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**AN EVALUATION OF THE
SAN JOAQUIN VALLEY UNIFIED
AIR POLLUTION CONTROL
DISTRICT PROGRAM**

Prepared By:

**California Air Resources Board
Compliance Division Staff**

April 1996

EXECUTIVE SUMMARY

In September through December of 1994, staff of the Air Resources Board (ARB) conducted a program review of San Joaquin Valley Unified Air Pollution Control District's (District) air pollution control program. This evaluation is one of several conducted as part of ARB's program evaluation program pursuant to authority granted the ARB in Section 41500 of the California Health and Safety Code.

The program evaluation was conducted at the request of the District to provide input on District strengths and weaknesses in critical program areas. To accommodate the District's desire for a comprehensive review, the scope of the evaluation was expanded beyond the traditional permitting and enforcement components to cover other areas like emissions inventory, air monitoring, rules and regulations, and air toxics programs.

As part of the program evaluation, ARB staff also conducted interviews with six representatives of industries operating in the District. Our objective was to provide the District with their impressions of District operational performance. These interviews add a customer service dimension to program evaluations helping both the evaluation team and the District obtain a stakeholder perception of District performance. Quality improvements to meet customer needs are more likely to result if customers are invited to share their perceptions.

The overall goal of the review was to find ways to improve the District's air pollution control program so as to improve air quality in the San Joaquin Valley air basin and to allow the District to better meet mandated State and federal air quality standards.

To obtain the information needed, ARB staff reviewed information in the District's office files, interviewed key personnel (District and associated agencies), and inspected 126 permitted facilities in seven industrial categories to determine their compliance status. The review consisted of comparing the District's elements against standard performance criteria for such elements. The criteria for enforcement and permitting sections have been developed by Compliance Division staff and are contained in a document titled Criteria for Assessing District Enforcement and Permitting Adequacy. See Appendix A. The same criteria have been successfully used in the program evaluation of other districts in the past. Performance criteria for other program areas like emissions inventory and air quality monitoring were developed by other divisions within ARB.

The current District was created as a result of the unification of eight county air districts through a joint powers agreement in March 1991. On June 15, 1992, the individual county districts (also known as "zones") ceased to exist and all personnel and property was transferred to the unified district. Currently, there is just one air quality management organization in the San Joaquin Valley air basin with regional offices in Bakersfield, Fresno, and Modesto. Policy, regulatory, and other substantive programmatic decisions are reserved to the directors of compliance, permit services, and planning located in the Fresno office which also serves as District headquarters. The directors report to the deputy air pollution control officer (APCO). All staff are under the direction of the Executive Officer/APCO, who in turn reports to the District Board.

Previously, ARB staff have evaluated six of the eight counties (Kern, Fresno, San Joaquin, Merced, Madera, Stanislaus, Kings, and Tulare) comprising the current unified district. Hence, we are in a unique position to understand the air quality challenges faced by the District and the progress made since unification. The Valley now ranks among the nation's ten worst areas in air pollution, exceeding both State and federal health-based standards for ozone and particulate matter (PM10), as well as for carbon monoxide in the metropolitan area of Fresno-Clovis. For air quality planning purposes under the California Clean Air Act, the Valley has been designated as a "severe" area for ozone.

The District staff and management were very cooperative and professional during the entire evaluation process. The findings and many of the recommendations contained in this report have been discussed with the District staff who had the opportunity to comment on previous draft reports. Their comments are available at the District and ARB. Many recommendations have already been adopted by the program managers. Since program evaluations by their nature focus on identifying areas where improvements can be made, the accomplishments of an organization can often be overlooked. In this evaluation, several noteworthy accomplishments were observed in the existing District program. In the discussion below, the findings include program accomplishments along with recommendations for areas where there is room for improvement.

COMPLIANCE PROGRAM

The District's Compliance Division is responsible for ensuring that stationary sources of air pollution are in compliance with applicable rules and regulations. A positive aspect of the District's Enforcement Program is that virtually all permitted sources in the District (94 percent) receive an annual inspection. We have two concerns, however, related to the area of inspections. Inspection reports do not always document compliance with all prohibitory rule requirements, including coating limit standards and emission limits. For example, for a major source inspection to qualify as a "Level II Inspection", complete documentation is necessary per U.S. EPA guidelines. Based on our review of a sample of inspection reports and interpretation of U.S. EPA guidelines, only 77 percent could strictly meet the U.S. EPA guidelines for a major source Level II inspection because no formal visible emissions evaluation forms were completed. The District has proposed to implement a checklist that outlines the rules, permit conditions, and other criteria used in the evaluation of source compliance; this will remove any ambiguities. Our other concern relates to the frequency of source inspections. Although U.S. EPA guidance only specifies annual inspections, we recommend quarterly inspections of major sources. Currently, the District is conducting annual inspections for 85 percent of the major sources. This falls short of U.S. EPA's criteria of conducting annual inspections for all major A sources. Major A sources are defined by U.S. EPA as those with an estimated actual emissions of 50, 70, 100 tons per year of ozone precursors, PM-10, or carbon monoxide respectively. ARB criteria recommend quarterly inspections for major sources and an annual inspection for all other sources.

The District's Field Inspection Program was evaluated to determine the compliance status of the inspected facilities and to evaluate the District inspection techniques. ARB and District staff conducted joint compliance inspections of 126 facilities. The inspections consisted of 100 gasoline dispensing facilities, ten chrome platers, five ethylene oxide (ETO)

sterilizers, four coating operations, three refineries, three power plants, and one gas plant. We were pleased to note very high rates of compliance for nozzle related components at gasoline service stations. This is significant since defects there can be a large source of excess emissions. There were also very high compliance rates for ETO sterilizers and refinery valves and flanges. Where violations were discovered, Notices of Violation were issued. Please refer to Table II-2 on page II-62 for compliance rates by type of facility inspected. We also found that District staff did a professional job in conducting inspections.

The District's Legal Action Program is functioning properly. District inspection staff issue notices of violation (NOVs) to sources found in violation of applicable rules and regulations. Legal action files accompanying the NOVs are well documented and the District has a robust program for taking action against non-compliant sources through mutual settlement proceedings or civil/criminal action. We found the settlement amounts to be comparable to those in other districts, and in all cases the main thrust is to bring the source back into compliance before negotiating any violation settlement. However, we recommend that the District's baseline penalty settlement amounts be increased to act as an effective deterrent against violations. A settlement of less than \$500 for an emission related violation does not provide enough deterrence to a source to remain in continuous compliance. Also, since some cases are settled for amounts lower than prescribed in the penalty schedule, the District should review its policies and procedures on penalty reductions.

The District's Complaint Handling Program is operating in a satisfactory manner and has several positive aspects. Based on our sample, the District average for complaints investigated within 24 hours is 70 percent. On-site investigations are conducted 85 percent of the time. ARB criteria recommends these figures to be 90 percent or better. As a general rule, violations documented during the course of a complaint investigation result in the issuance of a notice of violation or a notice to comply. However, some violation categories, like open burning and motor vehicle and mobile equipment refinishing, did not receive any violation notices. It is our understanding, that the District has now revised its policy and will be initiating legal action for all violations documented during a complaint investigation. The District's Complaint Response Policy Document published in August 1994 is a good first step to ensure a consistent approach to complaint handling. In our detailed write-up we have suggested several areas which could be added to this document to make it more effective.

In most areas the District's Training Program is functioning satisfactorily. The District encourages existing staff to participate in training related to their area of responsibility. Source and category-specific enforcement policies and procedures are shared with staff at regional meetings. Source category checklists are used to track new inspector training in all regions. Based on the limited number of joint inspections done with District staff, it is our conclusion that inspection staff are knowledgeable, well equipped with safety equipment, and conduct themselves in a professional manner. However, to ensure that technical and safety oriented courses are completed by every inspector at prescribed intervals, the District should formalize the training process and maintain an accurate database of training activities. The District is in the process of formalizing their draft in-house training program for new and existing staff.

The Aerometric Information Retrieval System/AIRS Facility Subsystem (AIRS/AFS) is a computer based data management system. It is used by U.S. EPA to track the compliance status of "major sources" of air pollutants. The quality and frequency of inspections for major sources has already been discussed in an earlier paragraph. A review of the accuracy and completeness of AIRS/AFS database revealed quite a few inconsistencies with respect to basic information such as source name, address, last inspection date, class size, air program pollutants, etc. The District has done a good job in data reconciliation and cleanup in the last year. However, the results of our review indicate that more effort may be needed in this area.

The District's Variance Program was evaluated to determine its consistency with the Health and Safety Code (HSC) requirements by which it is governed. A variance provides the source enforcement relief for the period of time necessary to fix the problem and come back into compliance with the rule. Provided certain HSC criteria are met, a variance is granted to the source at a publicly noticed hearing by the Variance Hearing Board. The District's role is to provide consultation and technical expertise to both the Hearing Board and the applicant, as well as to perform the processing of applications and notices as required by the HSC. The District has a single program which effectively coordinates the administrative process (from Fresno) for the three hearing boards in the three regions.

Hearing board orders have improved significantly since the June 1992 unification. However, we have identified several areas of concern and outlined some recommendations to further improve the variance program. ARB's review indicated that HSC requirements prescribed by sections 40800-40865 and 42350-42354 are not always met by the District. A minor concern is one instance of the District not complying with Section 40862 which provides that the District and hearing board ensure that the facts in the written order are a true representation of the facts as presented at the hearing. A principal concern is that staff reports actually justify the findings of the HSC (Section 42352) instead of providing the necessary information to the hearing board in order for it to make the findings at the hearing. To comply with the intent and directives of the HSC, we recommend that the staff report refrain from indicating that the six findings can be made in a particular case. By advancing the position that the six findings can be made, District staff encumbers the hearing board from actively discussing and considering the merits of the findings themselves.

The District's Source Testing program complies with most of the requirements specified by the ARB Criteria Document on this subject. Source tests are performed by independent ARB-certified source test contractors. As a general rule, District staff with training in this field observe all of the start-up tests and at least 85 percent of the annual source tests. Source test results are reviewed and violation notices are issued for tests where emission limits exceed permitted amounts. The District's tracking mechanism and quality of information contained therein differs by region. ARB's recommendation in this regard is that every log should have a mechanism to "look forward" to see which facilities will need to be source tested in the future. The District has informed us that this is now in place. The District should also consider developing the capability of performing its own source tests and laboratory analyses. Among the many potential benefits associated with the District performing its own source tests are uniform specialized training of District source test staff, faster and more economical analysis of collected samples, faster compliance

determination of sources suspected of operating in violation, and the ability to conduct unannounced source tests.

The District's Open Burning program has developed significantly toward the goal of valley-wide consistency and uniformity. Although there are needs yet remaining, several satisfactory aspects of the program were identified. The District has a full time staff member serving as central coordinator providing momentum toward full unification of the open burning program. The central coordinator has initiated and fostered ongoing communication between the District and fire protection agencies, expedited contractual agreements with municipal and county administrations, provided training to the fire agencies, and encouraged an atmosphere of open communication and mutual cooperation among the parties involved in agricultural burning in the San Joaquin Valley air basin.

Nevertheless, the issuance mechanisms and permitting practices for standard burn permits vary by county. For instance, in San Joaquin and Stanislaus counties, permits are only issued by and through the District's Northern Region Office in Salida, while in Kern County, a permit may be obtained at any of the many firehouses of the Kern County Fire Department. Although it is acceptable for the District to contract with such agencies, it is difficult to establish and maintain consistency in permitting practices among a very large number of permit distribution locations possibly leading to problems with the accuracy of reported acreages/tonnages of crops burned. The District has entered into legally binding permit issuance contracts that stipulate who documents a violation and who takes each type of legal action.

The District is following the requirements of its Rule 1080 - Stack Monitoring, which grants the APCO the authority to require the installation, use, maintenance, and inspection of continuous emission monitoring (CEM) equipment. CEMs allow the District to monitor a source's compliance on a continuous basis. As a general rule, District staff who have CEM experience are present during the required Relative Accuracy Test Audits (RATA) conducted to compare the CEM values to the source test values during the source's annual test. District staff review CEM quarterly reports submitted by the source. We have two recommendations regarding the District's program. The District should comply with HSC Section 42706 which requires that the District notify the ARB of any CEM violations within five working days after receiving the notification from the source which did not occur consistently during the study period. Also, the inspection frequency of CEM sources should be increased from one to four times per year to verify that the monitors are operating properly and are being regularly calibrated by the source to ensure span gases are calibrated and replaced on time.

The District's Breakdown Program is one of its weaknesses. The District has not conducted an adequate number of on-site investigations of equipment breakdowns. Instead, reliance is placed on phone interviews to determine if breakdown relief can be granted to the source by examining the factors listed in District Rule 1100 (neglect, improper maintenance, nuisance, etc.). We consider this process insufficient and recommend that on-site investigations be conducted for at least 90 percent of reported breakdowns. This area merits on-site investigation because equipment breakdowns can be a significant source of emissions and can endanger the health of the surrounding community when citizens are exposed to large quantities of pollutants in a short period of time. For this reason,

equipment breakdowns must be identified and corrected as soon as possible. We understand the District has now developed a formal equipment breakdown policy which will help ensure a consistent approach to receiving, investigating, and resolving equipment breakdowns.

PERMITTING PROGRAM

Since unification, the District has successfully created an infrastructure which facilitates uniform processing of permit applications in a timely manner. All areas directly and indirectly related to permit administration such as creation of policy and procedures, access to computers, software support, filing system, standardized formats for engineering evaluations and permit conditions, tracking system for applications to ensure timeliness, emphasis on notification procedures, feedback from enforcement on permit quality, permit streamlining procedures, etc. show good improvement. The District has taken many steps to streamline the permitting process and has reduced the backlog from 1700 in June 1992 to about 250 at the time of the review. The common set of policy and procedures and the direct guidance of the Director of Permit Services helps to coordinate the permitting effort of the three regions.

Issued permits can generally qualify as "stand-alone" documents. Engineering evaluations are comprehensive and describe the proposed project, basic and associated control equipment, and resulting emissions. However, ARB review has revealed problems associated with some permit files related to areas such as best available control technology determinations, calculation procedures, interpretation of rule definitions, selection of emission factors, hard to enforce permit conditions, etc. In some cases the final action was correct but the evaluation lacked the clarity to justify the permitting decision. ARB findings with respect to permit evaluation are based on a review of 75 complex permits. (The District processes about 3000 permit applications annually, most of which cover similar facilities such as gasoline service stations or follow standard permit procedures (dry cleaning).) The District should review its permitting actions for complex facilities and implement the recommendations to the extent needed.

Overall, there is room for improvement in the methodology used and emission limits derived from best available control technology (BACT) determinations. For example, our review revealed that BACT was determined to be 30 ppm NO_x for almost all boilers ranging in size from 5 to 125 MMBTU/HR even though this only corresponds to the District's prohibitory rule level and does not meet the definition of being the most stringent of the options contained in the District's BACT definition. We recommend the District review and update its cost effectiveness threshold figures for BACT determinations so that they are more in line with current technology, costs, and local economy. The District's current figures are approximately one third that of other air districts such as South Coast AQMD, Bay Area AQMD, and Ventura County APCD. This may lead to less stringent BACT determinations in San Joaquin Valley. The District publishes and updates a BACT Clearinghouse on a quarterly basis. This is a useful permit streamlining tool for assisting District staff as well as applicants. We also recommend the District to use their clearinghouse in conjunction with other established documents on this subject such as the South Coast AQMD BACT Clearinghouse.

The District's New Source Review (NSR) Rule and policies that guide its implementation were reviewed due to issues that came to the attention of Compliance Division staff during the process of reviewing the District's engineering evaluations. The District's rule and calculation procedures allow for a net increase in emissions from permitting actions on a per source basis. Given this finding, the question then arises whether the District is complying with the basic requirements of State law which requires the permit program to be designed so that there is a "no net increase in emissions" from all permitted sources above a specified threshold (10 tons per year for SJV).

The District's position is that their permitting program is designed to achieve no net increase in emissions on a District-wide basis for sources emitting 10 tons per year or more. According to this concept an individual source can have net emission increases without mitigation provided the sum of emission increases and decreases from the entire grouping of facilities is zero. The traditional approach in the context of HSC 40920 (b) has been to interpret "all" as meaning "each and every" permitting action falling in this size category.

ARB staff prefers the District's permitting system design to be modified to satisfy California Clean Air Act requirements on a source by source basis. If the District wishes to adhere to its current permitting system then it should expeditiously embark on designing and maintaining a tracking system which can demonstrate whether the "no net increase in emission" requirements are being actually met on a District-wide aggregate basis.

U.S. EPA has reviewed the District's NSR rule and has concluded that the rule is unapprovable because it lacks critical definitions and relies on calculation procedures which may allow the creation of "paper reductions" which fail to meet federal requirements. We are hopeful that the rule problems identified by U.S. EPA can be resolved by the District to bring their rule in compliance with federal Clean Air Act requirements. We also recommend the District to reexamine its current rule and accompanying policies for clarity, enforceability, and stringency. In general, any policy which can materially affect the stringency of existing regulations should be sent to ARB and U.S. EPA for comments before being implemented by permitting staff.

SMALL BUSINESS ASSISTANCE

The objective of the business assistance program evaluation was to determine the specific measures that the District has implemented or is developing to better assist the business community. The objective was also to determine the status of the District with meeting the requirements of the Air Pollution Permit Streamlining Act. ARB staff found that the District is responsive to the needs of the business community and has implemented several measures to better assist the businesses. The District is meeting the business assistance requirements of the Air Pollution Permit Streamlining Act. Examples of such measures include standardized permit application forms, small business economic assistance program, expedited variance procedures for small businesses, reduced processing times and paperwork for the permitting of small businesses. The District is also working closely with the local permit assistance center that was recently established. The purpose of the center is to serve as a single location

where business can get assistance on a number of topics including financing and environmental related (air, water, hazardous waste, etc.).

RULES AND REGULATION PROGRAM

The District has developed a formal procedure for the development of new rules and amendments to existing rules. In general, we found the District's rule development protocols to be satisfactory. The District's rule development procedure provides a mechanism by which enforcement, planning, and legal staff can provide input to the rule development and amendment process. We believe the rule development procedure should also include a formal process for rule interpretation. This will resolve all questions related to the field enforcement of a newly adopted or amended rule. We also encourage the District to ensure that ARB/CAPCOA protocols are met when submitting draft and proposed rules to the ARB. Specifically, draft rules and staff reports should be submitted at least 30 days prior to the workshops to afford sufficient review time for ARB staff. Industry representatives interviewed during the program evaluation expressed misgivings with the rule development process. Many felt that the Citizen's Advisory Committee, as a vehicle for stakeholder input, was bypassed on important rule issues and was not living up to its potential. Among other concerns, they mentioned that not all rules were sent to the Committee and insufficient time was allowed for review.

EMISSIONS INVENTORY

With the passage of both the California Clean Air Act and the federal Clean Air Act amendments, the emission inventory has become the cornerstone of the attainment planning process. The District's emission inventory program provides data into the ARB's two inter-related elements, the California Emission Inventory Development and Reporting System (CEIDARS) and the Air Toxics Emissions Data System (ATEDS). Currently, CEIDARS is primarily focused on the criteria pollutants. ATEDS is primarily associated with the Air Toxics "Hot Spots" program and serves as the repository for data on the emissions of air toxics.

The objective of the emissions inventory program evaluation was to assess the efficiency of the District's maintenance of accurate and timely emissions data. Our review determined that the District has successfully determined the universe of sources using permit, enforcement, and inventory data. However, the District does not include all facilities that emit less than ten tons per year in CEIDARS making this data base incomplete. Also, the District's list of Phase 1 and 2 facilities in its ATEDS database contain twice as many sources currently found in ARB's ATEDS database. This makes ARB's ATEDS database incomplete.

We recommend that the District institute a quality assurance program to review the emissions data in a systematic manner. The District staff also need to develop a consistent method to report total organic gases (TOG) to the ARB. In some cases the District is reporting reactive organic gases and volatile organic gases as TOG.

THE AIR TOXICS "HOT SPOTS" PROGRAM

The Air Toxics "Hot Spots" Program (the Program) was enacted in 1987 to collect air toxics emissions data, to identify facilities having localized

impacts, to ascertain health risks, to notify nearby residents of potential significant risks, and to reduce the risk below the level of significance. Facilities subject to the Program are required to submit to the District an air toxics emissions inventory plan, a subsequent emissions inventory report, and for high priority facilities, a health risk assessment. This type of sequential process requires both the District and the facility to fulfill their obligations within the designated time frame. Other aspects of the Program involve public notification and risk reduction audit and plans.

The District has established a database for tracking facilities in the Program. However, the database needs to be reviewed for quality assurance/quality control. ARB staff noted that 29 percent of the facility emissions inventory data and 23 percent of the risk assessment designations had not been completed at the time of the program evaluation. Approximately 35 percent of the facilities with approved emission inventory reports have not been prioritized within the required timeline. Also, one third of the risk assessments submitted by the facilities have not been approved by the District in the required timelines. The District is working with the significant risk facilities to successfully complete the public notification requirement. We recommend that the District establish a significant risk level that will allow the District and facilities to develop toxic risk reduction audits and plans to reduce emissions.

AIR MONITORING PROGRAM

Air monitoring programs are used to collect ambient air quality data in compliance with U.S. EPA requirements to monitor progress toward meeting air quality standards, identify patterns of transported pollutants, locate metropolitan pockets of high pollutant concentrations, and provide data for indicators of daily air quality such as the pollutant standard index. The purpose of this evaluation was to determine whether the District's program satisfied the U.S. EPA's regulation stipulated in 40 Code of Federal Regulations, Part 58.

Our review revealed that the District has a comprehensive criteria pollutant air monitoring program. The data generated during the study period and submitted to ARB should be considered good quality data and data for record. The District ensures all criteria pollutant analyzers and samplers used conform to U.S. EPA requirements. A participant in the performance audit programs of both ARB and U.S. EPA, the District is conscientious in processing and submitting data per federal requirements and has a greater than 85 percent data completeness record. The District is also developing its own standard operating procedures, quality control guidelines, and calibration/maintenance procedures.

We recommend that the District establish two particulate matter (PM₁₀) National Air Monitoring Stations in Stockton. Establishing these sites would bring the District into compliance with U.S. EPA requirements. The District should also install the meteorological (MET) equipment available for its sites. MET monitoring is necessary for modeling and transport issues. Site reports for initiation, amendment, and termination should be on file in the Fresno office and at the site. Such reports should also be submitted to ARB within 60 days of issue. We also recommend the District develop a formal training plan to ensure consistent training for staff.

AIR QUALITY PREDICTION

An area related to air quality monitoring is that of "air quality prediction". The District is responsible for providing health advisories as stated in Chapter 21 of the State Implementation Plan, Air Pollution Emergency Plan. The prediction of health advisories and pollution standard index (PSI) values are important from a health standpoint as well as an educational tool for the District residents. The purpose of this study was to find out what capability the District has to satisfy their customers' needs and to try to determine what is needed to improve the capability.

It is our finding that the District could benefit from an improved capability to provide independent air quality predictions for the large and diverse area under its jurisdiction. Under the current system the District must call ARB every day for data to be entered into equations for predicting air quality. However, this system does not take into account the effect of local activities, like a large agricultural burn. Hence, predictions under the current system are not customized or accurate enough to serve the needs of local areas. The minimum needs could be met if the District could employ a meteorologist or contract with private industry or a university to develop a program that can provide the needed analysis and prediction products. The precedent in the State is for large districts to maintain their own in-house capability for making and coordinating both daily air quality and agricultural burn decisions and notifications.

INTERVIEWS WITH INDUSTRY REPRESENTATIVES

As part of the District program evaluation, ARB staff conducted interviews with six representatives of industries operating in the District. Our objective was to provide the District with their impressions of District operational performance. Without exception, interviewed stakeholders support the District, are generally pleased with its progress in consolidating as a single basin wide entity, and want it to succeed. Interviewees support the District, but want more communication between themselves and the District on issues affecting their respective industries. They would like to see changes which would give them more access to the planning and decision-making processes within the District.

The District's permitting and enforcement efforts received positive comments. Most representatives were very pleased with the reduction in permit backlogs and processing times achieved since District formation. The enforcement staff was praised for having a good attitude and providing compliance assistance materials on their inspections. Some representatives expressed concern about variability among regions in implementing permit policy and suggested more management direction was needed. Some interviewed felt there should be room within the District's enforcement program for fix-it tickets rather than Notices of Violation for minor violations or even more serious violations by "Mom and Pop" sources.

A major concern of all interviewed was related to the rule development process. Many felt that the Citizen's Advisory Committee, as a vehicle for stakeholder input, was bypassed on important rule issues and was not living up to its potential. Not all rules were being sent to the Citizen's Advisory Committee and insufficient time was allowed for review. Some industry representatives expressed concern that the staff did not listen to them in the rule development workshops in the interest of getting rules

adopted quickly to meet federal deadlines for the State Implementation Plan. Better planning would have reduced the need to short-circuit public review, some said. Some felt that there was also a role for a technical advisory committee to discuss more complex technical issues.

The District should consider holding a special meeting with the Citizen's Advisory Committee to discuss the issues reviewed above. The District might also wish to discuss issues raised by other interests such as local governments and environmental groups. The goal of such meetings could be meeting stakeholder needs in the context of the District's role to protect air quality.

ACKNOWLEDGMENT

The findings contained in this program evaluation report were developed based on field inspections, staff and management interviews, and file reviews. These activities placed demands on the staff of the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD). In conducting this program evaluation, SJVUAPCD staff assisted Air Resources Board staff through interviews and file reviews and were still required to perform their normal duties. We acknowledge the cooperation and professionalism of the District staff.

We also express thanks to the management and staff of the facilities which we inspected as part of our program evaluation. Staff of all facilities were patient and accommodating during our field inspections. For this, we acknowledge industry in the SJVUAPCD for their assistance in the development of this report.

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I. INTRODUCTION

In April 1994, Air Resources Board (ARB) received a letter from Dave Crow, Air Pollution Control Officer of the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) requesting an evaluation of the District's air pollution control program. ARB staff subsequently planned a comprehensive evaluation of the District's programs and notified the District of its intention to conduct the program evaluation in a letter dated July 11, 1994.

The San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) program evaluation began on July 11, 1994 when the Air Resources Board (ARB) sent a notification letter to the District informing the District of ARB's intention to accept the District's request for a program evaluation. An entrance conference was held at the District offices in September 1994 where ARB's evaluation outline was presented to the District. ARB's presentation covered the methodology to be used in the program evaluation, protocol issues, issues of general logistics, and time lines related to the program evaluation.

A detailed review of air pollution control activities of the District was conducted between September 26, 1994 and December 15, 1994. This review was conducted as part of ARB's oversight role with respect to local districts in California and is in accordance with Section 41500 of the Health and Safety Code.

The entirety of the area under the District's jurisdiction is coincident with the San Joaquin Valley Air Basin and covers approximately 24,750 square miles and contains the counties of San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and the San Joaquin Valley portion of Kern County. The climate of this area is generally governed by surface winds which flow north to south.

For the 1980s and into the 1990s, the District (and its predecessor single county districts) has been in non-attainment for ozone, carbon monoxide and for respirable particulate matter (PM-10). Currently the District is non-attainment for ozone, carbon monoxide and PM-10 (both the federal ambient air quality standard and the more restrictive state standard). The District is in attainment for oxides of nitrogen and oxides of sulfur.

The historical and current air quality and planning perspective was kept in mind while conducting the program evaluation of selected parts of the District's air pollution control program. The program evaluation focused on four areas: (a) the compliance status of selected sources with the requirements of applicable rules and permits, (b) the adequacy of the tools used to evaluate a source's compliance status, (c) the adequacy of programs that support compliance inspections and other emission control efforts, and (d) the adequacy of the District's permit and new source review rules in reducing, limiting, or eliminating emissions from new or modified stationary sources.

Specific elements within these above four areas were reviewed and compared against standard criteria developed by ARB staff for assessing district enforcement and permitting program adequacy (Appendix A). One hundred and twenty-six industrial facilities were inspected as part of the program evaluation and permit files from ninety-nine facilities were

reviewed. ARB staff also interviewed District staff and management as well as key personnel from other agencies involved with the District's air pollution control effort.

The material is presented in the following manner. A brief discussion on each program area is given followed by general comments relative to that program area. Following this, the program area is broken into general groupings and each grouping is evaluated by listing the findings made, a discussion of the findings, the criteria against which the program was evaluated, and any recommendation made.

II. COMPLIANCE PROGRAM EVALUATION INTRODUCTION

The compliance evaluation consisted of two phases: (a) an office review of District programs, and (b) field inspections on selected sources. The office review was conducted between September 26, 1994 and October 28, 1994 and covered all three District offices. In this phase, ARB staff interviewed SJVUAPCD staff, reviewed the District's policies, procedures and guidelines, and reviewed District files.

The objective of the office review was to determine the extent to which the District was meeting ARB's criteria for an effective air pollution control program (see Appendix A). Areas evaluated included: the District's enforcement, legal action, complaint handling, equipment breakdown, training, variance, source testing, continuous emission monitoring, aerometric information and retrieval system, agricultural/open burning programs, air monitoring, emission inventory, toxic hot spots program, rules and regulation program, and the planning function.

The second phase of the evaluation, the field inspections, was conducted from November 13, 1994 through December 15, 1994. The field inspections consisted of 100 gasoline service stations (1,935 nozzles), ten chrome platers, five ethylene oxide sterilizers, four coating sources, three refineries, three power plants, and one gas plant for a total of 126 facilities. The objectives of the field inspections were to determine the compliance status of the inspected permit units and to evaluate the District's inspection techniques. Additional information on the field inspections may be found in the rule effectiveness report for Phase II vapor recovery operations (Appendix C), in Chapter II. K., and in separate inspection reports (see Appendix B).

A. ENFORCEMENT PROGRAM

The District's enforcement program comprises the field inspection functions of the District. In the operation of the enforcement program the District ensures that permitted facilities are operating in compliance with the rules and regulations that govern their operations. To implement this function, the District inspects all facilities in its permit system, locates new unpermitted facilities, and takes appropriate enforcement actions against those facilities documented to be in violation.

The District's enforcement program was evaluated with respect to inspections of permitted facilities, documentation requirements, and with respect to internal procedures. In order to accomplish this, Compliance Division staff reviewed 53 source files for the period September 1993 through September 1994, interviewed District staff, reviewed selected enforcement policies, and reviewed District file materials. ARB and District staff conducted joint field inspections of 126 industrial facilities as part of the program evaluation.

A. GENERAL COMMENTS

In general, the District's enforcement program is operating in a satisfactory manner. Staff did not uncover any serious enforcement problems that we felt were not being addressed in an appropriate manner. Staff found that 94 percent of the sources selected for review were inspected on an annual basis, with one region conducting major source inspections twice a year. There were inconsistencies in the preparation of inspection reports observed between regions. The District inspects all facilities on an unannounced basis with few exceptions.

The result of the joint compliance inspections are discussed separately in Section II. K. so this section (A.) deals principally with program management and documentation. The District issues Notices of Violation (NOVs) for all violations documented as a result of inspection activities. The documentation contained in these NOVs is sufficient to be used in subsequent legal action if necessary. Permit conditions are reviewed annually for enforceability and are changed, if necessary.

The District has a policy for locating unpermitted facilities or equipment which is implemented in all three regions. The District's internal quality assurance/quality control program consists of senior/supervisory review of completed inspection reports, complaint and breakdown investigation reports and source test evaluations. The District has not yet developed a policy and forms for evidence gathering/sample collection and chain of custody subsequent to the audit. This should be accomplished. Also, the District relies on outside labs to analyze fuel, hydrocarbon, and asbestos samples, but took no coating samples prior to then. The District should actively consider establishing its own lab or establishing contractual arrangements with outside labs for all analytical work (The District has since entered into an agreement with the Bay Area AQMD for the analysis of coating samples for VOC content).

B. INSPECTIONS

a. Findings

The District is inspecting 94 percent of its sources annually; however, those inspections for major sources are not comparable to an EPA Level II inspection in regard to documenting compliance with all of the requirements. The District is not inspecting major sources once per quarter as recommended by ARB, but not required by EPA. All of the District's inspections are unannounced with very few exceptions.

b. Discussion

ARB staff review of 53 randomly selected source files from all three regions and interviews with District management demonstrated that the District is inspecting 94 percent of its sources annually. For its major sources (a major source is defined as a source with a potential to emit greater than 100 tons/year and with actual annual emissions greater than 25 tons/year) the District is inspecting these sources annually with the noted exception that the Northern region inspects these sources twice a year. In some cases District inspections are not comparable to an EPA Level II inspection in that District reports are not documenting compliance adequately for: (1) certain prohibitory rule requirements (emission limits from District source test reports discussed in the inspection report and VOC coating limit standards) and (2) visible emission evaluations (VEEs). In the case of VEEs, staff found many cases where no documentation was provided regarding an individual point source's compliance with respect to VEE requirements even though the inspection report identified the source as being in compliance. It is important in all cases where a VEE is taken that it be fully documented to establish that a VEE was actually done. Typically, a VEE is not written down if the emissions comply with appropriate limits; only violations of visible emission standards were documented by a completed VEE form (According to the District, it's newly proposed inspection checklist should eliminate any ambiguities).

The District does not inspect, on a quarterly basis, those sources with actual annual emissions greater than 25 tons as recommended in the evaluation criteria. District management has indicated that, due to staffing constraints, major sources cannot be inspected quarterly at this time.

ARB staff obtained a copy of the District inspection guidelines titled "Inspection Evaluation and Report Preparation Guidelines" dated August 5, 1994 and used this document as the District guideline for conducting inspections of its permitted sources. Staff also reviewed 53 randomly selected source files from District files. Staff found two problems common to all three regions. These problems were associated primarily with inspection reports documenting that a source was in compliance. These problems were: (1) demonstrating how compliance was documented for permit conditions, and (2) documenting the hours of operation for sources. Staff review also found other problems not common to all three regions: (1) documenting process rate information (Northern and Central regions), (2) documenting (with actual readings) visible emission evaluations (Northern and Central regions), (3) documenting compliance with waste handling requirements (Northern and Southern regions), and (4) documenting compliance with recordkeeping requirements (Central and Southern regions). Also, the Northern region needs improvement in documenting the existence of emergency

supplies (i.e., spare baghouse bags), and the Central region needs improvement in documenting compliance related to the use of dual fuel-fired equipment (According to the District, the aforementioned inspection checklist should eliminate these concerns).

Staff review of 53 selected source files and interviews with District management revealed that two of the 53 inspections reviewed documented multi-day violations. One case was settled for \$17,344 which involved several days of visible emission and NO_x standard exceedances. The multi-day violations were documented using CEM records principally. In the other case multi-day violations were documented based on coating records. This case was still open at the time of the evaluation. While the District has shown a willingness to act on multi-day violations when discovered, staff believes that the development of a policy on multi-day violations and procedures to handle them would be useful.

ARB staff interviews with District management revealed that the District conducts virtually all of its inspections unannounced. The only exception to this policy is the inspection of remote, unmanned facilities, of military installations, and of sources where notification is necessary to verify operation of equipment that may be operated infrequently. Management indicated that sources accept the need for unannounced inspections and thus there has been no problems with their use.

c. Criteria

All sources under District permit shall be inspected at a minimum annually. The annual inspection shall be not less than a Level II inspection as defined in EPA's Inspection Frequency Guidance (March 31, 1988). All sources with actual emissions greater than 25 tons/year shall be inspected on a quarterly basis as per ARB guidance. Inspections shall be conducted in a manner consistent with the District's inspection guidelines and these guidelines shall include a thorough discussion of the use of multi-day violations and procedures to handle same.

d. Recommendations

- o For each facility inspected, fully document compliance with all prohibitory rule requirements including VOC coating limit standards and emission limits.

- o Document compliance with visible emission requirements by completing a VEE form.

- o To the extent that District resources allow, conduct quarterly inspections on sources with actual emissions greater than 25 tons/year.

- o Implement action to correct the documentation deficiencies noted in paragraph 3 of the Discussion section.

- o Amend the existing inspection guidelines to include treatment of multi-day violations.

C. DOCUMENTATION REQUIREMENTS

a. Findings

The District is issuing NOV's for all documented violations of its rules and regulations. District NOV's are well documented and contained all of the necessary information to support subsequent legal action. Permit conditions are reviewed annually in all three regions for enforceability.

b. Discussion

The District is issuing NOV's for all documented violations of its rules and regulations. For the study period September 1993 to September 1994 staff reviewed a random sample of 53 source files from all three regions. The District has established a policy document covering issuance of Notices to Comply (NTCs) titled "Notice to Comply" dated August 4, 1994 which discusses 12 specific uses for the NTC and advises inspectors on how to proceed. In this review, staff found one instance where a Notice to Comply (NTC) should have been issued but wasn't, and one instance where a verbal warning was given in lieu of a NTC.

ARB staff researched the District's "Issued NOV List" and determined that 962 NOV's were issued in the study period. Staff reviewed 140 (about 15 percent) of these. Staff reviewed each NOV to determine if the NOV contained: (1) the date of issuance, (2) the time of issuance, (3) the permit number of the equipment found in violation, (4) the rule violated, (5) the inspector's name, (6) the name and address of the corporate official, (7) the contact's signature, and (8) a brief description of the violation. Staff found that the NOV's were adequately documented. Staff also reviewed the same 140 NOV's (as case files) in the review of the legal action program and determined that these case files supporting the NOV's were adequately documented.

ARB staff interview of District management revealed that permit conditions are reviewed annually as required by Section 42301(e) of the Health and Safety Code in each of the regions while the annual inspection is occurring. If changes are needed, the inspector submits a change order to his/her supervisor. After supervisorial review, the change order is transmitted to Permit Services where the assigned permit engineer reviews the enforcement concerns and corrects the problem. In the Southern region, this function has been automated between Compliance and Permit Services while in the other two regions this is still a manual process.

c. Criteria

The District shall issue Notices of Violation (NOV's) for all emission-related violations including recordkeeping where recordkeeping is necessary to determine whether an emission violation has occurred. Notices to Comply (NTCs) shall only be issued for non-emission related violations. NTCs shall be tracked and returns to compliance documented for all sources receiving NOV's and NTCs. NOV's shall be well documented and include the date, time, permit number, rule violated, inspector's name, name and address of the corporate official, source contact's signature, and a brief description of the violation. Also, legal action case files shall be well documented in the event they are used in court proceedings. The District shall review and ensure that all permit conditions are periodically updated to determine if

such conditions need revision, deletion or modification as allowed under Section 42301(e) of the Health and Safety Code.

d. Recommendation

None.

D. INTERNAL DISTRICT PROCEDURES

a. Findings

District inspectors work with local building inspection/planning departments in locating unpermitted facilities/equipment. The District has a quality assurance/quality control element in its enforcement program. The District does not currently have evidence gathering/sample collection policies or procedures.

b. Discussion

ARB staff interviews of District management revealed that District inspectors are allowed to contact local building inspection/planning departments in their effort to locate unpermitted facilities or equipment. District management feels that the use of local building inspection/planning departments is a valuable source of information. The Northern region recently added one staff position especially assigned to this effort. The District has a policy document titled "Unpermitted Equipment" dated August 4, 1994. This policy is satisfactory and does include a number of steps which should be taken, including building inspection/planning department contact, to locate unpermitted equipment.

ARB staff interviews with District management revealed that the District does have a quality assurance/quality control element in its enforcement program. This program consists of senior and supervisory review of inspection reports, NOVs, NTCs, complaint and breakdown investigation reports and source test report evaluations. Reports that are deficient are returned to staff for correction. District management (senior and supervising inspectors) revealed that approximately 75 percent of their time is spent in the field with the inspection staff conducting field inspections as part of their quality assurance/quality control activities.

Staff interviews of District management revealed that the District does not currently have policies or procedures for evidence gathering or sample collection for use by its inspection staff. According to District management, staff is currently working on a draft policy document. The District has been collecting samples and gathering evidence in the implementation of its asbestos enforcement program and in the determination of sulfur content of fuel oils. These samples are sent to private laboratories for analyses. The District does not analyze coating samples relying instead on Material Safety Data Sheets (MSDS). Information on MSD sheets do not reflect any thinning or additization done by the coater, and do not contain specific information on the relative amounts of exempt compounds that may be present in the coating. Therefore, reliance on MSD sheets to verify compliance is not appropriate (According to the District, they utilize manufacturer's data sheets, facility records, interviews with facility personnel and on site inspections to verify coating contents).

c. Criteria

The District shall have an active program in place for locating unpermitted sources/equipment in conjunction with local building inspection and planning departments as required in Government Code Section 65850.2. The District shall have a quality assurance/quality control element in its enforcement program to ensure that it is allocating its resources appropriately. The District shall have and use written procedures for evidence/sample collection and chain of custody.

d. Recommendations

o Expedite the establishment of written procedures to govern evidence gathering/sample collection activities and implement such procedures when they become available (According to the District, this activity has occurred).

o Collect samples as needed to fully determine compliance; explore the establishment of in-house laboratory capability or entering into contractual agreements with outside laboratories to make compliance determinations (According to the District, this activity has occurred).

B. LEGAL ACTION PROGRAM

The legal action program covers actions taken once a facility is documented to be in violation of District rules and regulations. The legal action program ensures that violation notifications issued are settled for penalties commensurate with the magnitude of the violations documented. The program is a necessary component of the District's enforcement program and helps to deter further violations. The legal action program also helps to "level the playing field" and ensure that all sources are treated fairly.

The legal action program was evaluated with respect to the existence of policies for the day-to-day administration of the mutual settlement program, for the documentation required in the mutual settlement program, and with overall program effectiveness.

A. GENERAL COMMENTS

In general, the District's legal action program is operating satisfactorily and has several notable positive points. Staff did not encounter any significant settlement cases which were not resolved by the District. Based on past program evaluations, the District's legal action program compares favorably with other districts in the State. Legal action cases are resolved for an adequate penalty when compared to other districts' settlement programs, the turnaround time is relatively short, and the documentation present in the program would enable cases to proceed to a courtroom if necessary.

Most violation notices issued resulted in the collection of a penalty settlement. In 13 percent of the cases (where problems were noted with NOV issuance or case preparation), no further action was taken. The District's policy document for its mutual settlement program addresses all ARB evaluation criteria elements. The District does not have written protocols or memoranda of understanding with local District Attorneys or County Counsels for the referral of cases that cannot be resolved through the mutual settlement program because in-house counsel handles these cases. Irrespective of this opinion, we recommend that protocols be developed to expedite case referrals if that becomes necessary.

B. POLICIES FOR THE MUTUAL SETTLEMENT PROGRAM

a. Findings

The District has a policy document for the administration of its mutual settlement program. It also has a penalty schedule. The mutual settlement document addresses multi-day violations. The District has no written protocols for the referral of cases to local District Attorneys for cases which cannot be resolved through its mutual settlement program.

b. Discussion

The District has a policy document titled "Settlement of NOV's and Mutual Settlement Cases" dated August 1994. The District has implemented this policy in the day-to-day administration of its mutual settlement program. This policy describes the structure and mechanics of the mutual

settlement program and advises settlement staff on how to proceed in settlement of cases from the issuance of NOV's to receipt of final penalty settlements.

The District's penalty schedule was developed in consideration of penalties available in the Health and Safety Code and is also structured to consider mitigating circumstances in violation settlements as contained in Section 42403 of the Health and Safety Code. An opportunity for the source to request an office conference to discuss extenuating circumstances surrounding a violation is an option in the settlement letter sent to all violators. Staff determined from case file review and from interviews with District staff, that the requested penalty amount is included in all settlement letters.

The District does not have written protocols with local District Attorneys for the referral of cases which cannot be resolved through the mutual settlement program. District Counsel handles cases that cannot be resolved through the mutual settlement program now, but circumstances could arise where the District might wish to use local prosecutors. Written protocols or memoranda of understanding (MOUs) with the District Attorneys or County Counsels could help expedite case referrals.

c. Criteria

The District shall have a policy for the administration of its mutual settlement program including a discussion on the existence and handling of multi-day violations. The District mutual settlement program shall issue penalty letters for all violations, provide an opportunity for an office conference, and provide for a release letter once the penalty settlement is received. The District shall have a penalty policy which recommends a dollar amount for the settling of violations based on the eight elements of Section 42403. The District shall have a written protocol with local District Attorneys for the referral of cases which cannot be resolved through the mutual settlement program.

d. Recommendation

o Draft a written protocol for use with local District Attorneys for the referral of cases that cannot be resolved through the mutual settlement program. Meet with appropriate legal offices to acquaint them with air pollution problems and discuss a possible referral document.

C. DOCUMENTATION REQUIREMENTS

a. Findings

The District has a legal action log for the tracking of legal action cases on a computer in District headquarters. The legal action log includes a tracking system for the tracking of all NOV's including those that were dismissed, canceled, voided or resulted in no further action (NFA).

b. Discussion

The District has a computerized legal action log maintained at District headquarters. From the log, the District can generate reports on cases settled to date, NFA actions, penalty installment payments, and cases

referred to District Counsel. The log contains information (data fields) on the date the NOV was issued, the NOV number, the facility name, the rule(s) violated, the disposition of the NOV and the date of disposition including: a) dismissed, b) mutual settlement, and c) referral to District Counsel. The District's legal action log can actively track all NOVs including those that were dismissed, canceled, voided or resulted in no further action.

c. Criteria

The District shall have a legal action log which tracks legal actions in progress. This log shall include: a) the date the NOV was issued, b) the NOV number, c) the facility name, d) the rule violated, e) the disposition of the NOV including: i. dismissed, ii. mutual settlement, and iii. referral to the District Attorney/County Counsel, and f) the date of the follow-up inspection to show a return to compliance. This legal action log shall maintain a system for tracking all NOVs from issuance to final settlement including dismissal, cancellation, voiding or no further action.

d. Recommendation

None.

D. PROGRAM EFFECTIVENESS

a. Findings

The District's baseline penalty settlements are low when compared against those contained in Sections 42400 through 42402.3 of the Health and Safety Code with only 59/134 first time settlements above \$500. Some cases are settled for amounts lower than prescribed in the District's penalty schedule. The District's no further action (NFA) ratio was approximately 13 percent compared to ARB's target of not more than ten percent. The average penalty settlement, the average time to settlement, and the percent multi-day violations statistics for the mutual settlement program are satisfactory when compared to other districts' settlement programs.

b. Discussion

The District baseline penalty settlement amounts are low when compared to those contained in Sections 42400 through 42402.3 of the Health and Safety Code. For first time settlements, only 54/139 (38 percent) settlement amounts were above ARB's recommended \$500. A settlement of less than \$500 for an emission related violation does not provide enough deterrence to a source to remain in continuous compliance. Violators who receive low penalties may have a competitive advantage over sources which comply.

The NFA rate was approximately 13 percent compared against CD's target of not greater than ten percent. Additional training for the field inspection staff in documenting violations would assist the District in reducing NFAs.

The overall statistics for the mutual settlement program are satisfactory when compared against other districts' settlement programs. For information relative to these statistics see Table III-1 following:

Table III-1, Mutual Settlement Program Statistics

<u>Statistic</u>	<u>Number</u>	<u>Percentage</u>
No. Cases Reviewed	140	14.55
Average Settlement	\$723	n/a
Time to Settlement	49 days	n/a
NFA Actions	122	12.66
Multi-day Violations	12	8.57
Repeat Violations	14	10.0

c. Criteria

The District's mutual settlement program baseline penalty settlement amounts shall be in line with those contained in Sections 42400 through 42402.3 of the Health and Safety Code and in no instance shall baseline penalty settlements be less than \$500. The District shall ensure that NOV's which are canceled, voided, dismissed or resulted in no further action are less than ten percent of the NOV's issued. The District shall provide information in the source file and in the legal action log (the latter is a shorter version) as to why the case was dismissed, canceled, etc.

d. Recommendations

- o Consider amending the District's penalty schedule to more accurately reflect the settlement amounts listed in Sections 42400 through 42402.3 of the Health and Safety Code.
- o Conduct additional inspector training to assist in lowering the NFA rate.
- o The District should review its policies and procedures on penalty reductions since some cases are settled for amounts lower than prescribed in their penalty schedule.

C. COMPLAINT HANDLING PROGRAM

Air quality complaints communicated to the District form a valuable source of information on which District personnel can quickly act to protect the public health. These concerns are usually related, but not limited to, injury, detriment, nuisance, or annoyance caused by air contaminants. In addition, the District can receive complaints that do not allege personal exposure to air contaminants but are intended to inform the District that a source is out of compliance with District rules and regulations.

The District's complaint program was evaluated with respect to receipt, evaluation, response, and resolution of air quality complaints. In order to do this, Compliance Division staff reviewed 263 complaint forms from the District's files for the period September 1993 through September 1994 and interviewed District staff. The cases reviewed constitute approximately 10 percent of all complaints received during the review period.

A. GENERAL COMMENTS

Overall, the District's complaint handling program is operating in a satisfactory manner and has several positive aspects. We are not aware of any complaint "hot-spots" existing in the San Joaquin Valley which have not been resolved by the District. The District processes almost all complaints received. The majority of complaints are investigated within 24 hours of receipt through an on-site investigation. Based on our sample, the District average for complaints investigated within 24 hours is 70 percent. On site investigations are conducted 85 percent of the time. ARB criteria recommends these figures to be 90 percent or better.

As a general rule, violations documented during the course of a complaint investigation result in the issuance of a notice of violation or notice to comply. However, some violation categories like open burning (Central Region) and Motor Vehicle and Mobile Equipment Refinishing (Southern Region) did not receive any violation notices. We understand, the District has now revised its policy and will be initiating legal action for all violations documented during a complaint investigation.

The District's Complaint Response Guidelines published in August 1994 is a good first step to ensure a consistent approach to complaint handling. In our detailed write-up we have suggested several areas which could be added to this document to make it more effective. These include detailed instructions on processing incoming complaints and referral of non air pollution related complaints to other agencies. An improved complaint form and additional training to the complaint receipt clerk will ensure that investigations can be promptly conducted by eliminating the need for the inspector to recontact the complainant. The District also needs to ensure that all complaint investigation reports are well documented and receive supervisory review.

B. RECEIPT OF COMPLAINTS

a. Findings

The District has an adequate system for receiving complaints during normal office as well as non-business hours. However, the complaint receipt

form could be refined so that sufficient information is obtained by the receiving clerk to allow the field inspector to proceed with the investigation without contacting the complainant for additional details. Existing complaint processing guidelines should be expanded to enable the receiving clerk to recognize between situations which need to be investigated versus those which need to be referred to another agency or filed in the District records for information only.

b. Discussion

Complaints called in during normal office hours are received by the clerical staff who initiate a complaint form. For the successful investigation of a stationary source complaint, it is critical for the receiving clerk to obtain information about the air quality incident in a systematic manner. South Coast AQMD has developed an air quality complaint form which could be used by the District to achieve this objective. Complainants who are unable to provide sufficient information for effective complaint resolution should be advised to note specific details regarding the time, nature, and location of any other air quality problems they may experience so that future complaints may be handled more effectively.

The District's policy titled Complaint Response Guidelines was drafted in August 1994 to establish uniform criteria for the investigation and documentation of complaints and determination of public nuisance. This should be expanded to include questions to be asked during the complaint receiving process and detailed listing of situations where interagency referrals can be made by the receiving clerk. South Coast AQMD has developed an informative pamphlet (What You Need To Know About Reporting Air Quality Problems) to educate the public about the nature and scope of District complaint response services. The pamphlet includes an interagency referral list to help complainants identify the most appropriate agency for response to future air quality or other environmental complaints. It would help the District's constituents if a similar pamphlet was developed by the District and mailed to all complainants who have provided their name and mailing address.

c. Criteria

The District shall develop complaint procedures and guidelines to improve working efficiency and provide consistency to all areas of its complaint handling program.

d. Recommendations

o Modify the existing Complaint Response Guidelines to provide more detail on receiving incoming calls in a systematic manner and providing interagency referrals when the complaint deals with a subject outside the District's jurisdiction.

o Consider developing a pamphlet to educate the public about the nature and scope of District complaint response services. Such a pamphlet should also contain an interagency referral list.

C. COMPLAINT INVESTIGATION

a. Findings

The District investigates almost all complaints received by it. Based on our sample size, the District-wide average for complaints investigated within 24 hours is 70 percent. On site investigations are conducted 85 percent of the time. The District has installed two-way communication radios in its field vehicles to reduce complaint response time. The District plans to have a computer system for tracking the receipt, investigation, and resolution of complaints (According to the District, this has now occurred). Currently, the tracking system varies between regions in concept (manual versus computerized) and information details. Reports for complaints investigated contain varying levels of detail in each District region.

b. Discussion

ARB staff reviewed 263 complaints from the District's files for the period September 1993 through September 1994 to evaluate the District's complaint investigation and resolution program. These complaints were randomly selected and represent about 10 percent of the total complaints received in each region of the District. We found that almost all complaints are investigated by District staff. In the Northern and Central regions almost 94 percent of all complaints received are investigated. In the Southern region 84 percent of all complaints received were investigated. These percentages would be higher if complaint forms have annotations to indicate whether a complaint needs to be investigated based on its content. For example, complaints about tree pollen (dust category) or stagnant water (odor category) either do not merit an investigation or are outside the District's jurisdiction. Such complaints should have different disposition codes (e.g. from natural causes, or referred to other agency) assigned to them and should be stored separately from the complaints which are assigned to the inspectors for field investigation.

The District has installed two-way communication radios in the field vehicles to reduce complaint response time. However, not all complaints are investigated within 24 hours of receipt. From the data reviewed, Central Region is responding to 76 percent of the complaints within 24 hours. The corresponding figure for the Northern and Southern Regions is close to 65 percent. The District's written policy states that "complaint response will take precedence over all other assignments with the exception of violations in progress". With this level of management commitment, the District should be able to meet ARB's target of investigating 90 percent of complaints within 24 hours.

The tracking of incoming complaints and ensuing reports varies from region to region. The District plans to have a uniform computerized tracking system for complaints handled. Currently, each region's tracking varies in the system employed (computerized versus manual) and the level of information contained in the logs. For example, the Northern Region complaint logs do not contain key information like date and time of investigation, whether enforcement action was taken, when the complainant was notified, etc. (According to the District, these changes have been implemented).

In the Northern Region, complaint reports are prepared for all complaints investigated, but were not easily located. In the Central and Southern Regions complaint reports are prepared 88 percent of the time. We found the Central Region complaint reports to contain all necessary information contained in ARB's criteria document on this subject. The type of information required to complete the reports in the other regions are: name and title of persons interviewed during the investigation, description of areas inspected, time and date of investigation, time and date of notification of complainant, whether a notice of violation was issued, results of notification, supervisor's signature. A standardized form containing fields for the information recommended in ARB's criteria for complaint handling will help improve the quality of complaint reports.

Almost all complaint reports receive supervisory review in the Northern and Central Regions. We strongly recommend this practice and are pleased to note that the Southern Region has formally started this practice since September 1994. We were informed that complaint reports (in the Southern Region) did receive supervisory review but were not initialed prior to this time.

c. Criteria

All complaints received by the District should be processed. 90 percent of the applicable complaints shall be investigated within 24 hours. Also, 90 percent of the complaints should receive an on site investigation.

Complaint reports and log should be uniform throughout the District and contain the information described in ARB's criteria document on this subject. Complaint reports should receive supervisory review.

d. Recommendations

o The District should improve its complaint investigation statistics to achieve the above criteria.

o The District's Complaint Response Guidelines should be expanded to include instructions on the contents of complaint reports and regional complaint logs. The necessity of supervisory review of all complaint activities in each region should be made part of the District's complaint policy document.

D. COMPLAINT RESOLUTION

a. Finding

As a general rule, notices of violation are issued if a violation is discovered during the course of a complaint investigation. However, in the Central Region, notices of violation were not issued for open burning violations documented during several complaint investigations. In the Southern Region, no violation notices were issued for violation of District Rule 4602 - Motor Vehicle and Mobile Equipment Refinishing. Follow-up investigations are done when the District receives additional complaints, but are not referenced in the original complaint.

b. Discussion

We have been informed by the District, that its new policy now states that violation notices will be initiated against any stationary source or person found in violation of any District rule or regulation. This eliminates the concerns we had regarding past District practices which allowed no enforcement action to be taken even when a violation was documented against a source or person. A case in point is open burning violations (among the Asian community in Central Region) where no enforcement action was initiated against documented violations. During discussions with District staff, it was explained that communication problems between the Asian community and District staff, resulted in a lack of enforcement action against the Asian community when open burning violations were documented.

The District also needs to formalize procedures for follow-up investigations. Our review of the complaint forms revealed that follow-up investigations are not routinely done even though they may be recommended in the original report. In some cases follow-up work is done but is not referenced in the original complaint report. Also, the complaint tracking system can benefit from developing formal procedures which can be followed by all regions.

c. Criteria

A notice of violation or notice to comply (as appropriate) should be issued to the source if a violation is discovered during a complaint investigation. Follow-up investigations should be conducted in all cases where recommended in the original report.

The District should have a mechanism to verify that all complaints are investigated, completed, and reviewed by the supervising inspector.

d. Recommendation

o The District should expand its policy to provide clear directions to staff for implementing the above criteria.

o The District should provide literature to the Asian community written in their native language which explains the open burning regulation.

D. ENFORCEMENT TRAINING AND SAFETY PROGRAM

Air pollution professionals involved in source inspection and law enforcement are exposed to a diversity of processes, procedures, protocols, and personalities, on a daily basis. Unlike many professions, the mix of environments and their exposures in air pollution enforcement requires inspectors to obtain and maintain an extremely high level of knowledge and skill proficiency in every area of contact. Even seemingly insignificant details could later prove relevant in both legal matters and matters of personal safety. In addition, inspectors are the most visible representatives of a district. Their behavior and credibility depend on skills drawn from aspects of law, physical science, criminal investigation, public relations, and an array of other disciplines.

In terms of inspection staff as a unit, there must be a documentable consistency in knowledge and skill proficiency among the group to ensure equitable field administration of rules, regulations, policies, and procedures. A comprehensive training program for air pollution inspectors is the foundation for consistency, competence, and credibility of district field staff. New inspectors must be trained and become useful as quickly as possible.

The most fundamental training requirement for an inspector is that of Visible Emissions (VE), Visible Emissions Evaluation (VEE), or "Smoke Reading". Districts consider this certification mandatory for inspection staff. It is the historically tried and tested field method for documenting emission exceedances from sources. Mostly used in earlier years toward enforcement of smokestack emissions, VE has been adapted to the complex changes in air quality regulation and is also used to quantify the opacity (density) of airborne dusts and aerosols.

In addition to the practical reasons for a comprehensive training program, there are many legal requirements that must be met. Several occupational health and safety laws apply to the activities of air pollution inspection, including confined space entry, respirator use certification, and medical monitoring requirements.

Asbestos inspection carries what some consider to be the most stringent training and certification requirements of any air pollution activity. Due to a well documented health risk potential, and the ready availability of protective measures, equipment, and technology, asbestos inspection and related activity is closely monitored by the California Occupational Safety and Health Administration (OSHA). Even an apparently insignificant deviation from legal requirements can result in costly fines. Habitual deviation from asbestos requirements by employers also carries a major worker's compensation liability.

The District's training program was evaluated with respect to OSHA requirements, draft training policy, and database recordkeeping. This evaluation was conducted through a review of the District's computer database entries, draft training policy, and ARB training database records.

A. GENERAL COMMENTS

Although the District has established a base for a comprehensive training program, there is still room for improvement. Database tracking of

employee coursework and certification has been implemented, but several inaccuracies and omissions were noted during data review.

The District does not have a formal written training program for either new or existing employees, but does send some inspection staff to the Fundamentals of Enforcement and, as appropriate, to some 100-200 series courses. Additionally, new staff receive several days of introductory training by senior inspection staff and are closely supervised. ARB staff recommends that District operating policies and procedures be incorporated into the training curricula (According to the District, copies of the Compliance Division policies and procedures are given to all staff, however).

B. PROGRAM DEVELOPMENT

a. Findings

The District needs to finalize their draft in-house training program for new staff and formalize their continuing education program for existing staff.

The District does not have a formal source category training focusing on technical issues associated with each rule category, but does utilize ARB training as it is offered.

b. Discussion

The District has a draft document for a program that addresses training for new inspectors. During discussions with District staff regarding ARB's preliminary findings, staff indicated that this training program had been finalized. A new employee orientation checklist is provided for administrative policies and procedure training, and a checklist is provided for industrial source training. Each new inspector is assigned to a senior inspector to make sure all required training is covered. For source training, the new inspector is paired up with an experienced inspector in the field for inspections or complaint investigations.

The District encourages existing staff to participate in training related to their area of responsibility, but has no formal continuing education program. Courses available to its employees include those provided by in house training, ARB, EPA, and other credited training facilities. Staff are required to participate in ARB's Fundamentals of Enforcement and UAQTP 100 Series program.

The District shares source category enforcement policies and procedures at their regional staff meetings. Source category checklists are used to track new inspector training in all regions. ARB did not verify this activity in the Central and Southern regions. The District encourages staff to attend ARB UAQTP 200 Series courses in the areas of their inspection expertise.

c. Criteria

The District shall have an established formal training program for new and existing staff to enable staff to adequately conduct inspections and adequately discharge their job responsibilities. This program should

incorporate courses offered through the Uniform Air Quality Training Program, and Air Pollution Enforcement Symposium.

The District shall establish a continuing education program for its inspectors, and should include attendance at ARB, EPA, and other agencies' training courses.

The District shall institute source category training focusing on technical issues associated with each rule category.

d. Recommendations

o The District should identify the training needs of their existing inspection staff and formalize their continuing education program. The District should send a copy of the final draft new employee training program to ARB for review and comment.

o The District should formalize and track the source category technical training provided to their staff.

C. DATABASE AND TRACKING

a. Findings

The District does have a centralized "Training File" system, but it needs updating to better track employee training and recertification.

The District obtains VEE certification through ARB. They require their inspection staff to obtain training every 6 months. All staff have been to Fundamentals of Enforcement (FOE) training but not all inspectors are currently certified for VEE.

The District has provided CPR, first aid and driver training to some of its enforcement staff. The District Personnel Department tracks inspector certification status in CPR, first aid, and driver training.

District hearing board members, clerks and district staff involved in the variance process have attended ARB's Variance Hearing Board Workshop. The District Compliance Manager and the AQI/variance coordinator from the central region attended the Advanced Workshop in July 1994. All District hearing board members attended the Advanced Hearing Board Workshop that was presented in the Fresno area in March 1995.

The information regarding attendance at hearing board workshops included in the District's Compliance Division training database contains errors. The District does not track attendance by board members (According to the District, their Clerk of the Board tracks attendance by hearing board members).

b. Discussion

The District maintains a compliance training log for its employees. The database was recently established from inspection staff submittals of past training. The data conversion process is still being implemented; therefore, the database does not include all training and recertification information for all enforcement personnel. Some training information is

missing and not all inspection staff are in the database. Additional tracking of in-house source category training is needed.

The ARB training database was reviewed for Fundamentals of Enforcement (FOE) attendance and VEE certification of inspection staff on 9/1/94. On 9/1/94, 48 percent (42) of District staff identified as Senior Air Quality Inspector or Air Quality Inspector had current VEE certification. Of the 42 staff, 40 have attended FOE and 20 had current VEE certification. The District training database identified 26 who have attended FOE and 19 with current VEE certification. Of the 22 non-VEE certified inspection staff identified in the ARB training database, five were Senior Air Quality Inspectors. Of the non-VEE certified inspection staff, one was last certified in 2/89, one was last certified in 4/93, 13 were last certified in 10/93, and three were last certified in 2/94. Of the four inspection staff who had no previous record of certification, three certified in 10/94.

As of January 1995, 62 percent (26) inspection staff had current VEE certification. ARB staff understands from the District that any remaining uncertified inspectors will be attending the next VEE recertification in their area.

CPR, first aid, and driver training has been provided to the enforcement staff but no documentation is available to verify this training other than the incomplete training database. The District training database shows 17 staff (inspector and senior inspectors) who have obtained driver training, 13 who have obtained first aid training, and nine who have obtained CPR training. If an inspector misses the scheduled group training for these courses, it is their responsibility to arrange a makeup course. A draft program is under development to track CPR, first aid, driver and respirator training, and yearly examinations through the personnel department.

ARB Compliance Division staff held a Hearing Board Workshop for the newly created hearing boards of the SJV in April 1993. The workshop was requested by the District. The hearing board clerk and District staff also attended. The compliance manager of the Central Region and the AQI/coordinator responsible for the District variance program also attended the Advanced Hearing Board Workshop in July 1994. In March of 1995, ARB held an Advanced Hearing Board Workshop in Fresno at the District's request. It was well attended by Hearing Board members and District staff.

A review of the training database (dated 10/94) indicates that some entries were made in error. A couple of records have District staff attending a workshop in Fresno on December 2, 1994. The workshop held in Fresno was on April 14, 1993. These are most likely typographical date entries.

c. Criteria

The District shall have a centralized "Training File" system in order to track District staff training participation and/or recertification.

The District shall ensure that field staff attend ARB's Fundamentals of Enforcement course and are certified to evaluate visible emissions.

The District shall train all of its inspectors in CPR, first aid, and driver training and keep all training current.

The District shall ensure that hearing board members, hearing board clerks, and district staff involved in the variance process attend ARB's Hearing Board Workshop.

d. Recommendations

o ARB recommends consolidating the District's training, medical, and safety information into one database to improve data tracking. However, it is understood that since the medical and safety tracking is conducted through the Personnel Department, consolidation of these elements may not be feasible at this time. District staff recognizes the training database needs to include all inspection personnel and their current training, and is updating the database. It is important that the database is kept current with safety and VEE training to ensure inspectors have valid required certifications. Additional tracking of in house source category training is needed.

o The District needs to ensure their inspection staff are recertified every six months to prevent their VEE certification from lapsing. The training database could be used to track certification, but the training database needs updating.

o The District needs to complete development of its program and tracking system which ensures training of the inspection staff in CPR, first aid, and driver training.

o Quality checking of information in the training database is necessary to prevent errors. The District may want to consider tracking hearing board member's attendance at ARB workshops either in combination with the District database, or by a separate tracking system or database exclusively for board members.

D. HEALTH AND SAFETY

a. Findings

The District does have a general safety program.

The District has issued safety equipment to their enforcement staff and tracked the issued equipment through tracking sheets. Separate tracking sheets are needed for specialized inspection staff.

The District provides annual medical monitoring for its enforcement staff, which is tracked by the Personnel Department.

b. Discussion

The training database shows that the District provides safety training for its inspection staff. In October 1994, the District finalized its Illness and Injury Prevention Plan required by Title 8, California Code of Regulations, General Industry Safety Orders. The District is conducting classes to introduce the Plan. In addition, the District Respiratory Protection Plan is under its final review and should be finalized soon (According to the District, this was accomplished after the audit).

According to District staff, safety equipment is available for all inspection staff. Tracking sheets obtained were for the personnel from Northern and Central regions. Southern region was not contacted. Verification that each inspector has the minimum safety equipment could not be done because not all tracking sheets were available for each inspector. Specialized safety equipment such as NOMEX coveralls for refinery inspections and coveralls for asbestos inspections are not included on this tracking sheet. The Southern region is the only region which has refineries. Refinery inspection staff have been issued NOMEX overalls. Disposable coveralls are used for asbestos inspections, therefore not tracked.

District staff interviewed stated that annual medical examinations are provided to all inspectors. However, the compliance training database only identified four staff (senior inspectors and inspectors) who have had a medical monitoring physical. Of the 42 staff, 22 were identified as needing respirators to carry out their job responsibilities, all of whom must have medical screening for respirator use. According to staff, the personnel office has the primary tracking responsibilities for medical examinations.

c. Criteria

The District shall have a general safety program.

The District shall provide the following safety equipment to district inspectors in order to minimize the possibility of a district staff member being injured while performing an inspection.

- a) Hard Hat,
- b) Respirator,
- c) Hearing Protection,
- d) Safety Shoes,
- e) Gloves,
- f) Body Protection,
 - i) long sleeves and long pants, and
 - ii) coveralls (required for districts that do asbestos inspections).

The District shall have a medical monitoring program which requires pre-employment and yearly physical examinations to ensure that employees are able to wear respirators, when needed, to carry out their job responsibilities.

d. Recommendations

o Title 8, implemented through OSHA, requires the development of an Illness and Injury Prevention Plan (IIPP) and a Respiratory Protection Plan (RPP). The District should finalize their RPP, and other plans required by Title 8 (According to the District, this has been accomplished).

o The District needs to develop a mechanism that ensures all inspection staff have been issued the minimum safety equipment listed above. The District may want to develop separate tracking sheets for specialty inspection staff.

o The District should consider consolidation of all tracking databases.

E. ASBESTOS

a. Findings

The District provides training through EPA for its asbestos inspection staff, but there is no formal training program. All asbestos inspection staff have obtained three day asbestos training. Some inspection staff have obtained specialized NESHAP safety training. Since not all courses are logged in the database, it cannot be determined which training has been provided to each employee who conducts NESHAP inspections.

The District has at least one inspector at each region with current AHERA certification. Instruction of other inspection staff by the AHERA certified personnel is not documented.

b. Discussion

The training database indicates that all asbestos inspection staff have obtained training on asbestos technical background issues, but it is not clear which inspectors have completed the required three consecutive day asbestos course. Only one inspector has obtained NESHAP regulation training.

The only NESHAP inspection staff clearly identified are those who conduct asbestos inspections. Asbestos inspection courses cover safety, and all identified asbestos inspectors have met their instructional requirements for safety. The District has identified inspection staff who require respirator training. Although it was communicated that respirator training has been provided regionally by the District, the Compliance Division training database does not show all those identified as having received respirator training (According to the District, their Personnel Division database and safety officer do track this testing).

The training database identifies at least one inspector in each region as valid and current in AHERA training.

c. Criteria

The District shall have a formal training program which must be completed by inspectors before conducting National Emission Standard for Hazardous Air Pollutants (NESHAP) inspections. Training should include information on NESHAP regulation, asbestos technical background issues, and safety. The District inspectors performing NESHAP inspections shall have specialized training on the use of personal protective equipment and basic field safety prior to any field activity. The training should include information on the selection of respiratory protection, suit-up and decontamination procedures, and respirator maintenance.

At least one District inspector shall attend a basic AHERA and practices in Asbestos Control course and bring the information back to other inspectors at the district and be recertified yearly.

d. Recommendations

o The District should establish a formal training program that outlines the requirement to attend the EPA-sponsored asbestos courses and others to be completed by inspectors conducting NESHAP inspections. In addition, a tracking system is needed that ensures safety training for all inspection staff involved with NESHAP inspections. The District should consider centralizing all tracking databases.

o Identify in the training database when in-house AHERA training occurs.

E. AIRS/AFS PROGRAM

The Aerometric Information Retrieval System/AIRS Facility Subsystem (AIRS/AFS) is a computer based data management system. It is used by the U.S. Environmental Protection Agency (EPA) to track the compliance status of "major sources" of air pollutants. The definition of a major source depends upon the area's designation as attainment or non-attainment for criteria pollutants and the date by which the area is expected to reach attainment. The San Joaquin Valley is designated non-attainment for ozone, carbon monoxide and PM-10. Because the District's non-attainment status is serious for ozone and PM-10 and moderate for carbon monoxide, the major source definitions are those which emit or have the potential to emit 50 tons/year (TPY), 70 TPY, and 100 TPY respectively for the above-mentioned pollutants. These sources are referred to as "major A sources" and are tracked by EPA because they have the greatest impact on our air resources and need to be closely monitored in order to achieve and maintain the national ambient air quality standards. EPA requires that major sources receive a thorough inspection annually.

ARB oversees the District's input of data into AIRS to verify that the information submitted to EPA is accurate. To determine the District's compliance with AIRS program requirements, ARB staff reviewed 100 source files for facilities with actual or potential emissions of 100 TPY or greater and interviewed District staff. From EPA's database, there are 435 sources which are identified as major class A in the SJVUAPCD.

A. GENERAL COMMENTS

A sample of inspection reports obtained from the District's source files was reviewed to determine if the reported AIRS inspections met the minimal requirements for a Level II inspection. Based on this initial sampling of 100 inspection reports, ARB staff determined that 68 percent did not meet the minimum requirements for a Level II inspection. A Level II inspection generally requires that a thorough compliance determination be made for all prohibitory rules, emission limits, permit requirements, and source testing requirements.

The U.S. EPA requires that major A sources be inspected annually during the federal fiscal year (October 1-September 30). Of the 100 targeted inspections, 82 percent were inspected during the 1994 federal fiscal year.

A review of permit files, inspection reports, and the 1990 emission inventory was conducted to determine the accuracy of the data in AIRS/AFS and revealed that the source name and address matched the information in AIRS/AFS, but the air programs [New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAP), Prevention of Significant Deterioration (PSD), New Source Review (NSR), and Asbestos], pollutants emitted, and the class size (designation of source size based on annual emissions) could not be verified. In addition, inspection dates reported to AIRS were compared with the dates in the inspection reports found in District files and this exercise revealed that 61 percent of the most current inspection dates reported to AIRS didn't match the data found in District files. There was also insufficient information to support major A source designations in AIRS when the 1990 emission inventory's actual emissions were far below the threshold for a

major source or when they were not listed in the 1990 emission inventory for major sources.

The District implemented a clean-up project in July 1994 to provide for more accurate data on the sources in the District's inventory. The clean-up activities included: updating source addresses, inserting the last inspection dates, adding new facilities, adding Title V sources, making designation changes based on the latest District emission inventory, and placing the facilities' permit number in the compliance identifier data field. This project is on-going.

B. INSPECTION REQUIREMENTS

a. Findings

Based on a sampling of 100 inspection reports from District source files, ARB staff made the following determinations:

- 77% Did not meet the minimum requirements for a Level II inspection because a visible emission evaluation (VEE) was not completed according to EPA Method 9,
- 15% Adequately met the requirement for a Level II inspection and, when appropriate, a VEE was conducted according to EPA Method 9,
- 7% Did not meet the Level II minimum requirements since not all equipment was operational at the time of the inspection,
- 1% Did not meet the Level II requirement because it did not document the compliance status for all permitted units at the facility.

b. Discussion

A Level II inspection is outlined by the EPA memo entitled "Revised Compliance Monitoring Strategy", dated January 8, 1991. This memo describes a Level II inspection as an inspection which includes the following where appropriate:

A review of existing records and log books on source operations, hours of operation, VOC-containing compounds usage, emission test reports, CEM performance test reports, and other records necessary to evaluate compliance with the applicable regulations and permits, particularly for the intervening period following the last inspection,

A recording of such process items as feed rates, temperatures, raw material compositions, process rates, and such control equipment performance parameters as water flow rates, pressure readings, static pressure drops, and electrostatic power levels, and

Visible emission evaluations.

Files were also reviewed to ensure that all permitted units located at the inspection site were inspected. Ninety percent of the 100 inspection

reports reviewed documented that all permitted units had been inspected on the day identified in the inspection report and were operating at the time of inspection.

The inspection reports were also reviewed to determine if visible emission evaluations were taken during the inspection when appropriate. ARB staff found a number of reports where the inspector merely noted the existence of visible emissions where they were not excessive. Other inspectors, who did not note excess emissions, did not write up a formal Method 9 assessment of the visible emission compliance status of the source. EPA's Method 9 must be used to assess the opacity of emissions from stationary sources and the readings must follow Method 9 requirements for: observer position, documentation of field information, observing emissions at the greatest point of opacity, recording in five percent or 0.25 Ringelmann numbers at 15-second intervals, and data reduction procedures.

Of the 100 inspection reports reviewed, 77 percent did not document a VEE when the source had particulate control equipment or was subject to the prohibitory rule for opacity. Fifteen of the inspection reports reviewed had a documented VEE included in the report. The fifteen reports were complete since the inspection report clearly addressed all permitted units and had documented VEEs. Several inspectors only noted the presence of complying visible emissions during their inspections; however, it is clear from Method 9 that the VEE readings or a statement in the report by the inspector that visible emissions were observed to be in compliance are required to adequately assess the visible emissions compliance status at the source.

c. Criteria

The district shall conduct Level II inspections of Aerometric Information and Retrieval System (AIRS) sources. By definition, a Level II inspection is a minimally-acceptable compliance inspection that involves an on-site visit to assess compliance with applicable air pollution control requirements. For example, where a source is federally regulated for more than opacity, a compliance inspection involving only a VEE is not considered to be a minimally-acceptable compliance inspection.

d. Recommendation

o Ensure that all inspection reporting accurately reflects the type of inspections which occurred at the source. If the District is reporting a partial Level II inspection, then the appropriate action code for a partial Level II inspection should be used. If the District reports a complete Level II inspection, then the District must ensure that all necessary information is collected in the inspection report to substantiate a Level II inspection. However, the District must note that only a complete Level II inspection during the federal fiscal year will satisfy EPA requirements affecting compliance inspections for major sources.

C. INSPECTION FREQUENCY

a. Findings

Of the 100 major A source inspection reports reviewed, 82 inspections were completed during the 1994 federal fiscal year (FFY) (October 1, 1993 to September 30, 1994) and could be verified by District inspection reports.

b. Discussion

The EPA memo entitled "Inspection Frequency Guidance", dated June 11, 1985, outlines the inspection policy for major sources in the State. This memo states in part "... All operating Class A1 (A) SIP sources regulated under the Clean Air Act shall be inspected annually. Annually is construed to mean at least one on-site visit is made to each such source between October and September, corresponding to the Federal Fiscal Year...."

The dates of the 100 targeted inspection reports showed that 82 of the inspections occurred during the 1994 federal fiscal year. This would give the District an 82 percent completion rate on their major source inspection requirements. In later discussions with District staff, the staff indicated that out of the 100 targeted inspections, two were closed and one was a "B" source. Unfortunately, the District is now unable to locate the names of those sources. If this information were used in our inspection calculations, the percent inspected would be 85%.

c. Criteria

AIRS Level II inspections and/or source tests shall be conducted annually for all applicable sources; the district should use the information from these inspections/source tests to confirm whether the source should continue to be listed on the State Implementation Plan (SIP) inventory.

d. Recommendation

o Ensure that all major sources receive a Level II inspection within the federal fiscal year. The District should also maintain a filing system that makes inspection reports readily available for review.

D. ACCURACY OF DATA

a. Finding

Permit files, inspection reports, and the 1990 emission inventory were reviewed to determine the accuracy of the data in the AIRS/AFS compliance system. Specifically, ARB staff compared this data with the basic source data, air programs, pollutants, inspections, and class size information in AIRS/AFS. Of the initial review of 100 records, the following was found:

Source Name - 88% matched the information in AIRS/AFS,
12% did not match the information in AIRS/AFS,

Source Address - 77% matched the information in AIRS/AFS,
23% did not match the information in AIRS/AFS.

Did the AIRS inspection date match the inspection date found on record at the District?:

45% of the dates matched,
55% of the dates did not match.

Were the Air Programs verified?:

24% verified that the air programs were correct,
57% could not verify the air programs,
12% partially verified that multiple programs were
completed, and
7% weren't included in the 1990 emission inventory.

Air Program Pollutants:

25% could be verified using the 1990 emission
inventory,
68% could not be verified using the 1990 emission
inventory, and
7% weren't included in the 1990 emission inventory.

Class Size:

26% were correct and substantiated by the 1990
emission inventory,
67% could not be substantiated by the 1990 emission
inventory, and
7% weren't included in the 1990 emission inventory.

b. Discussion

One of the 105 Grant objectives states that the District shall maintain accurate and complete data in AIRS. The basic source data in AIRS was reviewed to determine the accuracy of the data. In particular, the source name and address, the air programs, the air program pollutants, and the class size were checked against the District 1990 emission inventory, the latest inspection report, and the permit files. This review shows that the source names and addresses were accurate 88 and 77 percent of the time respectively which shows that the District has been diligent in maintaining accurate data in these data fields. However, when the air programs, air program pollutants and class sizes were analyzed, 57, 68 and 67 percent of this data in AIRS did not match the permit files, the inspection reports, or the 1990 emission inventory. This indicates areas which the District needs to review during their data clean-up project.

During discussions of the preliminary findings with the District, the District raised objections to the use of the emission inventory for assessing class sizes. The District's position was that the emission inventory was based on actual emissions and the class size definitions are based on potential emissions. ARB recognizes this dilemma and believes this will be resolved once Title V permitting is on-line in AIRS. The data is actual (as opposed to potential) but is five years old. Nevertheless, the emission inventory comparison can provide at least some indicators of the appropriateness of including these sources in AIRS as major class A sources. If the District has relied on better information to identify class A sources, that is appropriate.

The District is commended for their efforts to reconcile and clean up the database. ARB staff recognizes there has been a great deal of data reconciliation conducted over the last year. We note there has been a significant improvement in the data because of this effort.

c. Criteria

The district shall ensure that the data in AIRS/AFS is accurate.

d. Recommendation

o The District should review the basic source data in AIRS to ensure that the information such as source name, address, SIC code, air programs, air program pollutants, and actions are accurate. There should be sufficient information to substantiate the information in these areas.

E. DOCUMENTATION OF DATA

a. Findings

The inspection dates reported to AIRS did not match the most current inspection reports in District files 55 percent of the time. For 74 percent of the sources reviewed, there was insufficient information to support a "major A source" listing based on the 1990 emission inventory data. Twenty-five percent of the air programs reported to AIRS could not be verified by the 1990 emission inventory.

b. Discussion

Inspection dates reported to AIRS were compared with the inspection reports found in the District files and 55 percent of the most current inspection dates reported to AIRS did not match the latest inspection reports found in the District files.

Review of the 1990 emission inventory revealed that there was insufficient information in the inventory to support a "major A source" listing when the 1990 inventory actual emissions were far below the threshold for a major source or these sources were not listed in the 1990 emission inventory. This accounted for 74 percent of the sources reviewed.

Lastly, only 25 percent of the air programs reported to AIRS could be verified by the 1990 emission inventory. The remaining 75 percent of the air program information did not match the 1990 emission inventory or could not be verified. It was difficult to verify which federal air programs applied to a source. ARB staff had to closely review the inspections, permits, and District rules to determine if a source was subject to the New Source Performance Standards (NSPS), New Source Review (NSR), National Emission Standards for Hazardous Air Pollutants (NESHAP), Prevention of Significant Deterioration (PSD), Asbestos, or other federal air programs.

c. Criteria

District staff shall provide adequate and legible documentation of all AIRS data. The inspection reports shall include a summary of all the equipment inspected and specify operational or equipment information obtained or observed in order to make the compliance determination.

d. Recommendation

o Provide complete, accurate and legible documentation of all AIRS data.

F. VARIANCE AND HEARING BOARD PROGRAM

When an individual or company finds that they are in violation of an air pollution law and immediate compliance is not possible, a source may be able to obtain a "variance". A variance provides the source enforcement relief for the period of time necessary to fix the problem and come back into compliance with the rule.

When a need for a variance has been established, a source may then file an application for a variance with the local air district. After the noticing requirements are fulfilled, a hearing is held. There are numerous provisions in the Health and Safety Code (HSC) relating to variance orders. One of these provisions requires certain specific findings to be made by the board at the hearing. If the findings can be made, the variance can be granted. However, if they cannot be made, the variance must be denied. It is the hearing board's responsibility to evaluate of all information provided to them at the hearing and decide whether to grant or deny the variance.

The role of District staff in this process is to provide consultation and technical expertise to both the hearing board and the applicant, as well as to perform the administrative processing of applications and notices as required by the HSC. The HSC also delegates the responsibility of enforcing the variance to the District air pollution control officer.

The District program was evaluated in order to determine its consistency with the HSC requirements by which it is governed. To accomplish this, ARB staff reviewed District files, interviewed District staff, listened to tapes of actual hearings, and participated in follow-up meetings and conference calls. A total of approximately 120 variances were issued during the study period (September 1993 to September 1994). Forty-five (45) variances were reviewed.

A. GENERAL COMMENTS

The District, upon unification, found themselves with the difficult task of consolidating existing variance programs into a single program that would efficiently coordinate the application and hearing preparation processes for three District field offices as well as for the three hearing boards. District staff have developed comprehensive procedural guidelines to accomplish this task.

The evaluation shows an improvement in the hearing board orders since the June 1992 unification. However, there are several areas of concern regarding hearing board procedures as they relate to HSC requirements. These concerns are located in the findings that follow.

B. COMPLIANCE WITH HEALTH AND SAFETY CODE REQUIREMENTS

a. Overall Findings

The evaluation of District variance documents and hearing board tapes for variances granted during the study period indicated the following HSC requirements were not always met:

HSC 40835 - Notices shall be sent to ARB (a.),
HSC 42352 - Findings Required for Issuance of Variance (b.),
HSC 40860, 40862 - Decisions Shall Be Announced In Writing, Decision
Shall Include Reasons for Decision (c.),
HSC 42353 - Other Requirements for Specified Industry, Business,
Activity or Individuals (d.),
HSC 42360 - Copy of Variance Order to ARB (e.),
HSC 42352, 42352.5 - Findings Required for Issuance of Variance,
Additional Factors in Determining Sufficient Evidence (f.),
NO SECTION - Recommendations to the Hearing Board (g.), and
HSC 42350 - Applications for Variance (h.).

b. Discussion

To locate the specific findings and discussion for each item listed above, refer to the finding letter referenced after each item.

c. Overall Criteria

The District shall ensure that the requirements of California Health and Safety Code Sections 40800-40865 and 42350-42354 are being met.

a. Specific Finding, Section 40835

The District procedures for interim variances are consistent with HSC 42351 requirements. In general, regular and short notices are sent to ARB in accordance with HSC Sections 40825 and 40826.

b. Discussion

HSC Section 42351(a) indicates that a source that has applied for a variance and would like to remain operating until their petition can be noticed and heard, can then apply for an interim variance. Therefore, a short or regular variance application shall precede the granting of an interim variance order. District policy is to allow the petitioner to apply for both the regular/short and the interim at the same time. Other districts in the State have similar policies and ARB has accepted concurrent filing as fulfilling the requirements of the HSC.

One instance occurred in which ARB was not noticed of an upcoming short hearing (see also Finding B. e.). District staff has developed a 'Variance Application Checklist' to ensure that notices are sent to the appropriate recipients on a timely basis and also a 'Noticing Worksheet' to ensure the hearing is noticed properly.

c. Criteria

The district shall ensure that a 90 day (short) or regular variance (over 90 days) variance is applied for prior to granting an interim variance (HSC 42351)(a). The notices for upcoming hearings for regular variances or an extension of a variance previously granted shall be received by ARB 30 days prior to the hearing date. Notices for upcoming hearings for short variances or a modification of a schedule of increment of progress shall be received by ARB ten days prior to the hearing date.

d. Recommendation

None.

b. Specific Finding, Section 42352

Staff reports contain all of the ARB's recommended elements. A staff report is written for all petitions over 30 days in length. Staff reports should refrain from providing a justification for each of the six findings required by HSC 42352.

The standardized variance petition forms developed by the District contain all of ARB's required criteria as well as the statement to small businesses required by HSC 42352.5(b)(1).

Discussion

District staff reports provide background information and satisfy all other ARB criteria. Procedures have been developed that include completing a staff report worksheet, review of the worksheet by the Director of Compliance, the responsible inspector and the responsible permit services engineer for their review and input. The final report is reviewed by the Regional Manager and the Director of Compliance. The District position and recommendations are discussed with the Director of Compliance before distribution to the petitioner and hearing board members.

The staff report also contains each specific finding followed by the justification for each one. ARB staff reviewed taped hearings in each region in which several petitions were heard. The review indicated that the boards in two of the regions tend to neglect their responsibility to discuss the basis for the findings and rely instead on the District staff report. While the District staff may have sufficient knowledge to justify the six findings required by the HSC, it is nonetheless defined in the HSC as the hearing board's job to do so (see HSC 42352(a)).

Criteria

District staff shall prepare staff reports for each variance which is to be in effect for 30 days or longer. Staff reports must contain substantial details so that the hearing board can make a reasonable decision. Applications for variances shall conform with District rule requirements, be complete, and contain all information needed to process the variance. It must also include the statement to small businesses required by HSC 42352.5(b)(1).

Recommendation

o Staff reports should refrain from actually justifying the findings of the HSC, but instead provide the necessary information to the board in order for them to make the findings at the hearing. The staff summary presented at the hearing should also refrain from indicating that the six findings can be made as per the staff report. It is better to leave that determination up to the petitioner to prove and the hearing board to find as required by the HSC.

c. Specific Finding, Sections 40860 & 40862

Some of the variance orders granted were never received by ARB; therefore, the provision of the HSC requiring submittal to ARB with 30 days has not been fulfilled on a consistent basis. All orders granted within the study period have been announced in written form (HSC 40860). Reasons provided in the written order to justify findings were, in at least one instance, inaccurate.

Discussion

Preliminary findings stated that "gaps" in the sequential numerical order of the ARB database may indicate that several orders had not been received by the ARB as specified in HSC Section 42360. A few of these gaps were resolved during the variance process by obtaining the written order during the file review. In response to the preliminary findings, seven emergency variances and one short variance were forwarded by District staff to ARB. Five gaps still remain unresolved with one being a variance (C94-19) and four withdrawn orders where the San Joaquin data base shows withdrawn orders but ARB has not received such correspondence from the District.

District staff has noted that two of the orders forwarded after the audit meeting (one short and one emergency) were listed as being sent to ARB. It is possible that an order may have gotten lost somehow and that it was sent to ARB. However, in the case of the short order, the notice wasn't received either (refer to previous Finding B. b.). Since the orders were never submitted to the ARB, the requirement to send an order to ARB within 30 days of being granted was not met for these orders.

The unresolved gaps in the database have been determined to either indicate unwritten or unreceived orders.

One of the variance orders selected for review was also the subject of a hearing board tape reviewed by ARB staff. The variance was granted to a hospital to continue to use an ethylene oxide sterilizer. When ARB staff compared the written order to the actual hearing, it was determined that the written order and justifications for the findings were a total misrepresentation of the facts of the case. Consultation with ARB legal staff confirmed that a written document of this type is not a legally binding, valid document.

Criteria

Copies of all hearing board decisions shall be received by ARB within 30 days of variance approval. All hearing board decisions shall be in writing. The reasons for the decision shall include justifications to support the findings required by HSC 42352 (HSC 40862).

Recommendations

- o Send all orders to ARB within 30 days.
- o Resolved remaining gaps and report findings to ARB.
- o Ensure that all written orders include the reason(s) for reaching the decision to grant or deny the variance petition and that the facts as

presented on the written order are a true representation of the facts as presented at the hearing.

d. Specific Finding, Section 42353

Some orders were found in District files that did not contain any conditions at all. Some orders were found to contain enforceable conditions while others did not. The most recent orders do contain more enforceable conditions.

Discussion

HSC Section 42353 states that when making the findings under HSC 42352, the hearing board shall prescribe other requirements on the source as long as they are not more stringent than the rule. This is usually accomplished by placing conditions on the source which it must meet while under the variance.

Criteria

Variance conditions shall be specific and enforceable. Sources shall not be allowed to increase their production or alter their process in order to obtain a competitive advantage over similar sources.

Recommendation

~~o It is recommended that conditions be placed on all sources receiving a variance.~~

e. Specific Finding, Section 42353

Increments of progress and final compliance date verifications are documented using a checklist. Some verifications were found in the files, some on the District database, and others reported to ARB that were not documented in the files or the District database. It could be that the regional office inspectors who did the actual inspections had the documentation.

Discussion

After a hearing is held, an update on the status of the case is entered into the District variance database. A 'Compliance Verification Report' is then generated and distributed to the responsible Regional Compliance Manager for follow-up by inspectors. According to the procedures document, the responsible air quality inspector completes the 'Compliance Verification Report'. However, the procedures document does not indicate that a compliance inspection should be performed. A list is also generated once a month that lists the expired variances for each region for which compliance has not been verified. These are given to the responsible compliance manager for follow-up.

The procedural document did not contain provisions for verifying Increment of Progress Dates. Documents indicate that increment of progress dates have been missed in some cases (see minutes of May 18, 1994 hearing Fresno Cogen Partners - Update Report C-92-32). The normal procedure for missing a increment of progress is to hold an office conference and action is taken based on the circumstances.

Criteria

The district shall perform a final compliance inspection upon variance expiration. Inspections shall be performed by the district to ensure that the sources meet all specified increments of progress included in the variance.

Recommendation

o An actual compliance inspection should be performed as often as possible and when compliance cannot be verified through other dependable means (i.e., source test or CEM data). The District might want to consider adding increments of progress guidelines in their variance procedural document. The source should be contacted shortly before an increment of progress date to ensure that they are on target. If they are not expected to make an increment of progress, an interim authorization should be granted if justified, and an modification of increment of progress variance made, if appropriate.

f. Specific Finding, Sections 42352 & 42352.5

While the District does not specifically recommend denial due to source negligence, denial has been recommended by staff when District analyses indicated that the source did not deserve the variance. The reasons for denial varied, and some could be classified as "source negligence." For recurrent variances, the District does not specifically recommend denial based on recurrent variances. Variances reviewed did not indicate a pattern of recurrent variances.

Discussion

Staff do recognize that no variance should be granted when a source is negligent. Several staff reports were located in the files that recommended denial. The final decision on whether the variance shall be granted and denied is, however, the responsibility of the hearing board.

Recurring variances are defined as four or more variances. A "recurring" variance determination generally includes a pattern of repeat variances for the same equipment and the same problem. A recurring variance pattern can also be established when a very large number of variances are granted to a particular facility, even though the variances are for different pieces of equipment. A large number of variances in this case could indicate poor maintenance or other problems that should not be allowed to continue.

It is difficult to determine a pattern of recurring variances when only evaluating a one year period of time. We would like to note that during the period 1992 through 1994, approximately 30 variances had been granted to San Joaquin Valley Energy indicating that recurring variances may be an area of concern for the District.

Criteria

The district shall recommend to the hearing board that variances shall not be issued to sources when the condition causing the source to seek a variance are due to source negligence. The district shall recommend to the

hearing board that they not allow recurrent variances for the same types of problems for the same permitted unit.

Recommendation

None.

g. Specific Finding, Recommendations to the Hearing Board

File review indicates that variances were granted to sources that had not applied for an Authority to Construct (A/C) and/or had not obtained an A/C contrary to HSC Section 42350. Variances were also granted for conditions of an authority to construct. It was not determined whether these conditions fall into the category of "fundamental and essential" requirements of the A/C (see ARB Legal Opinion).

Discussion

According to files reviewed and information in ARB's files and database, several variances were granted from A/C conditions until modified A/Cs could be issued. At least one variance was granted before the source had applied for and received an A/C. Staff reports reviewed indicated District staff recommended denial of these variances. Most of these variances were granted by the hearing board.

Variances were also granted from A/C conditions (such as NSR offset requirements). An ARB legal opinion states that HSC 42350 "prohibits a variance from any requirement in the A/C which is fundamental and essential". Examples of an essential element of an A/C given in this legal opinion are BACT requirements or the requirements of an NSR rule to obtain offsets. ARB staff has not determined whether the conditions for which the SJV variances were granted fall into this category of "fundamental and essential" requirements.

An interview with central District staff responsible for writing all the staff reports determined they were well aware of this statute of the HSC and would not recommend approval of any order which is from the requirement to have an authority to construct.

Criteria

Variances from the requirement to obtain a permit to build, alter, or erect or replace a piece of equipment shall not be granted. Variances from an essential and fundamental authority to construct condition (i.e., BACT requirements or NSR offset requirements) shall not be granted.

Recommendation

o Do not accept petitions for a variance until an A/C application is received.

o Review ARB's legal opinion on variances from A/C requirements to determine essential and fundamental conditions, and do not accept petitions from those requirements.

C. HEARING BOARD POLICY, GUIDELINES AND RULES FOR GRANTING A VARIANCE

An evaluation of the District's taped hearings, as well as hearing board policy, guidelines and rules for granting variances indicated that the following HSC requirements were not always met:

- HSC 42352 - Findings Required for Issuance of Variance (a.),
- HSC 42359.5 - Emergency Variances (b.),
- HSC 42362 - Variance Revocation or Modification (c.), and
- HSC 42352.5 - Additional Factors in Determining Sufficient Evidence (d)

a. Specific Finding, Section 42352

Written procedures and guidelines in the form of rules do exist (District Regulation V - PROCEDURE BEFORE THE HEARING BOARD). These procedures comply with the ARB criteria. Procedures have also been developed to outline duties of all staff involved in the variance process.

Discussion

Rule 5200 of Regulation V specifies that emergency variances must include the six findings. The written orders do not reflect that the six findings are made, only that the decision is based on six findings. ARB does not require six findings to be made when granting an emergency variance. However, the hearing board should comply with all District rules regarding variances.

A recent California Supreme Court Decision (SCAQMD vs. Hearing Board) ruled that a hearing board is required to comply with rules adopted by a District.

Criteria

A set of written procedures and guidelines shall exist to ensure that variances are handled uniformly and in compliance with the Health and Safety Code.

Recommendation

o If the hearing board(s) are not making the six findings for emergency variances as prescribed by District Reg V, Rule 5200, they should begin doing so. If they are making the findings, the written order should reflect this fact.

o All other requirements of Regulation V should be followed by the hearing board(s).

b. Specific Finding, Section 42359.5

In at least one instance, an alternate member granted an emergency variance.

Discussion

In order to address the "missing" orders addressed in the preliminary findings, District staff forwarded seven additional emergency orders that ARB had not reviewed. During a review of these orders, it was determined

that the order granted to Mobil Exploration & Production (S93-45E) was granted by an alternate board member.

Alternate members are prohibited from granting emergency variances in HSC Section 42359.5. ARB staff contacted the variance coordinator and it was determined that the District was unaware of this provision of the HSC. It was also a topic of discussion at the Advanced Hearing Board Workshop held at the request of the District in March 1995. The variance coordinator indicated that steps would be taken to address this issue and prevent inconsistencies with HSC Section 42359.5.

Criteria

The District shall ensure that the requirements of HSC 40800-40865 and 42350-42354 are being met.

Recommendation

o No future emergency orders should be granted by alternate board members. This issue should be addressed in the District's procedural documentation. The District may want to consider modifying Reg V, Rule 5200 to prohibit alternate members from granting emergency variances.

c. Specific Finding, Section 42362

Variances reviewed indicated that some compliance schedules are unnecessarily long. During the hearing board tape review, it was determined that the Northern region granted a variance for a period of one and one-half months longer than the petitioner indicated would be necessary (N-94-01X).

Discussion

Expeditiousness is in question since several variances were recommended for denial by District staff, but were granted by the hearing board. In some instances, the recommendation for denial was due to long compliance schedules (Delano S-94-02I/R). Only by reviewing the tapes of the hearing can it be determined whether variances have been granted for longer periods than are necessary. It has been determined by reviewing a taped hearing conducted in the Northern region that an additional 45 days was given to a source as a "cushion", in case they did not meet the deadline.

Criteria

The variance shall require compliance with a required increments of progress schedule or emissions standard as expeditiously as practicable (HSC Section 42362).

Recommendation

o A variance should be granted to a source only for the shortest feasible period of time possible keeping in mind the effect on a source's complying competitors. Instead of including cushion periods, it would be more appropriate to include an increment of progress schedule. Within the schedule, a date could be identified 35 days before the final compliance date by which a source must apply for an extension, if it is possible that the final compliance date will be missed.

d. Specific Finding, Section 42352.5

The hearing boards in the Southern and Northern regions do not discuss the six findings at the variance hearing. Since the findings were not addressed, neither were the additional factors addressed to consider when making these findings (HSC 42352.5). Hearing Board tape review indicated the Central region more adequately addresses the findings.

Findings provided on at least one written order were not a true representation of what happened at the hearing, nor were they relevant to the case at hand. Therefore, the document is not legally binding.

Discussion

ARB staff reviewed taped hearings conducted in each region. From this review it was determined that the hearing boards in the Southern and Northern regions do not address the six findings. The hearing board relies solely on the justifications supplied in the staff report and does not require the petitioner to supply any evidence or testimony to support their case.

A review of the tape of a hearing conducted in the Northern region has determined that the reasons for the decision and the justifications for the findings as stated on the written order for a variance granted at that hearing (94-01X), was not a true representation of the facts of that particular case. The justification for the findings given on the variance did not apply to the case at all. In the Southern region, the justifications more adequately reflected the facts surrounding the case, but neither the findings or justifications were discussed at the hearing. Central region orders more adequately reflect what the board actually discussed at the hearing.

Criteria

The reasons to support the findings required by HSC 42352 shall be in the variance order. Variance orders shall contain the reasons for the decision (HSC 40864).

Recommendations

o The hearing board shall address the six findings required by the HSC Section 42352. An exchange of information between the petitioner and the board members regarding each finding is necessary, if only to determine that the facts, circumstances, and conclusions provided are a true account of the situation at hand. It is up to the petitioner, not the District staff, to prove those findings (HSC Section 42352.5).

o While the District staff prepares the variance orders for the hearing board signature, it is the ultimate responsibility of the hearing board members to determine whether the document they are signing is legitimate. The hearing board members need to review these orders for accuracy before signature. A document that contains findings of fact that are not accurate and which exclude the true facts of the hearing board discussion and findings, is not legally binding.

G. SOURCE TESTING PROGRAM

Hundreds of sources in the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) have the potential to emit large quantities of pollutants. Thus it is essential that the District maintain an aggressive and effective source testing program. Most large sources with significant emissions are permitted with conditions which require that they be source tested once a year because compliance with emission limits cannot be determined from the annual inspection. Source testing verifies that equipment can operate in a normal representative mode while complying with its permitted daily emissions limits throughout the year.

The District's source testing program was evaluated for compliance with the Air Resources Board (ARB) criteria for a good source testing program. In order to generate the information necessary to do this, Compliance Division staff interviewed District staff from all three of the District's regions. ARB also reviewed several randomly selected files of source tests conducted in the Southern Region and all of the tests conducted in the Central and Northern Regions during the Program Evaluation's study period.

A. GENERAL COMMENTS

Since the District does not currently have the capability to perform its own source tests, the District has an independent-contractor source-testing program. With the few exceptions listed below, this program complies with the requirements specified by the ARB criteria for a adequate source testing program and is operating in an overall satisfactory manner. The District has implemented and is following its "Source Test Guidelines" policy document which contains specific source testing provisions such as source testing contractors' requirements, pollutants tested under various equipment configurations and fuel type used, and reporting requirements.

As a general rule, District staff who have source test training observe all of the start-up and at least 85 percent of the annual source tests conducted in the District. The majority of the source test results are submitted by the source to the District within the required 60 day time frame. District staff review all source test results reports and issue Notices of Violation (NOVs) for failed tests. The District has settled these source test violations for a penalty amount through its Mutual Settlement Letter Program.

District staff explained that source tests are arranged with the independent ARB certified source-test contractors by the source. Due to the logistics involved in scheduling these tests, District staff believe that the test date must be specified. ARB staff recommend only the week of the test be identified so that it is difficult for the source to fine tune the operation in preparation for the test. Review of source test records disclosed that not all sources have submitted source test results within 60 days after the end of the field test as required by permit conditions and the District's (Section H) source test guidelines. Additionally, the source test logs in the Central and Northern Regions must be improved if they are to serve as tracking mechanisms. The Southern Region currently has a good tracking mechanism which consists of both a manual source test log and a computer data base source test list. All of the District's source test tracking should be improved to include the ability to "look forward" to see which facilities will need to be source tested in the future.

B. SOURCE TESTING OF MAJOR/MINOR SOURCES

a. Finding

Source tests are required at major sources by permit conditions placed on permits in accordance with the engineering evaluations conducted by the District. These source testing conditions follow the guidelines in Section H of the Policies and Procedures Manual and are not specified based on size i.e., actual emissions of 25 tons or potential of greater than 100 tons per year.

b. Discussion

The District requires source testing based on specific rule(s) which a particular source is subject to. The source test program also follows the source testing (Section H) guidelines. Section H contains charts which specify sources such as boilers, incinerators, gas turbines, and piston engines which are to be source tested and whether they require start-up only or start-up and subsequent annual tests. Pollutants required to be tested by these guidelines depend on factors such as type of fuel and control equipment used. There are point sources other than those specifically identified in the policy which should be tested annually. Identification of a specific emission threshold for triggering testing would assure that all major facilities would be held accountable for meeting emissions limits.

c. Criteria

The District's source testing program shall require the annual testing of permitted units at a major source (actual 25 or potential > 100 tons/year) or where the only means of compliance verification is through source testing. Minor sources whose compliance can only be determined by a source test shall have a start-up source test followed by periodic source testing at an interval to be determined by the APCO.

d. Recommendation

The District's source testing program guidelines need to incorporate the requirement to conduct annual testing of permitted units at major and minor sources based on the amount of emissions i.e., (actual 25 or potential > 100 tons/year) or where the only means of compliance verification is through source testing.

C. DISTRICT INDEPENDENT CONTRACTOR SOURCE TESTING PROGRAM

a. Finding

Since the District does not have any source testing capability, it uses only ARB certified independent source test contractors to conduct all initial and annual source tests. All of the start-up and at least 85 percent of the annual source tests are observed by trained and experienced (to varying degrees) District staff.

b. Discussion

The District's independent contractor source test program consists of all of the requirements listed below under "Criteria" with the exception

that the contractors do not conduct unannounced source tests. The District has a list of independent ARB approved source test contractors. Source tests are required to be conducted under worst case operating conditions. A source test results report is required to be submitted within 60 days of the field test; however, ARB staff found that in a few cases the reports were submitted late. The District stated that some small companies were not aware of the 60 day requirement and that a few of the large companies "were too busy" to submit the reports on time.

c. Criteria

If the District does not have its own source testing capability, the District shall have an independent contractor source testing program which among other elements require the use of ARB-certified independent source test contractors and unannounced source tests.

d. Recommendations

- o Require that a contractor conduct unannounced source tests to the extent possible by requiring that independent source test contractors only tell the source the week that the source test will take place.
- o Take enforcement action against those companies which do not submit the source test results within the required 60 day time limit.
- o ~~The District should consider developing the capability of performing its own source tests and laboratory analyses. Among the many potential benefits of the District performing its own source tests and analyses are uniform specialized training of District source test staff, faster and more economical analysis of collected samples, faster compliance determination of sources suspected of operating in violation, and the ability to conduct unannounced source tests.~~

D. TRACKING MECHANISM FOR SOURCE TESTS

a. Finding

The District's tracking mechanisms differ by region and consist of both computer data base and manual logs. Some of the manual logs must be improved before they can serve as adequate tracking mechanisms. All these tracking mechanisms allow the District to identify tested sources but none "look forward" to see which sources will need testing.

b. Discussion

The Southern Region's source test tracking mechanism consists of a complete manual source test log as well as a computer source test data base. The Central Region has a computer list of sources which have already been tested and just recently generated a list which has the sources which need source testing through December 1996. The Northern Region has a manual log which it just started and which must be improved to include the information listed under "Recommendation" below if it is to serve as a tracking mechanism.

c. Criteria

The District should have a tracking mechanism which allows the district to track past source tests and future source tests. Such a tracking mechanism would be an aid in determining whether all sources requiring source testing in the district are being tested on the required, regular basis.

d. Recommendation

The District should develop a computer data base tracking mechanism such as the one now in use in the Southern Region and add the capability to track needed future source tests. All District source test logs should include the following information: name and address of source, equipment tested, date tested, inspector who observed source test, date independent contractor's report was submitted, name of independent contractor conducting source test, reason for test (annual, start-up, or retest), date of compliance determination made by District staff, source test passed/failed, enforcement action if any, and retest date if any.

H. AGRICULTURAL / NONAGRICULTURAL BURNING PROGRAM (OPEN BURNING PROGRAM)

Whether from legally sanctioned agricultural burning, prohibited residential trash burning, forest burning for fire prevention, ditch brush burning for flood control, and any other strategic or planned burning for purposes of land management, all open burning can be a significant source of criteria pollutant and toxic emissions.

Smoke emissions contribute measurably to pollutant concentrations in ambient air causing problems such as reduction of visibility, disturbance of personal comfort, aggravation of respiratory problems, and exceedances of health-based air quality standards. In addition, smoke emissions from open burning often compound the burden on regulatory compliance staff by causing both public and private nuisance complaints.

Although residential garbage collection service has virtually eliminated any need for residential trash burning, until alternatives are established and implemented there remains a need to conduct large scale burning for certain agricultural crops and other land management practices. Air currents do not recognize geographical boundaries, and certain meteorological conditions and land topography can reduce the rate at which pollutants dilute and disperse. This often prolongs the intensity and duration of pollutant exposure to a given population. Thus, ensuring healthful air quality statewide and within individual air basins requires an organized and coordinated system that includes regulating, monitoring, recording, and verifying frequencies and quantities of large scale burns.

The District's open burning rule (4103), which addresses all types of burning (Agricultural and Nonagricultural), was evaluated for consistency with the requirements of the California Code of Regulations and the California Health and Safety Code. The District's open burning program was evaluated with respect to consistency with their draft written policy, Rule 4103, and actual practice in the areas of enforcement and permitting/emissions tracking.

ARB staff verified that permits were issued in accordance with District policy by conducting a review of specific data and documents from the study period ('93/'94) that included standard and special burn permits issued, and logs of authorized burns. Open burning enforcement findings were based on review of notices of violation, notices to comply, and internal and external correspondence documents.

A. GENERAL COMMENTS

The District's open burning program has developed significantly toward the goal of valley wide consistency and uniformity. Although there are needs yet remaining, several positive aspects of the program were identified.

The District has a full time staff member serving as central coordinator providing momentum toward full unification of the open burning program. Continuance of the efforts of the coordinator is of great importance in ensuring maximum forward benefit from the work that has already been done to the program. The central coordinator has initiated and fostered ongoing communication between the District and fire protection

agencies, expedited contractual agreements with municipal and county administrations, and encouraged an atmosphere of open communication and mutual cooperation among the parties involved in agricultural burning in the San Joaquin Valley air basin.

Many documents providing and applying the formal guidance and policy directives lacking prior to the study period were established, at least in draft form, and are in use. Most notable is the draft open burning policy with an appendix that clearly defines various types of fires, crops, and "materials" and provides specific information on each, such as how a material or crop must be ignited, when it is allowed to be burned, and how long it should be dried. The significance of this document is that the definitions, instructions, and stipulations relating to open burning are so concise and thorough that almost nothing is left to personal interpretation of what the law requires. The central coordinator has assisted in refining this policy document through several workshops with the individual fire protection agencies throughout the District. When very specific questions have been raised regarding exactly which materials are legally burnable by whom, such as an issue raised by pesticide applicators regarding empty pesticide containers, the District has obtained legal interpretation of and enforcement applicability guidance for Rule 4103 from District Counsel.

The Northern Region has an efficient computerized agricultural burning inventory and permitting system that can be expanded to include the Central and Southern Regions, or used as a model for a centralized agricultural burning data collection point. Hard copy data, including an up-to-the-minute log of all authorized burns, can be printed out promptly.

The Northern Region agricultural burning coordinator works closely with the central coordinator and has been very active in designing standard forms, applications, and checklists to ensure that the directives of the draft policy and procedure will eventually be implemented District wide. Also, the Northern Region agricultural burning administrator has been field testing the forms and checklists during on-site inspections at proposed burn locations identified by every applicant of a new or renewed burn permit. Historically, due to lack of a policy and procedure document, many entities that were not by legal definition "agricultural operations" had been able to obtain agricultural burn permits. The objective of the Northern Region's thorough screening of each burn permit applicant is to identify all parties that legally should not possess a burn permit, and to properly restrict the permit issuance to only those who are legally entitled.

B. ENFORCEMENT

a. Findings

All of the District's enforcement/inspection staff are expected to enforce Rule 4103 as outlined in the draft policy. Review of the District's enforcement records show that Notices of Violation (NOVs) and Notices to Comply (NTCs) are being issued for violations of Rule 4103, and that open burning enforcement is a major part of the District's program. In some instances, District complaint records did show that a notice was not always issued to members of the Hmong (Asian refugee) population for conducting religion related fires.

During the study period, the Northern Zone agricultural burn coordinator's job description/duty statement did not include authorization to issue citations or notices during field checks of burn permit applicant sites. This lack of enforcement authority required the staff member to radio for an inspector to respond and issue the appropriate notice. However, it was communicated to ARB during the program evaluation exit conference that the staff person will be provided the authority to issue NTCs and NOV's (According to the District, this has now occurred).

Although the District does not conduct open burning surveillance after hours on weekdays, the District has budgeted for overtime hours each month, for each of the three regions, to conduct open burning surveillance on weekends. The weekend overtime hours are allocated by each region manager on an as needed basis.

No records or inspection reports documented any practice of unannounced spot-checks or confirmations on the reported acreage/tonnage of agricultural burns (According to the District, their inspection staff do routinely inspect burn sites as a result of complaints and normal surveillance practices). (Note: This finding is also relevant to the Permitting - Emissions Tracking section of this report).

b. Discussion

Rule 4103 is consistent with the California Code of Regulations and the California Health and Safety Code, and the District's draft policy for open burning is consistent with Rule 4103.

Ensuring validity of grower's reported burn amounts and accuracy of emission inventory data depends on some degree of burn size verification. A typical confirmation might include use of a vehicle odometer by an inspector to measure actual acreage burned at a site followed up by a comparison of that amount of actual acreage to the acreage amount reported by a grower prior to the burn. Aerial measurements may also be useful in confirming reported burn amounts versus actual burned amounts. At present, the District does not conduct aerial surveillance.

The District has a draft policy titled Notice To Comply that specifically lists situations where and when staff "may" issue a NTC. This use of the word "may" leaves to the inspector's professional judgment, the decision of whether to issue a NTC or a NOV. The allowance for such field discretion could invite dispute and question from an alleged violator, except that all citations are well documented according to the District. Specifically, a question of bias or favoritism could arise if one person were to receive a NOV for an alleged burn violation while another person were to receive a NTC for a similar type of burn.

Staff interviewed stated that the District does not rely on other agencies to enforce the provisions of Rule 4103 but that some agencies do it cooperatively with the District. Typically, fire agencies will forward their report to the District after responding to alleged violation of Rule 4103. The District then follows up the fire report (Run Report) with a NOV or NTC. The District's legal action log and/or copies of NOV's/NTC's confirm that other agency's reports are followed up with enforcement action by the District.

In areas designated as State Responsibility Areas (SRAs), California Department of Forestry (CDF) issues its own type of citation that may reference or charge one or more of several burn laws under their enforcement authority.

c. Criteria

The district's agricultural burning program shall be consistent with the California Health and Safety Code, Division 26, Part 4, Chapter 3, Article 4, and the California Code of Regulations, Title 17, Division 3, Chapter 1, Subchapter 2. The district shall actively enforce the agricultural burning regulations including surveillance during and after normal working hours. The district and/or its agent shall issue Notices of Violation or Notices to Appear for all agricultural burning violations discovered by district or designated agency staff.

d. Recommendation

o Develop and distribute public education materials designed to overcome ethnicity/religion/language problems or barriers to compliance, as needed when such problems or barriers become evident. Materials such as a leaflet or one-page handout printed in the Hmong language about Rule 4103 could be distributed to address the Hmong religious fires. Also consider communication about Rule 4103 with the religious and/or political leaders of communities such as the Hmong population. County Health Departments may also be helpful in educating refugee populations about Rule 4103.

o Implement an unpublicized program for surveillance and enforcement for Rule 4103, during and after normal working hours. Such a program should be consistent with, and based on, the crop type and the amount of burning taking place.

o Examine alternatives for verifying grower's reported burn amounts versus actual burned amounts and implement a feasible verification program that includes random unannounced determination methods (Note: This recommendation is also relevant to the Permitting/Emissions Tracking section of this report).

o Given the large geographical area of the District, consider assisting enforcement efforts by conducting a program of aerial surveillance. If such program is conducted by a contractor, the program should include measures to verify and confirm the contractor's activities to ensure compliance with the contract.

C. PERMITTING/EMISSIONS TRACKING

a. Findings

As of the end of the program evaluation study period there were four different burn permit forms being used in the District, none of which contain the actual wording (the burning) "...will be abated by the permittee..." if the burn creates a public nuisance. However, similar wording is used to communicate the potential for incurring liability, and associated responsibilities for mitigation assumed by the permit holder, should the fire be deemed a public nuisance.

No evidence was found to show that any agency other than the District issues Special Burn Permits (one day permits to burn on a no-burn day). No evidence was found to show that the District has issued a Special Burn Permit having a validity time length of longer than one day.

There exists no single, consistent, District-wide written procedures for either issuing standard and special burn permits, and screening both types of permit applicants for legal eligibility. The Northern Region does have its own draft documents in use for these procedures.

There exists no single District-wide data collection, storage, and retrieval system for crop tonnage/acreage for either standard or special burn permits. The Central Region does have data collection and storage capabilities, although retrieval of the past burn data was not possible during the study period. The Northern Region was able to provide computer printouts of crop tonnage/acreage burned or authorized to be burned on a daily basis, but only for San Joaquin County. The District is developing a program designed to provide burn data reports in the a format that matches ARB's computer file.

The District does have signed contractual agreements with some of the county administrations within jurisdiction for other agencies to issue standard burn permits. The contracts stipulate who issues permits and who collects fees, but they do not stipulate who documents a violation and who takes legal action. The contracts reviewed were not dated on the signature page.

b. Discussion

The issuance mechanisms and permitting practices for standard burn permits vary by county. For instance, in San Joaquin County, permits are only issued by and through the District's Northern Region office in Salida, while in Kern County, a permit may be obtained at any one of the many firehouses of the Kern County Fire Department. Although it is acceptable for the District to contract with agencies designated by ARB (City Fire Departments, County Fire Departments) for permit issuance, it is difficult to establish and maintain consistency in permitting practices among a very large number of permit distribution locations.

Since each permit issuance location constitutes a data collection point, if and when a singular networked system for data collection, storage, and retrieval is implemented it may be beneficial and cost effective to minimize the number of permit issuance locations.

For purposes of emission inventory accountability and consistency with the Health and Safety Code, it is imperative that the District limit, monitor, regulate, and verify as accurately as possible and on a daily basis, the total amount of agricultural burning allowed and occurring. Although the District should have a fairly accurate figure for the amount of burning that was authorized by special burn permits, no documentation was obtained to demonstrate the accuracy of figures for total quantity of crop material burned each day of which burning is allowed.

c. Criteria

Any nonagricultural burn permits issued shall have on them the statement that the burning will be abated by the permittee if it creates a public nuisance. If the district has ARB designated agencies, then there shall be signed memoranda of understanding or agreements between the agencies defining each agency's responsibility in permit issuance, fee collection, enforcement, violation processing, and reporting requirements for permits issued. These memoranda shall be updated periodically. Also, the district shall periodically monitor the designated agency's performance. The district shall be the agency which issues the special permits for burning on no burn days. The district shall carefully evaluate the issuance of these permits to ensure that daily acreage burned is limited and that no burning takes place if downwind metropolitan areas are forecast to exceed the ambient air quality standards. Also, the district shall define "imminent and substantial economic loss" and determine how many no burn days (or refusals for permission to burn) in a row the applicant must wait before being issued a permit to burn on a no burn day. The district shall ensure that it or its designated agency obtains information on the amount (acreage) of agricultural burning to occur each day so that the district or the designated agency can regulate the total amount of agricultural burning to be allowed each day. A limit shall be set on the acreage to be burned each day. The district shall ensure that all burn permits are issued with conditions that require abatement of burning which creates a public nuisance. Guidelines shall exist to prevent burning from creating a public nuisance (e.g., population density criteria, upwind of populated areas, etc.).

d. Recommendation

- o Standardize throughout the District, all burn program related forms, applications, permits, and other official documents.
- o Ensure that permits issued for nonagricultural burning (land management burning) include a statement or written condition that the burning will be abated by the permittee if it creates a public nuisance.
- o Develop a written procedure document for screening all burn permit applicants and for issuing standard and special burn permits.
- o Examine and implement methodologies for ensuring that all burn data collected by the District is accurate and available on a daily basis.
- o Ensure that the accuracy of all burn data is provable by and to independent parties.
- o Ensure that all permit issuance contracts and/or memoranda of understanding (MOUs) stipulate who documents a violation and who takes each type of legal action (According to the District, this has occurred).
- o Ensure that all permit issuance contracts and/or MOUs are valid and legally binding (According to the District, this has occurred).

I. CONTINUOUS EMISSION MONITOR PROGRAM

A comprehensive and efficient continuous emissions monitor (CEM) program is an effective tool for compliance verification and very beneficial to any district's enforcement and inspection program. Continuous emissions monitors allow a district to verify a source's daily compliance status on a continuous basis through the review of hourly data on a source's quarterly reports submitted to the district and the verification of CEM accuracy through annual parallel source testing of the CEM equipped units. All CEM equipped facilities in the Central Region are directly linked to the District via computer. This region is thus able to "poll" any of its CEM equipped sources, by obtaining a printout of the CEM data, on a real time basis to determine their compliance status.

The District's continuous emission monitor program was evaluated for compliance with ARB's CEM program criteria. To evaluate the District's CEM program, ARB staff interviewed District staff from all three regions, reviewed District permit files, and conducted compliance inspections of sources in the District equipped with CEMs.

A. GENERAL COMMENTS

There are currently 61 continuous emissions monitoring systems in operation at sources within the District. With the exceptions outlined below, this program complies with the requirements specified by the ARB criteria for a adequate CEM program and is operating in an overall satisfactory manner. The District is following the requirements of District Rule 1080 - Stack Monitoring which grants the Air Pollution Control Officer the authority to require the installation, use maintenance, and inspection of CEM equipment. This rule also specifies the performance standards, recordkeeping, reporting, and violation and equipment breakdown notification requirements.

As a general rule, District staff who have CEM experience are present during the required Relative Accuracy Test Audits (RATA) conducted to compare the CEM values to the source test values during the source's annual test. District staff review all required CEM quarterly reports, RATA, and source test results and issue Notices of Violation (NOVs) for all exceedences or failed tests. The District has settled these test violations and exceedences for a monetary penalty through its Mutual Settlement Program.

The ARB criteria which require that the District inspect CEM sources on a quarterly basis to verify that CEMs are operating properly and that calibration of the unit is occurring regularly is not being met. Additionally, the District has not always complied with Health and Safety Code Section 42706 which requires that the District notify the ARB of any CEM violations within 5 working days after receiving the notification from the source. District staff explained that they try but do not always manage to notify ARB within the required time frame. Some District staff may have not been aware that they are required to report the CEM violations to the ARB.

B. ENFORCING CEM REQUIREMENTS

a. Finding

The District is enforcing its continuous emissions monitoring (CEM) rule.

b. Discussion

The District is enforcing its CEM Rule 1080 - Stack Monitoring, by requiring sources with CEMs to submit reports on a quarterly basis, requiring daily calibration as per the Code of Federal Regulations, and by establishing emissions and listing them on the permit to operate of unit's equipped with CEMs. Quarterly reports submitted by the sources are reviewed by the District and NOVs are issued for documented emissions exceedences. The District settles these violations for a monetary penalty through its Mutual Settlement Program.

c. Criteria

The District shall enforce its CEM requirements.

d. Recommendation

None.

C. QUARTERLY INSPECTION OF CEM SOURCES

a. Finding

The District does not inspect CEM sources on a quarterly basis.

b. Discussion

Based on interviews of District staff and review of the CEM files, ARB staff found that the District does not inspect any CEM sources on a quarterly basis to verify that CEMs are operating, operating properly, and that calibration of the unit is occurring regularly. District staff in the Northern Region conduct complete facility inspections of all of their major sources and therefore all of their CEM equipped units twice per year. Additionally, District staff sometimes perform CEM breakdown inspections and may be present during the CEM gas audits; however none of regions in the District perform quarterly inspections of the CEMs. Inspections of the CEM units every quarter will ensure that CEM equipped permit units are operating within their emissions limits on a continuous basis.

c. Criteria

The District shall inspect sources with CEMs on at least a quarterly basis to verify that the CEM is operating, operating properly, and that the calibration of the unit is occurring regularly.

d. Recommendation

o The District shall require CEM sources to be inspected on a quarterly basis to verify that CEMs are operating, operating properly, and that calibration of the unit is occurring regularly.

D. CEM DATA ACCURACY VERIFICATION

a. Finding

The District does require that the accuracy of the CEM be checked by comparing the CEM values to the source test values during the source's annual test.

b. Discussion

The District requires that relative accuracy test audits (RATA) of the CEM be conducted and compares the CEM values to the source test values during the source's annual test.

c. Criteria

The district shall verify the accuracy of CEM data at least once annually using parallel source testing.

d. Recommendation

None.

E. REQUIRING A CONTINUOUS EMISSIONS MONITOR

a. Finding

The District has not had any instances where a source was requested by the APCO to install a continuous emission monitor because it had a history of non-compliance.

b. Discussion

Based on interviews with District CEM staff and file reviews, ARB staff did not find any cases where the District has had to require a source to install continuous emissions monitors due to a history of non-compliance or because the source's emissions levels were close to the new source review Best Available Control Technology levels. However, there are many complex sources in the District for which CEMs could be used to provide the District with continuous information of their major permitted units' compliance status.

c. Criteria

The District shall consider requiring CEMs at sources where:

- 1) there is a history of noncompliance.
- 2) the source's emission levels are close to the new source review rule BACT cutoff level for that district.

d. Recommendation

o Due to the large amount of complex sources, the District should consider establishing requirements to identify existing sources for which continuous monitors may be necessary to effectively enforce emission limits.

o The expanded use of continuous emissions monitors would be very beneficial to the District's overall enforcement and inspection program.

F. HEALTH AND SAFETY CODE SECTION 42706

a. Finding

The District is not reporting all CEM breakdown reports to ARB as required by the Health and Safety Code 42706.

b. Discussion

The District's Southern and Northern Regions receive quarterly CEM reports from all of their CEM sources, are aware and try to notify the ARB of any CEM violation within the required 5 day time frame. The District's Central Regions polls CEM sources via a computer system daily and also receives quarterly CEM reports from all of its CEM sources; however, Central Region staff were not aware of the Health and Safety Code requirement to notify the ARB of any CEM violation within 5 days.

c. Criteria

The District shall comply with Health and Safety Code Section 42706, which requires that:

(1) Emission violations, indicated by monitoring equipment, must be reported by the source to the District within 96 hours of occurrence.

(2) Emission violations (even if caused by a breakdown) be reported to the ARB within five working days after receiving the report from the source.

d. Recommendation

o The District shall report all of its CEM violations to ARB within the required five day time frame. The District should continue to devote specific staff to this program in all the zones. These staff should receive specialized/standardized CEM training in conducting inspections of CEM equipment and would be responsible for reviewing reports and reporting all CEM violations to the State via ARB's toll free hot line.

J. EQUIPMENT BREAKDOWN PROGRAM

Equipment breakdowns can be significant sources of emissions which may endanger the health of the surrounding community when citizens are exposed to large quantities of pollutants in a short period of time or when the pollutant is a toxic air contaminant. During an equipment breakdown, pollutants can be emitted at levels much higher than controlled levels. For this reason, equipment breakdowns must be identified and corrected as soon as possible.

The District's equipment breakdown program was evaluated with respect to receipt, investigation and resolution of equipment breakdowns. In order to do this, Compliance Division staff reviewed 115 equipment breakdown reports from the District's files for the study period (September 1993 through September 1994) and interviewed District staff. In the Northern region of the San Joaquin Valley, 122 breakdowns were reported during the study period and 17 breakdown reports were reviewed. In the Central region, 414 breakdowns were reported during the study period and 40 breakdown reports were reviewed. In the Southern region, 426 breakdowns were reported during the study period and 58 breakdown reports were reviewed. The cases reviewed constitute 12 percent of the 962 breakdown reports received during the study period.

A. GENERAL COMMENTS

Because the District rarely conducts on-site investigations of equipment breakdowns, the District's equipment breakdown program is operating in a less than satisfactory manner. The Southern region conducted 5 on-site investigations within 24 hours of the breakdown call and 11 on-site investigations after 24 hours of the breakdown call during the study period. The Northern and Central regions did not conduct on-site investigations. Most facilities were contacted by the District by phone within 24 hours of receipt of the breakdown call. This procedure is insufficient to determine if the equipment breakdown is the result of neglect or disregard of any air pollution control law or rule or regulation; is not intentional or the result of negligence; is not the result of improper maintenance; does not constitute a nuisance; and is not a recurrent breakdown of the same equipment. Each of the factors listed above are required by Rule 1100. In general, breakdown relief is granted after District staff have spoken to a facility representative and after reviewing the facilities' breakdown report.

The District was operating without an equipment breakdown policy during the study period. The first draft of the equipment breakdown policy was drafted on August 10, 1994, during the study period, and outlined a procedure for conducting a visible emissions evaluation during a breakdown, but this draft policy was not adopted and not put in use.

The District now has an equipment breakdown policy, approved on November 1, 1994 after the study period, which will help ensure a consistent approach to receiving, investigating and resolving equipment breakdowns.

B. RECEIPT OF BREAKDOWNS

a. Findings

The District has a system for receiving breakdown calls during normal office hours as well as after hours. The breakdown investigation report form currently used by all regions will help to ensure that breakdowns are logged in, investigated, followed up and reviewed by a supervisor.

b. Discussion

Breakdowns called in during normal office hours are received by the clerical staff who log the breakdown call into the computer and generate a breakdown investigation report form. This form goes to the area inspector for investigation.

Breakdowns called into the Northern and Southern regions after hours are received by an automatic message recorder which gives the facility the pager number of the on-call staff person. If the on-call staff person is paged, they will call the automatic message recorder and get the details of the breakdown and will decide if the breakdown needs to be investigated immediately. The on-call staff person will let the area inspector know about the breakdown call the next working day and will also instruct the clerical staff to log the breakdown call into the computer.

Breakdowns called into the Central region after hours are received by an answering service which takes the information from the facility and contacts the District's clerical staff the next working day. The clerical staff will log the breakdown call into the computer and generate a breakdown investigation report form for the area inspector. The Central region does not investigate breakdowns after hours.

Approximately 25 percent of the breakdowns called into the Southern region are for maintenance of continuous emissions monitors and are not breakdowns as defined by Rule 1100. The revised breakdown investigation report form will help to eliminate the logging of calls which are not breakdowns.

In October 1994, after the study period, the Northern region began implementing a new breakdown relay procedure which gives clear and concise instructions to the staff on what steps to take in order to process a breakdown call once it is called in by a source. The procedure is as follows:

1. Inspector on counter duty takes the call.
2. Breakdown information is given to the clerical staff to enter into the computer, generate a report and enter into the breakdown log.
3. Breakdown report is given to the appropriate inspector.
4. Report is forwarded to the senior inspector for review.
5. Report is then forwarded to supervisor for final review.
6. Finalized report is returned to the clerical staff to enter the completion date and the status code in the computer and to place in the source file.

c. Criteria

The District shall have a set of written procedures and guidelines to ensure that the breakdown procedures are handled uniformly to final resolution.

d. Recommendation

o The District's equipment breakdown policy should be amended to incorporate the Northern region's relay procedure which was implemented after the study period.

C. BREAKDOWN INVESTIGATION

a. Findings

The Southern region conducted 5 on-site investigations within 24 hours of the breakdown call and 11 on-site investigations after 24 hours of the breakdown call. These 16 breakdown investigations represent 27 percent of the 58 breakdowns reviewed in that region during the study period. The Northern and Central regions did not conduct on-site investigations.

b. Discussion

ARB staff reviewed 115 breakdown reports from the District's files for the period September 1993 through September 1994 to evaluate the District's breakdown program. These breakdowns were randomly selected and represent 12 percent of the 962 breakdowns received by the District during the study period. We found that most breakdowns were not investigated on-site. In the Southern region, 5 breakdowns were investigated on-site within 24 hours of the breakdown call and 11 were investigated on-site after 24 hours of the breakdown call. The Northern and Central regions investigated breakdowns over the phone.

The District inspector contacts the facility by phone within 24 hours of the breakdown call. A facility representative is questioned concerning the equipment involved, description of the problem, reason for the breakdown and if the breakdown was beyond the reasonable control of the source. Breakdowns are rarely documented by on-site field visits to the facilities. Instead, breakdowns are investigated principally by telephone.

The Northern region does not have a mechanism to identify recurrent breakdowns of the same equipment. The Central region can print out a computerized "Report of Outstanding Breakdowns Not Completed For All Inspectors" which is also used to identify recurrent breakdowns of the same equipment. The Southern region has a binder which lists all facilities which frequently call in breakdowns and recurrent breakdowns of the same equipment are identified by facility. This mechanism allows the Southern region to quickly identify recurrent breakdowns of the same equipment. The District's current equipment breakdown policy defines a recurrent breakdown as one occurring on two previous occasions and instructs the District to send a letter to the company stating that subsequent occurrences may be considered as recurrent and recurrent breakdown claims may be denied.

The District's equipment breakdown policy, implemented after the study period, gives clear instructions to area inspectors on how to prioritize and

investigate equipment breakdowns and should help to improve the District's performance with regard to the percentage of on-site investigations of equipment breakdowns.

c. Criteria

All breakdowns reported to the District shall be investigated to determine if the breakdown is allowable under the District's breakdown rule. On-site investigations shall be conducted for at least 90 percent of the breakdowns reported to the District. The District shall have a mechanism to identify recurrent breakdowns of the same equipment and require special action by the source to abate recurrent breakdowns.

d. Recommendations

o The District should follow-up phone interviews with on-site visits to the facilities.

o The District should conduct on-site investigations 90 percent of the time or prioritize these investigations if 90 percent cannot be done.

o The Northern and Central regions should implement a mechanism, like the one currently used in the Southern region, for identifying recurrent breakdowns of the same equipment.

D. BREAKDOWN RESOLUTION

a. Findings

Seventy percent of equipment breakdowns are called into the District within one hour of their detection. Eighty percent of the facilities in the Southern region submit breakdown reports within 10 days of the initial breakdown call. Ninety-three percent of the facilities in the Central region submit breakdown reports within 10 days of the initial breakdown call. Fifty-nine percent of the facilities in the Northern region submit breakdown reports within 10 days of the initial breakdown call. Forty-five percent of the breakdown reports reviewed in the Southern region were complete. Ninety-five percent of the breakdown reports reviewed in the Central region were complete. Eighty-two percent of the breakdown reports reviewed in the Northern region were complete. Ten to twenty percent of the breakdown reports are for recurrent breakdowns of the same equipment. Breakdowns are granted 59 percent of the time in the Southern region, 93 percent of the time in the Central region and 76 percent of the time in the Northern region.

b. Discussion

Rule 1100 allows sources to briefly operate equipment that is non-compliant due to an unforeseeable occurrence provided the District subsequently determines these are valid breakdowns. The District's initial phone contact with the facility allows the area inspector to follow up on the facility's breakdown call. The facility's breakdown report provides detailed information concerning the nature and extent of the equipment involved and estimate of excess emissions that resulted from the breakdown.

The District receives a breakdown report from the facility within 10 days of the breakdown call which describes the breakdown including the equipment involved, corrective action taken and reasons given for the breakdown. The District reviews the breakdown report and will send the facility a letter requesting more information if the breakdown report is incomplete. The facility has 10 days to respond. The District does not deny a breakdown based upon incomplete information, but will request additional information.

The District uses this breakdown report and the information provided during the initial phone contact with the facility representative to determine if the source qualifies for breakdown relief under Rule 1100. However, the recurrent breakdown provision, one hour notification requirement and 10 day written reporting requirements are not enforced. Ten to twenty percent of the breakdown calls are for recurrent breakdowns of the same equipment and one Notice to Comply was issued. Thirty percent of the breakdown calls exceeded the one hour notification requirement and no Notices of Violation (NOV) were issued. Seven to forty percent of the breakdown reports are submitted after 10 days of the initial breakdown call and one NOV was issued.

The District must also conduct an on-site field investigation to know if the breakdown report qualifies as a valid breakdown. An on-site visit will let the area inspector know if this is a recurrent breakdown of the same equipment, the result of improper maintenance, intentional or the result of negligence, constitutes a nuisance or is the result of neglect or disregard of any air pollution control law or rule or regulation.

Since the goal of the breakdown program is the quick resolution of the equipment failure to minimize excess emissions while allowing the source protection from enforcement action, it is imperative that the source know that a District representative will be conducting an on-site visit to make the determinations noted above.

The District's equipment breakdown policy, implemented after the study period, explains when NOVs are to be issued and when breakdowns are to be denied. This policy should improve the District's implementation of the breakdown rule and industries' compliance with it.

c. Criteria

The District shall enforce all requirements in its breakdown rule and regulation and conduct a reinspection to determine that the breakdown was corrected.

d. Recommendations

- o The District should issue Notices of Violations for violations of Rule 1100.

- o The District should deny breakdown protection under Rule 1100 for those facilities who do not meet all the requirements of the rule.

- o The District should conduct on-site field visits in order to verify that a breakdown condition exists.

o The District should conduct on-site field visits in order to verify that the breakdown condition was corrected within the 24/96 hour period allowed in Rule 1100.

K. FIELD INSPECTION EVALUATION

Field inspections of industrial facilities within the District allow ARB and District staff to determine the compliance status of these facilities. These inspections also enable ARB staff to obtain additional information on the implementation of District programs that are examined in the office review portion of the program evaluation process.

To this end, Compliance Division and District staff conducted joint compliance inspections of 126 industrial facilities operating in the District. The purpose of these inspections is to gauge the compliance status of the inspected facilities and to evaluate District inspection techniques.

Compliance Rate for Inspected Sources

a. Findings

The District's overall compliance rate for the joint compliance inspections was dependent upon the type of industrial facility inspected, refer to Table II-2 for the exact percentages. The District's inspection techniques were reviewed and did not present any problems to ARB staff.

b. Discussion

ARB and District staff conducted joint compliance inspections of 126 facilities during the field inspection portion of the program evaluation. The inspections consisted of 100 gasoline dispensing facilities (100 facilities were selected to ensure a statistically significant cross section of the gasoline dispensing facility population), ten chrome platers, five ethylene oxide sterilizers, four coating operations, three refineries, three power plants, and one gas plant. For the 126 industrial facilities inspected, there were 167 permit units that were inspected for compliance with the rules and regulations that govern these operations. In total, 63 Notices of Violation (NOVs) were issued as a result of the joint ARB/APCD compliance inspections (see Table II-2 following). A separate discussion will follow for each type of facility inspected.

Table II-2
Facility Compliance Status

<u>Type of Facility</u>	<u>Total Inspected</u>	<u>Percent In Compliance</u>
Gasoline Stations (100 Facilities)		
Nozzle Systems	1,935	89
Chrome Platers (10 Facilities)		
Tanks	15	67
Control Systems	1	0
ETO Sterilizers (5 Facilities)		
Sterilizer units	6	100
Aerator units	3	100
Control Systems	1	100
Refineries (3 Facilities)		
Valves	389	100
Flanges	282	100
Threaded Conn.	169	99.4
Pump Shafts	83	84
Compressors	2	100
Process Drains	6	84
Gas Plants (1 Facility)		
Valves	143	96.5
Power Plants (3 Facilities)		
Boilers	3	100
Fuel Treatment	8	100
Receiving/L-0	6	84
Other	5	80
Coating Operations (4 Facilities)		
Paint Booths	11	73
Clean-up/Storage	3	67
Ovens	6	100

Gasoline Dispensing Facilities - From the joint compliance inspections it was determined that the overall non-compliance rate was 11 percent with six percent being in the nozzle portion of the system and five percent being in the non-nozzle portion of the system. This was based on the twelve component parts in the basic Phase II vapor recovery system, not from a permit unit-based count, and determined from joint ARB/District inspections of 1,935 nozzles at 100 gasoline dispensing facilities. Throughout the three valley regions the observed non-compliance rate was nine percent (Northern Region), 24 percent (Central Region), and four percent (Southern Region). The relatively high non-compliance rate in the Central Region is principally attributed to hose configuration problems, these problems have been discussed with the District. The overall non-compliance rate is about average compared with 12 other districts evaluated over the past ten years. The nozzle-related defects, which are those resulting in the most excess emissions, were lower on a percentage basis than those of any district evaluated in the last ten years. The excess emissions arising from non-compliance were estimated to be between 0.70 tons VOC/day to 1.11 tons VOC/day. Gasoline dispensing facilities are inspected by County Weights & Measures Departments under contract with the District. The District will need to advise Weights & Measures staff about the defects found. For additional information relative to the vapor recovery inspections, please

refer to the rule effectiveness report on District Rule 4622 (Transfer of Gasoline into Vehicle Fuel Tanks) listed as Appendix C.

Air Toxic Control Measure (ATCM) Facilities - ARB and District staff jointly inspected chrome platers and ethylene oxide sterilizers for compliance with the requirements of Rule 7011 (Hexavalent Chrome - Decorative and Hard Chrome Plating, Chromic Acid Anodizing Facilities) and Rule 7021 (Ethylene Oxide - Sterilizers and Aerators).

For chrome plating operations, ten facilities (a total of 11 permit units) were inspected. Staff observed violations at four facilities, that included emission violations (5), recordkeeping violations (4), and one permit requirement violation for an equal split between excess emission violations and procedural violations. In total, four NOVs were issued to the facilities documented to be in violation. Additionally, staff observed problems with decorative chrome platers not being able to generate the 0.5 inch of foam requirement in the plating tank for Cr^{+6} evaporative control. In general, decorative platers are required to maintain a 0.5" foam blanket on the surface of the plating tank when items are being plated to control evaporative Cr^{+6} . District Permit Services is undertaking an evaluation of this requirement.

For ethylene oxide sterilizers, ARB and District staff jointly inspected five facilities (eight permit units) to determine compliance with the requirements of Rule 7021, principally the fugitive emission leak requirement (Section 3.9) while the equipment is in operation. Staff used an Organic Vapor Analyzer (OVA) to check for leaks of ethylene oxide and did not find any leaking equipment. Consequently, all ethylene oxide sterilizers were found to be operating in compliance with the rule.

Petroleum refineries - ARB staff accompanied District staff on inspection of three refineries subject to Rule 4451 (Valves, Pressure Relief Valves (PRVs), Flanges, Threaded Connections and Process Drains at Petroleum Refineries and Chemical Plants) and Rule 4452 (Pumps and Compressor Seals at Petroleum Refineries and Chemical Plants). These inspections were specifically targeting the above two rules to examine fugitive VOC leaks from these types of operations. In total, 389 valves, 282 flanges, 169 threaded connections, 83 pump shafts, two compressors, and six process drains covered by 17 permits were inspected at the three refineries. Violations were found at two of the refineries and included three emission leaks (for pump shafts the leak rate was 13/83 (16 percent)), and for process drains the leak rate was 1/6 (16 percent)), two instances of failing to conduct quarterly inspections, and two instances of a facility's failing to comply with the facilities' Operator Management Plans, and two recordkeeping violations. The split between excess emission violations and procedural violations was 43 percent to 57 percent. For the leaks observed, whenever VOC leaks in excess of 10,000 ppm (measured as CH_4) are detected one centimeter away from the component and the percentage of these observed leaks is greater than two percent of those inspected for that component, the facility is in violation for that specific rule requirement (Section 5.2.1 of Rule 4451 and Section 5.1.4 of Rule 4452). District staff issued NOVs for the documented violations.

Gas Plant - ARB and District staff inspected one gas plant for fugitive VOC leaks under Rule 4403 (Components Serving Light Crude Oil and Gas Production Facilities and Components at Natural Gas Production Facilities). The inspection documented five VOC leaks in excess of 10,000 ppm CH_4 out of

143 valves inspected for a 3.5 percent leak rate in violation of Section 5.1.7 of Rule 4403 which allows a leak rate of not more than two percent. A violation was issued by District staff.

Coating Operations - ARB and District staff inspected four coating operations, three regulated under Rule 4602 (Motor Vehicle and Mobile Equipment Refinishing Operations) and one regulated under Rule 4603 (Surface Coating of Metal Parts and Products). The joint inspections documented violations at all three Rule 4602 facilities. Violations observed were: emission violations (3), recordkeeping requirements (2), and one permit condition violation for a 57 percent to 43 percent split between excess emission violations and procedural violations. Three coating samples were taken for analysis to verify the emission violations and these samples showed high VOC content in excess of the rule requirements. The lone Rule 4603 operation had recently switched from a wet process (solvent-laden) to a dry process (powder coating) and was found to be operating in compliance with rule requirements. Notices of Violation were issued by District staff to those facilities found to be in violation.

Power Plants - ARB and District staff jointly inspected three power plants regulated by a variety of District regulations. Violations were documented at two of the three facilities. Two of the power plants were co-generation sources supplying produced steam to adjacent industrial facilities and the third facility is a "stand-alone" power plant operating under the Energy Commission's Standard Offer No. 4 requirements. Three violations were observed for permit conditions specifically Rule 2070 (Standards for Granting Applications) and Rule 2080 (Conditional Approval). These violations (primarily procedural in nature) involved: (1) failure to conduct annual calibrations for individual baghouse module magnehelic gauges, (2) failure to install a bin vent filter as required by an Authority to Construct, and (3) failure to automatically activate dust suppression spray nozzles on a truck loadout station. District staff issued NOV's for these documented violations.

For further information on the vapor recovery inspections, refer to the rule effectiveness report on Rule 4622 (Appendix C). For additional information on the inspections of the coating operations and the power plants, refer to the detailed inspection reports (Appendix B). ARB staff did not observe any inspection deficiencies inherent in the inspection techniques of the District inspectors.

c. Criteria

The District shall demonstrate an acceptable compliance rate (95 percent or better) for sources selected for inspection during the field inspection portion of the program evaluation.

d. Recommendations

o Improve the observed compliance rate to a figure approximating 95 percent.

o Complete the engineering review for the 0.5" foam blanket requirement for decorative chrome platers (Section 4.1.1 of Rule 7011) and make rule changes if the data supports a change in Section 4.1.1 of Rule 7011 and the corresponding sections of State law (Subsection (b)(1) of

Section 93102, Subchapter 7.5, Chapter 1, Part III, Titles 17 and 26, California Code of Regulations).

o Proceed with appropriate penalty settlements for all violations documented in the field inspection portion of the program evaluation.

III. PERMITTING PROGRAM EVALUATION

Permitting regulations are adopted by air pollution control districts to govern the construction of new sources and modifications to existing sources which emit air contaminants within their jurisdiction. Section 42300 of the California Health and Safety Code (HSC) and Sections 172(c)(5) and 173 of the Federal Clean Air Act (as amended in 1990) allow districts to establish such permitting regulations. Additionally these regulations must ensure the attainment or maintenance of applicable ambient air quality standards, and according to Section 42301 of the HSC be at least as stringent as federal regulations (40 Code of Federal Regulations 51.160). In response to these requirements, the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD, or District) has adopted Regulation II.

The District's current permit regulation is divided into 14 rules. The general permitting requirements are covered by Rules 2010 through 2092 permits. Additionally, the District has established written policy and procedures for staff to abide by during the permit evaluation process. Rule 2201 (revised 10/21/93) establishes the new source requirements, definitions of key permitting language and the emissions limits for applying best available control technology and offsets. Rules 2201 through 2301 discuss emission credits and banking. Rule 2520 discusses supplemental requirements for federally mandated operating permits (Title V).

The goal of the District's stationary source regulatory program is to review new and modified sources of air pollution and provide mechanisms including emission tradeoffs by which permits may be granted, without interfering with the attainment or maintenance of ambient air quality standards. The new source review rule also provides for no net increase in emissions above specified thresholds from new and modified stationary sources of all nonattainment pollutants and their precursors. The permitting process must also ensure that no project will be permitted unless the air pollution control officer is satisfied that the project will be in compliance with all applicable rules and regulations. To determine how effective the District has been in accomplishing its goal, the Air Resources Board (ARB) staff has reviewed the District's permitting program.

The objective of the permitting program evaluation was to determine whether the District has been issuing permits in accordance with Regulation II and with State law, to identify emission reduction opportunities available to the District, and to improve the efficiency of the District's program. Methodology adopted by ARB staff to achieve the above objective consisted of a review of the District's permit files, review of guidelines and policy documents, and interviews with staff and management. The review of permit files focused on the quality of the engineering analysis and the resulting operating permit issued to the facility. Interviews covered areas such as general administration, permit processing, filing and computer support, staff resources, emission calculation procedures.

In conducting the program evaluation, ARB staff reviewed the permit files for newly permitted sources or modifications to existing sources that received permits between September 1993 through September 1994. A conscious effort was made to cover the entire spectrum of the District's permitting actions by reviewing files for different source types and sizes.

The following key elements of the District's permitting program were evaluated by ARB staff:

1) The adequacy, existence, and effectiveness of the District's permitting policies.

2) The District's ability to perform engineering analysis of proposed projects.

3) The adequacy of permit conditions, including incorporation of all assumptions used in the engineering analysis, enforceability of permit conditions, and periodic review of permit conditions.

4) The District's ability to monitor the impact of its permitting program.

5) The calculation and tracking of emissions to determine the applicability of New Source Review requirements.

6) The determination of best available control technology.

7) The organization of the District's files and current data management capability.

8) The consistency of District permitting actions between its three regional offices.

The ARB staff's findings and recommendations are included in the following chapters A through E.

A. PERMIT ADMINISTRATION - GENERAL

This chapter contains general findings of the District's permit administration program based on a review of recent permitting actions and interviews with staff and management. Specific findings and recommendations related to technical issues like correctness of engineering evaluations, adequacy of permit conditions, choice of control technology, validity of policies, need for rule revision, generation of emission credits, etc. are discussed in sections B through E.

Since unification, the District has successfully created an infrastructure which facilitates uniform processing of permit applications in a timely manner. All areas directly or indirectly related to permit administration like creation of policy and procedures, access to computers, software support, filing system, standardized formats for engineering evaluations and permit conditions, tracking system to determine timeliness, emphasis on notification procedures, feedback from enforcement on permit quality, etc. show a marked improvement. ARB staff have conducted program evaluations in six of the eight counties comprising the current unified district. Hence, we are in a unique position to assess the progress made by the District in areas related to permit administration.

We commend the administrative and permit streamlining improvements made by the District in the above areas. However, there is room for improvement in many areas related to permit evaluations. For example, best available control technology determinations are generally less stringent than ~~determinations made in other districts~~; ~~some permit evaluations have~~ technical problems; and not all permits reflect the assumptions made in the engineering evaluation. Some permitting policies should be reexamined because they can materially affect the stringency of District rules and regulations in their current form. The District should also design an emissions tracking system to demonstrate that on an aggregate (Districtwide) basis its permitting practices actually result in a "no net increase in emissions" for sources above the 10 ton threshold as required by Health and Safety Code Section 40920 (b).

To facilitate better communication with affected industries and the public, the District has established three regional offices. These are Northern, Central, and Southern offices respectively located in Modesto, Fresno, and Bakersfield. District headquarters are located in Fresno and the program is administered by the Director of Permit Services who reports to the Deputy Air Pollution Control Officer. Each region has a Permit Services Manager reporting directly to the Director of Permit Services. The common set of rules/policies and direct guidance of the Director of Permits helps to coordinate the permitting effort of the three regions.

Upon unification, the District inherited the air pollution programs of eight counties each having varying degrees of resources and sophistication. One of the challenges faced by the District has been to elevate all its regions to the same high level. The District's efforts have contributed to an overall improvement in permit processing activities throughout the Valley. Many steps have been taken to streamline the permitting process and this has reduced the backlog from 1700 at the time of unification (June 1992) to about 250 at the time of the review. It is to the District's credit that this has been accomplished without the use of consultants. The Director of Permit Services has indicated that the current staff strength is sufficient for the permitting job at hand. Additional staff may be needed

for implementing the Title V program. The level of additional staff will depend upon the final version of the District's Title V plan. Currently, the plan has been submitted to the U.S. EPA for comments.

For major projects, facilities are encouraged to have pre-application meetings with District staff so that the applicant knows what to expect during the evaluation process and can ask specific questions related to the proposed project. The District has also developed standardized application forms for many equipment/industry types to assist industry in submitting complete applications. This has improved the turnaround time. The District also has dedicated staff available for answering questions from industry. Some equipment/project categories can now be processed over the counter. This includes drycleaners, service stations, and oil field sump replacement tanks. This list may be supplemented by more source categories as the District expands its permit streamlining efforts. For a more detailed discussion of permit streamlining steps and small business assistance refer to chapter IV.

Staff engineers have been provided excellent computer support through a computer network system in each region. The program allows staff in each region easy access to facility permits, standard evaluations and permit conditions, enforcement data, billing reports, etc. Each engineer has access to a personal computer in their own cubicle. The regions are not linked to each other at present but transfer data to the central region via modem. The current computer capability of the District is a definite accomplishment compared to the software and hardware owned or used by the districts prior to unification. We feel the use of the computer system is a major factor in enhancing the working efficiency of the permit program. The general quality of permitting work is improved because the evaluations are legible, follow the same format, use standard conditions, and allow the engineer easy access to past permit actions at a facility for reference purposes.

The filing system in the southern region uses facility I.D.s and bar codes. The central region has just converted to a filing system based on facility I.D.s. In the northern region the filing system is still based on site address. They plan to clean up the files and adopt the central region system in 1995. ARB staff received good cooperation from all regions for locating files but it took minimum effort to locate a particular project in the southern region.

Permit policy and procedures are issued by the Director of Permit Services to coordinate the permitting effort of the three regions. Most county districts lacked meaningful or detailed procedures in the past. We commend the issuance of policies to improve consistency of work product and streamline permitting measures. However, we recommend that policies which can affect the stringency or effectiveness of existing rules should be provided to ARB and U.S. EPA for comments. Please refer to section D. The development of working procedures is an ongoing effort and not all areas have been completed.

Generally, the engineering evaluations and permits are comprehensive and an improvement over the evaluations prepared by most of the county districts prior to unification. The evaluations are detailed and describe the proposed project, basic and associated control equipment, and resulting emissions. The evaluation contains emission calculations, references, compliance with applicable rules, and suggested permit conditions. However,

ARB review has revealed problems associated with some permit files. Please refer to chapter B. We believe that increased supervisory review or other quality control procedures would reduce such errors. ARB staff also has concerns about the methodology used and emission limits derived from best available control technology (BACT) determinations. We recommend the District to review and update its cost effectiveness threshold figures for BACT determinations. The District's current figures are approximately one third that of other large air districts with similar air quality problems. Please refer to section C.

The District is conscientious about notification procedures. All notifications are routed through the central office. All permitting actions that are subject to public noticing provisions require the review and approval of the program director. Permit files have good documentation regarding comments made by other agencies. There is good compliance with the timeline requirements of AB 884 (Sections 65940 through 65944, California Code of Regulations). The District's computer system is a good tool to track the progress of permit applications. The District is trying to establish a formal system to assist cities and counties in the Valley to comply with Government Code Section 65850.2. This section of State law prohibits cities and counties from issuing final certificates of occupancy unless verification from the air pollution control districts is obtained that the applicant has met all applicable air rules and regulations. Because of the large number of cities (59) and county building and planning departments (8) involved; the District has not been able to establish a formal system with each city and county agency to comply with this law.

The District complies with HSC Section 42301.6 which requires an applicant to certify whether the proposed source or modification is within 1000 feet from the outer boundary of a schoolsite. Prescribed procedures are followed by the District if the source is within the 1000 feet radius.

District management explained that since the permit backlog had been reduced to an acceptable level more opportunity would now be available to the permit engineers to participate in joint startup inspections with enforcement staff and training activities related to their work. ARB staff recommends that joint startup inspections for large or complex sources be made a part of standard operating procedures. We also encourage staff training commensurate with the District's workload and available resources. We concur with the District's decision to conduct health risk assessments associated with permitting actions work from Fresno as a centralized support function to serve all regions. This will standardize risk management and analysis for applicable projects.

Refer to sections B through E for findings and recommendations related to specific issues and permit related topics not covered in this chapter.

B. ACCURACY OF PERMIT EVALUATIONS

a. Findings

The engineering evaluations are comprehensive and a major improvement over the evaluations prepared by most of the county districts prior to unification. However, ARB staff discovered technical problems associated with several projects. In some cases, the final action was correct but the evaluation lacked the clarity to justify the permitting decision. We believe that increased supervisory review or other quality control measures would help to reduce such errors. The reader should also note the District processes some 3000 applications per year. The majority of these are for equipment associated with gasoline dispensing facilities or equipment categories (like drycleaning) which require a standard evaluation and calculation procedure. We did not review these projects but instead focused on more complex permit applications with multiple permits or potential to trigger best available control technology/offsets. We reviewed in depth approximately 75 permitting actions. The recommendations we make below are based on what we discovered during our review. The findings and discussion are not intended to suggest that the problems encountered in the files reviewed are characteristic of all (complex) District permit actions. The District should review its permitting actions for complex facilities and implement the recommendations below to the extent needed.

b. Discussion

Generally, engineering evaluations are comprehensive, well organized, and contain a detailed account of the proposed project, basic and control equipment, emission calculations, references, compliance with applicable rules, and suggested permit conditions. Current District procedures require engineering evaluations conducted by staff engineers to receive supervisory review. However, we did discover some errors in projects evaluated. We have not included a project by project discussion here. However, interested parties may obtain review summaries by contacting ARB Compliance Division.

c. Criteria

Engineering evaluations shall be complete, accurate, and technically sound.

d. Recommendations

To achieve the above criteria the District should ensure that:

1) All information necessary to verify compliance or needed for determining the applicability of NSR rules are obtained from the source before the application is deemed complete.

2) Every source should have a SSPE and NSR tally as part of a permanent data base record. This should be updated at the time of every permitting action. The updated version should be attached to the engineering evaluation and show the effect the current permitting action has on the SSPE and NSR totals. In calculating the SSPE the District should sum the emissions from all emission reduction credits that have been banked since September 19, 1991 for actual emission reductions that have occurred at the source, and which have not been used onsite.

3) The District should have increased supervisory review of the evaluations or adopt other quality control measures so that technical errors can be eliminated. Problems found in the evaluations should be circulated among staff to avoid future recurrence.

4) Every engineering evaluation should detail the start-up and subsequent source test requirements for the proposed project, if applicable. Results of source test data should be maintained in the file and be used to calculate historic actual emissions from the unit if needed in the future.

5) The District could improve the clarity of some evaluations. Some time could also be saved if simple modifications like throughput increase are processed without going through other details like process description.

6) A joint start-up inspection should be conducted by the permit engineer and the inspector for complex sources. A district policy should define the areas where a joint inspection should be conducted for new sources or modifications.

7) The District could benefit from reviewing evaluations performed prior to unification and known (or suspected) to contain errors. By reviewing the entire case history of a source, the District can prevent the carryover of errors from past evaluations. Health and Safety Code Section 42301(e) allows permits to be reviewed for compliance with, and the enforceability of, district rules applicable to the equipment, for which the permit was issued which were in effect at the time the permit was issued or modified.

C. BEST AVAILABLE CONTROL TECHNOLOGY DETERMINATIONS

The Health and Safety Code Section 40920 requires each district with severe air pollution to establish a permitting program designed to achieve no net increase in emissions of nonattainment pollutants or their precursors from all permitted new and modified stationary sources which emit, or have the potential to emit, 10 tons per year. The permitting program shall also require the use of best available control technology (BACT) for any new or modified stationary source which has the potential to emit 10 pounds per day or more of any nonattainment pollutant or its precursor. For NO_x, VOC, SO_x, and PM-10 the BACT threshold for new emission units in SJVUAPCD is two pounds per day in nonattainment areas for CO.

District Rule 2201, Section 3.8 defines BACT as the most stringent emission limitation or control technique of the following:

Has been achieved in practice for such emissions unit and class of source; or

Is contained in the State Implementation Plan (SIP) approved by the Environmental Protection Agency (the USEPA) for such emissions unit category and class of source. A specific limitation or control technique shall not apply if the owner or operator of proposed emissions limit demonstrates to the satisfaction of the air pollution control officer (APCO) that such limitation is not presently achievable; or

Is any other emission limitation or control technique, including process and equipment changes of basic or control equipment, found by the APCO to be technologically feasible for such class or category of sources or for a specific source, and cost effective as determined by the APCO.

The District's definition is missing a federal requirement that BACT should not be less stringent than the federal New Source Performance Standard (NSPS). BACT cannot be less stringent than reasonable available control technology (RACT) or any applicable standard under 40 CFR Part 60, New Source Performance Standard. NSPS standards, when applicable to a source, must be complied with (as a minimum prohibitory requirement) regardless of the applicability of NSR or BACT. RACT is normally the most stringent control technology requirement that has been adopted by the districts as part of retrofit control to achieve the districts' emission reduction requirements contained in their air quality management plans. These air quality management plans are then incorporated into the state implementation plans.

The most stringent emission limitations identified in the state implementation plan (SIP) may not be as stringent as other emission limitations shown to be technologically and economically feasible. The use of the most stringent emission limitation contained in the SIP, can be achieved but should not preclude technologically and economically feasible controls, process modifications and alternative basic equipment as BACT. District Rule 2201, Section 3.8.3 requires that "any other emission limitation or control technique, including process and equipment changes of basic or control equipment" be considered in making BACT determinations.

The BACT definition requires that the most effective controls must be specified as BACT. Controls which have been required or used, i.e. demonstrated BACT for a particular class or category, must be installed regardless of cost. Technologically feasible controls must also be considered if they are cost effective. To determine which controls are the most stringent, BACT evaluations should be considered on a top down approach. For example, the NOx control options available for a boiler or process heater in order of control efficiency and stringency are:

Selective Catalytic Reduction (9 ppmvd NOx corrected to 3% oxygen)

Selective Non-Catalytic Reduction (25 ppmvd NOx corrected to 3% oxygen)

Non-Selective Catalytic Reduction (30 ppmvd NOx corrected to at 3% oxygen)

Chemical and/or Water Injection

Natural Gas with Methanol as Standby Fuel

Combustion Modifications (e.g.. flue gas recirculation, low excess air, staged combustion, and reduced air pre-heat)

Combination of any of the controls above

In making a BACT determination for a boiler, the above controls and/or combinations of controls would be evaluated and ranked in order of descending control efficiency. The first technologically feasible control that is also economically feasible should be chosen as BACT. In addition to add-on control equipment, alternative basic equipment and processes should also be evaluated. If the technology with the highest control efficiency has been required by a regulation or a permit condition or has been used on similar existing equipment anywhere, then it should be required as BACT.

1. GENERAL COMMENTS

The District has compiled a BACT guideline which contains the District's "achieved in practice" and technologically feasible BACT for a number of different classes and categories of equipment. This guideline is required to be updated quarterly by District policy. It is also available on-line to District engineers and applicants. This document helps streamline the permitting process by informing the applicants, ahead of time, as to the BACT requirements for their proposed projects. The District has stated that all available sources including BACT determinations made by other districts, ARB and USEPA clearinghouses, and manufacturer's data are considered in updating the District's BACT Clearinghouse. The District also informed ARB staff that a full top-down analysis is not included in the engineering evaluation if a similar cost effectiveness analysis has been conducted in the preceding six months and is referenced in the clearinghouse.

ARB staff agrees with the above concept. However, in our opinion the District's Clearinghouse in its present form does not qualify as an

exhaustive document and placing sole reliance on it may produce weak BACT determinations. We recommend that the District supplement its BACT search by also referencing other available documents such as the South Coast AQMD BACT Clearinghouse. For example, some of the entries listed in the District's BACT Clearinghouse for combustion equipment are merely retrofit control limits required to comply with the current prohibitory rule. The 30 ppm NOx corrected to 3% oxygen limit contained in the clearinghouse as "Achieved in Practice BACT" is the District's prohibitory Rule 4305 (Boilers, Steam Generators, and Process Heaters) requirement. These entries do not meet the criteria of being the most stringent of the options contained in the definition of BACT. The issue with this is that future BACT decisions based on these entries (alone) for a particular equipment category and size, will only be as good as the entries themselves, which are no more than the prohibitory retrofit rule requirements. It is important that any entry in the guideline meet the criteria in the District's BACT definition of being the most stringent at the time of entry.

2. FINDINGS

Overall, there is room for improvement in the District's BACT evaluation process and the resulting determinations. Detailed findings are given below and are related to cost effective analysis for technologically feasible controls, evaluation of control technologies and/or alternative basic equipment, and combining a control technology with the appropriate emission limitation. A specific review of individual BACT determinations is not included in the text. Interested parties may obtain these reviews by contacting ARB's Compliance Division.

a. The District's BACT determination policy issued on July 3, 1991 (meets the ARB criteria for conducting BACT evaluation. This policy (still in draft form) contains all the necessary steps in conducting BACT evaluations including top-down analysis. As part of this top-down analysis, before a technology that has not been achieved in practice, can be required, a determination that such a technology is cost effective must be made. The District's policy contains thresholds for cost per ton of pollutant reduced that would be deemed cost effective by the District. The cost effectiveness thresholds (\$/ton of emission reduced) were established in 1989 and are identical to the 1987 South Coast Air Quality Management District cost figures. ARB staff has conducted a survey and found that the District's cost effectiveness values are significantly lower than that of other (large) California air districts as illustrated in the Table below. We recommend the District to reevaluate and update its figures to be more in line with current technology and costs.

<u>District</u>	<u>NOx (\$/ton)</u>	<u>VOC (\$/ton)</u>
Bay Area AQMD	24,500	17,500
Monterey Bay Unified APCD	24,500	17,500
Mojave Desert AQMD	24,500	17,500
Sacramento Metro AQMD	24,500	17,500
South Coast AQMD	24,500	17,500
Ventura County APCD	24,500	17,500
SJV Unified APCD	9,700	5,000

b. In the most recent (12/1/93) BACT policy issued by the Director of Permit Services, the District stated that one of the criteria for a control technology to be deemed as having to be achieved in practice is that the type of business where the emissions units are used must be the same. ARB staff is concerned that this requirement will actually relax the definition of BACT. The phrase "class or category" is not the same as "type of business". While boilers, steam generators and heaters are in one class or category namely "external combustion equipment", spark ignition and compression ignition engines are in the class or category of "internal combustion equipment". ARB staff believes that "class or category" should not be interchanged with "type of business".

c. The District policy calls for a "top-down" approach in conducting a BACT evaluation. However, most of the engineering evaluations reviewed did not employ this approach. Use of a cost effectiveness analysis (on a routine basis) appears to be limited to the Southern Region. In the North and the Central regions the District evaluations consistently presented single control strategy or emission limit without examination of other possible controls. In these two regions (the north and central), most of the District's BACT determinations are limited to only "BACT achieved in practice." In most cases the District did not make any attempt to consider alternative basic equipment or conduct cost effectiveness analysis of any control technology beyond those achieved in practice.

d. Some BACT determinations, especially in the North and Central regions, have the correct control equipment but either did not specify an emission limit or specified limits which were less stringent than those demonstrated as achieved by the control technology selected at the time. Almost all the boilers rated from 5 MMBTU/HR to 125 MMBTU/HR and equipped with Low NOx burner and Flue Gas Recirculation (FGR) were limited to between 35 and 30 ppmv NOx corrected to 3% oxygen as BACT.

e. ARB staff found a case where the District used BACT cost effectiveness analysis to revise its decision on an achieved in practice BACT in favor of a less stringent option. Once BACT has been achieved in practice, it cannot be eliminated in favor of a less stringent option through the use of a cost effectiveness analysis.

f. ARB staff found that BACT selected for almost all the internal combustion engines (I.C. engines), was just "BACT achieved in practice." In almost all the engineering evaluations reviewed the District did not discuss the feasibility of alternative limits or control technologies or alternative basic equipment for I.C. engines even when a more stringent BACT determinations had been made elsewhere in the State. The SCAQMD BACT Guideline contains technologically feasible BACT ranging from selective catalytic reduction for NOx (Compression Ignition) to 0.3 gram/Brake Horsepower-Hour. For internal combustion engines, selective catalytic reduction using NERGAS has been shown to reduce NOx emissions from compression ignition diesel fired engines by as much as 94 percent. In none of the engineering evaluations did the ARB staff find any examples of these more stringent and technologically feasible BACT.

3. DISCUSSION

The BACT evaluation requires a "top-down" approach, clearinghouse search, cost effectiveness analysis and cost figures verification when

necessary. These require practically searching and/or reviewing the District's BACT clearinghouse, the CAPCOA BACT Clearinghouse, the South Coast BACT Guidelines Handbook, and a phone call to ARB and other Districts like the Bay Area, South Coast, San Diego, Santa Barbara and Ventura. The District can also consult EPA's BACT/LAER Clearinghouse and Control Technology Center for information on controls used in other states. If the most stringent control technology has not been required by regulation or installed on an existing equipment then cost effectiveness is considered. The controls determined as BACT are those highest on the list that are either required or in use, or are shown to be technologically feasible and cost effective, though not currently required or installed on any existing equipment.

When conducting a BACT determination the most stringent, efficient and technologically feasible control is first considered. If the most efficient and most stringent control technology has not been required by regulation or installed on an existing equipment then cost effectiveness is considered. The cost effectiveness is compared to an established cost effectiveness threshold based on the cost per unit of emission reduced. The controls determined as BACT are those highest on the list that are either required or in use, or are shown to be technologically feasible and cost effective, though not currently required or installed on any existing equipment. When a particular feasible control technology has been shown not to be cost effective through an economic cost effectiveness analysis, the District need not conduct another cost effectiveness analysis for the next six months on that particular control technology. The result of the analysis could be used for up to six months, after which the District should re-evaluate the technology using new cost figures where applicable. When a BACT has been determined to be cost effective, or has been achieved in practice, the District should not conduct any cost effectiveness analysis for such a control technology.

ARB staff believes that a cost effectiveness analysis should be included in the engineering evaluation to support the decision not to require controls that are technically feasible and/or listed in CAPCOA or SCAQMD BACT Clearing House/ Manuals. To support the District's conclusion the evaluation should document parameters needed to estimate cost effectiveness such as equipment costs, control efficiencies, equipment lifetime, salvage value of the control equipment if any, and operating and maintenance costs. If these parameters are provided by the applicant, the evaluation should include some independent verification of the accuracy of the figures.

4. CRITERIA

a. When conducting BACT evaluations, the entire state should be surveyed to determine the maximum cost of BACT that has been required for a given pollutant. To achieve the maximum reduction possible and also advance emissions control technology, the District should move beyond the consistent use of BACT achieved in practice by ensuring that the most stringent BACT determinations are made. Costs must be accurately determined to insure the most stringent BACT determinations and thus, the maximum emission reductions.

b. In addition to providing accurate and well documented figures for the cost effectiveness of technically feasible BACT determinations, the District should have a written policy specifying how it arrives at a given

cost effectiveness threshold (dollar per pound of emission reduced). The District should compare its existing policy with that from the South Coast and Ventura County cost effectiveness guidelines to formulate a policy for determining cost effectiveness of a given control technology. Cost effectiveness threshold should be the cost per unit of emissions reduction which is lower than or equivalent to the maximum unit costs of the same emission reduction through the use of demonstrated Best Available Control Technology, calculated in current year dollars."

c. When determining whether BACT has been required or used the District should conduct a thorough search of all available BACT clearinghouses. The search should at least cover the entire state of California.

d. All BACT clearinghouses such as the USEPA, ARB/CAPCOA, SCAQMD should be researched as part of the BACT determination.

5 RECOMMENDATIONS

o The District should finalize and update its 1991 BACT analysis guideline referred to as "Appendix A Clean Air Draft July 3, 1991.

o Conduct the BACT determination in a "top down" manner consistent with the revised and updated 1991 BACT analysis guideline. The determination should consider all applicable control technologies and alternative basic equipment and processes. The determination should be made for the most stringent level of control. Lesser control should only be specified if the more stringent control options do not meet the criteria of (1) being required or used or (2) being technologically feasible and cost effective. The EPA has prepared a document titled "Top-down Best Available Control Technology Guidance Document". A draft version of the report, dated March 15, 1990, is available for review by the Districts.

o Develop and implement policies which outline the methodology used in determining the cost effectiveness of technically feasible BACT options. The policy should require that the maximum cost of required BACT be established and it should specify that only those BACT options that have a cost effectiveness (\$/lb) that exceeds this cost, for the same pollutant, may be eliminated on the basis of cost. The policy should also specify;

- a. the basic data that must be submitted by the applicant to support the cost evaluation,
- b. the appropriate level of documentation for capital and operating costs that are submitted with the evaluation,
- c. standardized schedules of interest rates, equipment lives, cost and salvage values
- d. a list of possible credits that may occur as a result of installing the control equipment, i.e., investment tax credits, and product recovery credits.
- e. place the burden of proof on the applicant to demonstrate that the most effective control is not technologically or economically feasible.

- o The District should follow its policy on BACT which requires the top-down approach and cost effectiveness analysis where applicable.
- o No cost effectiveness analysis should be conducted for any BACT achieved in practice and or already determined to be cost effective.
- o The District should review and update its BACT cost effectiveness threshold values to make them more comparable to those of other air districts with similar air quality problems.
- o The District should independently verify cost figures used by applicants in BACT economic cost effectiveness analysis.
- o Where possible, the District should compile cost figures from manufacturer's and their representatives for most of the commonly used control technologies and related maintenance costs. These figures could be updated on routine basis and used in conducting cost effectiveness analysis of technologically feasible controls.
- o All BACT determinations should be accompanied with the corresponding lowest achievable emission limit.
- o The District should stop using prohibitory rule requirements as BACT.

D. NSR RULE AND RELATED ISSUES

Health and Safety Code Section 40920(b) requires districts with severe air pollution to include in their attainment plan a permitting program designed to achieve no net increase in emissions of nonattainment pollutants or their precursors from all permitted new or modified sources which emit, or have the potential to emit, 10 tons or more per year (HSC 40920). District Rule 2201 is the central component of the District's permitting program and should reflect the mandate of the California Clean Air Act and San Joaquin Valley's Attainment Plan. It should also comply with all applicable federal requirements.

This chapter is limited to analyses of the District's New and Modified Source Review Rule (2201) and policies that guide its implementation. CD staff did not embark upon an exhaustive study of these policies or of the NSR Rule. Many of the issues presented in this chapter first came to the attention of CD staff during the process of reviewing the District's engineering evaluations. These issues are identified and discussed below.

1. FINDINGS & DISCUSSION

a. Calculation of Emissions Increase

The District's rule and calculation procedures allow for a net increase in emissions from permitting actions on a per source basis. This includes sources which emit or have the potential to emit more than 10 tons per year of nonattainment pollutants or their precursors. Given this finding, the question then arises as to whether the District is complying with the basic requirements of State law which requires the permit program to be designed so that there is a "no net increase in emissions" from all permitted sources above the 10 ton threshold. Compliance Division staff and the District have had several discussions on this subject in an effort to determine an answer to this question.

The District's position is that their permitting program is designed to achieve no net increase in emissions on a Districtwide basis for sources emitting 10 tons per year or more. According to this concept an individual source can have net emission increases without mitigation provided the sum of emission increases and decreases from the entire grouping of facilities is zero. ARB and virtually every other air district's traditional approach in the context of HSC 40920 (b) has been to interpret "all" as meaning "each and every" permitting action falling in this size category.

Considering the nonattainment status of San Joaquin Valley, ARB staff prefers the District's permitting system design to be modified to satisfy California Clean Air Act requirements on a source by source basis. If the District wishes to adhere to its current permitting system then it should expeditiously embark on designing and maintaining a tracking system which can demonstrate whether the "no net increase in emission" requirements are being actually met on a Districtwide aggregate basis.

b. Compliance with Federal Requirements

US EPA has reviewed the San Joaquin Valley's New Source Review Permit program rules which the District has submitted for inclusion into the State Implementation Plan (SIP) and has concluded that the rule is unapprovable

because it lacks critical definitions and relies on calculation procedures which do not meet federal Clean Air Act requirements. Please refer to Appendix D for the complete text of US EPA's comments. ARB Compliance Division staff concurs with US EPA's comments on this subject and is hopeful that the rule problems identified can be resolved by the District at an early date.

US EPA's primary concern relates to the District's use of "potential to potential" methodology as opposed to an "actual to potential" methodology for calculating emission changes and offset requirements. The San Joaquin Rule allows the use of potential to potential comparisons to calculate emission offsets. As a result it allows the creation of "paper reductions" which fail to meet federal requirements. The "potential to potential" test consists of comparing the potential emissions prior to the modification to the potential emissions after the proposed modification or addition. USEPA agrees that that when a source has mitigated all emissions from a facility, then the source would only have to provide mitigation for increases in potential emissions; and, where full mitigation has not been provided, the source must continue to provide mitigation for changes in actual emissions. However, the District rule provides a blanket exemption from BACT, and in some cases from offsets, for facilities whose potential emissions would not change due to a modification and regardless of whether or not the source has mitigated the prior potential to emit.

c. Rule Improvement Issues

Some rule improvement issues came to the attention of Compliance Division staff during the process of evaluating the District's engineering evaluations. These issues are related to enforcement, clarity, or stringency of the District's current rule. Rule areas in this category relate to specific limiting conditions (clarity and enforceability issue) and soil or groundwater decontamination (clarity issue).

d. Policy of Rounding Down Emissions to Zero

District policy calls for the contribution from emission units with an IPE or PE of less than 0.5 lb/day to be set equal to zero. As a result, these emission units do not contribute to the NSR balance or to the quantity of offsets needed. This policy allows for emissions of up to 182 lb/year to be zeroed. ARB Compliance Division's view is that the policy defining zero allows some facilities not to provide offsets for emission increases. Sound engineering practice would be not to truncate significant figures in a calculation prior to performing the calculation. After summing emissions from units in calculating NSR balance and SSPE, the District could zero out emissions if the total offsets required amount to less than 0.5 lb.

This above discussion is an example of a policy which can affect the stringency of existing regulations. In general, we recommend that policies whose use can materially affect the stringency of existing regulations should only be implemented after receiving District Board approval. As part of the approval process, draft policies should be sent to ARB and US EPA for comments.

e. Source Testing

ARB Compliance Division's review shows that in most cases reviewed, the District waives the requirement to conduct source tests necessary to justify the emission factors and other assumptions made in the engineering evaluation. When a source test was conducted, Compliance Division staff found that the result of the source test has often not been used to modify the permit conditions to reflect the operating parameters/conditions of the affected unit. Instead, the applicant was often either allowed to use the difference between source test results and permitted limits (when the source test results were lower than the permitted limit) to net out of offsets, or was allowed to increase permitted throughput. Also, when the source test result is higher than the permitted limit, the District has allowed the applicant to increase the permitted limit. Source tests should be used to determine compliance with permit limits as well as to determine the historical actual emissions from a permitted unit.

2. CRITERIA

District rules shall be consistent with all applicable provisions of State and federal law.

District policies, procedures, and permit decisions shall be consistent with local, State, and Federal rules and regulations, and with policy documents and/or advisories issued by the ARB or EPA.

The District shall have an emission tracking system that can meet the objectives dictated by its attainment status and New Source Review Rule (Refer HSC Sections 40918 through 40920).

3. RECOMMENDATIONS

o Revise rule areas to make them consistent with federal requirements. Review current rule and identify areas which can benefit from modifications to improve clarity, enforceability, and stringency.

o The District should develop and implement an emissions tracking system to demonstrate that on a Districtwide (aggregate) basis its permitting program is in fact meeting the "no net emissions increase" requirements of HSC 40920 (b).

o Any District policy which can materially affect the stringency of an existing rule should be sent to ARB and US EPA for comments before being implemented by permitting staff.

E. ADEQUACY OF PERMIT CONDITIONS

INTRODUCTION

When the District receives an application for authority to construct, and subsequent permit to operate, the application is evaluated to determine compliance with the applicable rules, the level of control that will be required and the operating schedule. These conditions and or/requirements are converted to permit conditions which become part of the conditional authority and/or permit to operate. These authorities to construct and permits to operate will ensure that the permitted emissions will be at or below the levels necessary to comply with the districts' rules and regulations. The conditions on these authorities to construct and/or permits to operate must be specific enough so that the applicant will know how to operate in compliance and the District inspector will be able to verify compliance with the applicable rules and regulations while in the field. Sometimes the permit conditions can help the equipment operator perform self-audit compliance checks of the permitted unit.

Since most of the District's prohibitory rules and the New Source Review rule require compliance with specific emission limits, a permit condition must be specific enough for the inspector to verify compliance on an hourly and/or daily basis. To be able to verify and enforce these limits, the District must require relevant records to be kept. These records should be kept on the same basis as the limits. When certain parameters are required to verify compliance or are used at arriving at the emission limits on the permit to operate, the District should specify how those parameters should be verified.

1. GENERAL COMMENTS

The permit conditions are relevant to verifying the compliance with the rule requirements. We commend the District for establishing a system for compiling standard permit conditions based on the type of equipment and specific rule requirements. ARB staff hopes that this system could be routinely reviewed and updated.

As part of the program evaluation, the permits issued by the District were evaluated for adequacy of the permit conditions. Issues relating to adequacy of permit conditions on the recent permits issued by the District are discussed below.

2. FINDINGS

a. Some permits have limits which will be difficult to enforce. Others have allowable emission limits, but did not specify means of verifying compliance with those limits.

b. Some permit conditions were taken off the authority to construct because the facility failed the source test required to verify compliance with permitted emission on its permit.

c. Some of the permit conditions on the authority to construct/permit to operate do not reflect the assumptions made in the engineering evaluations.

d. The District has a program whereby permit conditions included in the permit to operate are periodically reviewed and updated based on District inspector's report.

3. DISCUSSION

When an air pollution control district receives an application for an authority to construct, the application is evaluated to determine if the project will comply with the applicable local, state, and federal rules and regulations. The application is also evaluated to identify the level of control that will be required to comply with these rules and regulations. After the project is constructed according to the requirements set forth in the authority to construct, a permit to operate is issued. The permit to operate should be issued with operating conditions which reflect the assumptions made in the authority to construct, and also ensure that emissions will be at or below the levels necessary to comply with all the applicable rules and regulations. Clear operating conditions help the applicant to know how to operate the source in compliance with the terms of the engineering evaluation. This also helps the District inspector to determine the compliance status of the facility.

4. CRITERIA

o Permit conditions shall be enforceable and shall reflect any assumptions made in the engineering evaluation.

5. RECOMMENDATIONS

To ensure that all permit conditions are enforceable and reflect the assumptions made in the engineering evaluation, the District should ensure that:

o Relevant process and equipment parameters used in engineering evaluation are translated into verifiable permit conditions such as operating pressure, temperature, flow rates, hours of operation, process limitations, equipment size, make and model etc.

o Permit conditions are related to readily observable process parameters. Example: Any condition that specifies flow rate, temperature limit, pressure, etc., must require installation of flow meter, thermometer, pressure gauge etc.

o All authorities to construct and permit to operate contain permitted emission limits that are enforceable as a practical matter.

o All emission limits are in easily verifiable units such as LB/day, LB/HR, grams/HR. For sources providing offsets on a quarterly basis, a quarterly emission limit should be included in the authority to construct and permit to operate. Yearly limits while useful for emission inventory and other purposes, are not easily verified by an inspector in the field and are not recommended by US EPA as the only emission limitation on a permit.

o All recordkeeping conditions specify the parameters needed to be recorded. In addition all recordkeeping conditions are required in a format which can ensure continuous compliance with the emission limits and assumptions made in the engineering evaluations.

o Any permit condition requiring a monitoring system and a recorder must specify the level and/or the allowable limit of each pollutant monitored

o All permit to operate must contain the basic equipment description, permitted emission limits.

o All permit conditions are updated annually during permit renewal or as necessary. (Refer HSC Section 42301(e).

o Develop and implement a policy that establishes the testing frequency for various types of basic and control equipment. Include such testing frequencies as a condition on each permit. The policy should also include circumstances under which other credible evidence may be allowed in lieu of source tests.

IV. SMALL BUSINESS ASSISTANCE PROGRAM

There are few State law requirements concerning the establishment of small business assistance programs. Therefore, many of the small business assistance activities that districts pursue respond to the specific needs of local business. However, there are some small business assistance and permit streamlining requirements that districts are required to meet. Specifically, the Air Pollution Permit Streamlining Act (Health and Safety Code sections 42320-42323, AB 2781, Sher) requires the largest districts (i.e., those with a population greater than 250,000) to establish expedited permitting systems which include some specific business assistance measures.

The specific business assistance requirements of the Air Pollution Permit Streamlining Act specify that all districts with a population greater than 250,000 shall establish a small business assistance program and that the program is to include the following elements:

- A. The development of a standardized permit application form which provides business with adequate information to complete and return the form,
- B. The designation of a single person or office within the district which is to serve as a point of initial contact to the district for small business persons,
- C. The establishment of a small business economic assistance program,
- D. The establishment of expedited variance procedures for small businesses and the provision of technical assistance for applicants on the processing of variances,
- E. Measures to reduce processing times and paperwork for the permitting of small businesses including the consolidation of the authority to construct and permit to operate if it does not adversely affect public health or the environment.

In response to these requirements as well as the needs of the business community, the San Joaquin Valley Unified Air Pollution Control District has implemented several measures to better assist the businesses. Many of the measures that the district has implemented are beyond the business assistance requirements of the Air Pollution Permit Streamlining Act.

The goals of the district's business assistance program are to assist businesses to understand and comply with air pollution regulations; to assist them on how to complete application and other related forms, to select cost-effective compliance measures, and to obtain technical information; and to provide them with information on loans.

The objective of the business assistance program evaluation was to determine the specific measures that the district has implemented or is developing to better assist the business community. The objective was also to determine the status of the district with meeting the requirements of the Air Pollution Permit Streamlining Act.

In conducting the program evaluation, ARB staff interviewed district business assistance staff, reviewed business assistance materials developed

by the district, and reviewed the permit tracking database that the district has developed.

A. STANDARDIZED PERMIT APPLICATION FORM

a. Finding

The SJVUAPCD has developed several standardized permit application forms that are customized to specific source categories. The district is also actively participating on the CAPCOA Permit Streamlining Committee to develop and employ a statewide standardized permit application form.

b. Discussion

The district has developed several source-specific permit application forms. The source types for which forms have been developed include: automotive spray paint operations, emergency internal combustion engines, soil remediation projects, ethylene oxide sterilizers and aerators, dry cleaners, cotton gins, abrasive blasting operations, and oil field sump replacement tanks. The district also actively participates on the CAPCOA Permit Streamlining Committee which is charged with developing permit streamlining/business assistance measures that benefit the majority of the districts.

c. Criteria

A district should develop source-specific permit application forms and participate on the CAPCOA Permit Streamlining Committee, as necessary.

d. Recommendation

None.

B. BUSINESS ASSISTANCE PERSONNEL

a. Finding

The SJVUAPCD has established procedures to help ensure that small businesses get the customized "hands on" assistance that they require to understand and comply with all applicable air pollution control requirements.

b. Discussion

For each office, the district has identified at least one senior or higher staff member (and at least one back-up staff member) whose primary responsibilities are small business assistance. The district has established written policies that business assistance personnel are to follow. Specifically, the business assistance personnel are to assist applicants in completing permit applications as well as other related forms, assist applicants in understanding the applicable regulations and selecting the most cost-effective means to comply, assist applicants with obtaining any necessary technical information, and in contacting applicants with incomplete applications to assist in providing the information needed to facilitate the processing of their applications. The district

incompleteness letters were revised to include a statement notifying the applicants that a small business assistance representative from the District will contact them within seven days to offer assistance.

The District has also established a business assistance hotline in each of its three offices. The purpose of the hotline to help business quickly get to a knowledgeable staff person that will help answer their questions. In addition, the District has developed business assistance materials including a pamphlet on their small business assistance program and the services that it provides. Finally, the District is working closely with the local permit assistance center that was recently established. The purpose of the center is to serve as a single location where business can get assistance on a number of topics including financing and environmental-related (air, water, hazardous waste, etc.) topics.

c. Criteria

The district should designate business assistance personnel within each office to serve as an initial contact for small business persons, establish a business assistance hotline, and develop business assistance-related materials.

d. Recommendation

None.

C. ECONOMIC ASSISTANCE PROGRAM

a. Finding

The SJVUAPCD business assistance personnel are well versed in the financial opportunities and resources available to small businesses. The District effectively works with businesses to assist them with utilizing the available financial resources.

b. Discussion

The District has identified specific staff with the primary responsibility of assisting small businesses. The District business assistance personnel are aware of the range of financial opportunities available to small businesses. To ensure that businesses utilize all available resources, the District coordinates with the Air Resources Board's Business Assistance Program, the Business Environmental Assistance Centers, the permit assistance centers, and Small Business Development Centers.

c. Criteria

The district should identify personnel with the primary responsibility of assisting small businesses. The business assistance personnel should be familiar with financing opportunities, and should coordinate with other business assistance programs including the ARB's Business Assistance Program.

d. Recommendation

None.

D. EXPEDITED VARIANCE PROCESS

a. Finding

The SJVUAPCD business assistance personnel provide businesses with one-on-one guidance that they need to file for and get through the variance process.

b. Discussion

The business assistance staff are experienced permit engineers that have a good understanding of the permitting and variance processes. By spending the time with businesses explaining the variance process and assisting businesses with completing any necessary forms, the process is expedited.

c. Criteria

The district should develop a program to assist small businesses in the variance process.

d. Recommendation

None.

E. EXPEDITED PERMIT PROCESSING

a. Finding

The SJVUAPCD has developed several standardized permit applications several of which provide for the issuance of permits within minutes. The district has also established an equipment precertification program and is working with the CAPCOA Permit Streamlining Committee to develop and employ a statewide standardized permit form.

b. Discussion

For many simple sources, the district has established over-the-counter permits. Source types currently covered under this program include service stations, dry cleaners, and oil field sumps. In addition, the district has established a 7-30-90+ days permit processing program. The simpler projects will be assigned to the seven day processing timeline with the more complex projects being assigned to a longer review category. This allows the permitting timeframe to be commensurate with the complexity of the project. The district is also working with the CAPCOA Permit Streamlining Committee to develop an equipment precertification program.

c. Criteria

The district should established a program that allows for issuing permits to small businesses on an expedited schedule.

d. Recommendation

None.

V. RULES AND REGULATION PROGRAM

Through the development, modification, and enforcement of district rules and regulations, air districts are able to permit, test, and enforce requirements placed on air pollutant sources within its boundaries. The District develops new rules and amends existing rules as part of its strategy to attain the health-based ambient air quality standards established by the federal and State law.

The evaluation of the District's rule development program was done primarily by comparing eight criteria that ARB staff have develop for evaluating a district's rule development program with information contained in the District's "Rule Development Procedure" and in its Policies and Procedures Manual.

In general, we found the District's rule development protocols to be satisfactory. A major concern in the area of rule development relates to the comments received by ARB staff from local industry. Industry representatives interviewed during the program evaluation expressed misgivings with the rule development process. Many felt that the Citizen's Advisory Committee, as a vehicle for stakeholder input, was bypassed on important rule issues and was not living up to its potential. Among other concerns, they mentioned that not all rules were sent to the Committee and insufficient time was allowed for review.

A. DEVELOPING NEW RULES, REVIEWING EXISTING RULES

a. Finding

The District has developed a formal procedure for the development of new rules and amendments to existing rules.

b. Discussion

Most, but not all rules, go through this formal process. The process formally structures staff rule development activities and provides for public comment at various stages. Rules that are not developed according to the formal process are rules mandated by the United States Environmental Protection Agency (U.S. EPA) or the Air Resources Board (ARB) where the District has no authority to deviate from the mandated requirements, and rules that the APCO has determined to have no significant economic or environmental impact.

c. Criterion

The District shall have a formal program to develop new rules and routinely review and update existing rules.

d. Recommendation

None.

B. ENFORCEABILITY, CLARITY, BARCT/RACT CONSISTENCY AND INPUT FROM OTHERS TO RULE DEVELOPMENT/AMENDMENT

a. Finding

The District's Rule Development Procedure provides a process for the Districts rules to be reviewed for enforceability, clarity, and BARCT/RACT consistency. This procedure also provides a mechanism by which enforcement, planning, and legal staff can provide input to the rule development and amendment process.

b. Discussion

See "Finding" above.

c. Criterion

All existing District rules shall be reviewed for enforceability, clarity, and BARCT/RACT consistency. Enforcement, engineering, planning, and legal staff shall provide input to the rule development and rule amendment process.

d. Recommendation

None

C. RULE EFFECTIVENESS STUDIES

a. Finding

The District does conduct rule effectiveness studies.

b. Discussion

In the fall of 1992, the District conducted a rule effectiveness study of Rule 4606, Wood Products Coating Operations, and in August of 1994, per an EPA grant, the District developed a policies and procedures document in lieu of a rule effectiveness study. Other rule effectiveness studies may be done in the future when EPA grant funds are available.

c. Criterion

The District should have a program that targets rules for rule effectiveness studies.

d. Recommendation

None.

D. CONFLICT WITH OTHER DISTRICT/BASIN RULES

a. Finding

The District rules do not conflict in the San Joaquin Valley Air Basin because the District has become a unified district.

b. Discussion

When the District became a unified district in 1992, combining the district rules of Kern, Fresno, Kings, Stanislaus, Merced, Tulare, San Joaquin, and Madera Counties, the District in essence removed any conflicts between the rules of these various smaller districts. However, the District's toxics rule for chrome plating and anodizing facilities (Rule 7011) is not consistent with other districts' rules and State law in the sense that Section 4.1.1 does not require the anti-mist additive used for emissions reduction to be demonstrated to and approved by the APCO as reducing chromium emissions by at least 95 percent.

c. Criterion

Rules shall be consistent with other districts' rules, especially within air basins.

d. Recommendation

The District should amend Rule 7011 to make the change described in the "Discussion" subsection above.

E. ENFORCEMENT & ENGINEERING GUIDELINES

a. Finding

See "Discussion" below.

b. Discussion

In 1994, the District developed a policies and procedures document for all aspects of its air pollution control program.

c. Criterion

The District should develop a program for providing enforcement and engineering guidelines to the field enforcement and permit review staffs. These guidelines shall be updated upon rule amendment, and as otherwise needed, and kept in a central location for easy reference.

d. Recommendation

None.

F. STAFF REPORT ON EACH NEW RULE

a. Finding

The District's Rule Development Procedure requires that a staff report be prepared for each new or amended rule scheduled for adoption.

b. Discussion

See "Finding" above.

c. Criterion

For each new rule, a staff report shall be prepared which summarizes the district's emission inventory and quantifies expected emission reductions.

d. Recommendation

None.

G. FORMAL RULE INTERPRETATION PROCESS

a. Finding

The District does not have a formal rule interpretation process.

b. Discussion

ARB staff reviewed the District's Rule Development Procedure and noted that the District does not currently have a formal process for rule interpretation. This process will ensure consistency in the way that a particular rule is interpreted and enforced by all District staff.

c. Criterion

The District should establish a formal rule interpretation process. Written guidelines should be prepared which outline the dynamic process designed to resolve questions arising from the field enforcement of the rule. These guidelines should be made available to all district staff. Documentation of resolved questions should be made available to district staff on a routine basis and also kept in a central location for easy reference.

d. Recommendation

The District should modify its "Rule Development Procedure" to include a formal rule interpretation process.

H. MEETING ARB/CAPCOA PROTOCOLS

a. Finding

The District is not submitting draft rules and staff reports at least 30 days prior to the workshops, as required by the ARB/CAPCOA protocol.

b. Discussion

ARB staff is often not afforded sufficient review time to enable it to provide comments before workshops. The District staff has informed the ARB's Rule Evaluation Section staff on several occasions that they have been unable to provide draft rules in a timely manner because of the various pressures placed on the District to develop rules expeditiously.

c. Criterion

The district shall ensure that ARB/CAPCOA protocols are met when submitting draft, proposed, and adopted rules to the ARB.

d. Recommendation

The District should strive to submit draft and proposed rules on time to the ARB.

VI. EMISSION INVENTORY PROGRAM

With the passage of both the California Clean Air Act and the federal Clean Air Act Amendments, the emission inventory has become the cornerstone of the attainment planning process. The emission inventory is now used not only to estimate emission reductions from rules, determine compliance, and assess permit conditions, but also to judge the overall compliance with the State Implementation Plan. The needs for an accurate and reliable emission inventory have become even more important as we move into the next phase of planning.

The District's emission inventory program is part of the Technical Services Division and consists of two inter-related elements, the California Emission Inventory Development and Reporting System (CEIDARS) and the Air Toxics Emission Data System (ATEDS). Three staff members are assigned to CEIDARS and twelve staff members are assigned to ATEDS. CEIDARS and ATEDS function separately within the emissions inventory program but will be unified. Currently, CEIDARS is primarily focused on the criteria pollutants (oxides of nitrogen, oxides of sulfur, carbon monoxide, total organic gases, and particulate matter). ATEDS is primarily associated with the Air Toxics "Hot Spots" program and serves as the repository for data on the emissions of air toxics. These two inter-related elements are used by the District to keep track of emissions throughout the District.

CEIDARS has been developed within the last two years to facilitate the exchange, and increase the accuracy of criteria pollutant emissions data. Prior to CEIDARS, the Emissions Data system (EDS) served as the repository for criteria pollutant emissions data. With an increasing reliance on emission inventories to facilitate the planning process, it became necessary to enhance the accuracy and timeliness of the criteria pollutant emissions data. CEIDARS was developed to fill the evolving needs of the planning and modeling communities.

ATEDS was developed to fulfill the statutory requirements set forth in the Air Toxics "Hot Spots" Information and Assessment Act of 1987. These requirements are further defined in the Emission Inventory Criteria and Guidelines Regulation. The emissions data in ATEDS are currently being used to assist in determining a facility's potential health risk and track a facility's progress in reducing that risk.

The objective of the emission inventory program evaluation was to assess the efficiency of the District's maintenance of accurate and timely emissions data. The methodology adopted by ARB staff to achieve the above objective consisted of a qualitative review of the District's emissions inventory data; review of guidelines and policy documents; and interviews with staff. The review of the District's emissions data included District administrative policies, including adherence to data update schedules and overall data maintenance. The interviews covered areas such as general administration, filing and maintaining data, tracking procedures, universe of facility identification, and staff resources to carry out the current requirements on emission inventories.

In addition to the overall review, ARB staff examined in detail data files for 15 facilities in CEIDARS and 28 facilities in ATEDS. The CEIDARS data reviewed were for the 1990 and 1991 inventory years and the ATEDS data reviewed were for the 1989 and 1990 inventory years. The data reviewed were

chosen so as to represent the wide variety of facilities found within the jurisdiction of the District.

A. GENERAL COMMENTS

The District has successfully identified the universe of air pollutant sources using permit data, enforcement data, and inventory data. The District does not include all facilities that emit less than ten tons per year in CEIDARS making this data base incomplete. The District includes facilities that emit less than ten tons per year in ATEDS. These facilities are referred to as Phase 3 facilities.

The District's list of Phase 1 and 2 facilities in its ATEDS data base contain twice as many sources currently found in ARB's ATEDS data base making ARB's ATEDS data base incomplete.

The District notifies the ARB about new facilities within CEIDARS as soon as they are added to the District's inventory. Closed facilities are batch processed and reported to the ARB in a timely manner.

B. CALIFORNIA EMISSION INVENTORY DEVELOPMENT AND REPORTING SYSTEM (CEIDARS)

1. Updating Data In the Data Base

a. Finding

The District staff inventories facilities annually that emit ten tons per year (tpy) and greater to collect process rate and emissions data. Other data, such as temporal or spacial data, are corrected if obvious errors appear.

b. Discussion

Annual inventories of facilities emitting greater than ten tpy are appropriate. At present the District does not update temporal and spacial data unless there are numerous errors. These factors are becoming more and more important to data users.

c. Criteria

The District shall review and update temporal and spacial data annually to ensure that the most accurate data available is provided.

d. Recommendation

o Temporal and spacial data fields need to be included in the annual emissions inventory survey sent out by the District staff. These temporal and spacial fields need to be updated in the data base along with the process rates and emissions to ensure planning and modeling inventories can be developed.

2. Inclusion of Facilities Emitting Less Than Ten Tons Per Year (tpy)

a. Finding

The District staff does not include facilities that emit less than ten tpy in CEIDARS. Some have been included, but there has been no concerted effort to include these facilities in the inventory.

b. Discussion

As more and more less than ten tpy sources are identified, the District staff should include these facilities in the emissions inventory. This will ensure the level of detail needed for modeling inventories.

c. Criteria

The district shall utilize the universe of sources that emit less than ten tpy (developed in association with the Air Toxics "Hot Spots" program) to identify the small criteria pollutant sources.

d. Recommendation

o The universe of less than ten tpy facilities surveyed for the Air Toxics "Hot Spots" program should be cross referenced with the less than ten tpy facilities already in the data base and then systematically added to the CEIDARS data base.

3. Area Source Methodologies

a. Finding

The District staff have draft methodologies for 50 area source categories and are currently committed to developing additional methodologies for approximately 15 categories per year.

b. Discussion

The ARB staff are encouraged by the District staff's increased interest in area source methodologies, but would like to see one-third of the methodologies updated each year. This is particularly true for those area sources that are unique to the District.

c. Criteria

The District shall use area source methodologies when developing their emissions inventory. Area source methodologies are becoming increasingly important in the development and maintenance of an accurate emissions inventory. These methodologies must not only address as many area source categories as possible, they must also contain detailed, understandable methods for accurately estimating emissions from those source categories.

d. Recommendation

o The District staff should update one-third of the area source methodologies each year. When developing new methodologies, the District staff should concentrate on those methodologies that will assist their constituents to accurately estimate emissions.

4. Review of Existing Codes

a. Finding

The District staff do not currently conduct a systematic review of existing process identification codes.

b. Discussion

It is becoming more and more important to the users of the inventory that the codes used to typify data be consistent. Unless the District staff systematically correct errors in assigned Source Classification Codes (SCCs) and Standard Industrial Classification (SIC) Codes, it is unlikely that there will be state-wide consistency in the codes used to identify processes and area source categories. Without a consistent application of process identification codes, emissions could be reported incorrectly or inconsistently between districts.

c. Criteria

The district staff shall complete a systematic review of the existing codes and then work closely with the ARB staff resolving any unusual or questionable SCC or SIC coding occurrences.

d. Recommendation

o After a systematic review of existing codes, the District staff should update, or eliminate, any unusable, or questionable codes. This would be an integral part in the development of a consistent state-wide coding system.

5. Quality Assurance of Data

a. Finding

The District staff do not currently follow a systematic method to perform quality assurance on the data. The data are corrected when inconsistencies occur.

b. Discussion

A systematic QA program ensures consistently high quality data that can support enforcement, planning, modeling, and data requests.

c. Criteria

The district shall utilize a systematic quality assurance program to ensure that the most important elements of the data base be as precise and accurate as possible.

d. Recommendation

o The District staff should implement a systematic quality assurance program to review the emissions data.

6. Growth and Control Factors

a. Finding

The District staff uses surveys, past trends, and information from trade associations to adjust growth and control factors. Growth and control factors are reviewed when a specific area source category is reviewed. A list of priority categories is available.

b. Discussion

To ensure that future year emission inventories are reliable, the ARB and districts review and update the emission growth and control codes on a regular basis.

c. Criteria

The district shall update the growth or control codes when a new or modified rule is adopted, or new growth information becomes available.

d. Recommendation

o The District staff should review and update new growth and control data on an annual basis.

7. Reporting Organic Gases

a. Finding

In some cases the District staff are reporting reactive organic gases (ROG), and volatile organic gases (VOC) as total organic gases (TOG). The fraction of reactive organic gases for a process is set at "1" when ROG or VOC is reported.

b. Discussion

The pollutant total organic gases (TOG) is required to be reported to the ARB for state-wide consistency. Also, TOG has been used to calculate fees and estimate seasonal-specific inventories. TOG is the required hydrocarbon to be reported to the ARB. Speciation profiles are available from the ARB if the District staff need to back calculate.

c. Criteria

The district shall report total organic gases (TOG) to ARB.

d. Recommendation

o The District staff need to develop a consistent method to report TOG to the ARB.

C. AIR TOXICS EMISSION DATA SYSTEM (ATEDS)

1. Meeting the Regulatory Guidelines For Plan and Report Submittal

a. Finding

The regulatory deadlines for the three phases of the program have generally been missed.

b. Discussion

The Air Toxic "Hot Spots" Information and Assessment Act of 1987 defined the schedule that the participating facilities and the districts are to follow when developing an emission inventory plan. A schedule for reviewing and revising those plans, submitting an associated emission inventory report, and reviewing and accepting those reports were also included. The statute further defined the dates each inventory phase would be affected by that schedule. The Emissions Inventory Criteria and Guideline Regulation specified the dates each step (report submittal, report review and acceptance, etc.) were to be completed including a date the approved reports were to be forwarded to the ARB. In general, the District staff were less and less able to meet the defined deadlines for each phase.

c. Criteria

The district shall follow the Emissions Inventory Criteria and Guideline Regulation for each phase of the "Hot Spots" program.

d. Recommendation

o Prepare an action plan to complete the emission inventory reports and forward them to the ARB for addition to ATEDS.

2. Differences Between the District's List of Sources and the District's Facilities Found in ATEDS

a. Finding

The ARB staff have compared a list of the universe of sources provided by the District staff and the universe of sources currently in ATEDS and have found twice as many sources on the District's list of sources.

b. Discussion

The staff of the District forwarded a list of facilities, by phase, participating in the program. The ARB staff generated, by phase, lists of the facilities found in ATEDS. The ARB were able to match only 53% of the facilities in the first two phases on the District's list.

c. Criteria

The district shall report all Toxic "Hot Spot" facilities to the ARB by the dates included in the Criteria and Guidelines Regulation.

d. Recommendation

o Complete the portions of the emission inventory reports and forward them to the ARB.

3. Notification of Closed Facilities

a. Finding

Deleted facilities have not been reported to the ARB.

b. Discussion

The ARB staff needs to be notified when facilities have closed to ensure current data is available upon request. All closed facilities will be removed from the "living" inventory when the ARB is notified of such closures.

c. Criteria

The district shall notify the ARB staff when facilities have closed.

d. Recommendation

o The District needs to develop a systematic program to notify the ARB when facilities close operation.

4. Alternative Plan and Report Submittal Schedule

a. Finding

The alternative submittal schedule for emissions reporting associated with the June 1993 regulatory update is in draft form. The draft is a good step towards organizing further updates.

b. Discussion

The alternative schedule recently included in the Emission Inventory Criteria Guidelines allow districts more flexibility in reporting updated facility inventory reports.

c. Criteria

The district shall utilize the criteria for the alternative update schedule as included in the Emission Inventory Criteria Guidelines.

d. Recommendation

o Finalize the draft schedule and develop an implementation program to ensure facility updates are reported to the ARB on time.

VII. AIR TOXICS "HOT SPOTS" PROGRAM

The Air Toxics Hot Spots Program (the Program) was enacted in 1987 to collect air toxics emission data, to identify facilities having localized impacts, to ascertain health risks, to notify nearby residents of potential significant risks, and to reduce the risk below the level of significance.

The Program requires owners or operators of facilities subject to the Program to prepare and submit to the District an air toxics emissions inventory plan, a subsequent emissions inventory report, and for high priority facilities, a health risk assessment. The risk assessment must be reviewed by the Office of Environmental Health Hazard Assessment (OEHHA) and approved by the District. If the District judges that potential significant health risks are associated with emissions from the facility, operators must notify all exposed individuals. The district must then set a level of significance that will trigger facilities to reduce their risk below the level of significance.

The Air Resources Board (ARB) is required to adopt a regulation which recovers all of the State's reasonable anticipated Program costs. These costs are those incurred by the ARB and OEHHA to implement and administer the Program. The Air Toxics Hot Spots Fee Regulation (Fee Regulation) has been adopted annually since 1988. Each air district is also required to adopt a fee regulation which recovers its costs, and their portion of the State's Program cost. An air district may request to have its fee schedule adopted by the ARB in the State's Fee Regulation, provided certain criteria are met. The SJVUAPCD chose this option for both fiscal years 1993-94 and 1994-95.

The methodology adopted by ARB staff to evaluate the prioritization, risk assessment, public notification, and risk reduction audit and plan aspects of the Program consisted of a qualitative review of the District's Hot Spots Program files and interviews with staff and management.

Interviews covered general areas of the Program such as administration of the Program areas, record keeping, adoption of District rules and the District's annual report. Review of the Hot Spots Program files focused on facility prioritization, health risk assessment, public notification, and risk reduction audits and plans.

In conducting this part of the Program evaluation, ARB staff reviewed the Program files at the Fresno and Bakersfield District offices. A total of 35 facility files were reviewed for prioritization and 43 files were reviewed for risk assessment.

To evaluate the District's Fee Regulation aspect of the Program, information from the SJVUAPCD, submitted for the Fee Regulation for fiscal years 1993-94 and 1994-95, was examined to determine if all necessary documentation was provided and if it was provided by the date specified. To further evaluate compliance with the Fee Regulation, ARB staff selected a random sample of facilities in the SJVUAPCD.

A list of risk assessment facilities was prepared based on the OEHHA risk assessment database and information provided by the District for fiscal years 1993-94 and 1994-95. This information was compared to a list provided during the audit. Facility status was checked to determine if the facility was correctly categorized as a risk assessment under review at the district

or the State. An additional check determined if the facility had made a logical progression through the risk assessment process between the two fiscal years.

For the same facility sample used to count and verify Source Classification Codes (SCCs), fee invoices were checked to insure that the facilities were billed correctly. The ARB staff also checked to see that penalty procedures were in place and followed in the event of nonpayment.

A. GENERAL COMMENTS

Following are some general comments regarding the District's administration of the Program. First, the database established for tracking facilities in the Program is an excellent step towards more efficient record keeping. However, the database needs to be reviewed for quality assurance/quality control. Second, staff noted that 29% of the facility emissions inventory data analyses and 23% of the risk assessment designations had not been completed at the time of the program evaluation. Third, the District needs to establish a significant risk level that will allow the District and facilities to develop toxic risk reduction audits and plans to reduce emissions within five years. And fourth, the District needs to work expeditiously with the four identified facilities to complete their required public notifications of potential risks in the vicinity of their operations.

The findings and many of the recommendations contained in this section have been discussed with the District. District program managers have indicated their willingness to act on the findings and recommendations noted below.

B. TIME DEADLINES FOR FACILITY PRIORITIZATION

a. Finding

The District has prioritized 65 percent of the facilities with approved emissions inventory reports within the required time deadline. However, 35 percent have not been prioritized by the time deadline.

b. Discussion

Within the facility prioritization files, ARB staff looked for correspondence from the District to the facility regarding the District's approval of the emissions inventory report. From this, ARB staff determined when prioritization should have occurred. For the 35 facilities reviewed, 23 facilities (65 percent) had been prioritized by the required time deadline. However, 10 facilities (29 percent) subject to this requirement had not been prioritized by the District and two (six percent) were prioritized late. Discussion with staff revealed that there were often higher priority projects being worked on, or some of the prioritization assignments had not been delegated. For the two facilities (six percent) that were not prioritized by the required time deadlines, it was evident that correspondence had occurred between District staff and the facility regarding the approval of the emissions inventory report. This activity caused a delay in prioritizing the facilities.

c. Criteria

Section 44360(a) of the California Health and Safety Code states that within 90 days of completion of the review of all emissions inventory data for facilities in the Program, the district shall prioritize and then categorize those facilities for the purpose of health risk assessment.

d. Recommendation

o It is recommended that all facilities be prioritized within 90 days of the approval of their air toxics emissions inventory report.

C. TIME DEADLINE FOR HEALTH RISK ASSESSMENT

a. Finding

The District has approved 68 percent of the risk assessments submitted by facilities within the required time deadline. However, 32 percent have not been approved by the required time deadline.

b. Discussion

Within the health risk assessment files, ARB staff looked for correspondence from OEHHA to the District regarding OEHHA's comments on the risk assessment. From this, ARB staff determined when the risk assessment should have been approved by the District. Of the 43 files reviewed, the District had approved 29 (68 percent) of the health risk assessments by the required time deadline. However, 10 facilities (23 percent) had not been approved by the required time deadline and four (nine percent) had not been approved. In discussions with staff and through correspondence seen in the files, it appeared that, in most cases, issues were being resolved between District staff and the facility that caused a delay in approving the document.

c. Criteria

Sections 44360-44362 require the District to obtain health risk assessments from sources, coordinate OEHHA review, and approve or modify health risk assessments in the timeframes specified.

d. Recommendation

o ARB staff recommends that all facilities that are in the high priority category and have submitted a health risk assessment be approved by the District within 180 days of receiving comments from OEHHA.

D. REVIEW OF THE PUBLIC NOTIFICATION

a. Finding

ARB staff found that the District is working with the significant risk facilities to successfully complete the public notification requirement.

b. Discussion

ARB staff reviewed the District's implementation of the public notification requirement through discussions with District management and staff, and correspondence seen in the risk assessment files. Currently, the District has five facilities in the Program required to do public notification. One facility has completed public notification and the others are working with the District towards completing this requirement.

c. Criteria

Section 44362(b) of the Health and Safety Code states that, in approving a facility's health risk assessment, the district must judge if the emissions pose a potential significant health risk. If so, the facility operator shall provide notice to all exposed persons regarding the results of the health risk assessment.

d. Recommendation

o ARB staff recommends that the District continue to work with facilities to notify the exposed public of their potential health risks from the facilities.

E. TIME DEADLINES FOR RISK REDUCTION AUDITS AND PLANS

a. Finding

The District has not begun this phase of the Program and the District has not yet identified a significant risk level.

b. Discussion

Facilities determined by the District to be a significant risk, under SB 1731, Health and Safety Code section 44391(a), are required to submit a risk reduction audit and plan to the District that describes how the facility will reduce its risk below the level of significance. The District does not have an approved significant risk level for this requirement and it is necessary to have one in place before implementation of this requirement can begin.

c. Criteria

According to Section 44391(a) of the California Health and Safety Code, whenever a health risk assessment approved pursuant to Chapter 4 indicates, in the judgment of the district, that there is a significant risk associated with the emissions from a facility, the facility operator shall conduct an airborne toxic risk reduction audit and develop a plan to implement airborne toxic risk reduction measures that will result in the reduction of emissions from the facility to a level below the significant risk level within five years of the date the plan is submitted to the district. The facility operator shall implement measures set forth in the plan in accordance with this chapter.

d. Recommendation

o ARB staff recommends that the District approve a significant risk level and begin to implement this requirement of the Program.

F. INFORMATION REQUIRED BY HOT SPOTS FEE REGULATION

a. Finding

As required by the Fee Regulation (Section 90704 of the California Code of Regulations), the SJVUAPCD provided to the ARB by April 1 of the calendar year the following documentation: 1) District Board approved Program costs; 2) a written request specifying the cost to be collected to recover district costs; and 3) calculation of district costs and how funds will be utilized.

b. Discussion

The fiscal year 1993-94 Fee Regulation was adopted by the ARB and approved by the Office of Administrative Law (OAL). All of the required documentation listed in part "a" above is dated, is on file, and was part of the package submitted to OAL. This same information is on file for fiscal year 1994-95 for the SJVUAPCD.

c. Criteria

As required by the Fee Regulation costs shall be adopted at a noticed public hearing, documents shall be submitted specified dates, and staffing and costs shall be properly expended.

d. Recommendation

o The District has met the requirements, therefore, there are no recommendations.

G. FACILITY COUNT AND PROGRAM CATEGORY DOCUMENTATION

a. Finding

For the fiscal year 1994-95 Fee Regulation the District provided as required a facility count by Program category by April 1, 1994. A revised facility count was provided on July 18, 1994. Although the overall facility count remained about the same, a significant shift in complexity and categories occurred.

The District granted, as required by law (Health and Safety Code section 44380.1/Assembly Bill (AB) 956), an exemption from paying fees for facilities that primarily handle, process, or store bulk agricultural commodities or handle, feed, or rear livestock and that were required to comply with the Hot Spots Act only as a result of particulate matter emissions.

The District has documentation on the qualifications of businesses claiming small business status for fee purposes.

Analysis of the information to determine if SCCs were properly assigned to facilities revealed variable facility file completeness among the three regions of the District. For this reason, the findings on SCCs will be presented by region.

Northern Region: The random sample from this region included 29 facilities. Of these 29 facilities three facilities' fee applicability was undetermined by the District, and three small publicly owned treatment works (POTWs) were in the sample. "Small" POTWs are not assessed fees in the SJVUAPCD. Of the 23 files reviewed, SCC counts were different for 12 (52 percent) facilities. The files contained no documentation as to how the SCC count had changed, compared to the December 1993 information. No SCCs were listed on "PRO" forms for seven (30 percent) facilities, and four (17 percent) facilities had submitted plans only. Eleven (48 percent) facilities' SCC counts were in agreement. Although the SCC counts differed in many instances, only three facilities changed fee categories as a result.

Central Region: The sample from the Central Region included 17 files. Of these 17, 7 (41 percent) facilities' SCC counts were in agreement with December 1993 data. Ten (59 percent) facilities' SCC counts were different. However, of these ten, documentation of the change was included in six files. Out of 17 facilities, 3 (18 percent) facilities had not submitted plans and reports. For these facilities, the district documented how SCCs were assigned. The SCC count changes moved seven facilities into different fee categories.

Southern Region: The sample from the Southern Region included 30 files. Of these 30, 7 (23 percent) facilities' SCC counts had changed. Three of these seven facilities protested the SCCs they were billed on. The District concurred with these SCC changes and modified the SCC counts and invoices appropriately. One facility had yet to submit a plan and report. Twenty-five (83 percent) facilities' SCC counts were unchanged. One facility changed fee categories as a result of the revised SCC count.

From information provided by the District, for the Fee Regulations for fiscal years 1993-94 and 1994-95, we prepared a list of 82 risk assessment facilities and their Program status (District or State). We also used the OEHHA risk assessment database to determine which facilities' risk assessments were under State review. This information was compared to a list of risk assessment facilities provided at the audit and to a facility list the District provided on July 18, 1994 for the fiscal year 1994-95 Fee Regulation. Of the 82, status issues were found for 20 facilities (24 percent). Eleven (13 percent) of these facilities were not on the District's July 18, 1994 list. Of these 11, 4 were given an AB 956 exemption. The other seven facilities were not on the list provided at the audit. For eight facilities (10 percent) whether the facility was a District or State risk assessment did not agree. One facility's complexity did not agree.

b. Discussion

For fiscal year 1994-95, the updated count provided on July 18, 1994 shifted high priority facilities into lower fee categories. Because of the impact on other air districts, ARB staff we requested clarification to resolve where these facilities had been recategorized. The District provided this information on September 9, 1994.

By examining facility files, including plans and reports, ARB staff determined that many SCC counts had been changed since a revised list of facilities was provided in December 1993. Of the entire sample of facilities, 29 out of 70 (41 percent) SCC counts had changed. These SCC count changes resulted in 11 facilities (16 percent) being recategorized.

For the risk assessment facility discrepancies, SSD staff have been following up with District staff to cooperatively resolve risk assessment facility counts.

c. Criteria

The status of facilities in the risk assessment process shall be reviewed by comparing facility plans and reports SCCs counted. These counts should compare to information provided by the District to ARB previously and the OEHHA risk assessment database.

d. Recommendation

o We recommend that all information used to assign SCC counts be documented and included in facility plans and reports. Moreover, we recommend that the correct SCCs be placed on the "PRO" forms in the facility plans and reports. During the audit the SJVAPCD staff demonstrated a new computer database with current facility information, including SCC counts and fee category. This database should eliminate many errors and provide an easy way to track facilities in the program.

The information in the files from the Southern Region was the most accurate and complete of the three regions. This may be because of an additional form, the "D-SUM", developed by the former Kern County APCD. This form is a summary of the devices and the SCCs assigned. This form, if used district-wide, could reduce the number of errors.

H. BILLING AND COLLECTING FEES BY DISTRICT

a. Finding

The District's procedures for billing facilities for Hot Spots fees, in general, are in accordance with the Fee Regulation.

b. Discussion

During the audit, copies of the invoices sent to facilities for fiscal year 1993-94 were reviewed. These invoices included the SCC count and fee category the facility was being billed for. Because invoices from all three regions were prepared and sent from the Central Region, our findings will be combined. We checked billing information for 91 facilities. Of this sample, 85 facilities (93 percent) paid their bills within 60 days, as

required by the Fee Regulation. Six facilities did not pay within 60 days and 3 of these facilities were assessed penalties.

c. Criteria

Dates of billing and the fee amount on the invoices sent to facilities shall be reviewed to ensure that fees are paid in 60 days. If the facility had been rebilled with a penalty amount, the penalty is not to exceed 100 percent of the fee assessed, but be sufficient to cover the District's expense for the operator's non-compliance.

d. Recommendation

o An invoice for the original bill, plus a penalty should be assessed all facilities not paying within 60 days.

VIII. AIR MONITORING PROGRAM

Air monitoring programs are established by air pollution control districts to collect ambient air quality data in compliance with United States Environmental Protection Agency (U.S. EPA) requirements to monitor progress toward meeting air quality standards, identify patterns of transported pollutants, locate metropolitan pockets of high pollutant concentrations, and provide data for indicators of daily air quality such as the Pollution Standard Index (PSI).

The overall goal of the District's air monitoring program is to provide accurate and precise data to meet monitoring objectives, to minimize loss of air quality data due to analyzer and sampler malfunctions, and to provide representative and comparable data of known precision and accuracy.

The purpose of this evaluation was to determine whether the District's air monitoring program, during the study period, satisfied the U.S. EPA's regulations stipulated in 40 Code of Federal Regulations (CFR), Part 58. Compliance with these regulations is necessary if the data are to be considered "data-for-record" per the California Code of Regulations (CCR), Title 17, Article 3, Section 70301. Only data meeting these requirements are eligible to be used in actions taken pursuant to the Federal Clean Air Act of 1990 and the California Clean Air Act.

ARB Monitoring and Laboratory Division (MLD), Quality Assurance Section (QAS), initiated the evaluation by sending the District a system audit questionnaire. Responses to the questionnaire were used to determine which areas of the program might warrant closer examination. The District's air monitoring program was evaluated with respect to network size and siting, resources and facilities, data and data management, and quality assurance/quality control. The review also evaluated the quality of data already submitted to the ARB's Technical Support Division (TSD).

A. GENERAL COMMENTS

The District has a comprehensive criteria pollutant air monitoring program, and its data generated during the study period and submitted to ARB/TSD should be considered good quality data and data-for-record. The District ensures all criteria pollutant analyzers and samplers used conform to U.S. EPA requirements. A participant in the performance audit programs of both ARB and U.S. EPA, the District is conscientious in processing and submitting ambient air quality data per U.S. EPA requirements and has a greater than 85% data completeness record.

The District follows U.S. EPA regulations set forth in 40 CFR 58, and the ARB Air Monitoring Quality Assurance Manual, Volume II, and is developing its own standard operating procedures, quality control guidelines, and calibration/maintenance procedures.

B. NETWORK SIZE AND SITING

a. Findings

The District needs to establish two particulate matter (PM10) National Air Monitoring Stations (NAMS) in Stockton. Establishing these sites would bring the District into compliance with U.S. EPA requirements.

The monitoring objective for carbon monoxide (CO) monitoring at the District's Bakersfield-Golden State site is not correct. The monitoring objective for CO at this site must be changed to middle scale to comply with U.S. EPA requirements and ensure proper validation of CO data at this site.

District site reports are not always on file and up to date, and they are not always delivered to the ARB in a timely manner. Having the site reports on file and up to date would provide for quick review of siting conditions at a particular site, and timely delivery of the site reports to ARB would ensure ARB records are accurate and complete.

The District has not installed the meteorological (MET) equipment available for several of its sites. The District uses MET monitoring for modeling and in support of pollutant transport issues. Having the MET equipment installed and calibrated would allow QAS staff to conduct MET performance audits in the future provided the station technician is present, the MET equipment is calibrated, and conditions are safe. Auditing the District's MET equipment would enhance the quality of the District's MET monitoring program. Also, purchasing computer equipment to access real time MET data would assist District staff in weather forecasting for such things as determining the air quality for the existing day and the next day, agricultural burn days, and trend analysis.

b. Discussion

The District operates 16 sites in eight counties. Per District request, the QAS did not review the adequacy of the District's sampling program; therefore, QAS staff did not attempt to identify needs for additional monitoring sites and parameters. However, the District is aware of the requirement to establish two PM10 NAMS sites in Stockton. Site locations have already been determined and the District plans to purchase the samplers with U.S. EPA grant funding and install them in the Fall of 1995.

All District sites, with the exception of the Bakersfield-Golden State site (site number 15256), are properly sited. Site 15256, initiated in July 1994, is incorrectly classified as neighborhood scale for CO monitoring. Based on the traffic count and distance from roadway, the site fits the middle scale for CO.

The District has not submitted site termination reports to the ARB for the Five Points (site number 10229), Kern Refuge (site number 15205), and Los Banos (site number 24522) sites, which were terminated in December 1993. Also, not all site reports were on file. The Maricopa site (site number 15246) report was missing.

Non-criteria pollutants were not reviewed by QAS staff; however, MET monitoring was discussed with District staff. District staff monitors MET parameters at several sites for modeling purposes and in support of

pollutant transport issues. The District has MET equipment available for installation at other sites. Also, District staff is interested in purchasing computer equipment to access real time MET data.

c. Criteria

The district is required to establish NAMS sites per 40 CFR 58, Appendix D stipulations. Every site must be properly sited with regards to stated monitoring objectives and spatial scales per 40 CFR 58. MET monitoring is necessary for modeling and transport issues.

d. Recommendation

o Establish two required PM10 NAMS sites in Stockton, as soon as possible, and notify the QAS once they are established.

o Reclassify CO monitoring at the Bakersfield-Golden State site from neighborhood scale to middle scale and submit an amended site report to the ARB Air Quality Surveillance Branch (AQSB).

o Submit site termination reports to the AQSB for Five Points, Kern Refuge, and Los Banos. Future site initiation, amendment, and termination reports should be submitted to the AQSB within 60 days.

o Keep site reports on file at the District office in Fresno and a current site report at each site.

o Install and calibrate MET equipment as soon as possible and notify the QAS upon completion.

o Purchase computer equipment to access real time MET data.

C. RESOURCES AND FACILITIES

a. Findings

All criteria pollutant analyzers and samplers operated by the District conform to U.S. EPA requirements.

District staff is well trained but the District does not have a formal training plan in writing. The District could benefit from the implementation of a formal training plan which would ensure consistent training for staff. The training plan would document the specific training required for the operation and maintenance of criteria pollutant analyzers and samplers, recordkeeping, and data collection and analyses.

The District does not have a laboratory, therefore PM10 mass weighing and analysis for the District are conducted by the ARB's Inorganics Laboratory Section (ILS).

District staff is conscientious in conducting PM10 make-up runs as necessary and generally deliver the PM10 filters to the ILS expeditiously. There were, however, several instances when the ILS invalidated the PM10 samples because the filters were not delivered to the ILS within 30 days of the sampling date or due to multiple run dates on the same filter. Retrieving the PM10 filters and delivering them to the ILS in a timely manner would prevent samples from being invalidated.

District staff, oftentimes, does not operate both PM10 samplers at collocated sites on make-up run days. The data from collocated sites are used for precision purposes, and although only one sampler may require a make-up run, both samplers should be operated. Such a practice would enhance the overall quality of the District's air monitoring program.

b. Discussion

ARB/QAS confirmed, through review of site reports, that all criteria pollutant analyzers and samplers operated by the District conform to U.S. EPA requirements.

The District's staff training is good and is provided by the Air Monitoring Supervisor and technicians. The technicians also attend ARB and vendor instrument training classes.

The District does not have a laboratory, therefore the District's PM10 mass weighing and analysis are conducted by the ARB's ILS. District staff is conscientious in conducting PM10 make-up runs as needed. There are, however, areas where District staff can improve PM10 sampling. District staff generally delivers the filters to the ILS expeditiously, however, several samples were invalidated because filters were not delivered to the ILS within 30 days of the sampling date. Also, several samples were invalidated by the ILS due to multiple run dates on the same filter. There were several occasions at collocated sites when only one sampler was operated on make-up run days. Although only one sampler may require a make-up run, both samplers should be operated for precision purposes.

c. Criteria

Criteria pollutant analyzers and samplers must conform to the requirements of 40 CFR 50. A formal training plan ensures appropriate training is provided to all staff. All station technicians should receive the same training, thereby ensuring consistency in the operation and maintenance of air monitoring analyzers and samplers, recordkeeping, and data collection and analyses. PM10 filters should be properly handled and processed in accordance with 40 CFR 58. Such handling and processing involves both the District and the ILS. Because District staff does not conduct weighings, QAS staff reviewed the District's PM10 filter handling and transport. QAS staff previously conducted a system audit of the ILS' PM10 mass weighing and analysis programs and found them to be in compliance with U.S. EPA's guidelines.

d. Recommendation

- o Develop a formal training plan and submit it to ARB/QAS upon completion.
- o Maintain on-going training to stay current with new advancements in technologies.
- o Retrieve and deliver PM10 filters to ARB/ILS in a timely manner.
- o Operate both PM10 samplers on make-up run days at collocated sites.

D. DATA AND DATA MANAGEMENT

a. Findings

District staff takes great care in processing and submitting ambient air quality data in accordance with U.S. EPA requirements, and ensures the data are delivered to the ARB in a timely manner.

District staff's data review process is good and it meets the U.S. EPA's and the ARB's data completeness criteria.

District staff did submit the SLAMS Annual Report to the U.S. EPA, but it was not delivered by the July 1 deadline. However, the U.S. EPA granted the District an extension for submittal of the report and the District met the extension deadline.

b. Discussion

District staff is conscientious in processing and submitting ambient air quality data per 40 CFR 58 requirements. District staff delivers all data to the ARB in a timely manner. The ambient air quality data are submitted monthly to the ARB's Technical Support Division (TSD) on diskette and hard copy. Precision data are submitted quarterly to the QAS on diskette. Both electronic and hard copy data are stored at the District office in Fresno for a minimum of five years. The District also maintains an electronic file off-site.

District staff follows U.S. EPA and ARB data review guidelines. District staff properly documents corrections and/or deletions made to preliminary ambient air quality data. The District's Level I data review is performed by the technicians and Level II data review by the Air Monitoring Supervisor. The District has a greater than 85% data completeness record; therefore, meeting U.S. EPA and ARB data completeness criteria.

District staff submitted the second SLAMS Annual Report in September 1994. The report is required per U.S. EPA regulations and is due by July 1 each year. The report contains information on monitoring objectives/spatial scales, monitoring network for each pollutant monitored, supplemental analysis of PM10 filters, MET monitoring, recent changes, pending changes, and future changes. In general, the report is complete and accurate.

c. Criteria

Ambient air quality data should be processed and submitted as specified in 40 CFR 58.35 and the reporting requirements of 40 CFR 58, Appendices A and F. The data review process should follow U.S. EPA and ARB guidelines, and data completeness should meet both the U.S. EPA 75%, and the ARB 85% criteria. The SLAMS Annual Report is required per 40 CFR 58.26 and is due to U.S. EPA by July 1 each year.

d. Recommendation

o Prepare and deliver the SLAMS Annual Report to the U.S. EPA by the specified due date unless granted an extension by the U.S. EPA.

E. QUALITY ASSURANCE/QUALITY CONTROL

a. Findings

District staff follows the ARB's quality assurance guidelines and is in the process of developing a quality assurance plan. Such a plan would ensure the data collected continue to be valid.

District staff maintains instrument logs for all analyzers at each station, but no logs are kept for PM10 samplers. The instrument logs are often incomplete and they do not include the technician's initials. Also, District staff does not maintain station logs. Maintaining complete and accurate instrument and station logs is important. The logs contain essential information which may be needed should questions arise when the logs are reviewed at a later date, and could have an impact on data quality.

The District's analyzer and sampler calibrations are conducted per ARB calibration procedures using certified transfer standards. District staff performed one calibration with a transfer standard which had an expired certification. Calibrations conducted with transfer standards which have expired certifications could affect analyzer/sampler operation and therefore, data quality.

Calibration reports are kept at the District office, but several reports were missing or incorrectly filed. Having the calibration reports on file at the District office, and copies of the reports for each site at that site location, would save time in the future should calibration reports need to be reviewed.

The District participates in the QAS and the U.S. EPA performance audit programs. Participation in these audit programs help to confirm the quality of the District's air monitoring program.

The District meets U.S. EPA precision and accuracy goals. District staff conducts required precision checks, zero and span checks, and accuracy audits. These checks and audits ensure the validity of the data collected by the District.

b. Discussion

District staff currently follows the guidelines outlined in the ARB's Air Monitoring Quality Assurance Manual, Volume II. District staff is in the process of developing a Quality Assurance Program Plan based on the ARB's manual and Santa Barbara County's Prevention of Significant Deterioration (PSD) guidelines, and expect to submit a draft plan for approval to the U.S. EPA and the QAS by September 30, 1995.

District staff maintains instrument logs for all analyzers at each station, but no logs are kept for PM10 samplers. Also, station logs are not maintained. Instrument log entries are often incomplete. Monthly checks, quarterly checks, etc., are often missing and should be included in the logs. QAS staff's discussion with District staff revealed that appropriate corrective action is taken for identified instrument problems. However, there were several occasions when instrument problems were entered in the logs with no corrective action stated. Also, the logs do not include the technician's initials.

The ARB's AQSB calibrates the District's CO and nitrogen dioxide (NO2) analyzers, and MET equipment, using certified transfer standards. District staff conducts ozone (O3) and PM10 calibrations. District staff follows the ARB calibration procedures outlined in the Air Monitoring Quality Assurance Manual, Volume II. The O3 analyzer calibrations are conducted using a certified Dasibi 1008-PC O3 transfer standard. PM10 sampler calibrations are conducted using a certified General Metal Works (GMW) high-volume orifice transfer standard. The District's transfer standards are certified by the ARB's Standards Laboratory. During the period covered by the review, District staff calibrated one O3 analyzer with a transfer standard which had an expired certification.

Calibration reports for each site are filed at the District office in Fresno. Calibration reports were missing for several sites. The Maricopa site did not have a calibration report file, and District staff could not locate the site's calibration reports. Also, several calibration reports were filed incorrectly.

The District participates in the QAS annual performance audit and site review program, and in the U.S. EPA National Performance Audit Program (NPAP). Not all District sites were audited by the QAS during the time period of the program evaluation. However, the performance audits which were conducted by the QAS indicated that all analyzers audited were within the ARB's control limits of $\pm 15\%$ for gaseous analyzers and $\pm 10\%$ for PM10 samplers. The NO2 analyzer at the Fresno-Skypark site was operating within the ARB's warning limits $\pm 10\%$ to $\pm 15\%$, but the QAS has been informed that instrument maintenance and/or calibration has been conducted since the audit. The District participated in O3 and PM10 NPAP audits during the third quarter of 1994. The NPAP O3 audit results were within the U.S. EPA's control limits of $\pm 15\%$. However, District staff did not follow the correct NPAP PM10 audit procedure so the U.S. EPA could not accept the PM10 audit results.

District staff conducts precision checks, zero and span checks, and accuracy audits as required by U.S. EPA. Precision checks are currently conducted daily for gaseous analyzers and every sixth day for collocated PM10 samplers. Zero checks are currently conducted daily, and span checks weekly, for gaseous analyzers. As stated above, the District participates

in the NPAP, and the QAS conducts performance (accuracy) audits for the District. The District meets U.S. EPA goals for 95% probability limits of $\pm 15\%$ for precision and 95% probability limits of $\pm 20\%$ for accuracy.

c. Criteria

A quality assurance plan must be in place and should satisfy the requirements outlined in 40 CFR 58. Instrument and station logs should be maintained. They contain essential information which could have an impact on data quality. Calibrations should be conducted using approved calibration procedures with certified transfer standards. Participation in a performance audit program as required per 40 CFR 58. Precision checks, zero and span checks, and accuracy audits should be conducted as required per 40 CFR 58, Appendix A.

d. Recommendations

- o Continue to follow ARB guidelines and do not implement the District Quality Assurance Program Plan until it is approved by U.S. EPA and QAS.
- o Maintain a station log for each site which documents all activities during each visit.
- o Maintain instrument logs for all analyzers and PM10 samplers.
- o Maintain complete and accurate station and instrument logs.
- o Have all log entries initialed by technicians.
- o Have transfer standards certified on time and do not use expired transfer standards for calibrations.
- o Consider hiring staff to conduct calibrations for all District analyzers and samplers.
- o Keep calibration report files accurate and current.
- o Keep copies of the calibration reports for each site at that site location.
- o Continue participation in the QAS annual performance audit and site review program and in the NPAP.
- o Submit all NPAP audit results to QAS for review.
- o Ensure the correct procedure(s) is followed when conducting NPAP audits.

IX. AIR QUALITY PREDICTION

In its role as an advisor to the public on the air quality in the District and the potential effects of poor quality air, the District needs the capability to predict health advisory conditions and pollution standard index (PSI) values. The District is responsible for providing health advisories as stated in Chapter 21 of the State Implementation Plan, Air Pollution Emergency Plan (SIP) and also several media customers ask the District for PSI predictions on a daily basis. In the past, the Air Resources Board (ARB) developed a set of objective equations and gave them to the District to help with their predictions. The District still uses these equations and the ARB continues to provide input data for the daily predictions; however, the experience of the District is that the present arrangement does not provide the accuracy and individual area coverage required by their customers. The District is looking for a way to provide better service and is aware that other large districts provide customers their own customized daily predictions which are coordinated with the ARB.

The purpose of this special study was to find out what capability the District has to satisfy their customers' needs, to try to determine what is needed to improve the capability, and to provide some advice to the District that would allow them to meet their needs.

In conducting the study, ARB staff interviewed District management and staff to document the District's capabilities in this area, and then reviewed the District's capabilities compared to other large districts in the state in order to recommend a possible solution.

A. GENERAL COMMENTS

The District is providing air quality predictions based on information from its own monitoring capabilities and information provided by the ARB. This information is very general in nature and neither the District nor ARB are able to process this information along with localized meteorological data to predict with accuracy the air quality for the future due to resource constraints. The prediction of health advisories and PSI values are important from a health standpoint as well as an educational tool for the District residents.

B. PREDICTION OF PSI AND HEALTH ADVISORY VALUES

a. Finding

The District could benefit from an improved capability to provide their own independent predictions and more area or site-specific PSI predictions. In this newly created, large and diversified District, predictions need to be customized based on local influences. Many times the difference between a required health advisory issued on time and one that is not required at all can be just a few miles or the difference between one side of town and the other. Knowledge of the localized areas and the time to devote to making these localized predictions is necessary to ensure that people will get an accurate health advisory when one is needed and they will not be unnecessarily alerted when an advisory is not really needed but has been issued to cover a large general area. Under the current system the District must call the ARB each day for data to enter into equations that were

provided by the ARB years ago, before the creation of the current unified District. The guidance and equation results now available to District staff do not meet the needs of District customers (e.g., the ARB does not have knowledge of the District's daily authorized agricultural burning allocation, thereby lacking insight to the local PM10 emissions that might impact the PM10 concentrations). The ARB does not currently have resources to develop a sufficient program or provide specific predictions to meet customer needs of this district. The minimum needs could be met if the District could employ a meteorologist or contract with private industry or a university to develop a program and provide the needed analysis and prediction products.

b. Discussion

The District is a very large and diverse area that experiences a wide variety of air quality problems from ozone (O3), carbon monoxide (CO), nitrogen dioxide (NO2), and small particulates (PM10). Health advisories are required for the protection of the public health as specified in Chapter 21 of the SIP so that the District has to maintain a credible capability to evaluate air quality potential and provide health advisories for specific areas and times.

Other large districts in the state maintain a small meteorological staff to meet the requirements of state and district regulations. The South Coast Air Quality Management District, the Bay Area Air Quality Management District, and the San Diego County Air Pollution Control District are examples of districts that prepare their own air quality and meteorological products and coordinate the products with the ARB Meteorology Section. Other smaller districts such as Ventura County and Sacramento County employ a meteorologist but provide limited predictions for their local areas. Within the state some universities could probably provide meteorological and air quality support services. Contracting for their services can sometimes be very beneficial to both the university and the government agency. There are also private companies that can provide air quality and meteorological services. Or, if only minimum services are necessary, the District could officially request the ARB to provide the health advisory and episode prediction function so that the District could then distribute such information to their customers.

If the District develops its own service, it will need a source of meteorological data in addition to real-time collection of District and ARB air quality and meteorological data collected within its boundaries. One very attractive source of meteorological data is the Internet (once you have an Internet connection, vast amounts of real-time data are available from several universities at no charge). If a more reliable data source is required, there are many private vendors that can provide meteorological data tailored to the District's needs.

c. Criteria

Criteria for predicting PSI values are not specifically defined; however, districts have a responsibility to provide accurate health advisory and episode notification as detailed in the State Implementation Plan, Chapter 21, Air Pollution Emergency Plan. The responsibility is shared with the ARB and the precedent in the state is for large districts to maintain their own in-house capability for making and coordinating both daily air quality and agricultural burn decisions and notifications.

d. Recommendation

o The District should document the requirements of their customers and their responsibilities for health advisories and then select one of the options discussed in section b. When choosing a meteorologist or consulting service, the District should be very specific about the required knowledge of air pollution meteorology, statistics and regression analysis, and computer science to ensure products that will meet their needs.

X. INTERVIEWS WITH INDUSTRY REPRESENTATIVES

As part of the District program evaluation, ARB staff conducted interviews with six representatives of industries operating in the San Joaquin Valley Unified APCD. Our objectives were to provide the District with their impressions of District operational performance. We were particularly interested in getting feedback from the regulated community on topics such as quality, customer service, equity, consistency between regions, and whether constituents were afforded clear and meaningful opportunities to participate in the decision-making process. The interviews were open-ended, but structured by topic as presented below. The staff did its best to accurately summarize industry comments. Most interviews were conducted in January 1995 and reflect the interviewees' impressions of the District at that time. The District was provided with a summary of these comments during the February 1995 exit interview.

General Comments

Without exception, those interviewed support the District and want it to succeed. Industry realizes that the District has a job to do and that differences will arise because of the roles each must play. Interviewees were generally pleased to have a single basin wide set of rules and consistent permit and enforcement procedures. At the same time, they were concerned about insufficient access to and influence on the decision-making process. In part, they attributed this to the District's basin wide size and complexity. But, in part, this reflects a feeling that the District did not always listen to them in developing new rules or in establishing fee schedules, for example. Increased communications was a goal of all those interviewed.

Rule Development Process

Many concerns were expressed about the rule development process. Not all rules were being sent to the Citizen's Advisory Committee and insufficient time was allowed for review. Some industry representatives expressed concern that the staff did not listen to them in the rule development workshops in the interest of getting rules adopted quickly to meet federal deadlines for the State Implementation Plan. Better planning would have reduced the need to short-circuit public review, some said. Others felt that the District should take the lead in developing its own cost-effective rules rather than rely on leadership from the state or other districts.

Permit Services

Most representatives were very pleased with the reduction in permit backlogs and processing times achieved since District formation. One representative stated that he had no difficulty arranging pre-permit development meetings and discussions of BACT determinations, although another expressed concern that they weren't able to arrange such meetings. District staff understanding of specialized industry permit issues was also increasing as the District matured. Some said that there was too much variability among regions in implementing permit policy and more management direction was needed.

Compliance/Enforcement

The enforcement staff was praised for having a good attitude and providing compliance assistance materials on their inspections. Some interviewed felt there should be room within the District's enforcement program for fix-it tickets rather than Notices of Violation for minor violations or even more serious violations by "Mom and Pop" sources. Most of those interviewed felt they were treated equitably, although one expressed a belief that there was a lack of enforcement consistency between regions.

Toxics

Several individuals felt that toxics tracking required by the "Hot Spots Act" was too complex and that costs of the program were not justified. They were pleased that the District had just taken steps to reduce the cost and scope of the program.

Citizen's Advisory Committee

All interviewees liked the idea of citizen/stakeholder input. Many felt that the Citizen's Advisory Committee, as a vehicle for such input, was bypassed on important rule issues and was not living up to its potential. Some felt that there was also a role for a technical advisory committee to discuss more complex technical issues.

Findings

Industry representatives interviewed are generally pleased with the District's progress in consolidating as a single, basin wide District. They support the District, but want more communication between themselves and the District on issues affecting their respective industries. They would like to see changes which would give them more access to the planning and decision-making processes within the District.

Recommendations

The District should consider holding a special meeting with the Citizen's Advisory Committee to discuss the issues reviewed above. The District might also wish to discuss issues raised by other interests such as local governments and environmental groups. The goal of such meetings could be meeting stakeholder needs in the context of the District's role to protect air quality.