup>&</sup>lt;sup>3</sup> https://www.arb.ca.gov/toxics/harp/harp.htm

- Source locations including elevations (in UTM 11 coordinates in WGS84 in kilometers)
- Surrounding land use map (e.g., the local city's zoning map)
  - o 0.5 mile radius from property boundary
  - o Distance scale
  - o Identification of closest sensitive receptor (e.g., residence, school, etc.)
  - o Identification of closest worker receptor
- Process flow diagram

#### 2.2 Current Facility Risk Characterization

- Release Data: All sources and source names must be included. Refer to Release Information Entry screenshot in Appendix A for required information.
  - o Point Sources:
    - Stack locations (in UTM 11 coordinates in WGS84 in kilometers)including elevations (ft)
    - Stack diameters (ft), gas exit velocities (ft/min), gas flow rates (ft^3/min), gas exit temperatures (F), and release heights (ft)
    - Stack release type (vertical, horizontal, or rain cap). If the rain cap option is used, please indicate this and include both actual and virtual stack parameters.
  - o Fugitive Sources: Includes Volume, Area, and Open Pit sources
    - Source locations (in UTM 11 coordinates in WGS84 in kilometers)
    - Source dimensions and heights (ft)
    - Volume sources: Include initial lateral and vertical dimensions (ft)
    - Area source: initial vertical dimensions, square or rectangular dimensions (ft)
    - Open pits: volume of the open pit (ft^3)
    - Other types of fugitive sources: describe and provide applicable dimensions and data
    - Calculations for initial air dispersion factors (e.g.,  $\sigma_v$  and  $\sigma_{z}$ ), if applicable
- Device Data: All devices and equipment subject to the AB 2588 program or SCAQMD Rule 1402 must be included by their application number. Refer to Device Information Entry screenshot in Appendix A for required information.
  - o All permitted devices
  - o Any existing devices operating under an open application
  - Any devices exempt from permitting must be listed by the SCAQMD Rule exempting them
  - Any devices with zero emissions must be included. The Process Rates for these devices may be set as zero to reflect zero emissions
  - O Any other unpermitted operations, activities, equipment, or emissions that are still subject to the AB 2588 program or Rule 1402
  - Device IDs, Device Names, Permit IDs (if applicable), Number of Devices, Output Capacities, Size, Units Code, and Type Code
- Process Data: All processes producing emissions. Refer to Process Information Entry

screenshot in Appendix A for required information.

- Device IDs, Process IDs, Process Description, Release ID, SCC Number, SCC Units, Process Rate (SCC Units/Yr), Maximum Design Rate (SCC Units/hr), Maximum Hourly Process Rate (SCC Units/hr), Operating Hours Per Day, and Operating Days Per Week
- Emission Data: All Toxic Air Contaminants (TACs) in the Office of Environmental Health Hazard Assessment (OEHHA) Guidelines Appendix A-I must be included and quantified in the inventory report. Refer to Emission Information Entry screenshot in Appendix A for required information. Facility total emission rate by substance and Process ID must include the following information:
  - o Substance name and Chemical Abstract Service (CAS) Number
  - Annual average emission for each substance (lb/yr)
  - o Maximum one-hour emissions for each substance (lb/hr)
  - o Device ID. Process ID
  - Control Devices: Primary Control (CNTL1), Secondary Control, Control Efficiency (Percent)
  - o Emission Factors: Uncontrolled EMS Factor, EMS Factor
- Receptors: Refer to Receptor Information Entry screenshot in Appendix A for required information.
  - o Coarse grid used to define the zone of impact
  - Refined grid used to identify the point of maximum impact and maximum exposed individuals
  - All appropriate receptors (i.e. residential, commercial, or sensitive)
    - Closest sensitive receptor (e.g. residence, school, etc.)
    - Closest worker receptor
    - Nearest residential receptor based on prevailing wind
    - Nearest worker receptor based on prevailing wind

**Note for prevailing wind receptor:** Using the wind rose from the representative SCAQMD meteorological station, identify the prevailing wind (dominant wind direction). Then identify the nearest receptor following the prevailing wind (dominant wind direction).

#### 2.3 Proposed Facility Risk Characterization

- Release Data: List any changes from the Current Facility Risk Characterization such as new or removed sources and changed source parameters. If there are no changes, please state so.
- Device Data: List any changes from the Current Facility Risk Characterization such as device removals or additions along with Permit IDs. If there are no changes, please state so.
- Process Data: List any changes from the Current Facility Risk Characterization. If there are no changes, please state so.

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<sup>&</sup>lt;sup>4</sup> https://oehha.ca.gov/air/crnr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0

• Emission Data: List any changes from the Current Facility Risk Characterization by TAC name and CAS Number. If there are no changes, please state so.

#### 2.4 Supplementary Information

- A description of verifiable risk reduction measures and estimated emission reductions or efficiencies. Only those risk reduction measures that are needed to reduce facility risks below the Voluntary Risk Threshold need to be identified in the VRRP.
- A description of how the risk reduction measures will be enforced, such as through a
  new or modified SCAQMD permit or compliance plan. Proposed risk reduction
  measures, if approved, may become enforceable.
- A description of how the estimated emission reductions or efficiency will be demonstrated and maintained, such as through a source test, manufacturers' data, etc.
- Permit numbers associated with sources or processes to be reduced, if applicable.
- Schedule for implementing the specified risk reduction measures, including dates for increments of progress, submittal dates for application for permits, purchases of equipment, source tests, and commissioning of equipment.
- Anticipated increases or decreases in facility emissions, by TAC name and CAS Number, for each device and process with verifiable risk reduction measures.

#### 2.5 Final Submittal

- EIM and associated files with Facility Information and Current Facility Risk Characterization data. The latest approved version of EIM can be downloaded from California Air Resources Board's (CARB) Hotspots Analysis and Reporting Program (HARP).<sup>5</sup>
- EIM and associated files with Facility Information and Proposed Facility Risk Characterization data.
- Any supplementary information in electronic format discussing facility information, VRRP proposals, EIM data, and any missing information that cannot be entered into the EIM.
- Supporting documentation for emission factors, such as source test reports and approval letters, CARB's or the United States Environmental Protection Agency's (U.S. EPA) reference publications, Safety Data Sheets (SDS), technical literature, etc. Source test results may be used only if they have been previously approved by SCAQMD. The source test must be representative of the current operating conditions of the equipment. Additional documentation may be required to demonstrate that the equipment or process has not changed since the time of the source test.
- Emission Factors Reference Sources Table. This table should list the reference sources for each emission factor used. This can include reference sources such as AP-42, SDSs, source testing, or air quality monitoring data.
- Dispersion modeling input and output files (all AERMOD and BPIP files used in the VRRP including terrain data. All meteorological data files including any AERMET

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<sup>&</sup>lt;sup>5</sup> https://www.arb.ca.gov/toxics/harp/harp.htm

<sup>&</sup>lt;sup>6</sup> Template available here: <a href="http://www.aqmd.gov/home/rules-compliance/compliance/toxic-hot-spots-ab-2588">http://www.aqmd.gov/home/rules-compliance/compliance/toxic-hot-spots-ab-2588</a>

files if default SCAQMD meteorological data is not used.)

• Air monitoring data, if applicable.

The Voluntary Risk Reduction Plan may also include optional information as additional proof that the risk reduction measures identified will reduce the impact of the total facility emissions below the Voluntary Risk Threshold. Optional information may include:

- Pre-approved meteorological file, if SCAQMD default meteorological file is not used;
   and
- United States Geological Survey Digital Elevation Model Data.

Table 1 lists the files which must be included in the VRRP submittal.

Table 1: Files that must be provided for Facility Risk Characterizations

File Type	Notes
Emission Inventory Input	All files in CARB's Emissions Inventory Module format.
<b>Emission Inventory Output</b>	
Emission Calculations and/or	Provided in electronic format (e.g., Excel) and
Dispersion Modeling (if	documented references (i.e. sample calculations).
applicable)	
Source Tests	Only SCAQMD-approved source tests can be used.
	SCAQMD approval must be included in submittal.
Air Monitoring Data	Any monitoring data used shall be provided.

#### 3. APPROVAL OF THE VOLUNTARY RISK REDUCTION PLAN

Within 30 days of receipt, the Executive Officer or designee will conduct an initial review of the VRRP and confirm receipt. The Executive Officer or designee will approve or reject the Voluntary Risk Reduction Plan based on whether it meets the requirements outlined above, the information provided is complete and accurate, and the ability of the proposed Voluntary Risk Reduction Plan to verifiably reduce the impact of total facility risk below the Voluntary Risk Threshold as quickly as feasible, but by no later than two and half years from Voluntary Risk Reduction Plan approval. If the Voluntary Risk Reduction Plan is rejected, the facility has 30 days to correct all identified deficiencies and resubmit. If the revised plan is rejected, the facility has one more opportunity to fix the identified deficiencies. If the second revised plan is rejected, then the facility will not be allowed to participate in the Voluntary Risk Reduction program and the facility will be subject to the standard AB 2588 pathway. The denial will act as a notification to prepare an Air Toxics Inventory Report (ATIR) and Health Risk Assessment (HRA) within 90 days.

Emission reductions or control efficiencies must be verifiable to be considered as a risk reduction measure in a Voluntary Risk Reduction Plan. Verifiable emission reductions or control efficiencies are those which are permanent, can be sustained, and must be enforceable through permit conditions or compliance plans. Emission reductions or control efficiencies must be demonstrable through a source test, manufacturers' data, or other mechanism. Each risk reduction measure shall be implemented by the date specified in the approved Voluntary Risk Reduction

Plan. Rule 1402 includes provisions for modifying Voluntary Risk Reduction Plans and extending implementation dates, if needed. If no risk reduction measures are necessary to reduce the facility's health risks below the Voluntary Risk Threshold, the VRRP need not include risk reduction measures.

#### 4. VOLUNTARY RISK THRESHOLD

The Voluntary Risk Threshold is based on the concept of the ATIR. SCAQMD staff will run facility VRRP information through the latest approved version of California Air Resources Board's Hotspots Analysis and Reporting Program (HARP) or equivalent and compare the result to the Voluntary Risk Threshold pursuant to Rule 1402 paragraph (c)(24).

#### 5. VOLUNTARY RISK REDUCTION PLAN IMPLEMENTATION

Risk reduction measures identified in the Voluntary Risk Reduction Plan must be completed within the designated schedule and be verifiable and enforceable by permit condition or compliance plan. With Executive Officer approval, facilities may modify or request an extension to the Voluntary Risk Reduction Plan pursuant to (k)(2) and (l) of Rule 1402, respectively. Facilities failing to implement their Voluntary Risk Reduction Plan are in violation of Rule 1402 and subject to daily penalties. Facilities that cannot achieve compliance immediately may seek a variance from the SCAQMD Hearing Board, which may issue one depending on whether statutorily required findings can be made (refer to Rule 515 – Findings and Decision).

#### 6. FINAL IMPLEMENTATION REPORT

The owner or operator shall submit a final implementation report pursuant to Rule 1402 paragraph (j)(2) one all measures listed in the Voluntary Risk Reduction Plan are fully implemented. The final implementation report demonstrates that the measures in the Voluntary Risk Reduction Plan have been completed, risk reduction measures have been verified, and therefore, the facility is below the Voluntary Risk Threshold. Approval of the final implementation report by the Executive Officer or designee acknowledges compliance with Rule 1402 requirements and that no further action is necessary.

The final implementation report shall include, at a minimum, all of the following:

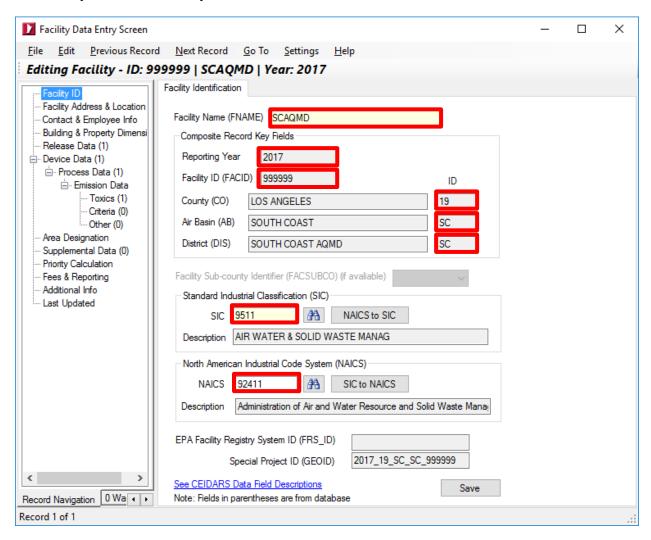
- The name, address, and SCAQMD facility identification number;
- The approved Voluntary Risk Reduction Plan; and
- Proof and verification the operator implemented the risk reduction measures in the approved Voluntary Risk Reduction Plan.

Proof would include enforceable permit conditions or compliance plans. Verification of emission reductions include, but are not limited to, specifications in the SCAQMD permit issued to the facility, a surrender of the existing SCAQMD permit(s), or reductions as required by SCAQMD rule(s). Letters of intent or internal memos mandating new company policy are not considered verifiable emission reductions. Verification of pollution control equipment which have been installed and are now in operation, includes but is not limited to, the source test protocol, final report, and all documents relating to the results.

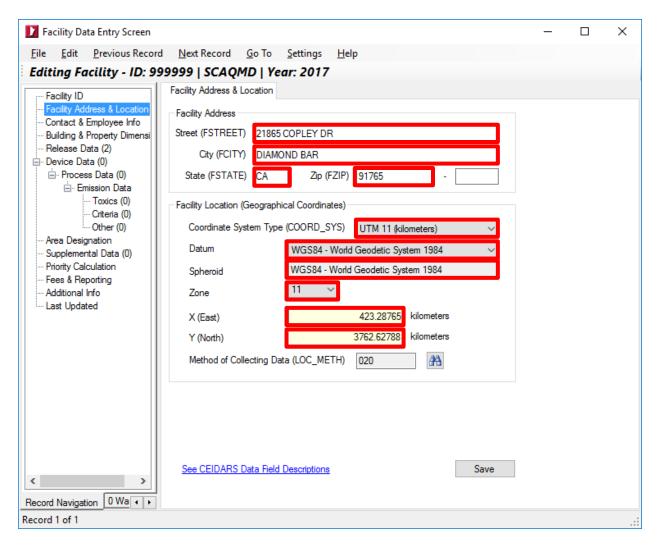
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### **APPENDIX A – Required Entries to EIM**

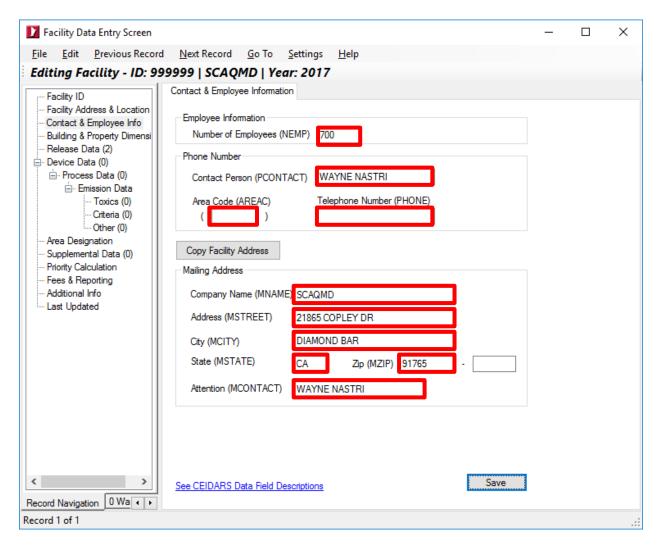
#### 1. Facility Information Entry

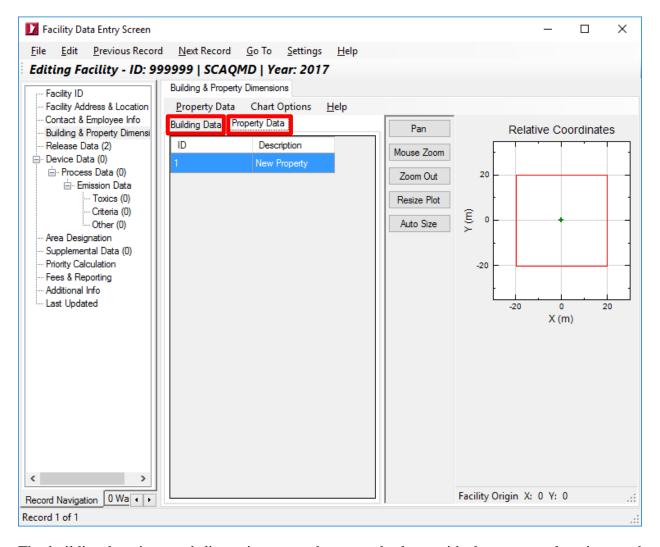


All fields shown with red outline on the EIM screenshot shown above must be completed with the exception of the last two fields (U.S. EPA Facility Registry System ID and Special Project ID). The data for the base Reporting Year must match the inventory year requested by SCAQMD for the facility.



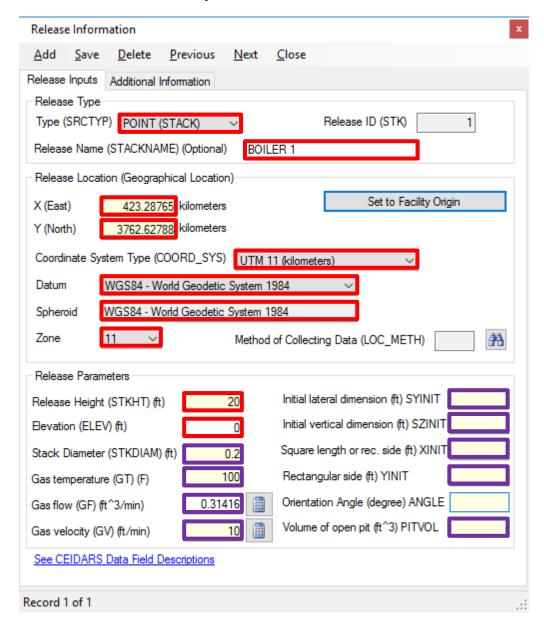
All fields shown with red outline on the EIM screenshot shown above must be completed with the exception of the last field (method of collecting data). The coordinate system type, datum, spheroid and zone must match those shown above.





The building locations and dimensions must be entered, along with the property locations and dimensions. The input should be verified against satellite imagery for correctness; this can be done by exporting the data as KML file and viewing in Google Earth.

#### 2. Release Information Entry



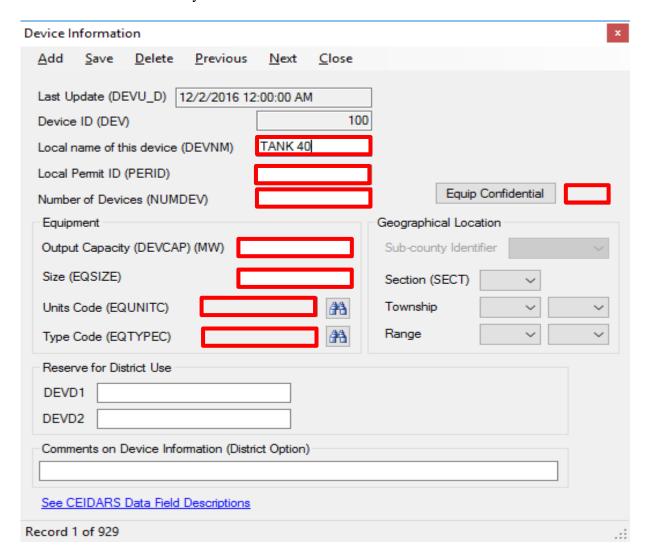
All fields shown with red outline on the EIM screenshot shown above must be completed.

For **point sources**, additional mandatory information are: stack diameter, gas temperature, gas flow, and gas velocity must be completed.

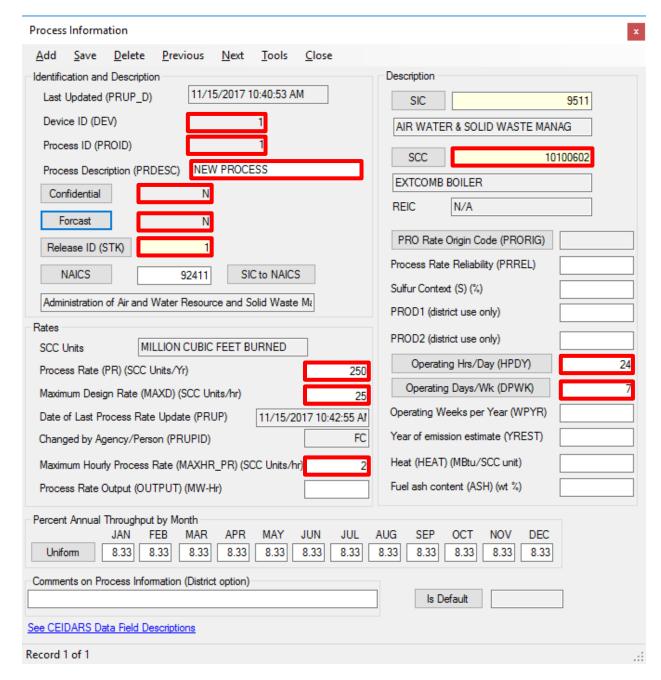
For <u>volume sources</u>, additional mandatory information are: initial lateral and vertical dimensions. For <u>area sources</u>, additional mandatory information are: initial vertical dimension, square or rectangular dimensions.

For **open pits**, additional information is the volume of the open pit.

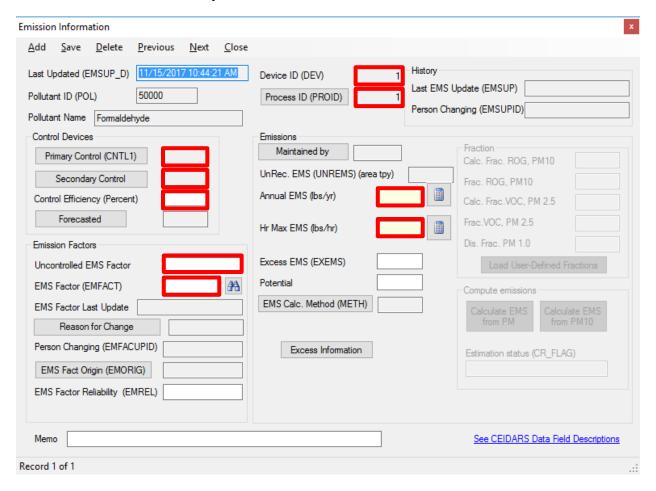
## 3. Device Information Entry



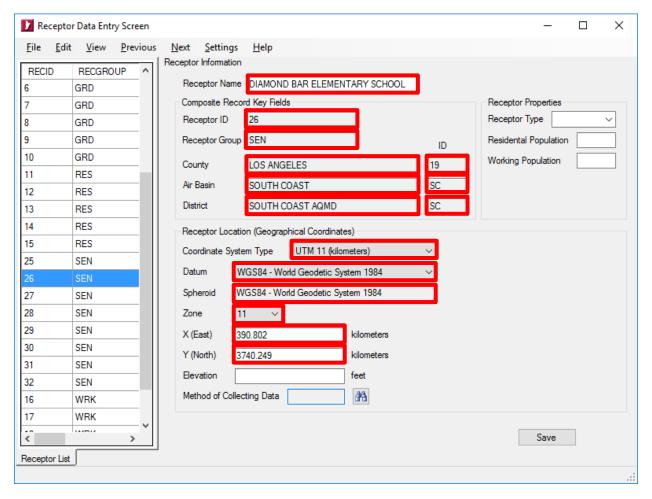
# 4. Process Information Entry



## 5. Emission Information Entry



#### 6. Receptor Information Entry



All fields shown with red outline on the EIM screenshot shown above must be completed in order to provide the following information:

- The coarse grid used to define the zone of impact
- The refined grid used to identify the point of maximum impact and maximum exposed individuals
- Identify all appropriate receptors (i.e. residential, commercial, or sensitive)

# $\label{eq:appendix} \textbf{Appendix} \ \textbf{B} - \textbf{ACRONYMS}, \textbf{ABBREVIATIONS} \ \textbf{AND} \ \textbf{REFERENCE} \ \textbf{OF} \\ \textbf{TERMS}$

AB 2588	Air Toxics "Hot Spots" Information and Assessment Act of 1987
Action Risk Level	MICR of twenty-five in one million (25 x 10 <sup>-6</sup> ), cancer burden of
	one half (0.5), a total acute or chronic HI of three (3.0) for any
	target organ system at any receptor location, or the National
	Ambient Air Quality Standard (NAAQS) for lead.
ATIR	Air Toxics Inventory Report
CAS Number	Chemical Abstract Service Number
HI	Hazard Index
HRA	Health Risk Assessment
MICR	Maximum Individual Cancer Risk
NAICS	North American Industry Classification System
Notification Risk Level	A maximum individual cancer risk of ten in one million (10 x 10
	<sup>6</sup> ), a total acute or chronic HI of one (1.0) for any target organ
	system at any receptor location, or the more stringent of either the
	NAAQS for lead or applicable ambient lead concentration limit in
	a SCAQMD rule.
ОЕННА	California Office of Environmental Health Hazard Assessment
RRP	Risk Reduction Plan
Rule 1402	SCAQMD Rule 1402 – Control of Toxic Air Contaminants from
	Existing Sources
SCAQMD	South Coast Air Quality Management District
SCC	Source Classification Code
SDS	Safety Data Sheet
SIC	Standard Industrial Classification
Significant Risk Level	A maximum individual cancer risk of one hundred in one million
	$(100 \times 10^{-6})$ or a total acute or chronic HI of five (5.0) for any target
	organ system at any receptor location.
TAC	Toxic Air Contaminant
L.	

UTM	Universal Transverse Mercator
Voluntary Risk Threshold	A maximum individual cancer risk of ten in one million (10 x 10
	<sup>6</sup> ), a total acute or chronic HI of one (1.0) for any target organ
	system at any receptor location, or the more stringent of either the
	NAAQS for lead or applicable ambient lead concentration limit in
	a SCAQMD rule.