

## 2. Point Sources

### 2.1 Introduction and scope

This inventory of PM<sub>10</sub> and related pollutants is one of a number of emission inventories being prepared to meet US EPA reporting requirements.

In addition to preparing periodic emissions inventories for the PM<sub>10</sub> nonattainment area (NAA) as a commitment under the current PM<sub>10</sub> State Implementation Plan (SIP), the federal Consolidated Emission Reporting Rule (CERR) requires that state and local agencies prepare emissions estimates on a county basis, and submit data electronically to the US EPA for inclusion in the National Emission Inventory (NEI) for 2005. This inventory is being developed concurrently with similar inventories for CO and ozone precursors (VOC, NO<sub>x</sub>, and CO), as part of Maricopa County's requirements under the respective SIPs.

In order to provide consistency among all these inventories, it was decided to standardize the definition of a “point source”. While EPA has defined minimum point source reporting thresholds for various pollutants, EPA guidance also notes that:

... we encourage organizations to provide facility-specific emissions data for all point sources, regardless of size, where they are already included in the S/L/T [state/local/tribal] emission inventory. (US EPA, 2003)

Since Maricopa County has an established annual reporting program for sources with air quality permits, the thresholds for defining a point source are lower than the minimums required by EPA. For the purposes of this inventory, a point source is a stationary operation within Maricopa County which in 2005 emitted:

- 25 English (short) tons or more of carbon monoxide (CO); or
- 10 tons or more of volatile organic compounds (VOC), oxides of nitrogen (NO<sub>x</sub>), or sulfur oxides (SO<sub>x</sub>); or
- 5 tons or more of particulate matter less than 10 microns (PM<sub>10</sub>) or ammonia compounds (NH<sub>x</sub>).

For the Pinal County portion of the PM<sub>10</sub> non-attainment area, the standard point source definition (70 TPY of PM<sub>10</sub>) was applied. No additional point sources met this reporting threshold.

Additionally, EPA guidance requires emission inventories prepared for SIP development purposes to consider point sources with 25 miles of the non-attainment area boundary. For these sources, the traditional “major source” threshold definitions for attainment areas were applied. No additional point sources met this reporting threshold.

While the above approach results in some anomalies (e.g., a facility treated as a point source may have very low, or no, emissions of a certain pollutant), a uniform definition of “point source” ensures that all data sets, which are prepared for a variety of purposes, will be comparable.

PM<sub>10</sub> is defined as particulate matter less than ten micrometers in diameter. This inventory includes primary emissions of PM<sub>10</sub> and PM<sub>2.5</sub> as well as three particulate matter precursors:

nitrogen oxides (NO<sub>x</sub>), sulfur dioxides (SO<sub>x</sub>) and ammonia (NH<sub>3</sub>). This point source inventory includes annual and typical daily emissions of PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>x</sub>, SO<sub>x</sub>, and NH<sub>3</sub> for 2005. A description and map of the PM<sub>10</sub> nonattainment area are provided in Chapter 1. Questions concerning point source emissions may be directed to Bob Downing of MCAQD at (602) 506-6790.

Several tables have been constructed to provide the point source emissions and category totals. Table 2.2–1 provides an alphabetical list of all point sources and their location. Table 2.4–1 shows the 2005 annual and typical day emissions of PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>x</sub>, SO<sub>x</sub> and NH<sub>3</sub> for those point sources which reported emissions of any of these pollutants broken out by facility. Tables 2.6–1 summarize point source emissions by source category for the county and PM nonattainment area, respectively. Note that totals shown in the tables may not equal the sum of individual values due to independent rounding.

## **2.2 Identification of point sources**

The Maricopa County Air Quality Department (MCAQD) identified point sources within Maricopa County through its electronic permit system database, EMS, and the 2005 annual emissions reports submitted to the department. In addition, the permit system was reviewed to locate new installations that were not included in the previous emission inventory, and to identify sources that have ceased operations since the 2002 periodic inventory was compiled.

A total of 173 stationary point sources were identified using the emission thresholds described in Section 2.1. Of these 173 facilities, 151 sources (listed in Table 2.2–1) reported emissions of PM<sub>10</sub>, NO<sub>x</sub>, SO<sub>x</sub>, and/or ammonia – 140 within the PM<sub>10</sub> nonattainment area, and 11 outside the PM<sub>10</sub> NAA. There are no additional point sources within the 25-mile boundary around the PM<sub>10</sub> nonattainment area with permits issued the Pinal County Air Quality Control District (PCAQCD). While the Arizona Department of Environmental Quality (ADEQ) retains permitting authority for a limited number of industrial source categories in Maricopa County, no ADEQ-permitted facilities are considered point sources, and are addressed instead as area sources.

Table 2.2–1 contains an alphabetical list of all point sources, including a unique business identification number, NAICS industry classification code, business name, and physical address.

**Table 2.2–1. Name and location of all point sources.**

| <b>ID #</b> | <b>NAICS</b> | <b>Business name</b>                        | <b>Address</b>         | <b>City</b>  | <b>ZIP</b> |
|-------------|--------------|---|------------------------|--------------|------------|
| 1074        | 221320       | 23rd Ave Wastewater Treatment Plant         | 2470 S 22nd Ave        | Phoenix      | 85009      |
| 1075        | 221320       | 91st Ave Wastewater Treatment Plant         | 5615 S 91st Ave        | Tolleson     | 85353      |
| 1387        | 332312       | Able Steel Fabricators                      | 4150 E Quartz Cir      | Mesa         | 85215      |
| 1952        | 423110       | Adesa Phoenix LLC                           | 400 N Beck Ave         | Chandler     | 85226      |
| 245         | 337122       | AF Lorts Manufacturing Company              | 8120 W Harrison St     | Tolleson     | 85353      |
| 35541       | 33121        | Allied Tube and Conduit                     | 2525 N 27th Ave        | Phoenix      | 85009      |
| 1834        | 518210       | American Express IPC Facility               | 3151 W Behrend Dr      | Phoenix      | 85027      |
| 31637       | 115111       | Anderson Clayton Corp-Valencia Gin          | 25500 W Southern Ave   | Buckeye      | 85326      |
| 3313        | 221112       | APS West Phx Power Plant                    | 4606 W Hadley St       | Phoenix      | 85043      |
| 3938        | 332812       | Arizona Galvanizing Inc                     | 15775 Elwood St        | Goodyear     | 85338      |
| 36772       | 212321       | Arizona Materials                           | 3636 S 43rd Ave        | Phoenix      | 85009      |
| 4364        | 61131        | Arizona State University                    | 1551 S Rural Rd        | Tempe        | 85287      |
| 334         | 311211       | Bay State Milling Co                        | 421 S 99th Ave         | Tolleson     | 85353      |
| 74058       | 321918       | Biltmore Shutters Inc                       | 1138 W Watkins St      | Phoenix      | 85007      |
| 43124       | 313230       | Bonded Logic Inc                            | 411 E Ray Rd           | Chandler     | 85225      |
| 458         | 32191        | Bryant Industries Inc                       | 788 W Illini St        | Phoenix      | 85041      |
| 217         | 327123       | Building Products Co                        | 4850 W Buckeye Rd      | Phoenix      | 85043      |
| 56105       | 33711        | Burdette Cabinet Co Inc                     | 3941 N Higley Rd       | Mesa         | 85215      |
| 1218        | 562212       | Butterfield Station Facility                | 40404 S 99th Ave       | Mobile       | 85239      |
| 3442        | 493190       | Caljet                                      | 125 N 53rd Ave         | Phoenix      | 85043      |
| 60598       | 337211       | Case Furniture & Design LLC                 | 4645 W Polk St         | Phoenix      | 85043      |
| 1318        | 321991       | Cavco Industries Inc (Litchfield)           | 1366 S Litchfield Rd   | Goodyear     | 85338      |
| 1317        | 321991       | Cavco Industries Inc (S. 35th Ave.)         | 2602 S 35th Ave        | Phoenix      | 85009      |
| 1316        | 321991       | Cavco Industries LLC/Durango Plant          | 2502 W Durango St      | Phoenix      | 85009      |
| 4401        | 32732        | Cemex Construction Materials                | 6500 N 115th Ave       | Glendale     | 85323      |
| 1267        | 32732        | Cemex Mesa Plants No #61 & #71              | 1901 N Alma School Rd  | Mesa         | 85201      |
| 1268        | 212321       | Cemex Usa (107th Ave.)                      | 24004 N 107th Ave      | Sun City     | 85373      |
| 1266        | 212321       | Cemex Usa (W. Indian School Rd.)            | 11701 W Indian School  | Phoenix      | 85063      |
| 1310        | 32311        | Century Graphics LLC                        | 2960 Grand Ave         | Phoenix      | 85017      |
| 3976        | 33711        | Cholla Custom Cabinets Inc                  | 1727 E Deer Valley Dr  | Phoenix      | 85024      |
| 61573       | 212322       | Circle H Sand & Rock                        | 6400 S El Mirage Rd    | Tolleson     | 85353      |
| 35819       | 562212       | City of Chandler Landfill                   | 3850 S McQueen Rd      | Chandler     | 85249      |
| 38731       | 321991       | Clayton Homes-El Mirage                     | 12345 W Butler Dr      | El Mirage    | 85335      |
| 113723      | 212321       | Contractors Landfill & Recycling            | 2425 N Center St       | Mesa         | 85201      |
| 399         | 32739        | Coreslab Structures (Ariz) Inc              | 5026 S 43rd Ave        | Phoenix      | 85041      |
| 1198        | 32311        | Courier Graphics Corp                       | 2621 S 37th St         | Phoenix      | 85034      |
| 4368        | 32191        | Craftsmen In Wood Mfg                       | 5441 W Hadley St       | Phoenix      | 85043      |
| 1389        | 541380       | DaimlerChrysler Arizona Proving Grounds     | 33040 N 203rd Ave      | Wittmann     | 85361      |
| 130         | 331512       | Dolphin Inc                                 | 740 S 59th Ave         | Phoenix      | 85043      |
| 48771       | 32739        | Eagle Roofing Products                      | 4602 W Elwood St       | Phoenix      | 85043      |
| 3305        | 311812       | Earthgrains Baking Companies Inc            | 738 W Van Buren St     | Phoenix      | 85007      |
| 26          | 423810       | Empire Machinery Co                         | 1725 S Country Club Dr | Mesa         | 85210      |
| 1505        | 32191        | Executive Door                              | 3939 W Clarendon Ave   | Phoenix      | 85019      |
| 1488        | 115111       | Farmer's Gin Inc                            | 8400 S Turner Rd       | Buckeye      | 85326 *    |
| 27728       | 334413       | Flipchip International LLC                  | 3701 E University Dr   | Phoenix      | 85034      |
| 881         | 334413       | Freescale Semiconductor Inc (Alma School)   | 1300 N Alma School Rd  | Chandler     | 85224      |
| 1109        | 334413       | Freescale Semiconductor Inc (Elliott Rd.)   | 2100 E Elliot Rd       | Tempe        | 85284      |
| 44439       | 221112       | Gila River Power Station                    | 1250 E Watermelon Rd   | Gila Bend    | 85337 *    |
| 73110       | 424910       | Glenn Weinberger Topsoil Inc                | 39500 S 99th Ave       | Maricopa Co. | 85239      |
| 508         | 337122       | Golden Eagle Manufacturing                  | 601 S 65th Ave         | Phoenix      | 85043      |
| 1418        | 326299       | Goodrich Aircraft Interior Products         | 3414 S 5th St          | Phoenix      | 85040      |
| 699         | 212321       | Hanson Aggregates of Arizona (S. 51st Ave.) | 4002 S 51st Ave        | Phoenix      | 85043      |

\* = Facility is outside the PM<sub>10</sub> nonattainment area.

**Table 2.2–1. Name and location of all point sources (continued).**

| <b>ID #</b> | <b>NAICS</b> | <b>Business name</b>                            | <b>Address</b>         | <b>City</b> | <b>ZIP</b> |
|-------------|--------------|---|------------------------|-------------|------------|
| 4498        | 212321       | Hanson Aggregates of Arizona (W. Indian School) | 33500 W Indian School  | Phoenix     | 85340 *    |
| 31565       | 32614        | Henry Products Inc                              | 302 S 23rd Ave         | Phoenix     | 85009      |
| 529         | 32614        | Highland Products Inc                           | 43 N 48th Ave          | Phoenix     | 85043      |
| 3536        | 311812       | Holsum Bakery Inc                               | 2322 W Lincoln St      | Phoenix     | 85009      |
| 1059        | 336412       | Honeywell Engines Sys & Service Phx R&O         | 1944 E Sky Harbor Cir  | Phoenix     | 85034      |
| 247         | 336413       | Honeywell Engines Systems Accessories           | 1300 W Warner Rd       | Tempe       | 85284      |
| 355         | 336412       | Honeywell-Engines Systems & Services            | 111 S 34th St          | Phoenix     | 85034      |
| 403         | 331316       | Hydro Aluminum North America Inc                | 249 S 51st Ave         | Phoenix     | 85043      |
| 777         | 32614        | Insulfoam                                       | 3401 W Cocopah St      | Phoenix     | 85009      |
| 3966        | 334413       | Intel Corp-Ocotillo Campus (Fab 12 & 22)        | 4500 S Dobson Rd       | Chandler    | 85248      |
| 725         | 212321       | Kilauea Crushers Inc                            | Hwy 74                 | Wickenburg  | 85358 *    |
| 341         | 325991       | L & M Laminates & Marble                        | 813 E University Dr    | Phoenix     | 85034      |
| 96886       | 337122       | Legends Furniture                               | 10300 W Buckeye Rd     | Tolleson    | 85353      |
| 43063       | 221112       | LSP Arlington Valley LLC                        | 39027 W Elliot Rd      | Arlington   | 85322 *    |
| 3300        | 92811        | Luke AFB - 56Th Fighter Wing                    | 14002 W Marauder St    | Glendale    | 85309      |
| 744         | 331513       | M E Global Inc                                  | 5857 S Kyrene Rd       | Tempe       | 85283      |
| 1248        | 325991       | Maax Spas Arizona                               | 25605 S Arizona Ave    | Chandler    | 85248      |
| 31261       | 21231        | Madison Granite Supplies                        | 30600 N 23rd Ave       | Phoenix     | 85027      |
| 44092       | 32732        | Maricopa Ready Mix (Litchfield)                 | 4405 S Litchfield Rd   | Phoenix     | 85338      |
| 40470       | 32732        | Maricopa Ready Mix (Sun City)                   | 10800 W Rose Garden    | Sun City    | 85373      |
| 353         | 326199       | Marlam Industries Inc                           | 834 E Hammond Ln       | Phoenix     | 85034      |
| 289         | 115111       | Martori Farms                                   | 51040 W Valley Rd      | Aguila      | 85320 *    |
| 62          | 33711        | Mastercraft Cabinets Inc                        | 305 S Brooks           | Mesa        | 85202      |
| 3326        | 325991       | Mesa Fully Formed Inc                           | 1111 S Sistine St      | Mesa        | 85210      |
| 1415        | 212321       | Mesa Materials Inc (Broadway)                   | 7845 W Broadway Rd     | Phoenix     | 85043      |
| 1414        | 212321       | Mesa Materials Inc (Higley)                     | 3410 N Higley Rd       | Mesa        | 85205      |
| 44186       | 221112       | Mesquite Generating Station                     | 37625 W Elliot Rd      | Arlington   | 85322 *    |
| 1875        | 334413       | Microchip Technology Inc                        | 1200 S 52nd St         | Tempe       | 85281      |
| 226         | 32739        | Monier Lifetile LLC                             | 1832 S 51st Ave        | Phoenix     | 85043      |
| 34197       | 327420       | National Gypsum Co                              | 1414 E Hadley St       | Phoenix     | 85034      |
| 910         | 334412       | Neltec Inc                                      | 1420 W 12th Pl         | Tempe       | 85281      |
| 73084       | 337122       | New Directions Incorporated                     | 402 S 63rd Ave         | Phoenix     | 85009      |
| 43530       | 221112       | New Harquahala Generating Co                    | 2530 N 491st Ave       | Tonopah     | 85354 *    |
| 1879        | 562212       | Northwest Regional Landfill                     | 19401 W Deer Valley    | Surprise    | 85374      |
| 1331        | 337122       | Oak Canyon Manufacturing Inc                    | 3021 N 29th Dr         | Phoenix     | 85017      |
| 3953        | 33711        | Oakcraft Inc                                    | 7733 W Olive Ave       | Peoria      | 85345      |
| 27925       | 337122       | Oasis Bedroom Co                                | 2022 N 22nd Ave        | Phoenix     | 85009      |
| 52382       | 221112       | Ocotillo Power Plant                            | 1500 E University Dr   | Tempe       | 85281      |
| 528         | 322211       | Packaging Corporation of America Inc            | 441 S 53rd Ave         | Phoenix     | 85043      |
| 98          | 221113       | Palo Verde Nuclear Generating Station           | 5801 S Wintersburg Rd  | Tonopah     | 85354 *    |
| 428         | 115111       | Paloma Gin Properties LLC                       | I-8                    | Gila Bend   | 85337 *    |
| 733         | 811412       | Pan-Glo Services                                | 2401 W Sherman St      | Phoenix     | 85009      |
| 1341        | 33992        | Penn Racquet Sports Inc                         | 306 S 45th Ave         | Phoenix     | 85043      |
| 1014        | 327121       | Phoenix Brick Yard                              | 1814 S 7th Ave         | Phoenix     | 85007      |
| 562         | 51111        | Phoenix Newspapers Inc                          | 22600 N 19th Ave       | Phoenix     | 85027      |
| 1154        | 33992        | Ping Inc  | 2201 W Desert Cove Ave | Phoenix     | 85029      |
| 92072       | 212313       | Pioneer Landscaping Materials                   | 23044 N 7th St         | Phoenix     | 85024      |
| 148         | 331528       | Presto Casting Co                               | 5440 W Missouri Ave    | Glendale    | 85301      |
| 60889       | 811198       | Purcells Western States Tire                    | 420 S 35th Ave         | Phoenix     | 85009      |
| 1030        | 32311        | Quebecor World-Phoenix Division                 | 1850 E Watkins St      | Phoenix     | 85034      |
| 44182       | 332312       | Quincy Joist Company                            | 22253 W Southern Ave   | Buckeye     | 85326      |
| 50299       | 713910       | Quintero Area Water System                      | 16752 W St Rt 74       | Peoria      | 85382      |

\* = Facility is outside the PM<sub>10</sub> nonattainment area.

**Table 2.2–1. Name and location of all point sources (continued).**

| <b>ID #</b> | <b>NAICS</b> | <b>Business name</b>                       | <b>Address</b>        | <b>City</b>   | <b>ZIP</b> |
|-------------|--------------|--|-----------------------|---------------|------------|
| 537         | 327999       | Red Mountain Mining Inc                    | 4520 N Power Rd       | Mesa          | 85215      |
| 42956       | 221112       | Redhawk Generating Facility                | 11600 S 363rd Ave     | Arlington     | 85322 *    |
| 303         | 332431       | Rexam Beverage Can Company                 | 211 N 51st Ave        | Phoenix       | 85043      |
| 63          | 212321       | Rinker Materials (El Mirage)               | 8635 N El Mirage Rd   | El Mirage     | 85335      |
| 260         | 212321       | Rinker Materials (S. 19th Ave.)            | 3640 S 19th Ave       | Phoenix       | 85009      |
| 64781       | 212313       | Rinker Materials (S. 59th Ave.)            | 5605 S 59th Ave       | Laveen        | 85339      |
| 213         | 212321       | Rinker Materials (W. Glendale)             | 11920 W Glendale Ave  | Glendale      | 85307      |
| 4318        | 32732        | River Ranch Plant #40                      | 5159 N El Mirage Rd   | Litchfield Pk | 85340      |
| 759         | 32613        | Rogers Corp/Advanced Circuit Materials     | 100 S Roosevelt Ave   | Chandler      | 85226      |
| 1437        | 334412       | Sanmina Phoenix Division                   | 5020 S 36th St        | Phoenix       | 85040      |
| 3315        | 221112       | Santan Generating Station                  | 1005 S Val Vista Rd   | Gilbert       | 85296      |
| 266         | 332312       | Schuff Steel Co                            | 420 S 19th Ave        | Phoenix       | 85009      |
| 246         | 321991       | Schult Homes                               | 231 N Apache Rd       | Buckeye       | 85326      |
| 4175        | 424710       | SFPP LP Phoenix Terminal                   | 49 N 53rd Ave         | Phoenix       | 85043      |
| 50422       | 336413       | Simula Safety Systems Inc                  | 7822 S 46th St        | Phoenix       | 85044      |
| 27933       | 562212       | Skunk Creek Landfill                       | 3165 W Happy Valley   | Phoenix       | 85027      |
| 331         | 321999       | Smurfit Stone Container Corp               | 6900 W Northern Ave   | Glendale      | 85303      |
| 46277       | 321999       | Southwest Forest Products Inc              | 2828 S 35th Ave       | Phoenix       | 85009      |
| 3316        | 221112       | SRP Agua Fria Generating Station           | 7302 W Northern Ave   | Glendale      | 85303      |
| 3317        | 221112       | SRP Kyrene Generating Station              | 7005 S Kyrene Rd      | Tempe         | 85283      |
| 4131        | 334413       | ST Microelectronics                        | 1000 E Bell Rd        | Phoenix       | 85022      |
| 1444        | 327123       | Staco Architectural Roof Tile              | 3530 E Elwood St      | Phoenix       | 85040      |
| 582         | 337122       | Stone Creek Inc                            | 4221 E Raymond St     | Phoenix       | 85040      |
| 4400        | 334413       | Sumco Southwest Corporation                | 19801 N Tatum Blvd    | Phoenix       | 85050      |
| 378         | 212321       | Sun Land Materials                         | 6950 W Southern Ave   | Laveen        | 85339      |
| 281         | 212321       | Sun State Rock & Materials                 | 11500 W Beardsley Rd  | Sun City      | 85373      |
| 101         | 31161        | Sunland Beef Company                       | 651 S 91st Ave        | Tolleson      | 85353      |
| 31643       | 562212       | SW Reg Municipal Solid Waste Landfill      | 24427 S Hwy 85        | Buckeye       | 85326      |
| 249         | 336411       | The Boeing Company                         | 5000 E McDowell Rd    | Mesa          | 85215      |
| 552         | 337122       | Thornwood Furniture Mfg                    | 5125 E Madison St     | Phoenix       | 85034      |
| 363         | 337122       | Thunderbird Furniture                      | 7501 E Redfield Rd    | Scottsdale    | 85260      |
| 56          | 32739        | TPAC A Division of Kiewit Western Co       | 3052 S 19th Ave       | Phoenix       | 85009      |
| 1211        | 337122       | Trendwood Inc (E. University)              | 261 E University Dr   | Phoenix       | 85004      |
| 1210        | 337122       | Trendwood Inc (S. 15th Ave.)               | 2402 S 15th Ave       | Phoenix       | 85007      |
| 37546       | 32739        | Trenwyth Industries                        | 4626 N 42nd Ave       | Phoenix       | 85019      |
| 42915       | 322299       | U S Greenfiber-Phoenix                     | 601 S 55th Ave        | Phoenix       | 85043      |
| 234         | 311514       | United Dairymen of Arizona                 | 2008 S Hardy Dr       | Tempe         | 85282      |
| 53          | 32739        | Utility Vault Co                           | 411 E Frye Rd         | Chandler      | 85225      |
| 2           | 32412        | Vulcan Materials Co (115th Ave.)           | 14521 N 115th Ave     | El Mirage     | 85335      |
| 90          | 32732        | Vulcan Materials Co (43rd Ave.)            | 4830 S 43rd Ave       | Phoenix       | 85041      |
| 344         | 212321       | Vulcan Materials Co (W. Indian School Rd.) | 11923 W Indian School | Avondale      | 85039      |
| 174         | 325998       | W R Meadows of Az Inc                      | 4220 S Sarival Ave    | Goodyear      | 85338      |
| 36676       | 311119       | Western Milling                            | 310 S 24th Ave        | Phoenix       | 85009      |
| 141         | 424910       | Western Organics Inc                       | 2807 S 27th Ave       | Phoenix       | 85009      |
| 398         | 212321       | Wickenburg Facility                        | 44605 Grand Ave       | Wickenburg    | 85390      |
| 20706       | 32614        | Wincup Holdings Inc                        | 7980 W Buckeye Rd     | Phoenix       | 85043      |
| 1382        | 33711        | Woodcase Fine Cabinetry Inc                | 3255 W Osborn Rd      | Phoenix       | 85017      |

\* = Facility is outside the PM<sub>10</sub> nonattainment area.

## 2.3 Procedures for estimating emissions from point sources

Annual and typical daily emission estimates were determined from annual source emission reports, MCAQD investigation reports, permit files and logs, or telephone contacts with sources. For most of the sources, material balance methods were used for determining emissions. Emissions were estimated using the emission factors from AP-42, source tests, engineering calculations, or manufacturers' specifications.

MCAQD distributes annual emissions survey forms to nearly all facilities for which MCAQD has issued an operating permit. Facilities are required to report detailed information on stacks, control devices, operating schedules, and process-level information concerning their annual activities. (See Appendix 2.1 for a copy of the instructions to complete the emissions inventory.) These instructions include examples and explanations on how to complete the annual emissions reporting forms that facilities must submit to MCAQD.

After a facility has submitted an annual emissions report to MCAQD, emissions inventory staff checks all reports for missing and questionable data, and check the accuracy and reasonableness of all emissions calculations with AP-42, the Factor Information and REtrieval (FIRE) software, and other EPA documentation. Control efficiencies are determined by source tests when available, or by AP-42 factors, engineering calculations, or manufacturers' specifications. MCAQD has conducted annual emissions surveys for permitted facilities since 1988, and the department's database system, EMS, contains numerous automated quality assurance/quality control checks for data input and processing.

### 2.3.1 Calculation of $PM_{2.5}$ emissions

For all county-permitted sources that submitted an annual emission inventory report, all process-level emissions for  $PM_{10}$ ,  $NO_x$ ,  $SO_x$ , and  $NH_3$  were calculated for each facility. Actual emissions for these pollutants were calculated using reported emission factors (from AP-42 or source test results) and reflecting any control devices installed.  $PM_{2.5}$  was calculated using a variety of methods, depending on the Source Classification Code (SCC) of the process reported:

1. For those SCC's and control device combinations included in EPA's "PM<sub>2.5</sub> Calculator", this software program was used to calculate  $PM_{2.5}$ , using EPA-recommended emission factors and typical control efficiencies.
2. For processes with no  $PM_{10}$  controls, emission factors for  $PM_{2.5}$  published by the California Air Resources Board (CARB, 2004) were used where available.
3. For all other processes (where neither of the above resources provided guidance),  $PM_{2.5}$  was assumed equal to  $PM_{10}$  as a conservative estimate.

### 2.3.2 *Application of rule effectiveness*

Rule effectiveness reflects the actual ability of a regulatory program to achieve the emission reductions required by regulation. The concept of applying rule effectiveness in a SIP emission inventory has evolved from the observation that regulatory programs may be less than 100 percent effective for some source categories. Rule effectiveness (RE) is applied to those sources affected by a regulation and for which emissions are determined by means of emission factors and control efficiency estimates.

In prior years, EPA guidance (US EPA, 2003b) recommended using a default RE value of 80%. More recently, a workgroup consisting of emissions inventory staff from state, local and EPA offices convened to review existing rule effectiveness (RE) guidance, and develop consensus recommendation for improvements to this guidance. This work resulted in the development of questionnaires for point and area sources, which identify control program factors most likely to affect RE.

MCAQD applied this revised approach (US EPA, 2005, Appendix B) to controlled processes reported by facilities on their annual emission reports. The quantification of RE was performed for three groups of industrial processes:

- For manually controlled processes that are regulated by Maricopa County Rule 316 (Nonmetallic Mineral Processing), EPA's non-point source guidance was applied to determine the rule effectiveness of County Rule 316. Results showed an overall rule effectiveness of 54.36%; see Appendix 2.2 for details.
- For most other processes that claimed emissions reductions through the use of a control device, EPA's point source guidance was applied to determine the effectiveness of the reported capture and control efficiencies. Calculations were performed separately for Title V and non-Title V sources. Application of the 2005 EPA guidance resulted in overall RE values of 90.55% (for Title V processes) and 87.95% (for non-Title V). A sample questionnaire and documentation of calculations for these processes is included in Appendix 2.3.

Section 2.3.4 contains a detailed description of the application of RE for a specific process. The following sections illustrate how emission estimates were obtained for the Maricopa County-permitted sources listed in Table 2.2-1.

### 2.3.3 Example 1: 91st Ave. Wastewater Treatment Plant

One of the processes at this municipal wastewater treatment plant is a flare that burns off captured methane (digester gas). The firm provided the following information used to calculate emissions from the flare:

Calculation of annual PM<sub>10</sub> emissions from flare:

$$\begin{aligned}\text{Annual PM}_{10} \text{ emissions (lbs)} &= \text{Volume of material processed annually} \times \text{AP-42 emission factor} \\ &= 234.02 \text{ MMCF/yr} \times 24.43 \text{ lb PM}_{10} / \text{million cu. ft (MMCF)} \\ &= 5,717 \text{ lbs PM}_{10}/\text{yr}\end{aligned}$$

Calculation of annual PM<sub>2.5</sub> emissions:

CARB (2004) provides an uncontrolled PM<sub>2.5</sub>: PM<sub>10</sub> ratio of 0.6842 for SCC 50100410, Landfill Dump: Waste Gas Destruction: Waste Gas Flare. This ratio was used to derive annual PM<sub>2.5</sub> emissions from the flare:

$$\begin{aligned}\text{Annual PM}_{2.5} \text{ emissions (lbs)} &= \text{Annual PM}_{10} \text{ emissions} \times \text{PM}_{2.5}: \text{PM}_{10} \text{ ratio} \\ &= 5,717 \text{ lbs PM}_{10}/\text{yr} \times 0.6842 \\ &= 3,912 \text{ lbs PM}_{2.5}/\text{yr}\end{aligned}$$

Calculation of typical daily emissions:

The 91st Ave. Wastewater Treatment Plant provided seasonal operating data for each process. Typical daily emissions are calculated based on the daily and annual operating schedule, as follows:

$$\begin{aligned}\text{Typical daily emissions} &= \text{Annual emissions} \div (\text{days/week} \times \text{weeks/year}) \\ \text{(lbs/day)} &= 5,717 \text{ lbs PM}_{10}/\text{yr} \div (7 \text{ days/wk} \times 52 \text{ wks/yr}) \\ &= 15.7 \text{ lbs PM}_{10}/\text{day}\end{aligned}$$

### 2.3.4 Example 2: River Ranch Plant #40

The example below demonstrates the steps involved in calculating emissions and the application of rule effectiveness. The example below shows how PM<sub>10</sub> emissions were calculated for a single process, aggregate delivery to ground storage for River Ranch Plant, a concrete batching facility:

$$\begin{aligned}\text{Uncontrolled emissions (lbs/yr)} &= \text{Annual throughput} \times \text{emission factor} \\ &= 256,110 \text{ tons} \times 0.0033 \text{ lbs PM}_{10}/\text{ton} \\ &= 845.2 \text{ lb PM}_{10}/\text{yr}\end{aligned}$$

Uncontrolled emissions from many processes can be reduced in a number of ways, including installation of a control device to capture and control pollutants. This process uses watering (typically assumed to control 70%) to control PM<sub>10</sub> emissions. Thus total controlled emissions are calculated as follows:

$$\begin{aligned}\text{Controlled emissions (lbs/yr)} &= \text{Uncontrolled emissions} \times [1 - (\% \text{ capture efficiency} \times \% \text{ control effectiveness})] \\ &= 845.2 \text{ lbs} \times [1 - (100\% \text{ capture} \times 70\% \text{ control})] \\ &= 845.2 \text{ lbs} \times 0.30 \\ &= 253.5 \text{ lb PM}_{10}/\text{yr}\end{aligned}$$

This total was reported on the facility's annual emissions inventory as actual PM<sub>10</sub> emissions from this process. In developing the SIP inventory, rule effectiveness (RE) is applied to the reported control device efficiency, following EPA guidelines. As described in Section 2.3.2, a value of 54.36% RE was applied to this process. Thus the total annual emissions including RE was calculated as:

$$\begin{aligned}\text{Annual emissions reflecting RE} &= \text{Uncontrolled emissions} \times [1 - (\text{capture efficiency} \times \text{control efficiency} \times \text{RE})] \\ &= 845.2 \text{ lbs PM}_{10} / \text{yr} \times [1 - (100\% \times 70\% \times 54.36\%)] \\ &= 845.2 \text{ lbs} \times 0.6195 \\ &= 523.6 \text{ lbs PM}_{10}/\text{yr}\end{aligned}$$

#### Calculation of typical daily emissions:

Typical daily emissions were derived from annual emissions, using operating schedule data as follows:

$$\begin{aligned}\text{Typical daily emissions (lbs/day)} &= \text{Annual emissions (reflecting RE)} \div (\text{days/week} \times \text{weeks/year}) \\ &= 523.6 \text{ lbs/yr} \div (5 \text{ days/wk} \times 52 \text{ wks/yr}) \\ &= 2.0 \text{ lbs PM}_{10}/\text{day}\end{aligned}$$

## **2.4 Detailed overview of point source emissions**

### ***2.4.1 Point source emissions by geographic location***

Table 2.4–1 provides a summary of annual and typical daily emissions from all point sources, within and outside the PM<sub>10</sub> nonattainment area. Sources for which rule effectiveness has been applied (for PM<sub>10</sub> emissions) are noted. Values of “0.00” and “0.0” for annual and daily emissions denote a value below the level of significance (0.005 tons/yr and 0.05 lbs/day, respectively).

**Table 2.4-1. Annual and typical daily point source emissions, by facility.**

| <b>Facilities inside the PM<sub>10</sub> nonattainment area:</b> |   |                  |                   |                 |                 |                 |                       |                   |                 |                 |                 |
|--|---|------------------|-------------------|-----------------|-----------------|-----------------|-----------------------|-------------------|-----------------|-----------------|-----------------|
| ID #   | Business name                               | Annual (tons/yr) |                   |                 |                 |                 | Typical day (lbs/day) |                   |                 |                 |                 |
|  |   | PM <sub>10</sub> | PM <sub>2.5</sub> | NO <sub>x</sub> | SO <sub>x</sub> | NH <sub>3</sub> | PM <sub>10</sub>      | PM <sub>2.5</sub> | NO <sub>x</sub> | SO <sub>x</sub> | NH <sub>3</sub> |
| 1074   | 23rd Ave Wastewater Treatment Plant         | 1.28             | 0.90              | 4.18            | 7.24            | 0.08            | 7.0                   | 5.0               | 23.0            | 39.8            | 0.5             |
| 1075   | 91st Ave Wastewater Treatment Plant         | 11.37            | 7.88              | 14.75           | 46.42           | 0.00            | 62.5                  | 43.3              | 81.0            | 255.0           | 0.0             |
| 1387   | Able Steel Fabricators *                    | 0.23             | 0.21              |                 |                 |                 | 1.8                   | 1.6               |                 |                 |                 |
| 1952   | Adesa Phoenix LLC                           | 0.01             | 0.01              | 0.11            | 0.00            | 0.01            | 0.1                   | 0.1               | 0.8             | 0.0             | 0.1             |
| 245  | AF Lorts Manufacturing Company *            | 6.47             | 5.17              | 0.02            | 0.00            | 0.00            | 49.8                  | 39.8              | 0.2             | 0.0             | 0.0             |
| 35541  | Allied Tube and Conduit                     | 0.01             | 0.01              | 0.11            | 0.00            | 0.01            | 0.1                   | 0.1               | 0.9             | 0.0             | 0.1             |
| 1834   | American Express IPC Facility               | 0.77             | 0.77              | 11.01           | 0.72            | 0.03            | 4.3                   | 4.2               | 60.5            | 4.0             | 0.1             |
| 31637  | Anderson Clayton Corp-Valencia Gin *        | 16.97            | 4.39              | 0.05            | 0.00            |                 | 93.2                  | 24.1              | 0.3             | 0.0             |                 |
| 3313   | APS West Phx Power Plant                    | 54.59            | 51.06             | 518.91          | 5.61            | 97.63           | 300.0                 | 280.6             | 2,851.1         | 30.8            | 536.5           |
| 3938   | Arizona Galvanizing Inc *                   | 9.44             | 5.75              | 2.84            | 0.02            | 0.27            | 51.9                  | 31.6              | 15.6            | 0.1             | 1.5             |
| 36772  | Arizona Materials *                         | 15.43            | 6.33              |                 |                 |                 | 98.9                  | 40.6              |                 |                 |                 |
| 4364   | Arizona State University                    | 1.67             | 1.67              | 11.66           | 0.17            | 1.95            | 9.2                   | 9.2               | 64.1            | 0.9             | 10.7            |
| 334  | Bay State Milling Co *                      | 6.46             | 3.33              |                 |                 |                 | 49.7                  | 25.6              |                 |                 |                 |
| 74058  | Biltmore Shutters Inc                       | 0.01             | 0.01              |                 |                 |                 | 0.1                   | 0.1               |                 |                 |                 |
| 43124  | Bonded Logic Inc *                          | 9.48             | 9.48              | 0.19            | 0.00            | 0.02            | 73.0                  | 73.0              | 1.5             | 0.0             | 0.1             |
| 458  | Bryant Industries Inc *                     | 1.24             | 0.99              |                 |                 |                 | 9.5                   | 7.6               |                 |                 |                 |
| 217  | Building Products Co *                      | 14.52            | 4.73              | 5.34            | 11.42           | 0.02            | 83.7                  | 28.2              | 29.8            | 62.7            | 0.2             |
| 56105  | Burdette Cabinet Co Inc                     | 0.04             | 0.04              |                 |                 |                 | 0.3                   | 0.3               |                 |                 |                 |
| 1218   | Butterfield Station Facility *              | 30.45            | 21.76             | 2.08            | 0.45            | 0.00            | 233.5                 | 166.9             | 13.3            | 2.6             | 0.0             |
| 3442   | Caljet                                      | 0.00             | 0.00              | 1.38            | 0.00            | 0.04            | 0.0                   | 0.0               | 7.6             | 0.0             | 0.2             |
| 60598  | Case Furniture & Design LLC *               | 3.08             | 2.28              |                 |                 |                 | 19.7                  | 14.6              |                 |                 |                 |
| 1318   | Cavco Industries Inc (Litchfield) *         | 0.84             | 0.67              |                 |                 |                 | 6.4                   | 5.2               |                 |                 |                 |
| 1317   | Cavco Industries Inc (S. 35th Ave.) *       | 0.09             | 0.09              |                 |                 |                 | 0.7                   | 0.7               |                 |                 |                 |
| 1316   | Cavco Industries LLC/Durango Plant *        | 0.53             | 0.42              |                 |                 |                 | 4.1                   | 3.2               |                 |                 |                 |
| 4401   | Cemex Construction Materials *              | 17.45            | 7.50              |                 |                 |                 | 95.9                  | 41.2              |                 |                 |                 |
| 1267   | Cemex Mesa Plants No #61 & #71 *            | 29.29            | 13.63             | 61.69           | 0.65            | 0.14            | 160.9                 | 74.9              | 338.9           | 3.5             | 0.8             |
| 1268   | Cemex USA (107th Ave.) *                    | 33.87            | 17.45             |                 |                 |                 | 186.1                 | 95.9              |                 |                 |                 |
| 1266   | Cemex USA (W. Indian School Rd.) *          | 28.57            | 12.87             |                 |                 |                 | 157.0                 | 70.7              |                 |                 |                 |
| 1310   | Century Graphics LLC                        | 0.00             | 0.00              | 0.06            | 0.00            | 0.01            | 0.0                   | 0.0               | 0.4             | 0.0             | 0.0             |
| 3976   | Cholla Custom Cabinets Inc                  | 0.09             | 0.07              | 0.10            | 0.00            |                 | 0.7                   | 0.5               | 0.7             | 0.0             |                 |
| 61573  | Circle H Sand & Rock *                      | 8.33             | 3.40              | 12.82           | 0.84            | 0.03            | 62.8                  | 25.7              | 98.6            | 6.5             | 0.2             |
| 35819  | City of Chandler Landfill *                 | 3.16             | 2.22              | 6.57            | 1.04            |                 | 17.4                  | 12.2              | 36.1            | 5.7             |                 |
| 38731  | Clayton Homes-El Mirage *                   | 0.20             | 0.18              |                 |                 |                 | 1.5                   | 1.4               |                 |                 |                 |
| 113723   | Contractors Landfill & Recycling *          | 13.47            | 4.02              | 2.80            | 0.18            | 0.01            | 103.6                 | 31.0              | 21.5            | 1.4             | 0.0             |
| 399  | Coreslab Structures (Ariz) Inc *            | 21.58            | 8.33              |                 |                 |                 | 166.0                 | 64.1              |                 |                 |                 |
| 1198   | Courier Graphics Corp                       | 0.03             | 0.03              | 0.37            | 0.00            | 0.03            | 0.2                   | 0.2               | 2.4             | 0.0             | 0.2             |
| 4368   | Craftsmen In Wood Mfg *                     | 5.17             | 4.26              | 0.07            | 0.00            | 0.01            | 39.7                  | 32.7              | 0.5             | 0.0             | 0.0             |
| 1389   | DaimlerChrysler Arizona Proving Grounds     | 138.77           | 40.52             | 0.14            | 0.00            |                 | 762.5                 | 222.7             | 1.3             | 0.0             |                 |
| 130  | Dolphin Inc *                               | 10.47            | 9.80              | 2.27            | 0.05            | 0.20            | 82.1                  | 76.9              | 17.4            | 0.4             | 1.6             |
| 48771  | Eagle Roofing Products *                    | 5.91             | 5.50              | 1.82            | 0.01            | 0.17            | 37.9                  | 35.3              | 11.7            | 0.1             | 1.1             |
| 3305   | Earthgrains Baking Companies Inc *          | 3.61             | 0.28              | 2.06            | 0.01            | 0.19            | 23.1                  | 1.8               | 13.2            | 0.1             | 1.2             |
| 26   | Empire Machinery Co *                       | 0.90             | 0.89              | 33.25           | 0.33            | 0.50            | 5.7                   | 5.6               | 192.7           | 2.5             | 2.7             |
| 1505   | Executive Door *                            | 3.21             | 2.73              |                 |                 |                 | 24.7                  | 21.0              |                 |                 |                 |
| 27728  | Flipchip International LLC                  | 0.03             | 0.03              | 0.44            | 0.00            | 0.11            | 0.2                   | 0.2               | 2.4             | 0.0             | 0.6             |
| 881  | Freescale Semiconductor Inc (Alma School) * | 0.91             | 0.91              | 6.92            | 0.63            | 1.35            | 6.8                   | 6.8               | 95.4            | 22.1            | 7.4             |
| 1109   | Freescale Semiconductor Inc (Elliott Rd.) * | 0.32             | 0.32              | 3.11            | 0.03            | 0.65            | 2.1                   | 2.1               | 22.1            | 0.5             | 3.6             |
| 73110  | Glenn Weinberger Topsoil Inc *              | 15.20            | 4.60              | 0.08            | 0.01            | 0.00            | 104.1                 | 30.6              | 0.4             | 0.0             | 0.0             |
| 508  | Golden Eagle Manufacturing *                | 5.65             | 4.90              | 0.03            | 0.00            | 0.00            | 43.4                  | 37.7              | 0.2             | 0.0             | 0.0             |
| 1418   | Goodrich Aircraft Interior Products         | 0.05             | 0.04              | 0.58            | 0.00            | 0.03            | 0.4                   | 0.3               | 4.4             | 0.0             | 0.2             |
| 699  | Hanson Aggregates of Arizona *              | 97.66            | 43.60             | 5.64            | 2.30            |                 | 735.8                 | 329.7             | 43.4            | 17.7            |                 |
| 31565  | Henry Products Inc                          | 0.04             | 0.04              | 0.55            | 0.00            | 0.05            | 0.3                   | 0.3               | 4.2             | 0.0             | 0.4             |
| 529  | Highland Products Inc                       | 0.15             | 0.15              | 1.98            | 0.01            | 0.18            | 1.2                   | 1.2               | 15.2            | 0.1             | 1.4             |

\* = Source for which rule effectiveness has been applied.

**Table 2.4-1. Annual and typical daily point source emissions, by facility (continued).**

| ID #  | Business name                           | Annual (tons/yr) |                   |                 |                 |                 | Typical day (lbs/day) |                   |                 |                 |                 |      |
|-------|---|------------------|-------------------|-----------------|-----------------|-----------------|-----------------------|-------------------|-----------------|-----------------|-----------------|------|
|       |   | PM <sub>10</sub> | PM <sub>2.5</sub> | NO <sub>x</sub> | SO <sub>x</sub> | NH <sub>3</sub> | PM <sub>10</sub>      | PM <sub>2.5</sub> | NO <sub>x</sub> | SO <sub>x</sub> | NH <sub>3</sub> |      |
| 3536  | Holsum Bakery Inc                       | 0.21             | 0.21              | 2.71            | 0.02            | 0.25            | 1.6                   | 1.6               | 20.9            | 0.1             | 1.9             |      |
| 1059  | Honeywell Engines Sys & Service Phx R&O | *                | 0.45              | 1.15            | 1.52            | 0.43            | 0.09                  | 2.8               | 7.3             | 8.8             | 2.8             | 0.5  |
| 247   | Honeywell Engines Systems Accessories   |                  | 0.42              | 0.42            | 10.39           | 0.23            | 0.15                  | 2.3               | 2.3             | 57.1            | 1.2             | 0.8  |
| 355   | Honeywell-Engines Systems & Services    | *                | 4.21              | 4.00            | 64.78           | 12.82           | 1.27                  | 23.5              | 22.2            | 355.9           | 70.4            | 7.5  |
| 403   | Hydro Aluminum North America Inc        | *                | 15.01             | 14.26           | 11.95           | 0.48            | 0.98                  | 96.2              | 91.4            | 76.6            | 3.1             | 6.3  |
| 777   | Insulfoam                               |                  | 0.12              | 0.12            | 1.63            | 0.01            | 0.15                  | 0.8               | 0.8             | 10.4            | 0.1             | 0.9  |
| 3966  | Intel Corp-Ocotillo Campus (Fab 12/22)  | *                | 2.21              | 1.79            | 24.87           | 0.37            | 6.08                  | 20.7              | 18.4            | 259.1           | 10.1            | 33.7 |
| 341   | L & M Laminates & Marble                |                  | 0.04              | 0.03            |                 |                 |                       | 0.3               | 0.2             |                 |                 |      |
| 96886 | Legends Furniture                       |                  | 0.49              | 0.43            |                 |                 |                       | 3.8               | 3.3             |                 |                 |      |
| 3300  | Luke AFB - 56th Fighter Wing            |                  | 0.82              | 0.82            | 9.37            | 0.23            | 0.40                  | 5.4               | 5.4             | 59.5            | 1.5             | 2.2  |
| 744   | M E Global Inc                          | *                | 69.70             | 67.40           | 40.38           | 11.43           | 0.50                  | 531.3             | 514.1           | 304.5           | 87.9            | 3.3  |
| 1248  | Maax Spas Arizona                       | *                | 0.42              | 0.30            |                 |                 |                       | 3.2               | 2.3             |                 |                 |      |
| 31261 | Madison Granite Supplies                | *                | 11.28             | 3.86            | 31.84           | 15.05           | 0.07                  | 86.8              | 29.7            | 244.9           | 115.8           | 0.6  |
| 44092 | Maricopa Ready Mix (Litchfield)         | *                | 9.83              | 4.87            |                 |                 |                       | 75.4              | 37.4            |                 |                 |      |
| 40470 | Maricopa Ready Mix (Sun City)           | *                | 11.06             | 5.08            |                 |                 |                       | 84.9              | 39.0            |                 |                 |      |
| 353   | Marlam Industries Inc                   | *                | 2.56              | 1.81            | 0.04            | 0.00            | 0.00                  | 19.7              | 14.0            | 0.3             | 0.0             | 0.0  |
| 62    | Mastercraft Cabinets Inc                |                  | 0.04              | 0.03            | 0.13            | 0.00            | 0.01                  | 0.3               | 0.2             | 1.0             | 0.0             | 0.1  |
| 3326  | Mesa Fully Formed Inc                   | *                | 1.31              | 1.04            |                 |                 |                       | 10.0              | 8.0             |                 |                 |      |
| 1415  | Mesa Materials Inc (Broadway)           | *                | 13.77             | 4.15            | 9.52            | 10.54           | 0.01                  | 105.9             | 31.9            | 73.2            | 81.1            | 0.1  |
| 1414  | Mesa Materials Inc (Higley)             | *                | 14.71             | 4.23            | 7.02            | 6.59            | 0.01                  | 113.1             | 32.5            | 54.0            | 50.7            | 0.1  |
| 1875  | Microchip Technology Inc                | *                | 1.75              | 1.23            | 6.36            | 0.09            | 0.65                  | 11.6              | 8.7             | 62.8            | 2.3             | 3.6  |
| 226   | Monier Lifetile LLC                     | *                | 1.56              | 1.09            | 0.54            | 0.00            | 0.10                  | 10.0              | 7.0             | 3.4             | 0.0             | 0.6  |
| 34197 | National Gypsum Co                      | *                | 18.75             | 11.90           | 17.96           | 17.40           | 1.58                  | 129.1             | 79.0            | 118.8           | 112.1           | 10.2 |
| 910   | Neltec Inc                              | *                | 0.18              | 0.18            | 10.73           | 0.01            | 0.22                  | 1.0               | 1.0             | 59.0            | 0.1             | 1.2  |
| 73084 | New Directions Incorporated             | *                | 1.88              | 1.60            |                 |                 |                       | 14.5              | 12.3            |                 |                 |      |
| 1879  | Northwest Regional Landfill             | *                | 31.52             | 22.51           | 8.75            | 0.92            | 0.02                  | 241.8             | 173.0           | 66.0            | 6.2             | 0.1  |
| 1331  | Oak Canyon Manufacturing Inc            | *                | 0.03              | 0.02            |                 |                 |                       | 0.2               | 0.2             |                 |                 |      |
| 3953  | Oakcraft Inc                            | *                | 0.11              | 0.09            | 0.14            | 0.00            | 0.01                  | 0.7               | 0.6             | 1.1             | 0.0             | 0.1  |
| 27925 | Oasis Bedroom Co                        | *                | 0.17              | 0.15            |                 |                 |                       | 1.3               | 1.1             |                 |                 |      |
| 52382 | Ocotillo Power Plant                    |                  | 9.54              | 8.98            | 97.46           | 0.55            | 9.79                  | 52.4              | 49.3            | 535.5           | 3.0             | 53.8 |
| 528   | Packaging Corporation of America Inc    |                  | 1.05              | 1.05            | 13.88           | 0.08            | 1.26                  | 8.1               | 8.1             | 106.8           | 0.6             | 9.7  |
| 733   | Pan-Glo Services                        |                  | 0.05              | 0.05            | 0.72            | 0.00            | 0.07                  | 0.4               | 0.4             | 5.5             | 0.0             | 0.5  |
| 1341  | Penn Racquet Sports Inc                 | *                | 20.35             | 15.15           | 5.17            | 0.03            | 0.47                  | 156.6             | 116.5           | 39.7            | 0.2             | 3.6  |
| 1014  | Phoenix Brick Yard                      | *                | 26.36             | 11.33           | 10.27           | 26.21           |                       | 149.5             | 65.0            | 56.4            | 144.0           |      |
| 562   | Phoenix Newspapers Inc                  |                  | 0.02              | 0.02            | 0.59            | 0.00            | 0.02                  | 0.1               | 0.1             | 16.4            | 0.0             | 0.1  |
| 1154  | Ping Inc                                | *                | 0.22              | 0.20            | 0.17            | 0.00            | 0.02                  | 1.7               | 1.5             | 0.9             | 0.0             | 0.1  |
| 92072 | Pioneer Landscaping Materials           | *                | 29.94             | 10.55           |                 |                 |                       | 189.6             | 66.9            |                 |                 |      |
| 148   | Presto Casting Co                       | *                | 0.26              | 0.21            | 1.19            | 0.07            | 0.10                  | 2.0               | 1.6             | 9.1             | 0.5             | 0.8  |
| 60889 | Purcells Western States Tire            | *                | 9.70              | 6.88            | 0.16            | 0.00            | 0.01                  | 74.6              | 52.9            | 1.2             | 0.0             | 0.1  |
| 1030  | Quebecor World-Phoenix Division         |                  | 0.20              | 0.20            | 1.76            | 0.02            | 0.16                  | 1.3               | 1.3             | 11.3            | 0.1             | 1.0  |
| 44182 | Quincy Joist Company                    |                  | 0.60              | 0.60            |                 |                 |                       | 4.6               | 4.6             |                 |                 |      |
| 50299 | Quintero Area Water System              |                  | 0.94              | 0.93            | 13.39           | 0.88            | 0.03                  | 5.2               | 5.2             | 74.1            | 4.9             | 0.2  |
| 537   | Red Mountain Mining Inc                 | *                | 17.48             | 6.23            | 8.46            | 0.56            | 0.02                  | 127.5             | 45.9            | 65.0            | 4.3             | 0.2  |
| 303   | Rexam Beverage Can Company              |                  | 0.40              | 0.40            | 5.22            | 0.03            | 0.48                  | 2.2               | 2.2             | 28.7            | 0.2             | 2.6  |
| 63    | Rinker Materials (El Mirage)            | *                | 10.85             | 5.43            | 0.25            | 0.09            | 0.02                  | 69.5              | 34.8            | 1.6             | 0.6             | 0.1  |
| 260   | Rinker Materials (S. 19th Ave.)         | *                | 70.27             | 31.73           | 4.90            | 17.67           | 0.11                  | 450.5             | 203.4           | 31.4            | 113.3           | 0.7  |
| 64781 | Rinker Materials (S. 59th Ave.)         | *                | 21.14             | 8.57            | 29.20           | 1.88            | 0.07                  | 135.5             | 54.9            | 187.2           | 12.1            | 0.4  |
| 213   | Rinker Materials (W. Glendale)          | *                | 52.88             | 22.32           | 7.44            | 16.46           | 0.05                  | 339.0             | 143.1           | 47.7            | 105.5           | 0.3  |
| 4318  | River Ranch Plant #40                   | *                | 57.50             | 29.81           |                 |                 |                       | 442.3             | 229.3           |                 |                 |      |
| 759   | Rogers Corp/Advanced Circuit Mats.      |                  | 0.14              | 0.14            | 1.33            | 0.01            | 0.09                  | 0.8               | 0.8             | 7.3             | 0.1             | 0.5  |
| 1437  | Sanmina Phoenix Division                |                  | 0.09              | 0.09            | 1.24            | 0.01            | 1.25                  | 0.6               | 0.6             | 8.0             | 0.0             | 8.0  |
| 3315  | Santan Generating Station               |                  | 45.32             | 43.81           | 220.66          | 6.19            | 17.71                 | 249.0             | 240.7           | 1,212.4         | 34.0            | 97.3 |

\* = Source for which rule effectiveness has been applied.

**Table 2.4-1. Annual and typical daily point source emissions, by facility (continued).**

| ID #                              | Business name                                |   | Annual (tons/yr) |                   |                 |                 |                 | Typical day (lbs/day) |                   |                 |                 |                 |
|-----------------------------------|--|---|------------------|-------------------|-----------------|-----------------|-----------------|-----------------------|-------------------|-----------------|-----------------|-----------------|
|                                   |  |   | PM <sub>10</sub> | PM <sub>2.5</sub> | NO <sub>x</sub> | SO <sub>x</sub> | NH <sub>3</sub> | PM <sub>10</sub>      | PM <sub>2.5</sub> | NO <sub>x</sub> | SO <sub>x</sub> | NH <sub>3</sub> |
| 266                               | Schuff Steel Co                              | * | 9.20             | 7.87              | 10.46           | 0.69            | 0.02            | 70.8                  | 60.5              | 80.5            | 5.3             | 0.2             |
| 246                               | Schult Homes                                 | * | 9.12             | 8.13              |                 |                 |                 | 70.1                  | 62.6              |                 |                 |                 |
| 4175                              | SFPP LP Phoenix Terminal                     |   | 0.34             | 0.33              | 6.64            | 0.02            |                 | 1.9                   | 1.8               | 36.5            | 0.1             |                 |
| 50422                             | Simula Safety Systems Inc                    |   | 0.01             | 0.01              | 0.08            | 0.00            | 0.01            | 0.0                   | 0.0               | 0.5             | 0.0             | 0.0             |
| 27933                             | Skunk Creek Landfill                         | * | 54.62            | 50.85             | 1.83            | 1.08            |                 | 300.1                 | 279.4             | 10.1            | 5.9             |                 |
| 331                               | Smurfit Stone Container Corp                 | * | 7.28             | 7.27              | 10.81           | 0.71            | 0.03            | 56.0                  | 55.9              | 83.1            | 5.5             | 0.2             |
| 46277                             | Southwest Forest Products Inc                |   | 1.37             | 1.36              | 19.51           | 1.28            | 0.05            | 10.6                  | 10.5              | 150.1           | 9.9             | 0.3             |
| 3316                              | SRP Agua Fria Generating Station             |   | 6.65             | 6.65              | 352.99          | 0.56            | 8.05            | 36.6                  | 36.6              | 1,939.5         | 3.1             | 44.2            |
| 3317                              | SRP Kyrene Generating Station                |   | 15.52            | 15.18             | 47.07           | 1.92            | 8.83            | 85.3                  | 83.4              | 258.6           | 10.5            | 48.5            |
| 4131                              | ST Microelectronics                          |   | 0.31             | 0.31              | 4.02            | 0.02            | 0.37            | 1.7                   | 1.7               | 22.1            | 0.1             | 2.0             |
| 1444                              | Staco Architectural Roof Tile                | * | 0.32             | 0.22              | 0.07            | 0.00            | 0.01            | 2.4                   | 1.7               | 0.6             | 0.0             | 0.1             |
| 582                               | Stone Creek Inc                              | * | 0.04             | 0.03              |                 |                 |                 | 0.3                   | 0.3               |                 |                 |                 |
| 4400                              | Sumco Southwest Corporation                  | * | 0.79             | 0.54              | 11.19           | 0.02            | 0.67            | 4.4                   | 3.0               | 61.5            | 0.1             | 3.7             |
| 378                               | Sun Land Materials                           | * | 2.87             | 1.39              | 10.57           | 0.69            | 0.02            | 22.1                  | 10.7              | 81.3            | 5.3             | 0.2             |
| 281                               | Sun State Rock & Materials                   | * | 9.65             | 3.14              | 32.09           | 1.56            | 0.07            | 61.8                  | 20.1              | 205.7           | 10.0            | 0.5             |
| 101                               | Sunland Beef Company                         | * | 10.28            | 5.21              | 11.19           | 0.07            | 5.85            | 66.9                  | 34.4              | 85.4            | 0.5             | 34.3            |
| 31643                             | SW Reg Municipal Solid Waste Landfill        | * | 30.29            | 16.04             | 6.35            | 0.42            |                 | 194.2                 | 102.8             | 40.7            | 2.7             |                 |
| 249                               | The Boeing Company                           |   | 0.20             | 0.20              | 3.17            | 0.09            | 0.13            | 1.5                   | 1.5               | 24.2            | 0.7             | 1.0             |
| 552                               | Thornwood Furniture Mfg                      | * | 2.62             | 2.50              |                 |                 |                 | 20.2                  | 19.2              |                 |                 |                 |
| 363                               | Thunderbird Furniture                        | * | 1.72             | 1.37              | 0.03            | 0.00            | 0.00            | 13.2                  | 10.6              | 0.3             | 0.0             | 0.0             |
| 56                                | TPAC A Division of Kiewit Western Co         | * | 15.02            | 5.78              | 1.77            | 0.01            | 0.16            | 115.6                 | 44.4              | 13.6            | 0.1             | 1.2             |
| 1211                              | Trendwood Inc (E. University)                | * | 0.01             | 0.00              |                 |                 |                 | 0.0                   | 0.0               |                 |                 |                 |
| 1210                              | Trendwood Inc (S. 15th Ave.)                 | * | 0.05             | 0.05              |                 |                 |                 | 0.4                   | 0.4               |                 |                 |                 |
| 37546                             | Trenwyth Industries                          |   | 0.01             | 0.01              | 0.09            | 0.00            | 0.01            | 0.1                   | 0.1               | 0.8             | 0.0             | 0.1             |
| 42915                             | U S Greenfiber-Phoenix                       | * | 5.85             | 4.15              |                 |                 |                 | 32.1                  | 22.8              |                 |                 |                 |
| 234                               | United Dairymen of Arizona                   | * | 28.40            | 9.81              | 16.60           | 0.25            | 2.87            | 156.1                 | 53.9              | 91.2            | 1.4             | 15.7            |
| 53                                | Utility Vault Co                             | * | 4.01             | 1.41              | 2.36            | 0.15            | 0.01            | 30.9                  | 10.8              | 18.1            | 1.2             | 0.0             |
| 2                                 | Vulcan Materials Co (115th Ave.)             | * | 45.01            | 22.74             | 10.85           | 7.35            | 0.00            | 344.5                 | 174.2             | 69.5            | 47.1            | 0.0             |
| 90                                | Vulcan Materials Co (43rd Ave.)              | * | 78.89            | 39.40             | 5.88            | 1.18            |                 | 605.7                 | 302.6             | 45.2            | 9.0             |                 |
| 344                               | Vulcan Materials Co (W. Indian School)       | * | 28.37            | 15.47             |                 |                 |                 | 217.0                 | 118.4             |                 |                 |                 |
| 174                               | W R Meadows of Az Inc                        |   | 0.01             | 0.01              | 0.14            | 0.00            | 0.01            | 0.1                   | 0.1               | 1.7             | 0.0             | 0.2             |
| 36676                             | Western Milling                              |   | 5.42             | 4.46              | 0.96            | 0.30            |                 | 41.7                  | 34.3              | 7.4             | 2.3             |                 |
| 141                               | Western Organics Inc                         | * | 24.38            | 23.59             |                 |                 |                 | 154.9                 | 148.8             |                 |                 |                 |
| 398                               | Wickenburg Facility                          | * | 15.70            | 6.68              | 5.65            | 0.37            | 0.01            | 118.6                 | 50.6              | 43.5            | 2.9             | 0.1             |
| 20706                             | Wincup Holdings Inc                          |   | 1.01             | 1.01              | 13.24           | 0.08            | 1.21            | 5.5                   | 5.5               | 72.8            | 0.4             | 6.6             |
| 1382                              | Woodcase Fine Cabinetry Inc                  | * | 0.24             | 0.19              |                 |                 |                 | 1.8                   | 1.4               |                 |                 |                 |
|                                   | Emission reduction credits (See section 2.5) |   | 1.80             |                   | 9.80            | 0.16            |                 | 9.9                   |                   | 53.7            | 0.9             |                 |
| <b>PM<sub>10</sub> NAA Total:</b> |  |   | <b>1,634.53</b>  | <b>938.98</b>     | <b>1,985.64</b> | <b>244.36</b>   | <b>176.40</b>   | <b>10,897.6</b>       | <b>6,266.8</b>    | <b>11,854.9</b> | <b>1,550.7</b>  | <b>984.9</b>    |

**Facilities outside the PM<sub>10</sub> nonattainment area:**

| ID #                                      | Business name                                       |   | Annual (tons/yr) |                   |                 |                 |                 | Typical day (lbs/day) |                   |                 |                 |                 |
|---|---|---|------------------|-------------------|-----------------|-----------------|-----------------|-----------------------|-------------------|-----------------|-----------------|-----------------|
|   |   |   | PM <sub>10</sub> | PM <sub>2.5</sub> | NO <sub>x</sub> | SO <sub>x</sub> | NH <sub>3</sub> | PM <sub>10</sub>      | PM <sub>2.5</sub> | NO <sub>x</sub> | SO <sub>x</sub> | NH <sub>3</sub> |
| 1488                                      | Farmer's Gin Inc                                    | * | 14.81            | 4.42              | 0.60            | 0.00            |                 | 81.4                  | 24.3              | 3.3             | 0.0             |                 |
| 44439                                     | Gila River Power Station                            | * | 139.32           | 134.01            | 353.59          | 10.35           | 19.44           | 893.9                 | 859.9             | 2277.8          | 66.5            | 124.7           |
|   | Hanson Aggregates of Arizona (W. Indian School Rd.) | * | 14.12            | 5.80              | 16.90           | 1.11            | 0.04            | 108.7                 | 44.6              | 130.0           | 8.5             | 0.3             |
| 725                                       | Kilauea Crushers Inc                                | * | 31.06            | 11.23             |                 |                 |                 | 199.1                 | 72.0              |                 |                 |                 |
| 43063                                     | LSP Arlington Valley LLC                            |   | 16.21            | 16.15             | 51.81           | 2.99            | 0.70            | 125.2                 | 124.8             | 406.5           | 23.9            | 5.4             |
| 289                                       | Martori Farms                                       | * | 11.09            | 3.00              | 0.05            | 0.00            | 0.00            | 69.7                  | 19.2              | 0.3             | 0.0             | 0.0             |
| 44186                                     | Mesquite Generating Station                         |   | 55.00            | 48.83             | 210.54          | 14.59           | 19.78           | 302.6                 | 268.7             | 1162.6          | 80.6            | 108.7           |
| 43530                                     | New Harquahala Generating Co                        |   | 34.55            | 34.48             | 24.10           | 1.83            | 26.04           | 189.8                 | 189.4             | 132.4           | 10.0            | 143.1           |
| 98  | Palo Verde Nuclear Generating Station               | * | 115.36           | 106.30            | 82.56           | 1.27            | 5.96            | 633.8                 | 317.4             | 453.6           | 7.0             | 32.7            |
| 428                                       | Paloma Gin Properties LLC                           | * | 12.97            | 3.83              | 0.08            | 0.00            | 0.01            | 71.2                  | 21.1              | 0.4             | 0.0             | 0.0             |
| 42956                                     | Redhawk Generating Facility                         |   | 34.15            | 27.35             | 145.02          | 8.44            | 25.62           | 187.7                 | 150.3             | 797.4           | 46.4            | 140.8           |
| <b>Total outside PM<sub>10</sub> NAA:</b> |   |   | <b>478.64</b>    | <b>395.41</b>     | <b>885.24</b>   | <b>40.59</b>    | <b>97.59</b>    | <b>2,863.2</b>        | <b>2,091.7</b>    | <b>5,364.4</b>  | <b>242.9</b>    | <b>555.7</b>    |
| <b>Grand total:</b>                       |   |   | <b>2,114.97</b>  | <b>1,334.38</b>   | <b>2,880.67</b> | <b>285.10</b>   | <b>273.99</b>   | <b>13,760.7</b>       | <b>8,358.4</b>    | <b>17,219.3</b> | <b>1,793.6</b>  | <b>1,540.6</b>  |

## 2.5 Emission reduction credits

A major source or major modification planned in a nonattainment area must obtain emissions reductions as a condition for approval. These emissions reductions, generally obtained from existing sources located in the vicinity of a proposed source must offset the emissions increase from the new source or modification. The obvious purpose of acquiring offsetting emissions decreases is to allow an area to move towards attainment of the national ambient air quality standards while still allowing some industrial growth.

In order for these emission reductions to be available in the future for offsetting, they must be: 1) explicitly included and quantified as growth in projection year inventories required in rate of progress plans or attainment demonstrations that were based on 1990 actual inventories, and 2) meet the requirements outlined in MCAQD Rule 240 (Permit Requirements for New Major Sources and Major Modification to Existing Major Sources).

Table 2.5–1 provides a list of emission reduction credits for PM<sub>10</sub>, NO<sub>x</sub>, and SO<sub>x</sub>. Only one previously operational facility maintains emission reduction credits that are still valid for inclusion in this report and the rate of progress plan.

**Table 2.5–1. Emission reduction credits.**

| ID   | Facility   | Emission reduction credits (tons) |                 |                 |
|------|--|-----------------------------------|-----------------|-----------------|
|      |  | PM <sub>10</sub>                  | NO <sub>x</sub> | SO <sub>x</sub> |
| 1151 | Freescale Semiconductor, Inc. (formerly Motorola Mesa) | 1.80                              | 9.80            | 0.16            |

## 2.6 Summary of point source emissions

Tables 2.6–1 and 2.6–2 provide an overview of source category contributions to point source emissions for Maricopa County and the PM<sub>10</sub> nonattainment area.

**Table 2.6–1. Maricopa County annual and typical daily point source emissions, by source category.**

| Source Category             | Annual (tons/yr) |                   |                 |                 |                 | Typical day (lbs/day) |                   |                 |                 |                 |
|-----------------------------|------------------|-------------------|-----------------|-----------------|-----------------|-----------------------|-------------------|-----------------|-----------------|-----------------|
|                             | PM <sub>10</sub> | PM <sub>2.5</sub> | NO <sub>x</sub> | SO <sub>x</sub> | NH <sub>3</sub> | PM <sub>10</sub>      | PM <sub>2.5</sub> | NO <sub>x</sub> | SO <sub>x</sub> | NH <sub>3</sub> |
| Electricity generation      | 313.86           | 313.20            | 1,914.79        | 51.58           | 198.06          | 1,887.5               | 1,883.5           | 11,016.1        | 318.7           | 1,107.5         |
| Comm./inst. fuel combustion | 4.90             | 4.88              | 58.20           | 2.82            | 2.53            | 28.7                  | 28.6              | 358.1           | 17.1            | 14.0            |
| Industrial fuel combustion  | 79.10            | 78.84             | 739.13          | 50.59           | 55.13           | 483.0                 | 481.2             | 4,760.2         | 352.6           | 317.0           |
| Food/agriculture            | 64.21            | 18.08             |                 |                 |                 | 380.1                 | 109.3             |                 |                 |                 |
| Industrial processes        | 842.61           | 556.08            | 116.20          | 123.40          | 18.11           | 5,559.3               | 3,422.7           | 797.4           | 793.6           | 101.2           |
| Manufacturing processes     | 9.17             | 8.95              | 15.00           | 0.02            | 0.16            | 69.2                  | 67.0              | 82.4            | 0.1             | 1.0             |
| Industrial road travel      | 729.71           | 294.90            |                 |                 |                 | 4,945.5               | 2,035.9           |                 |                 |                 |
| Waste disposal              | 69.62            | 59.45             | 27.55           | 56.53           |                 | 397.6                 | 330.3             | 151.4           | 310.6           |                 |
| Emission reduction credits  | 1.80             |                   | 9.80            | 0.16            |                 | 9.9                   |                   | 53.7            | 0.9             |                 |
| <b>ALL POINT SOURCES:</b>   | <b>2,114.97</b>  | <b>1,334.38</b>   | <b>2,880.67</b> | <b>285.10</b>   | <b>273.99</b>   | <b>13,760.7</b>       | <b>8,358.4</b>    | <b>17,219.3</b> | <b>1,793.6</b>  | <b>1,540.6</b>  |

**Table 2.6–2. PM<sub>10</sub> nonattainment area annual and typical daily point source emissions, by source category.**

| Source Category             | Annual (tons/yr) |                   |                 |                 |                 | Typical day (lbs/day) |                   |                 |                 |                 |
|-----------------------------|------------------|-------------------|-----------------|-----------------|-----------------|-----------------------|-------------------|-----------------|-----------------|-----------------|
|                             | PM <sub>10</sub> | PM <sub>2.5</sub> | NO <sub>x</sub> | SO <sub>x</sub> | NH <sub>3</sub> | PM <sub>10</sub>      | PM <sub>2.5</sub> | NO <sub>x</sub> | SO <sub>x</sub> | NH <sub>3</sub> |
| Electricity generation      | 113.97           | 113.72            | 1,154.60        | 15.24           | 132.55          | 637.8                 | 636.3             | 6,402.8         | 103.0           | 728.3           |
| Comm./inst. fuel combustion | 4.90             | 4.88              | 58.20           | 2.82            | 2.53            | 28.7                  | 28.6              | 358.1           | 17.1            | 14.0            |
| Industrial fuel combustion  | 40.67            | 40.53             | 614.09          | 46.35           | 28.75           | 267.3                 | 266.2             | 4,009.2         | 325.4           | 171.8           |
| Food/agriculture            | 27.83            | 7.87              |                 |                 |                 | 172.3                 | 50.7              |                 |                 |                 |
| Industrial processes        | 670.39           | 420.49            | 116.20          | 123.40          | 12.41           | 4,585.5               | 2,932.0           | 797.4           | 793.6           | 69.9            |
| Manufacturing processes     | 9.17             | 8.95              | 15.00           | 0.02            | 0.16            | 69.2                  | 67.0              | 82.4            | 0.1             | 1.0             |
| Industrial road travel      | 697.98           | 283.10            |                 |                 |                 | 4,729.2               | 1,955.7           |                 |                 |                 |
| Waste disposal              | 69.62            | 59.45             | 27.55           | 56.53           |                 | 397.6                 | 330.3             | 151.4           | 310.6           |                 |
| Emission reduction credits  | 1.80             |                   | 9.80            | 0.16            |                 | 9.9                   |                   | 53.7            | 0.9             |                 |
| <b>ALL POINT SOURCES:</b>   | <b>1,636.33</b>  | <b>938.98</b>     | <b>1,995.44</b> | <b>244.52</b>   | <b>176.40</b>   | <b>10,897.6</b>       | <b>6,266.8</b>    | <b>11,854.9</b> | <b>1,550.7</b>  | <b>984.9</b>    |

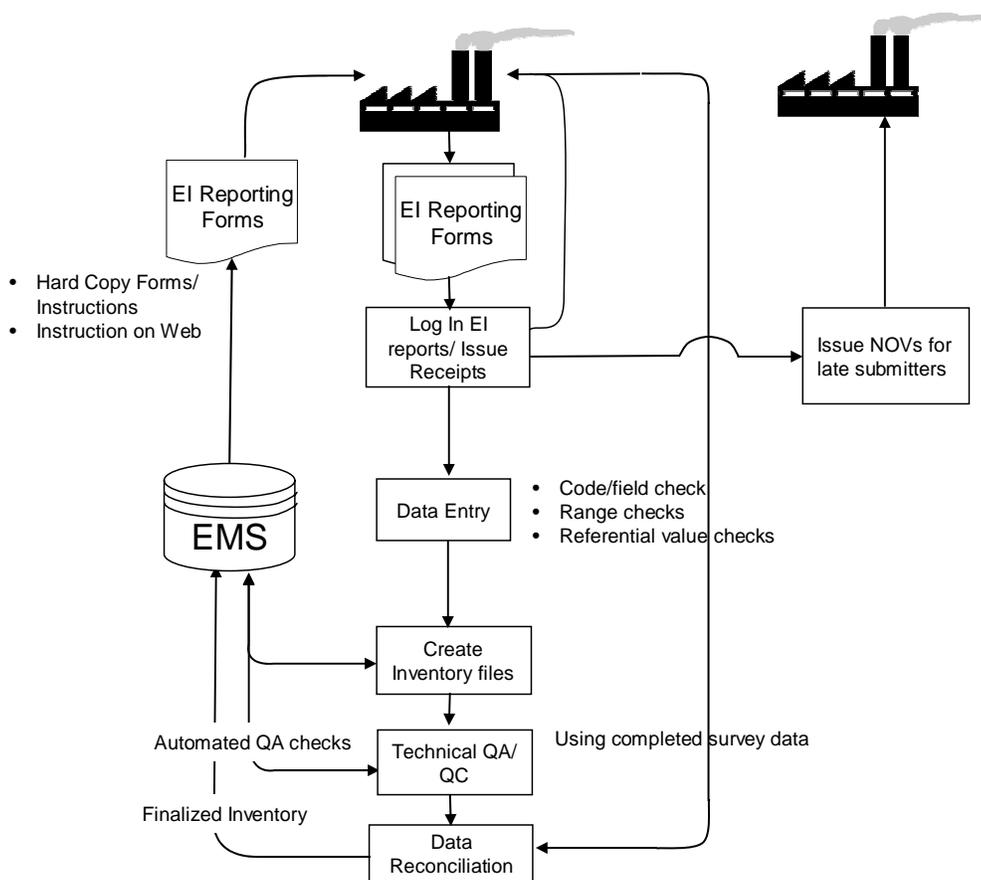
## 2.7 Quality assurance / quality control procedures

### 2.7.1 Emission survey preparation and data collection

The MCAQD's Emissions Inventory (EI) Unit annually collects point source criteria pollutant emission data from sources in the county. MCAQD annually reviews EPA guidance, documents from the Emission Inventory Improvement Program (EIIP), and other source materials to ensure that the most current emission factors and emission calculation methods are used for each year's survey. Each January, the EI Unit prepares a pre-populated hard copy of the preceding year's submissions and mails reporting forms to permitted sources, along with detailed instructions for completing the forms. (A copy of these instructions is included as Appendix 2.1). The EI Unit asks sources to verify and update the data. The EI Unit also holds workshops from January through April to assist businesses in completing EI forms.

The general data flow for data collection and inventory preparation is shown in Figure 2.7–1.

**Figure 2.7–1. Data flow for annual point source emission inventory reporting.**



### 2.7.2 Submission processing

Submitted EI reports are logged in as they are received, and receipts are issued for emissions fees paid. The data are input “as received” into the department's data base. During data entry, numerous automated quality control (QC) checks are performed, including:

- pull-down menus to minimize data entry errors (e.g., city, pollutant, emission factor unit, etc.)
- mandatory data field requirement checks (e.g., a warning screen appears if a user tries to save an emission record with a missing emission factor).
- range checks (e.g., were valid SCC, Tier, SIC, and NAICS codes entered?)
- referential value checks (e.g., emission factor units, annual throughput units)
- automatic formatting of date, time, telephone number fields, etc.

Automated quality assurance (QA) checks on the report that has been entered include the following:

- Comparing reported emission factors to SCC reference lists
- Comparing reported emission factors to material name reference list

- Checking the report for calculation errors. This includes annual throughput, emission factors, unit conversion factors (e.g., BTU to therms), capture efficiency, primary / secondary control device efficiency, and any offsite recycling credits claimed.
- Checking the report for completeness of required data.

When data entry is complete, an electronic version of the original data is preserved separately to document changes made during the technical review and QA/QC process.

When errors are flagged, the businesses are contacted and correct information is obtained and input to the EMS. Outstanding reporting issues are documented. Confidential business information (CBI) is identified by a checkbox on the form, and these data elements are flagged during data entry and are not transmitted to the EPA. To prepare the inventory for submittal to the National Emissions Inventory (NEI), the EI Unit runs Microsoft Access queries on the data in the EMS to pull fields for the NEI Input format (NIF) tables.

### ***2.7.3 Analysis of annual point source emissions data for this inventory***

Two environmental planners checked inventory accuracy and reasonableness, and assured that all point sources had been identified and that the methodology applied to calculate emissions was appropriate and that the calculations were correct. Other reasonableness checks were conducted by recalculating emissions using methods other than those used to make the initial emissions calculations and then comparing results. QA was conducted by checking all emissions reports submitted to MCAQD for the year 2005 for missing and questionable data and by checking the accuracy and reasonableness of all emissions calculations made for such reports. Notes concerning follow-up calls and corrections to calculations were documented on each 2005 annual emissions report.

The QA point source coordinator reviewed and checked calculations, identified errors, and performed completeness, reasonableness and accuracy checks.

## **2.8 References**

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