California Environmental Protection Agency

Air Resources Board

Draft Recommendations on Guidance for Penalty Assessments at Petroleum Refineries

Release Date: November 20, 2001

State of California
California Environmental Protection Agency
AIR RESOURCES BOARD

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Date of Release: November 20, 2001
Scheduled for Consideration: December 13, 2001

Location:

California Air Resources Board
Auditorium, Annex IV
9528 Telstar Avenue
El Monte, California 91731

Acknowledgements

This report was prepared with the assistance and support from a number of divisions and offices of the Air Resources Board. In addition, staff would like to acknowledge the assistance and cooperation that were received from the staffs of the Bay Area Air Quality Management District, the San Joaquin Valley Unified Air Pollution Control District, and the South Coast Air Quality Management District.

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Table of Contents

APPENDICES

I. INTRODUCTION AND SUMMARY

This chapter provides an introduction and a summary of the findings the staff made in its evaluation of the enforcement programs of selected local air quality management districts and air pollution control districts in California.

A. Introduction

Local air quality management districts and air pollution control districts (districts) have the primary responsibility to adopt rules and regulations to achieve and maintain state and federal ambient air quality standards in areas affected by emission sources under their jurisdiction. The districts have developed enforcement programs to assist in the implementation of, and ensure compliance with, the rules and regulations they adopt. The California Health and Safety Code establishes the penalties for air quality violations.

An effective enforcement program has many elements. One critical element is the dedication of sufficient staffing resources to carry out rigorous equipment inspections, verification of permits and operating conditions, and validation of equipment breakdowns.

The ultimate success of an enforcement program, however, depends on the fair and firm use of appropriate and meaningful penalties to address violations of local, state, or federal air quality rules, regulations or laws. The primary purpose of penalties is to deter future violations. The use of meaningful penalties provides a financial incentive for regulated industries to comply with air quality laws, and creates an environment where full compliance is the most cost-effective option available. Penalties must be commensurate with the nature, scope and seriousness of the violations.

B. Why Is the ARB Evaluating Districts' Enforcement Programs and Practices?

The Air Resources Board (ARB or Board) believes that enforcement programs in California's air districts should be reviewed periodically and that such reviews can result in program improvements. Also, the Board has received comments that districts may not be assessing meaningful penalties for violations of local air quality rules and regulations. Accordingly, the Board directed staff to evaluate district enforcement programs and make recommendations on district enforcement practices, including the levels of penalties being assessed.

ARB staff has begun to work with districts to evaluate enforcement activities at the community level across the state. As a first step in this process, we evaluated enforcement activities at petroleum refineries. Refineries were selected because they

are one of the largest and most complex sources of emissions in the state, and compared to other regulated or permitted stationary sources, there are relatively few facilities (only about 20). Petroleum refineries are also concentrated in the State's three largest air districts: the South Coast and Bay Area Air Quality Management Districts, and the San Joaquin Valley Unified Air Pollution Control District.

A petroleum refinery is a complex facility where crude oil is converted into petroleum products (primarily gasoline, diesel fuel and jet fuel) which are then transported through a system of pipelines and storage tanks for final distribution by delivery truck to fueling facilities throughout the State. In California, most crude oil is delivered either by ship from Alaska or foreign sources, or is delivered via pipeline from oil production fields within the State. The crude oil then undergoes many complex chemical and physical reactions, which include distillation, catalytic cracking, reforming and finishing. These refining processes have the potential to emit air contaminants, and are subject to various controls by district rules and regulations. This report focuses on the enforcement of those rules, which are listed in Appendix C.

While staff's current evaluation is limited to enforcement activities at petroleum refineries, the ARB staff will continue to work with the districts to strengthen enforcement activities across the state for many source types, with a focus on community level concerns. This proposal includes plans to evaluate enforcement activities at other stationary source categories, as time and resources allow, and to make recommendations for improvements where indicated. ARB's ultimate goal is to work with the districts to ensure statewide compliance with all applicable air quality requirements from all air pollution sources.

C. What Are the Current Districts' Enforcement Practices as They Relate to Petroleum Refineries?

Typically, districts assign one inspector to each refinery in the district. The inspector is responsible for all enforcement activities at the refinery. These activities generally include:

- Upset/breakdown verification and investigation;
- Investigation of citizen complaints;
- Routine inspections, and;
- The issuance of notices of violation (NOVs) for violations of local, state, and federal air quality laws.

This inspector normally visits the refinery at least once per week. While inspectors usually conduct their work during normal business hours, they are on-call evenings and weekends to respond to citizen complaints and investigate upset/breakdowns.

D. What Data Did Staff Utilize In Their Evaluation?

To evaluate the effectiveness of refinery enforcement practices, staff performed a two-part analysis. The first part of the analysis was to evaluate data on the penalties that had been assessed at refineries for violations of district rules and regulations. For this analysis, staff collected and reviewed refinery NOVs issued by the South Coast Air Quality Management District, the Bay Area Air Quality Management District, and the San Joaquin Valley Unified Air Pollution Control District, for the years 1997 – 2000. This NOV information was collected for a total of five refineries in the state. Two refineries each were in the South Coast and Bay Area Air Quality Management Districts, and one was located in the San Joaquin Valley Unified Air Pollution Control District.

In addition, ARB staff also collected information on mutual settlements reached between the districts and these refiners over the same period. This included information on the amount of civil penalties assessed and any contributions to supplemental environmental programs that may have occurred.

The second part of staff's analysis focused on the effectiveness of the districts' enforcement practices, as well as other indicators which show trends in refinery operating activities. For this analysis, ARB staff evaluated the current refinery enforcement activities in the South Coast Air Quality Management District, the Bay Area Air Quality Management District, and the San Joaquin Valley Unified Air Pollution Control District. ARB staff also evaluated reported upset/breakdowns at four refineries in the state during 1990 – 2000, to identify trends in how refiners are operating their facilities. Staff further reviewed citizen complaints from the same facilities during this time period. This 10 year period was selected to coincide with a time in which significant modifications and modernization to California refineries occurred. Two refineries each were in the South Coast and Bay Area Air Quality Management Districts. These are the same refineries used above to evaluate district NOV settlement practices. Due to constraints on ARB staff time and resources, a refinery in the San Joaquin Valley Unified Air Pollution Control District was not included in this analysis. However, in the near future, staff intends to perform a similar analysis for a refinery in that district, and will report the findings when they are complete.

While only about 40 percent of the refineries in the state that produce gasoline for consumption in California were selected for staff's evaluation, the refineries selected represent a mix of large and small refineries. These refineries also represent different levels of modernization. Staff believes that analysis of additional refineries would provide little additional insight into the districts' enforcement practices or trends in refinery operating activities, and would not significantly change the results of the staff's evaluation.

Also, ARB staff evaluated data from the United States Occupational Health and Safety Administration regarding worker illness and injury for petroleum refineries California and in the other 49 states. This provided staff insight into how California refineries are operated as compared to refineries nationwide, from a worker safety standpoint.

E. What Were the Results of Staff's Evaluation of the Districts' NOV Settlements?

In evaluating the data, staff categorized the NOV settlements by district into rule violation categories (such as visible emission, fugitive emission, public nuisance, etc). For each rule violation category, staff determined the minimum, maximum, and average penalty assessment on a per day, per violation basis. A summary of the staff's findings is presented in Table I-1. A more detailed listing of all of staff's findings is presented in Chapter VI.

As can be seen in Table I-1, within each district, there were significant ranges of penalties assessed for violations of the same district rules or regulations, with some violations being assessed a higher penalty than other violations of the same rule. There were also significant differences in the amounts of penalties collected for violations of similar rules from district to district.

Table I-1:
Minimum, Maximum and Average Penalty Assessments
For Selected NOV Settlements
(Dollars Per Day)

Violation Type		Bay Area	South Coast	San Joaquin Valley
Visible Emission	Max	$3000	$7000	$4500
	Min	$244	$500	$4500
	Ave	$1436	$3100	$4500
Excess Emission	Max	$3000	$3750	$5000
	Min	$11	$500	$750
	Ave	$342	$1236	$2912
Other Administrative	Max	$2500	$2500	$4500
	Min	$116	$250	$1080
	Ave	$853	$1125	$3456

The range of settlements summarized in Table I-1 is likely due to a number of factors specific to each individual case, including: the severity of the circumstances that resulted in each NOV, the amount of time that elapsed before corrective action, if any, was taken by the facility, and other statutory factors that must be considered, as well as other intangible factors such as the strength of the evidence of the violation. In addition, differences between the districts in penalty assessments are likely attributable to differences in the stringency of the particular district rules involved, district enforcement

practices and policies, and differences in the processes that each district uses in reaching mutual settlements.

In considering the results of staff's analysis, it is important to recognize that the penalty amounts shown in Table I-1 are not necessarily reflective of the total penalty assessments for individual NOVs, which cover one or more violations, or cases involving multiple NOVs. For example, in settling NOVs, districts and refiners often engage in the settlement of numerous NOVs within the same settlement agreement, or an individual NOV may contain multiple violations. Often, the number of 'days of violation' is unknown or assumed in this process.

Thus, the data presented above must also be considered in the larger context of the overall performance of each district's enforcement program. As an example, over an 18 month period (from July 1998 through December 2000), the South Coast Air Quality Management District settled about 1,300 NOVs involving violations of air quality rules from all stationary sources. Of these, nearly 700 were settled for not less than $10,000, and over 150 were settled for amounts greater than $100,000. Details of these settlements are provided in Chapter VI.

Nevertheless, even in light of the significant penalties assessed in many of the mutual settlements reached by the districts, based on the minimum per violation (i.e., per day) penalties set out in Table I-1, ARB staff believes the minimum penalties that have been assessed in settlements of petroleum refinery NOVs in all districts generally should be higher, and in some cases significantly higher.

Finally, it may be useful to compare the historical minimum penalties for refineries set out in Table I-1 to typical minimum penalties in other contexts. For example, a single violation of the heavy-duty diesel smoke standards carries a mandatory minimum penalty of $300 regardless of the financial ability of the violator (Health and Safety Code section 44011.6), typically a small business, including single-rig owner/operators. Failing to submit any information required by the Air Toxics "Hot Spots" Information and Assessment Act (Health and Safety Code sections 44300, et seq.), or violating any of the Act's other requirements, is punishable by a civil penalty of not less than five hundred dollars for each day that the information is not submitted or that the violation continues. Even where no minimum penalty is established, the courts have sustained high penalties where no excess emissions took place. For example, in the *Wilmshurst* case cited in Chapter VII, the court upheld the imposition of the maximum $5,000 per vehicle penalty on an auto dealership and on the dealer himself, in the absence of evidence of excess emissions (*People* v. *Wilmshurst* (1999) 68 Cal.App, 4th 1332, pp. 1340, 1348-1352.).

F. What Are the Existing Statutes Regarding Civil Penalties for Violations of Air Quality Laws?

In determining penalties for violations of air pollution rules and regulations, districts are guided by both statute and case law. The statutes are contained in the Health and Safety Code. The Health and Safety Code does not establish minimum civil penalties for violations of state and local air quality requirements, but does establish maximum penalties for these violations. A summary of the maximum penalty amounts that can be assessed per violation per day under the Health and Safety Code is presented in Table I-3.

Table I-3:
Maximum Civil Penalties for Violations
Of Air Quality Laws

Severity of Violation	Maximum Civil Penalty (Amount per Violation per Day)
Strict Liability, No Fault Basis	$10,000
Negligent, Causing Actual Injury	$25,000
Knowingly Emitting Air Contaminants	$40,000
Willfully and Intentionally Emitting Air Contaminants	$75,000
Willful and Intentional Emitting Air Contaminants Causing Great Injury or Death	$1,000,000

Under the Health and Safety Code, penalties of up to $10,000 per day can be imposed for violations of district rules, permits and orders on a no fault basis even where the violations do not involve a release of air contaminants. The maximum penalty specified under these circumstances ensures credible penalties for sources with significant financial resources; otherwise, strict liability penalties for these largest of sources would be meaningless. Higher maximum penalties of $25,000 are available for negligent

emissions of air contaminants or emissions that cause actual injury. Knowingly, willfully or intentionally emitting air contaminants carries even higher maximum penalties, and corporations that "willfully and intentionally or with reckless disregard for the risk of great bodily injury" emit air contaminants that cause great bodily injury or death are liable of civil penalties of up to $1,000,000 per day.

G. What Were the Results of Staff's Evaluation of the Districts' Enforcement Activities?

After reviewing the enforcement activities of the South Coast Air Quality Management District, the Bay Area Air Quality Management District, and the San Joaquin Valley Unified Air Pollution Control District, the staff has concluded that these districts' current enforcement programs provide an effective level of compliance inspections and records review to discover air quality violations at petroleum refineries. These districts have made commitments, in the form of assigning an inspector dedicated to each refinery, to provide the resources to carry out rigorous enforcement activities, including routine inspections, detailed inspections, and breakdown investigation. All three districts respond to all citizen complaints they receive regarding petroleum refineries, and both the Bay Area Air Quality Management District and the San Joaquin Valley Unified Air Pollution Control District have practices in place to inform complainants of the disposition of their complaints.

H. What Were Staff's Other Findings?

The analysis of the upset/breakdown data collected from the South Coast and Bay Area Air Quality Management Districts, as can be seen in both Figures I-1 and I-2, indicates that the number of reported breakdowns of major process units at refineries (crude distillation units, fluid catalytic crackers, alkylation plants, etc.) have generally remained stable or have decreased over the last ten years.

Figure I-1:
Total Reported Breakdowns of Major Process Units In the South Coast Air Quality Management District (1990-2000)

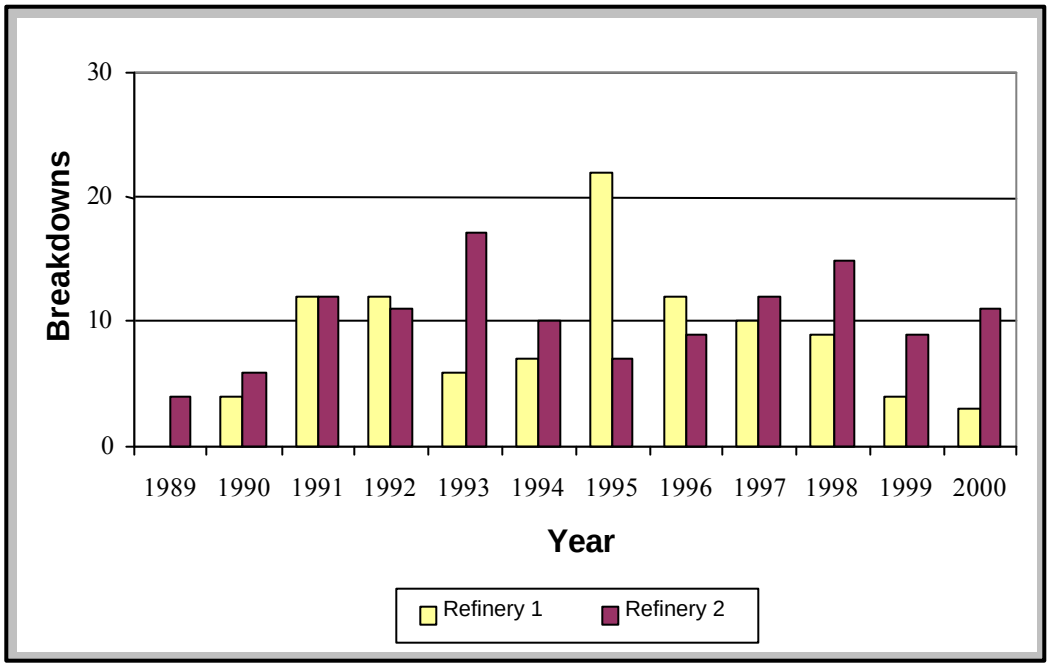
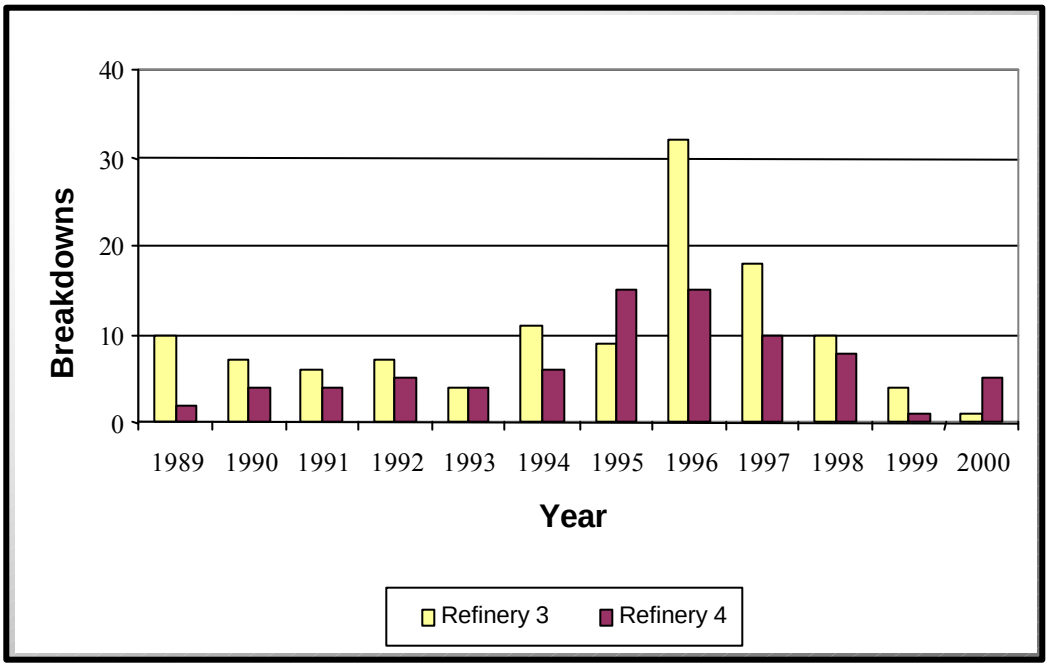


Figure I-2:
Total Reported Breakdowns of Major Process Units In the Bay Area Air Quality Management District (1989-2000)



This stable breakdown rate is notable because it occurred during a period when California refineries underwent significant modifications and modernizations to produce clean fuels in response to changes in state law. These modifications and modernizations made the industrial plant at these refineries more complex, but this does not appear to have increased the frequency of breakdowns at California refineries, nor did it increase the rate at which refinery workers are injured on the job. An evaluation of the data collected from the United States Occupational Health and Safety Administration regarding worker illness and injury for petroleum refineries clearly shows that nationwide, illness and injuries among refinery workers has declined over the last decade, and that California refineries consistently have a lower rate of worker injuries than refineries nationwide. Of course, these data indicate the rate of injuries only, not the severity of the injuries in particular cases.

These data correlate well with the data presented in Figures I-1 and I-2, which show downward trends in the number of breakdowns at California refineries. This is an indication that, as refineries have modernized, older equipment has been replaced with newer units with more safeguards built in, and that these newer units are less likely to break down and cause injury.

I. What Was the Process?

In developing this evaluation of district enforcement practices at petroleum refineries, the staff worked closely with interested parties and community groups to solicit their input. ARB staff met individually with the staffs of the districts to obtain data from districts' files and records. ARB staff also met with district staff to discuss information and findings on individual district programs.

In addition, ARB staff held two public workshops this year in the following locations: Carson in August and Martinez in September. The purpose of these workshops was to begin the discussion on draft recommendations on guidance for penalty assessments at petroleum refineries. Individuals from the local community, industry representatives and district staff attended these workshops.

II. RECOMMENDATIONS

This chapter discusses the staff's recommendations for districts to consider, presented as policy and practice guidance regarding minimum penalties. This guidance is intended to achieve uniform and credible penalty assessments at petroleum refineries statewide.

A. Staff Recommendation

The use of sanctions, including substantial civil penalties and where warranted criminal penalties, to achieve the broad public policy directive to achieve and maintain health-based air quality standards is a critical element of an effective enforcement program. The California Health and Safety Code (HSC) establishes maximum civil penalties for violations of state and local air quality requirements. It does not establish minimum civil penalties. In assessing civil penalties for air quality violations, local air districts must first determine the statutory maximum penalty and then apply the relevant factors specified in HSC section 42403. The penalties must be set at levels that will serve as a punishment in light of the violator's conduct and financial ability. The laws involved in these violations protect the public health and welfare, and the violations cited at petroleum refineries are committed by entities with considerable financial resources. Case law places the burden on the violator to justify a penalty below the maximum. Even though the law does not establish statutory minimum penalties for air quality violations, neither law nor practice supports imposing inconsequential penalties.

The staff's review of the enforcement activities of the South Coast Air Quality Management District, the Bay Area Air Quality Management District and the San Joaquin Valley Unified Air Pollution Control District indicates that these districts' current enforcement programs provide an effective level of enforcement to discover air quality violations at refineries in terms of inspection frequency and response to complaints. Nevertheless, the minimum penalties collected for some of the violations revealed in these enforcement activities are not consistent with the overall quality of these districts' enforcement programs. Imposing penalties in the hundreds of dollars for violations of laws designed to protect public health and safety and the environment is inadequate, especially against violators with such ample financial resources. The staff concludes that whatever the totality of circumstances is for a particular case, higher minimum penalties are warranted where the violator is a large source with significant financial resources.

The California Legislature recently augmented the air pollution penalties by making certain offenses punishable as a felony (Senate Bill 1865, Chapter 805 of the Statutes of 2000). SB 1865 also raised the maximum civil and criminal monetary penalties available for air pollution violations. For example, civil penalties for negligent violations were increased from $15,000 per day to $25,000 per day; penalties for knowing violations were increased from $25,000 per day to $40,000 per day and penalties for intentional violations were increased from $50,000 per day to $75,000 per day (HSC

sections 42402.1, 42402.2 and 42402.3). Even higher maximum penalties are established for corporations that intentionally violate the air quality laws (HSC section 42402.3.). Similar increases in criminal penalties were also enacted (HSC sections 42400, et seq.).

Staff believes assessing higher penalties will encourage the installation of new technology at refineries, such as leakless valves, which would result in better compliance with district rules and regulations, and greater emission benefits. However, these penalties are not intended to set an upper level or range for air quality violations at refineries or any other violations, as maximum penalties are established by state law. Nor should these penalties be the starting place in the determination of an appropriate penalty in any case. The burden is on the violator to justify a penalty below the maximum. Penalties should increase for repeat violations, especially for violations of the same type that reoccur at the same unit. Of course, after a point repeat violations indicate negligence, or intent, justifying penalties higher than the $10,000 per day strict liability maximum. The staff also believes that there are certain short-term violations that warrant assessment of at or near the maximum statutory penalties. This could result in penalties in the hundreds of thousands of dollars. Such violations include, but are not limited to, those that involve large releases that expose surrounding communities to emissions or result in the creation of dangerous or emergency conditions.

This analysis could be equally applicable to many industrial sources other than petroleum refiners, and as part of the ARB staff's proposed policies and actions to ensure effective and equitable enforcement, staff will look into this issue and make necessary recommendations in the future.

III. DISTRICTS' REFINERY ENFORCEMENT PROGRAMS

This chapter provides information on refinery enforcement programs in the South Coast Air Quality Management District, the Bay Area Air Quality Management District, and the San Joaquin Valley Unified Air Pollution Control District.

A. General District Enforcement Practices

Local air quality management districts and air pollution control districts have the primary responsibility for enforcing air quality standards at all sources of air pollution within their jurisdiction other than motor vehicles. The HSC requires the districts to adopt and enforce rules and regulations to achieve and maintain state and federal ambient air quality standards in areas affected by emission sources under their jurisdiction, and enforce applicable provisions of state and federal law. These legal authorities are discussed further in Chapter VII.

Each district in the state has an enforcement program to assist in implementing district adopted rules and regulations. These programs are staffed by district personnel who inspect regulated sources within the district to ensure compliance with district rules, regulations and permits, and respond to complaints from citizens regarding facilities within the district. While enforcement programs may vary from district to district, they share some common characteristics.

District enforcement programs apply generally to all regulated stationary sources within their jurisdiction, but the focus here is on enforcement efforts at oil refineries. ARB staff plan to continue to work with districts to strengthen enforcement activities across the State with a focus on community level impacts. This proposal includes plans to evaluate enforcement activities at other stationary source categories, and as time and resources allow, make appropriate recommendations for improvement of these activities. The ultimate goal is to work with districts to ensure statewide compliance with all applicable air quality requirements from all air pollution sources.

Because the focus of this evaluation is on refineries, ARB staff have described the refinery enforcement programs within the districts where the majority of oil refining in California occurs and where the state's motor vehicle fuels are produced. These districts are the South Coast Air Quality Management District (SCAQMD), the Bay Area Air Quality Management District (BAAQMD), and the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD).

In evaluating information regarding the enforcement programs for these districts, several similar key components became apparent. These include the use of routine inspections and audits of refinery activities to ensure compliance with district rules and regulations, the issuance of NOVs for violations of local, state, and federal air quality laws, oversight responsibilities for source testing, and the response to citizen complaints

regarding emissions from stationary sources within the district. A more detailed description of the enforcement programs is provided below.

B. South Coast AQMD Enforcement Practices

The SCAQMD's enforcement practices at oil refineries consist of three main components. These are regular inspections, upset/breakdown verification and investigation, and the investigation of complaints. Enforcement staff are also responsible for witnessing source tests, conducting annual audits of self-reporting requirements applicable to refineries, and verifying the accuracy of installed CEMs and ground level monitors (GLMs). In addition, the SCAQMD has developed procedures for settling NOVs with violators. The SCAQMD has one inspector assigned to each refinery. On average a district inspector will visit each refinery about three times a week. The number of inspections per refinery varies from year to year, depending on the types and the complexity of inspections performed. In 2000 there were 1027 inspections at petroleum refineries in the district, which is about 150 per refinery.

1. Inspections

The SCAQMD conducts three types of regular inspections at refineries. These are RECLAIM, unit, and "blue sky" inspections. These types of inspections are described below.

RECLAIM (Regional Clean Air Incentives Market) inspections and audits are conducted at refineries to verify compliance with the SCAQMD's RECLAIM (SCAQMD Regulation XX) program. The RECLAIM program is a market based incentive program designed to allow facilities flexibility in achieving reductions of emissions of oxides of nitrogen (NOx) and oxides of sulfur (SOx) using methods which include, but are not limited to: add-on controls, equipment modifications, reformulated products, operational changes, shutdowns, and the purchase of excess emission reductions. Under the RECLAIM program, monitoring systems and calibration gas specifications are inspected and reviewed on an ongoing basis.

In addition, a RECLAIM audit is performed once per year at each refinery. This compliance audit takes about two months to complete, and includes an inspection of as much of the equipment at the refinery as possible. District inspectors review all facility permits to ensure that equipment is being operated within the permit parameters, and verify the accuracy of installed continuous emission monitors (CEMs). Violations of both the RECLAIM program's requirements and other district rules discovered are cited during these inspections.

Unit inspections involve selecting a specific unit or operation and inspecting it. In these inspections, the unit is checked for compliance with permitted operations and emissions, as well as for violations of district rules and regulations. Violations discovered in these inspections result in the issuance of NOVs.

'Blue-Sky' inspections involve several district inspectors visiting one refinery within the district for approximately one week and focusing on compliance with a particular rule (for instance, SCAQMD Rule 1173 regarding fugitive emissions). During these inspections, district inspectors will investigate all possible sources at the refinery that could be involved in a violation of the rule under consideration. The blue-sky inspections are done less frequently than the other two types of inspections. In general, district inspectors conduct approximately 6 to 10 blue-sky inspections each year. Violations discovered in these inspections result in the issuance of NOVs

Appendix B provides information on the number of NOVs issued from 1990-2000 to two refineries operating in the SCAQMD. A description of the way the data was collected and analyzed is contained in Appendix B.

2. Upset/Breakdown Verification

In addition to regular inspections, the district also responds to unusual refinery operating conditions that are reported as upset/breakdowns, as required under SCAQMD Rules 430 and 2004(i). An upset/breakdown occurs when the refinery experiences the breakdown of a piece of equipment that is either permitted or regulated by the district. A breakdown may or may not include the release of excess emissions. However, the district's breakdown rules do not provide relief for violations of the following district rules or permit conditions which implement these rules: Rules 218 and 402, and Regulations I, IX, X, XIV, XVII, XX, XXX, and XXXI.

To qualify for temporary relief under district breakdown rules, a refinery must report an upset/breakdown to the district within one hour of the incident or discovery and meet all other criteria specified in the rules. After receiving notification, a district inspector will be sent to investigate and verify the breakdown. If the breakdown results in a violation of permit conditions or District rules, and it is not reported within one hour, a NOV is typically issued.

Upon investigation, the breakdown must be shown to be an actual equipment failure. An actual equipment failure means that the breakdown or excess emissions were not the result of any of the following:

- Operator error;
- Inadequate equipment maintenance, or;
- Operation of equipment outside of operational or permitted parameters.

If any of these conditions or other criteria specified in the district's breakdown rules is not satisfied, the incident is not considered an upset/breakdown, and if it results in a violation of permit conditions or district rules, a NOV is typically issued. Most reported upset/breakdowns do not result in the issuance of a NOV. However, the refiner is required to complete repairs to the equipment involved in the upset/breakdown within 24 hours. If the circumstances of the breakdown necessitate the equipment being down for

longer than 24 hours, the refinery can petition for a variance. A public hearing is held before a variance can be granted. However, emergency variances may be given for up to 45 days without a hearing.

Appendix B lists the upset/breakdown incidents that occurred at two SCAQMD refineries over the years 1990-2000. A description of the way the data was collected and analyzed is contained in Appendix B.

3. Citizen Complaints

The third compliance activity conducted by the SCAQMD is the investigation of citizen complaints. A large majority of citizen complaints involve odor or visible emissions. The district responds to these complaints by sending an inspector to investigate a single complaint if it is received during working hours, or if three complaints of a similar nature are received outside working hours. Staffing resources dictate requiring three complaints of a similar nature before an inspector will be dispatched during non-business hours. A priority list is also maintained for immediate response to any compliant. This list is established based on past history of violations or potential for significant public health impacts in the community. Investigations of citizen complaints result in one of three outcomes:

- The inspector may be able to verify the complaint and identify the source;
- The inspector may verify the complaint, but be unable to identify the source of the complaint, or;
- The inspector may be unable to verify the complaint.

For each investigation a report is written and filed. If the inspector can verify a complaint and identify the source, and it is found that the cause is not the result of a "qualified" reported upset/breakdown, a NOV is typically issued if a permit condition or district rule has been violated.

One exception to this is an odor complaint. Odor complaints may cause public nuisances. As a matter of policy, the SCAQMD will issue a NOV for causing a public nuisance under district Rule 402 based on six to ten individual verified complaints about the same source. However, as a practical matter, the district will write a NOV if it receives six individual verified complaints. If a single odor complaint is received and verified, the inspector will often return to the location of the original complaint and inquire to determine if there are additional individuals who wish to file a complaint.

Appendix B contains a history of complaints received at two SCAQMD refineries for the years 1990-2000. A description of how the data were collected and analyzed is contained in Appendix B.

4. Settlement of Violations

Upon issuing a NOV, district enforcement staff prepares a written report and forwards the NOV and report to the district's legal office for review. The district's legal office reviews the material and decides if further action is warranted. If it is determined that further action is not warranted, the NOV may be dismissed. If it is determined that further action is warranted, the legal office will evaluate the case for settlement purposes and contact the violator to arrange an office conference to discuss resolution of the matter.

In most cases, the district and the violator reach a mutual settlement, in which the violator pays a civil penalty. Part of the mutual settlement may also include contributions, both monetary and in-kind, to supplemental environmental projects agreed upon by the facility and the district. In mutual settlements, several NOVs may be settled at one time. If settlement is not reached, then an action to recover civil penalties for the violations may be filed in court or the district may petition the district hearing board for an order of abatement.

C. Bay Area AQMD Enforcement Practices

Like the SCAQMD, the BAAQMD's enforcement practices for oil refineries also consist of three main types of investigations. These include routine inspections, upset/breakdown reporting, and the investigation of complaints. Enforcement staff are also responsible for witnessing source tests, conducting annual audits of self-reporting requirements applicable to refineries, and verifying the accuracy of installed CEMs and ground level monitors (GLMs). The BAAQMD has an inspector assigned to each refinery within the district. On average the inspector will visit the refinery each day, but the number of inspections varies from year to year. The average number of inspections per year per refinery is about 120.

1. Inspections

The BAAQMD staff conducts routine inspections at refineries within the district continuously throughout the year. These inspections are performed to verify that the operations at the refinery are within permitted levels, and that no violations of the districts' regulations are occurring. Over a 12-month period, the district will inspect most major process units and equipment at each refinery at least once. Some equipment at the refinery, such as storage tanks, may take longer to inspect because of the time required to inspect the equipment and limitations on district resources. The inspectors also review equipment permits to ensure that equipment is being operated within the parameters of the permit. When violations of either permit conditions or district regulations are found during any inspection, the district typically issues a NOV to the refinery.

Appendix B provides information on the number of NOVs issued from 1990-2000 to two refineries operating in the BAAQMD. A description of the way the data was collected and analyzed is contained in Appendix B.

2. Upset/Breakdown Verification

In addition to inspections, the district also responds to unusual refinery operating conditions reported as upset/breakdowns, as required by the BAAQMD Regulation 1. An upset/breakdown occurs when the refinery experiences the breakdown of a piece of equipment that is either permitted or regulated by the district. A breakdown may or may not include the release of excess emissions. Under the district's upset/breakdown rule, a refinery has 24 hours to report an upset/breakdown to the district, at which time a district inspector will be sent to investigate and verify the breakdown. If the breakdown is not reported within 24 hours, a NOV is typically issued.

Upon investigation, the breakdown must be shown to be an actual equipment failure. An actual equipment failure means that the breakdown or excess emissions were not the result of any of the following:

- Operator errors;
- Inadequate equipment maintenance, or;
- Operation of equipment outside of operational or permitted parameters.

If any of these conditions is satisfied, the incident is not considered an upset/breakdown, and a NOV may be issued. Most reported upset/breakdowns do not result in the issuance of a NOV. However, the refiner is required to complete repairs to the equipment involved in the upset/breakdown within 24 hours. If the circumstances of the breakdown necessitate the equipment being down for longer than 24 hours, the refinery can petition for a variance. The district holds a public hearing before granting variances. However an emergency variance can be granted for up to 45 days without a hearing.

Appendix B contains a history of upset/breakdown incidents at two BAAQMD refineries over the years 1990-2000. A description of how the data was collected and analyzed is contained in Appendix B.

3. Citizen Complaints

The third compliance program is the investigation of citizen complaints. In general, a district inspector will investigate those complaints in the area around a refinery if five complaints of the same nature relating to the same event are received within a day. This investigation will result in one of three outcomes:

- The inspector may be able to verify the complaint and identify the source;
- The inspector may verify the complaint, but be unable to identify the source of the complaint, or;
- The inspector may be unable to verify the complaint.

In each case, a report will be written and filed, and notification of the disposition of the complaint will be sent to the complainant at the conclusion of the investigation. If the inspector can verify a complaint and identify the source, and it is found that the cause is not the result of a reported upset/breakdown, a NOV may be issued if a permit condition or district regulation has been violated.

One exception to this is an odor complaint. Odor complaints may cause public nuisances. As a matter of policy, the BAAQMD will issue a NOV for causing a public nuisance under district Regulation 1-301 based on three individual complaints about the same source. If a single odor complaint is received and verified, the inspector will often return to the location of the original complaint and inquire as to if there are additional individuals who wish to file a complaint.

Appendix B contains a history of complaints received at two BAAQMD refineries for the years 1990-2000, as well as the outcome of the complaints (verifiable or non-verifiable) and whether NOVs were issued. A description of how the data were collected and analyzed is contained in Appendix B.

4. Settlements of Violation

Upon issuing a NOV, district enforcement staff prepares a written report and forwards the NOV and report to the district's Legal Division to initiate legal action. Upon receipt of the NOV and report, the Legal Division reviews the case to determine if further action is warranted. If it is determined that further action is not warranted the NOV may be dismissed. If additional information is needed before further action can be taken, the case may be referred back to the enforcement staff to obtain additional information. If the Legal Division determines that further action is warranted, the case will be evaluated to determine the appropriate remedy. This may include resolution through settlement with the alleged violator, the filing of an accusation against the alleged violator before the district's Hearing Board, or the filing of a complaint in civil court to collect proposed civil penalties or obtain injunctive relief.

Prior to 1997, most refinery NOV cases involved a mutual settlement, whereby the violator, in exchange for settlement of the NOV, paid a civil penalty and/or contributed to a supplemental environmental project. Since 1997, the district has embarked upon a program whereby refinery NOVs are handled by an attorney for settlement or for the filing of a civil penalty action.

D. San Joaquin Valley Unified APCD Enforcement Practices

Like the SCAQMD and the BAAQMD, the SJVUAPCD's enforcement practices for oil refineries consist of three main types of investigations. These include routine inspections, upset/breakdown reporting, and the investigation of complaints. SJVUAPCD enforcement staff are also responsible for witnessing source tests at refineries. The SJVUAPCD has one or more inspectors assigned to each refinery within the district (during and after normal work hours). The largest facility receives approximately 40 visits per year while smaller facilities are visited less often. The number of inspections may vary from year to year depending upon circumstances.

1. Inspections

The SJVUAPCD staff conduct routine inspections at refineries within the district throughout the year. These inspections are performed to verify that the operations at the refinery are within permitted levels, and that no violations of the districts' regulations are occurring. Over a 12-month period the district will inspect major process units and equipment at each refinery at least once. Some equipment, such as storage tanks, may require considerably more time to inspect because of special safety precautions and/or the need to utilize specialized equipment. Inspectors also review permits, any associated permit conditions, and any other records required by the district to ensure equipment is operated and maintained within specified parameters. When violations of permit conditions or district regulations are found during any inspection, the district typically issues a NOV to the refinery.

2. Upset/Breakdown Verification

In addition to inspections, the district also responds to unusual refinery operating conditions reported as upset/breakdowns, as required by SJVUAPCD Rule 1100. A breakdown occurs when the refinery experiences an unforeseen failure of equipment that is either permitted or regulated by the district. A breakdown may or may not include the release of excess emissions. Under the district's breakdown rule, a refinery has one hour following the discovery of the breakdown to report the incident to the district. At that time a district inspector will investigate and verify the condition. If the breakdown is not reported as required, it typically is treated as a violation with the issuance of a NOV.

Upon investigation, the breakdown must be shown to be an actual equipment failure. An actual equipment failure means that the breakdown or excess emissions were not the result of any of the following:

- Operator errors;
- Inadequate equipment maintenance, or;
- Operation of equipment outside of operational or permitted parameters.

If any of these conditions occur, the incident is not considered a breakdown and a NOV is typically issued. Most reported breakdowns do not result in the issuance of a NOV. However, the refiner is required to complete repairs of the equipment involved in the upset/breakdown within 24 hours (96 hours for continuous emissions monitoring equipment). If the circumstances of the breakdown necessitate the equipment being down for a longer period, the facility may petition for a variance. The district hearing board usually conducts public hearings before granting variances, but state law and district rules allow for the granting emergency variances up to 30 days without a public hearing.

3. Citizen Complaints

The third compliance program is the investigation of citizen complaints. During regular business hours, district inspectors investigate all complaints in the area around refineries. Complaints related to either excess emissions or violations of permit conditions are always investigated immediately, regardless of the time of the day. Weekend or after-hours odor complaints usually require the receipt of three separate complaints relating to the same event before a field investigation will ensue. Where after-hours odor complaints do not exceed the three-complaint threshold, the district inspector assigned to that facility will address the matter the next business day. Generally, investigations will result in one of three outcomes:

- The inspector may be able to verify the complaint and identify the source;
- The inspector may verify the complaint, but be unable to identify the source of the complaint, or;
- The inspector may be unable to verify the complaint.

All complaints received by the district will result in the inspector telephoning the complainant for information. For each complaint received, a report is prepared and filed, and the reporting party notified of the disposition. If the inspector can verify a complaint and identify the source, and it is found that the cause is not the result of a reported breakdown, a NOV is typically issued if a permit condition or district regulation has been violated.

Odor complaints are handled differently. Odor complaints are considered public nuisances. As a matter of district policy, if five complaints of the same nature relating to the same event are received and confirmed within one day, it is deemed a public nuisance condition under district Rule 4102 and may result in the issuance of a NOV.

4. Settlement of Violations

Upon issuing a NOV, district enforcement staff prepare a written report and forward the NOV and report to a supervisor. Once the facility returns to compliance, the completed report and associated evidence are submitted to the district's mutual settlement group for disposition.

In most cases, the district and the facility reach a mutual settlement, whereby the violator pays a civil penalty to the district. Part of the mutual settlement may also include contributions, both monetary and in-kind, to supplemental environmental projects agreed upon by both the facility and the district. In mutual settlements, several NOVs may be settled at one time. If settlement is not reached, then an action to recover civil penalties for the violations may be filed in court.

IV. DESCRIPTION OF DISTRICT REFINERY RULES AND REGULATIONS

This chapter provides a description of significant district rules and regulations that apply to petroleum refineries. An additional listing of all BAAQMD, SCAQMD, SJVUAPCD rules and regulations that apply to petroleum refineries is presented in Appendix C.

A. Overview

In regulating emissions from refineries, the three districts have adopted rules that prohibit or regulate particular refinery activities or processes, or limit emissions of particular pollutants from any source at refineries. These rules are either specific in nature (such as controlling NOx emissions from boilers) or general (such prohibitions of visible emissions or emissions of particular criteria pollutants over a certain length of time). The SCAQMD has about 65 rules and regulations applicable to refineries, the BAAQMD has nearly 50, and SJVAPCD has over 40. Many of these rules and regulations have numerous subparts, which greatly increases the total number of rules and regulations applicable to refineries. A complete listing of these districts' rules and regulations applicable at refineries is presented in Appendix C.

B. Description of Selected District Refinery Rules and Regulations

The following is a brief description of the some of the more significant district regulations enforced at refineries.

Visible Emissions:
SCAQMD: Rule 401 – Visible Emissions
BAAQMD: Regulation 6-301 - Ringelmann No. 1 Limitation
SJVUAPCD: Rule 4101 – Visible Emissions
These regulations prohibit the release of visible emissions that exceed a period or periods of time aggregating more than three minutes in any hour.

Fugitive Emissions:
SCAQMD: Rule 1173 - Fugitive Emissions of Volatile Organic Compounds
BAAQMD: Regulation 8-18 - Equipment Leaks
SJVUAPCD: Rule 4451 – Valves, Pressure Relief Valves, Flanges, Threaded Connections and Process Drains at Petroleum Refineries and Chemical Plants
Rule 4452 – Pump and Compressor Seals at Petroleum Refineries and Chemical Plants
These regulations prohibit the use of any equipment that leaks certain organic compounds at a rate or frequency in excess of the leak rates or frequency rates specified for each type of equipment (such as valves, fittings, pumps, compressors, pressure relief devices, etc.). These regulations also specify the frequency with which the operator must conduct inspections and maintenance operations on the equipment, as well as recordkeeping, and other administrative requirements.

Waste Water:
SCAQMD: Rule 1176 - Sumps and Wastewater Separators
BAAQMD: Regulation 8-8 - Wastewater (Oil-Water) Separators
SJVUAPCD: Rule 4625 – Wastewater Separators
These regulations prohibit the operation of wastewater separators and associated wastewater systems without specified covers and seals. These regulations also prohibit the operation of specified systems or components that emit more than a specified level of volatile organic compounds. The SCAQMD regulation specifies an inspection schedule for the operator. All three districts' regulations include recordkeeping requirements.

Nuisance:
SCAQMD: Rule 402 - Nuisance
BAAQMD: Regulation 1-301 - Public Nuisance
SJVUAPCD: Rule 4102 - Nuisance
These regulations prohibit the discharge air contaminants in such quantities, which cause a nuisance to a considerable number of persons.

Storage of Organic Liquids:
SCAQMD: Rule 463 - Storage of Organic Liquids
BAAQMD: Regulation 8-5 – Storage of Organic Liquids
SJVUAPCD: Rule 4623 – Storage of Organic Liquids
These regulations prohibit the storage of volatile organic liquids with vapor pressures exceeding certain threshold levels unless the storage tanks containing these volatile organic liquids have certain emission control devices installed. These emission control devices may include floating roofs, fixed roofs, and/or vapor recovery systems. These regulations also have requirements for regular inspection programs as well as particular recordkeeping requirements.

Refinery Boilers and Heaters:
SCAQMD: Rule 1109 - Emissions of Oxides of Nitrogen from Boilers and Process Heaters in Petroleum Refineries
BAAQMD: Regulation 9-10 – Nitrogen Oxide and Carbon Monoxide from Boilers, Steam Generators and Process Heaters in Petroleum Refineries
SJVUAPCD: Rule 4305 – Boilers, Steam Generators and Process Heaters
These regulations limit the combustion emissions from boilers, steam generators, and/or process heaters at petroleum refineries. In general, facility emissions are limited by pounds of NOx per million BTU of input heat. These regulations apply only to gaseous and liquid fired units, and exemptions are provided for low heat input devices. These regulations also have requirements for regular compliance testing, as well as particular recordkeeping requirements.

Continuous Emission Monitors:

SCAQMD: *Rule 218 - Continuous Emission Monitoring*
Rule 2011 - Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Sulfur (SOx) Emissions
Rule 2012 - Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Nitrogen (NOx) Emissions

BAAQMD: *Regulation 1-520 - Continuous Emission Monitoring*
Regulation 1-522 - Continuous Emission Monitoring and Recordkeeping Procedures

SJVUAPCD: *Rule 1080 - Stack Monitoring*

These regulations establish monitoring, reporting and recordkeeping requirements for CEMs for certain pollutants on particular pieces of equipment.

C. Comparison of the Stringency of Selected District Refinery Rules and Regulations

While the SCAQMD, BAAQMD and SJVUAPCD all have rules and regulations specific to refineries, the stringency of these rules often varies by district. Because of this, what constitutes a violation of a rule or regulation in one district may not be a violation of a similar rule in another district. Table IV-1 provides a comparison summary of the stringency between some of the refinery rules and regulations discussed above.

Table IV-1
Comparison of the Stringency of Selected Refinery Rules in the BAAQMD, SCAQMD and the SJVUAPCD

Rule Type	BAAQMD	SJVUAPCD	SCAQMD
Storage of Organic Liquids	• Equally Stringent	• Equally Stringent	• Equally Stringent
Fugitive Emissions	• Most Stringent	• Least Stringent	• Less Stringent than BAAQMD
Wastewater Separators	• Less Stringent than SCAQMD • Equally Stringent to SJVUAPCD	• Less Stringent than SCAQMD • Equally Stringent to BAAQMD	• Most Stringent
Refinery Boilers and Heaters	• Less Stringent than SCAQMD • Equally Stringent to SJVUAPCD	• Less Stringent than SCAQMD Equally Stringent to BAAQMD	• Most Stringent

V. DATA COLLECTION AND ANALYSIS

This chapter discusses staff's data collection efforts and the methodology used to evaluate the data, including the limitations the data presented.

A. Data Collection

In order to develop draft recommendations on guidance for penalty assessments at petroleum refineries, ARB staff collected and reviewed certain refinery NOV settlements from the three districts for the years 1997 – 2000. Five refineries in the State were selected for evaluation. Two refineries each were located in the South Coast and Bay Area Air Quality Management Districts, and one was located in the San Joaquin Valley Unified Air Pollution Control District. The refineries selected represent both large and small facilities with different levels of modernization. Additional refineries were not selected for evaluation due to limited ARB staff resources. However, it is staff's expectation that analysis of additional refineries would provide little additional insight and would not significantly change the results of the staff's evaluation.

As stated earlier in this report, in addition to this NOV settlement information, ARB staff also collected information on NOVs issued, breakdowns reported under the districts' rules, and complaints received over the general period 1990 – 2000 within the SCAQMD and the BAAQMD. Information on the data collected and the methodology used in its analysis is presented in detail in Appendix B. Due to limited ARB staff resources, similar information was not collected in time from the SJVUAPCD for inclusion in Appendix B.

ARB staff worked very closely with district staff to collect all of this information. District staff also helped compile and evaluate the information collected, and provided critical review of staff's findings. District staffs' were also very helpful in providing follow up information and answering any questions. Staff of the ARB sincerely appreciate the resources and efforts provided by the districts in the development of this guidance document.

B. Evaluation of NOV Settlement Data

In this section, the methodology used in analyzing the NOV settlement data collected, and the limitations encountered with the data are discussed.

1. Methodology

In order to evaluate the NOV settlement data collected, staff first separated the data into to two categories: emission-related NOVs and administrative NOVs. Emission-related NOVs are those NOVs determined when an emission of a regulated pollutant occurred. These types of NOVs would include leaking valves (fugitive emissions), public

nuisances, visible emission exceedances, etc. Administrative NOVs are those NOVs that were issued for any other reason. These would include a failure to report a breakdown within a period of time specified in district rules, failure to calibrate instruments according to permit conditions or district rules, etc. Staff then correlated the NOV settlements for these two classifications of NOVs (emission-related or administrative) by district and by type of rule violation (fugitive emission, CEMs, public nuisance, etc.) on a per day basis.

Segregating the NOV settlement data in this manner provided for a comparison of similar types of rule violations among the districts and an assessment of the relative amounts of settlements being collected for a particular type of rule violation. To simplify this assessment, the minimum, maximum, and average settlement amounts collected for eight types of rule violations were calculated on a per day basis. These include:

- Visible Emission
- Fugitive Emission
- Public Nuisance
- Wastewater
- Organic Liquid Storage
- Excess Emissions
- Other Administrative
- CEMs

The results of this analysis are summarized in Tables 1 and 2 of the next chapter. Individual information on each NOV evaluated is presented in Appendix A.

2. Limitations

As staff began evaluating the data, several limitations to analyzing the data in the manner described above became apparent. This is due two reasons: the manner in which the districts issue some NOVs, and the manner in which districts settle some NOVs.

In issuing NOVs, the districts sometimes issue a single NOV for multiple violations of the same district rule or permit, or may cite violations of multiple district rules or permits on the same NOV. The difficulty in using this information in staff's analysis is that when the NOV is resolved under mutual settlement, it is not always possible to ascertain how much of the penalty collected applies to each discrete violation contained within the NOV, e.g., how much of a given settlement applies to violation of rule A, how much to rule B, etc. This means that for those settlements where multiple rule violations (either for violations of the same or different rules) were contained on the same NOV, and the district's settlement did not distinguish penalty amounts between each of the violations, staff were unable to include these NOV settlements in the analysis.

In addition, districts sometimes settled multiple NOVs within the same mutual settlement. In these cases, it was not always possible to determine how much of a combined mutual settlement was allocated for each NOV issued. In these cases staff were unable to determine a discrete penalty amount for each NOV settled, and did not include that data in the analysis. While staff made every effort to determine a settlement amount per violation (i.e., per day) from each of these mutual settlements, it

is important to note that the mutual settlement process is complex. NOVs sometimes contain multiple violations, and the number of 'days of violation' is often unknown or assumed. This creates difficulty in analyzing mutual settlements on a per violation, per day basis because the specifics of the settlements are not always known, and the NOV settlement process is synergistic. The strength of evidence associated with some NOVs supplements the weakness of others, whereby reasonable and often substantial settlements are reached for all of the NOVs.

In evaluating some of the mutual settlements from the three districts, contributions to supplemental environmental programs (SEPs) played an important role in the settlements that was difficult to attribute to individual NOVs. Several mutual settlements evaluated contained contributions to SEPs. These SEP contributions included:

- Cash payments to the district for use in environmental programs to reduce emissions from the refinery and/or from the use of refinery products;
- Installation of new emission control equipment at the refinery to reduce or eliminate the likelihood of future violations of a similar nature;
- Relinquishment of banked emission reduction credits (ERCs), and;
- Land purchases around the refinery to provide a buffer to the community.

In reaching a mutual settlement that includes an SEP component, the civil penalty of the NOV is often reduced by the amount of the SEP contribution. This creates the appearance that some NOVs were settled for lower amounts than NOVs settled without SEP components, when in reality, the total value of the settlements that include SEPs may exceed the value of settlements comprised of civil penalties only. Where possible, staff included in their analysis the civil penalty portion of NOV settlements that include SEP components, and noted any SEP contributions along with the NOV settlement amounts in Appendix A.

While not specifically a limitation in the analysis of the data, it is important to recognize that inherent differences between districts create challenges in evaluating the data. For instance, differences in the stringency of similar rules between districts can lead to different penalty amounts through differences in what constitutes a violation and the severity of a violation. For instance, in the BAAQMD, a valve or flange is considered leaking (fugitive emissions) when a concentration of 500 parts per million (ppm) volatile organic compounds (VOCs) is measured during an inspection. In the SCAQMD, the same valve would not be considered leaking until a concentration of 1,000 ppm VOC was detected. This can result in differences in the severity and number of NOVs issued to refiners within the two districts.

Additionally, while the three enforcement programs have many similar components, differences in the individual policies of the districts in implementing their enforcement programs and internal changes in enforcement programs themselves over time can lead to differences in the NOV settlement amounts. Other districts may not utilize penalty structures in the same manner. Also, districts may have had at one time self-inspection components in their enforcement programs, which may not be present in their current programs. These differences can lead to significant differences in the manner and type of NOVs issued, and the manner in which these NOVs are settled.

Finally, in the ARB staff analysis, only data from five refineries in the state was analyzed. This represents about 40 percent of the refineries (five out of 13) in the state that produce gasoline for consumption in California. While the refineries selected represent a mix of large and small refineries in the state which represent different levels of modernization, there are a number of NOV settlements from the other refineries which staff were not able to evaluate. However, it is staff's expectation, that analysis of these remaining refineries would provide little additional insight into the districts NOV settlement practices and would not significantly change the results of the evaluation, due to the representativeness of the analyzed samples.

VI. RESULTS FROM EVALUATION OF DISTRICT ENFORCEMENT PROGRAMS

This chapter discusses the results of staff's analysis of the districts' enforcement programs, including the settlement of NOVs and the effectiveness of the districts' overall enforcement program.

A. Emission-Related NOV Settlements

Table 1 presents the results of staff's analysis of the emission-related NOV settlement information from the three districts. The data in Table 1 is organized by district and into six rule violation categories: visible emissions, storage of organic liquids, fugitive emissions, wastewater, public nuisance, and excess emissions (which includes violations of district permit conditions, violations of specific process emission limits, such as boiler and heater rules, violations of nonspecific emission limits and violations of federal regulations).

For each rule violation category, staff has provided the minimum, maximum, and average penalty. The rule or regulation number(s) violated within each 'violation type' category is also identified, as is the number of days the rule(s) in each category were violated. Specific information on each NOV and settlement (including the penalty amount on a per day basis) is provided in Appendix A.

As can be seen from Table 1, there are significant ranges of penalties each district assesses for violations of the same district rules or regulations. For instance, public nuisance settlements in the SCAQMD ranged from $3,000 to $15,000, while storage of organic liquid settlements in the BAAQMD ranged from $188 to $3,000. This range in settlements is likely due to differences in the severity of the violation or violations involved in individual NOVs, the strength of the evidence associated with a particular NOV, and the amount of elapsed time before corrective action was taken by the facility. The range in the SJVUAPCD was not as great, however significantly fewer NOVs were issued to refiners over the same period.

In addition to differences within each district for settlements of similar rule violations, there were also significant differences in the amount of penalties collected for specific violations of similar rules between the three districts. While there is no uniform pattern in terms of one district consistently assessing larger penalties for similar rule violations, in general the largest penalty assessments were levied by the SCAQMD. However, for several rule categories, both the SJVAPCD and the BAAQMD assessed higher maximum and/or average penalties than the SCAQMD. As noted above, differences between districts in penalty assessments are largely attributable to differences in the stringency of specific district rules, different enforcement practices and policies, and the differences in the methodology each district uses in reaching mutual settlements with refiners.

Table IV-1:
Emission-Related NOV Settlements
(Dollars Per Day)

Violation Type		Bay Area	South Coast	San Joaquin Valley
Visible Emissions	*Rules*	*6-301*	*401*	*4101*
	Max	$3000	$7000	$4500
	Min	$244	$500	$4500
	Ave	$1436	$3100	$4500
	Violation Days	*4*	*5*	*1*
Storage of Organic Liquids	*Rules*	*8-5*	*463*	*4623*
	Max	$3000	None Settled	$2550
	Min	$169	None Settled	$500
	Ave	$609	None Settled	$1158
	Violation Days	*37*	*N/A*	*24*
Fugitive Emissions	*Rules*	*8-18*	*1173*	*4451 4452*
	Max	$2500	$5000	None Settled
	Min	$239	$250	None Settled
	Ave	$787	$861	None Settled
	Violation Days	*265*	*118*	*N/A*
Waste Water	*Rules*	*8-8*	*1176*	*4625*
	Max	$604	$2000	None Settled
	Min	$54	$350	None Settled
	Ave	$179	$1077	None Settled
	Violation Days	*11*	*49*	*N/A*
Excess Emission	*Rules*	*2-1, 8-2 9-X[2],40CFR[1]*	*203 40CFR[1]*	*2070 4624*
	Max	$3000	$3750	$5000
	Min	$11	$500	$750
	Ave	$408	$1236	$2912
	Violation Days	*143*	*22*	*11*
Public Nuisance	*Rules*	*1-301*	*402*	*4102*
	Max	$15000	$15000	$5000
	Min	$1000	$3000	$1000
	Ave	$7178	$11083	$3667
	Violation Days	*14*	*12*	*3*

[1] Title 40 of the Code of Federal Regulations.

[2] Includes violations of Regulations 9-1, 9-2, and 9-9.

In considering the results of staff's analysis, it is important to recognize that the information used to produce Table IV-1 is not necessarily conducive to the 'per violation, per day' treatment used by staff to prepare this report. That is, in settling NOVs, districts and refiners often engage in the settlement of numerous NOVs within the same settlement agreement. This process can be further complicated because an individual NOV may contain multiple violations, and because the number of 'days of violation' is often unknown or assumed.

The NOV settlement process is synergistic. The strength of evidence associated with some NOVs may balance the weakness of others, whereby reasonable and often substantial settlements are reached for all of the NOVs. The results of this process are evident in Table VI-2. The data in Table VI-2 is from the SCAQMD over the period July 1998 through December 2000. As can be seen, of the nearly 1,400 NOVs settled over this period, nearly 700 NOVs were settled for over $10,000 each, and over 150 were settled in excess of $100,000.

Table VI-2:
NOV Settlement Amounts from All Stationary Sources in the South Coast Air Quality Management District
(July 1998 – December 2000)

Range of NOV Settlement Amounts (Per Violation)	Number of NOVs Settled
$10,000 - $24,999	274
$25,000 - $49,999	174
$50,000 - $74,999	66
$75,000 - $99,999	28
Greater than $100,000	153

Nevertheless, even in light of the significant penalties assessed in many of the mutual settlements reached by the district, ARB staff believes that, based on the per violation (i.e., per day) penalties set out in Table IV-1, the minimum penalties that have been assessed in settlements of petroleum refinery NOVs in all districts generally should be higher, and in some cases significantly higher.

B. Administrative-Related NOV Settlements

Table IV-3 presents the results of staff's analysis of the administrative-related NOV settlement information from the three districts. The data in Table IV-3 is organized by district and into two rule violation categories: continuous emission monitoring equipment

and 'Other Administrative', which includes reporting and equipment calibration violations, as well as failure to permit access to district enforcement personnel. For each rule violation category, the minimum, maximum, and average penalties have been provided. The rule or regulation number(s) violated within each 'violation type' category is also identified, as is the number of days the rule(s) in each category were violated. Specific information on each NOV and settlement (including the penalty amount on a per day basis) is provided in Appendix A.

As can be seen from a comparison of Table VI-1 and Table VI-3, there are significantly fewer administrative rule violations than emission violations. It is also important to note that for administrative rule violations, the range in penalty assessments, both within the district for a particular rule, as well as between districts for similar rules, is much less. However, staff believes that the minimum penalties identified below are inadequate and should be increased.

Table VI-3:
Administrative-Related NOV Settlements
(Dollars Per Day)

Violation Type		Bay Area	South Coast	San Joaquin Valley
CEM	*Rules*	*1-522*	*2011* *2012*	*1080*
	Max	$500	$1250	$3315
	Min	$125	$500	$3315
	Ave	*$325*	*$900*	*$3315*
	Violation Days	*13*	*5*	*1*
Other Administrative	*Rules*	*1-440* *8-18* *8-44* *9-9*	*Regulation XX*[1] *221* *430* *1158*	*4305* *1100* *2070*
	Max	$2500	$2500	$4500
	Min	$116	$250	$1080
	Ave	$853	$1125	$3456
	Violation Days	*8*	*8*	*5*

[1] All Regulation XX rules except 2011 and 2012.

C. Evaluation of District Enforcement Programs

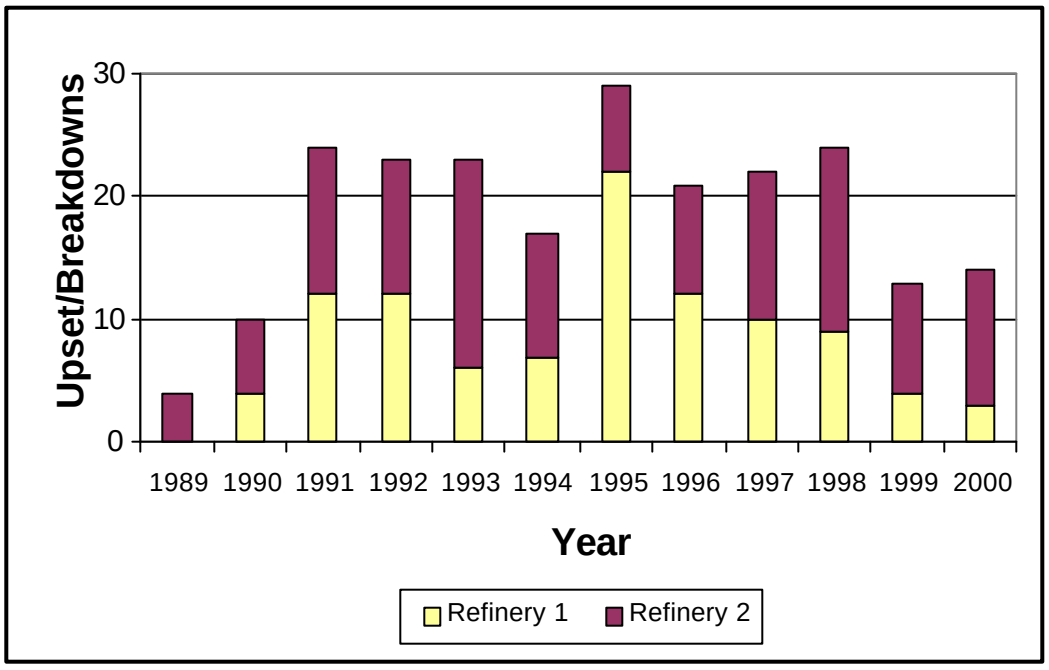
After reviewing the enforcement activities of the SCAQMD, BAAQMD and SJVUAPCD, staff has concluded that these districts' current enforcement programs are providing an effective level of enforcement at petroleum refineries. These districts have made

commitments, in the form of assigning an inspector dedicated to each refinery to provide the resources necessary to carry out the rigorous enforcement activities necessary at petroleum refineries, including routine inspections, detailed inspections, and breakdown investigation. All three districts respond to all citizen complaints received regarding petroleum refineries, and the BAAQMD and SJVUAPCD already have practices in place to provide the complainant with the disposition of the complaint. However, as stated earlier, while the district enforcement activities evaluated provide an effective level of compliance inspections and records for review to discover air quality violations at petroleum refineries, the staff believes that the minimum penalties assessed in the settlement of these air quality violations should have been higher.

D. Evaluation of Some Other Indicators of Refinery Operating Activities

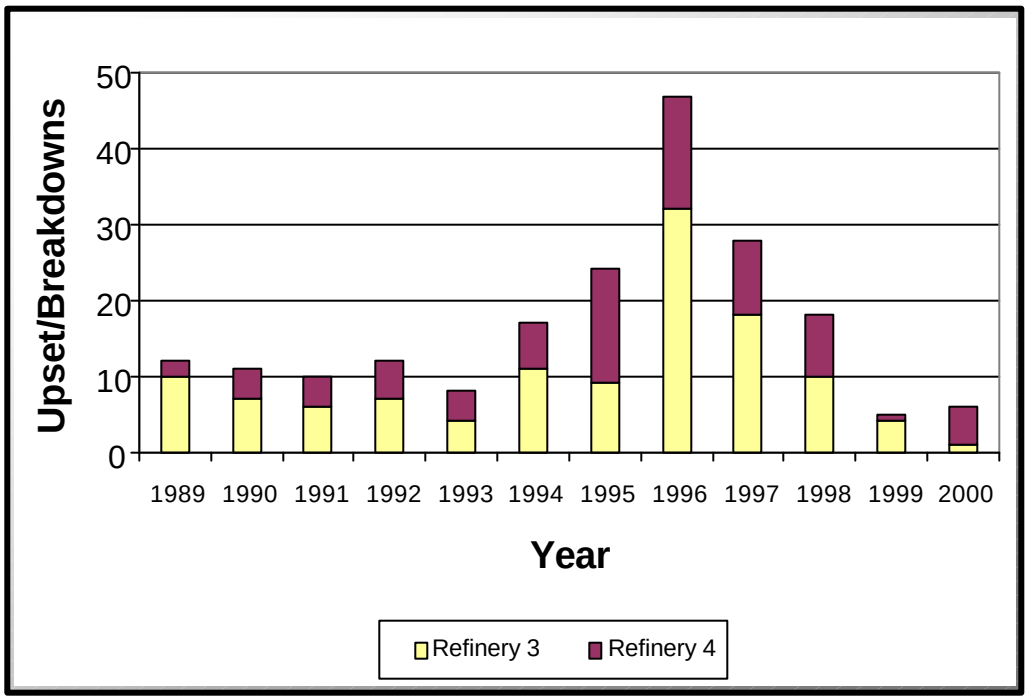
Staff analyzed the upset/breakdown data collected from the SCAQMD and the BAAQMD. As can be seen in both Figures VI-1 and VI-2, the number of reported breakdowns at refineries of major process units (crude distillation units, fluid catalytic

Figure VI-1:
Total Reported Breakdowns of Major Process Units In the South Coast Air Quality Management District (1990-2000)



crackers, alkylation plants, etc.) has remained fairly stable or even decreased over the last ten years. Some exceptions to this occurred in the mid-1990's when California Phase 2 gasoline was introduced.

Figure VI-2:
Total Reported Breakdowns of Major Process Units In the Bay Area Air Quality Management District
(1989-2000)

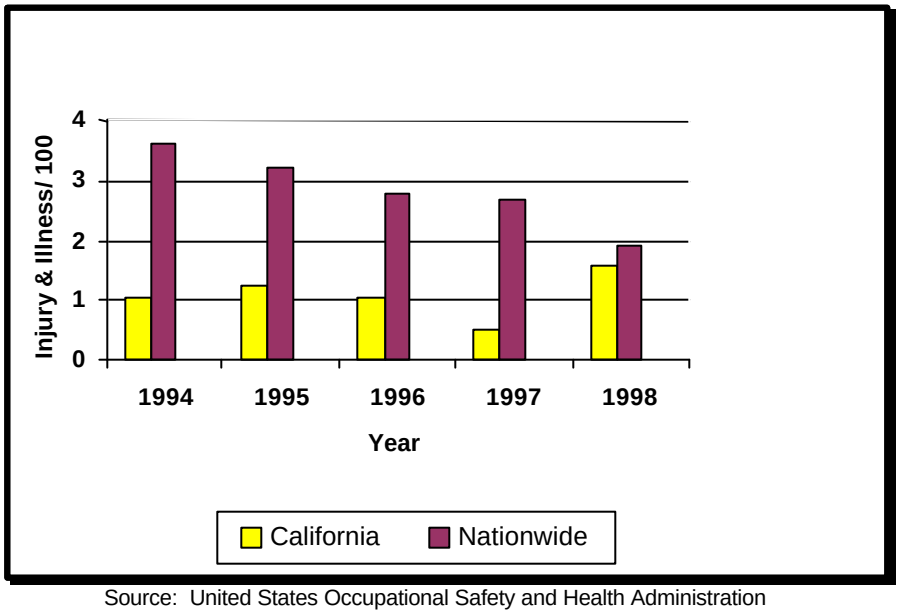


This stability in the frequency of breakdowns of these units has occurred during a period when refineries in California have undergone significant modification and modernization to produce clean fuels, even though this modernization has necessarily increased the complexity of these refineries. Yet, not only has this modernization not adversely impacted the frequency of breakdowns at California refineries, it has also not increased the rate at which refinery workers are injured.

Another indicator that upset/breakdowns have not increased as the complexity of refineries has increased is an evaluation of the rate of worker illness and injuries. An evaluation of the data collected from the United States Occupational Health and Safety Administration regarding worker illness and injury for petroleum refineries clearly shows that illness and injuries among refinery workers has declined over the last decade, and that California refineries consistently have a lower rate of worker injuries than refineries nationwide. These trends can be seen in Figure IV-3.

This data correlates well with the data presented in Figures IV-1 and IV-2, which shows downward trends in the number of breakdowns at California refineries. This is an indication of the fact that, as refineries have modernized, older equipment has been replaced with newer units with more safeguards built in, and these newer units are less likely to breakdown and cause injury.

Figure IV-3:
California and National Refinery Injury & Illness Rates Per 100 workers



Source: United States Occupational Safety and Health Administration

VII. CIVIL PENALTY STATUTES

This chapter provides a description of the current statutes and case law that govern the assessment of civil penalties.

A. Overview

In determining appropriate penalties of air pollution rules and regulations, districts are bound by both statutes and case law. The HSC establishes a range (up to a maximum) of civil penalties for violations of state and district air pollution laws, rules and regulations. Court decisions provide direction regarding application of civil penalty statutes and provide insight into how a court would interpret California's air pollution penalty statutes.

B. California Health and Safety Code

California's air pollution control districts have primary authority for the control of air pollution from all sources other than motor vehicles (HSC section 40000). The districts exercise this authority by adopting rules and regulations (HSC section 40001), operating a permitting system (HSC section 42300, et seq.) and issuing abatement orders (HSC section 42450, et seq.). Violations of these requirements are punishable by criminal sanctions (HSC section 42400, et seq.) and civil penalties (HSC section 42402, et seq.). These civil penalties are discussed below.

Health and Safety Code sections 39674, 42401-42402.5 establish civil penalties for violations of state and local air quality requirements. For certain large sources of air pollution, as defined by Title V of the federal Clean Air Act (42 United States Code section 7661 et seq.), penalties of up to $10,000 per day can be imposed for violations of district rules, permits and orders on a "strict liability, or no fault basis," even where the violations do not involve a release of air contaminants (HSC sections 39674 and 42402). Smaller sources can be penalized up to $1,000 per day for these no fault, no emission violations. (*Id.)* Higher maximum penalties are available for negligent emissions of air contaminants and emissions that cause actual injury, irrespective of negligence ($25,000 per day, HSC section 42402.1). Knowingly emitting air contaminants ($40,000 per day) and willfully and intentionally emitting them ($75,000 per day) carry even higher maximum penalties (HSC sections 42402.2 and 42402.3, respectively). Corporations that "willfully and intentionally or with reckless disregard for the risk of great bodily injury" emit air contaminants that cause great bodily injury or death are liable of civil penalties of up to $1,000,000 per day (HSC section 42402.3). These are maximum penalties on a per violation (i.e., per day) basis, and are summarized in Table VII-1. The HSC does not establish minimum penalties for air quality violations.

Table VII-1:
Maximum Civil Penalties for Violations
Of Air Quality Laws

Severity of Violation	Maximum Civil Penalty (Amount per Violation per Day)
Strict Liability, No Fault Basis	$10,000
Negligent, Causing Actual Injury	$25,000
Knowingly Emitting Air Contaminants	$40,000
Willfully and Intentionally Emitting Air Contaminants	$75,000
Willful and Intentional Emitting Air Contaminants Causing Great Injury or Death	$1,000,000

Health and Safety Code section 42403(b) lists factors that must be considered in setting civil penalties for air quality violations:

> "In determining the amount assessed, the court, or in reaching any settlement, the district, shall take into consideration all relevant circumstances, including, but not limited to the following:
>
> (1) The extent of harm caused by the violation.
> (2) The nature and persistence of the violation.
> (3) The length of time over which the violation occurs.
> (4) The frequency of past violations.
> (5) The record of maintenance.
> (6) The unproven or innovative nature of the control equipment.
> (7) Any action taken by the defendant, including the nature, extent, and time of response of the cleanup and construction undertaken, to mitigate the violation.
> (8) The financial burden to the defendant."

These civil penalty provisions have not been interpreted in a published court opinion.

C. Case Law on Civil Penalties

Air quality laws protect the public health, safety and welfare. Health and Safety Code section 39000 provides:

> "The Legislature finds and declares that the people of the State of California have a primary interest in the quality of the physical environment in which they live, and that this physical environment is being degraded by the waste and refuse of civilization polluting the atmosphere, thereby creating a situation which is detrimental to the health, safety, welfare, and sense of well-being of the people of California."

This summarizes broadly the important public policy objective of district programs to enforce the laws, rules, regulations, permits and the like enacted or promulgated to protect public health by improving and maintaining air quality.

Courts have not interpreted HSC sections 39674, 42401-42402.5, or 42403, but they have considered other civil penalty statutes. In doing this, courts have recognized that civil penalties have several purposes. Among them are punishment, deterring future violations and motivating compliance, and preventing unjust enrichment and unfair business advantage. A civil penalty is "unquestionably intended as a deterrent against future misconduct and does constitute a severe punitive exaction by the state…." *(People v. Superior Court (Kaufman)* (1974) 12 Cal.3d 421, 431.) Civil penalties "do partake of the nature of punishments for wrongdoing [,] accomplish a chastisement of the wrongdoer and act as a deterrent against similar misconduct" by the violator and others. *(People v. Superior Court (Kardon)* (1973) 35 Cal.App.3d 710, 713.) "[C]ivil penalties may have a punitive or deterrent aspect, [but] their primary purpose is to secure obedience to statutes and regulations imposed to assure important public policy objectives." (*Kizer* v. *County of San Mateo* (1991) 53 Cal.3d 139, 147-148 [279 Cal.Rptr. 318] cited in *City and County of San Francisco* v. *Sainez* (2000) 77 Cal.App.4th 1302, 1315 [92 Cal.Rptr. 418].

These concepts have been applied in interpreting California air quality law. Discussing civil penalties for violations of California's vehicular air quality requirements, the court in *People ex rel. State Air Resources Board v. Wilmshurst* (1999) 68 Cal.App.4th 1332, explained at page 1351 that maximum penalties are in the nature of liquidated damages, and that the obligation to demonstrate that a lesser amount is appropriate lies with the violator:

> "In addition to disgorging illicit gains and obtaining recompense, a civil penalty also has the purpose of deterring future misconduct. (*State of California* v. *City & County of San Francisco* (1979) 94 Cal.App. 3d 522, 531 [156 Cal.Rptr. 542]; *People* v. *Bestline Products, Inc.* (1976) 61

> Cal.App.3d 879, 924 [132 Cal.Rptr. 767].) Regulatory statutes would have little deterrent effect if violators could be penalized only where a plaintiff demonstrated quantifiable damages. (*State of California* v. *City & County of San Francisco, supra,* 94 Cal.App.3d at p. 531.) Further, "A penalty statute presupposes that its violation produces damages *beyond that which is compensable."* (*Ibid.,* italics added.) The burden of proving that actual damages are less than the liquidated maximum provided in a penalty statute lies with the defendant, and in the absence of evidence in mitigation a court is free to assess the full amount. (*Id.* at pp. 531-532.)"

To accomplish their intended goals, civil penalties must bear some relationship to the violator's financial condition. The relevance of a violator's financial information was established in *People* v. *Toomey* (1985) 157 Cal.App.3d 1, 24-25. In *Toomey* the court reiterated the holding in *People* v. *Superior Court (Kardon)* (1973) Cal.App.3d 710, 713, that civil penalty provisions are sufficiently similar to exemplary damages as to permit discovery of a violator's financial condition. The *Kardon* court explained the necessity of financial information: "a relatively small penalty might suffice for the small operator, while the same penalty would be paid with little hurt by the wealthy one" (*Kardon*, at p. 713.) Recently, the court observed in *City and County of San Francisco* v. *Sainez*, *supra*, at p. 1319:

> "Accordingly, we hold that, as in the case of substantive due process protection against excessive punitive damages awards, substantive due process protection against civil penalties under the rationale of Hale and Kinney allows inquiry into a defendant's full net worth, not just the value of the particular property at issue in the case."

Applying this holding, the *Sainez* court upheld a civil penalty that totaled 28.4 percent of the violators' net worth and 120 percent of the illegal rents they charged. The court took note of *U.S.* v. *Lippert* (8th Cir. 1998) 148 F.3d 974, 976, 978 where "[a] net worth of about $500,000 has been held enough ability to pay to uphold a penalty of $353,000…."

D. Criminal Penalties

In SB 1865, the Legislature increased criminal penalties commensurate with the increases in civil penalties, and created a felony for air pollution violations. Courts have held individuals, as well as corporations and corporate officers, to extremely high standards of conduct in these situations, willingly punishing both the corporation and the responsible corporate officers criminally. In United States v. Park (1975) 421 U.S. 650, 672, the United States Supreme Court held that a corporate officer may be held criminally liable along with the corporation even though he or she had neither personal involvement in nor knowledge of the crime. The Park court reasoned:

> "The requirements of foresight and vigilance imposed on responsible corporate agents are beyond question demanding, and perhaps onerous, but they are no more stringent than the public has a right to expect of

those who voluntarily assume positions of authority in business enterprises whose services and products affect the health and well-being of the public that supports them." (Id., see also United States v. Dotterweich (1943) 320 U.S. 277, 284-285.

United States
Environmental Protection
Agency

Office of Air Quality
Planning and Standards
Research Triangle Park NC 27711

EPA-340/1-85-020
September 1985

Stationary Source Compliance Series

EPA

Air Compliance Inspection Manual

EPA-340/1-85-020

Air Compliance Inspection Manual

U.S. ENVIRONMENTAL PROTECTION AGENCY
Stationary Source Compliance Series
Office of Air Quality Planning and Standards
Washington, DC 20460

September 1985

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ACKNOWLEDGEMENTS

Development and preparation of a manual such as this is dependent on the assistance and input of a number of agencies, organizations, and individuals. In particular, much of the information, guidelines, and procedures included herein were derived or abstracted from manuals or publications already developed by the Environmental Protection Agency, state agencies, groups concerned with air enforcement affairs, as well as from related publications and manuals reviewed during the course of the project.

In addition, grateful acknowledgement is extended to the staff of the following EPA offices who gave their critical comments and suggestions and made key contributions to the improvement of this manual: Region I, Region II, Region III, Region IV, Region V, Region VI, the Office of Enforcement and Compliance Monitoring (OECM), the Office of General Counsel (OGC), the Emission Measurement Branch (EMB), and the Stationary Source Compliance Division (SSCD).

Sincere appreciation is also extended to Kirk E. Foster, of the Stationary Source Complinace Division who served as the EPA Task Manager, for his guidance and assistance throughout the task, in locating and incorporating the most up-to-date and relevant information.

Work on this manual was performed under two EPA contracts. They were Contract No. 68-02-3960 to Engineering-Science (Work Assignment No. 40) and Contract No. 68-02-3962 to JACA Corporation (Work Assignment No. 72). Ms. Robin R. Segall of Entropy Environmentalists, Inc. served as the lead author and incorporated all the review comments and other revisions. Other contributing authors were Mr. J. Calvin Thames of Engineering-Science, Dr. John R. Richards of Richards Engineering, and Mr. William G. DeWees of Entropy Environmentalists.

As previously mentioned, this manual has been extensively reviewed by the staff of six EPA Regional Offices and, in general, represents their standard procedures and practices for conducting air compliance inspections. However, changes in practices can be anticipated and revisions will occur as field experience with the manual is gained.

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Continued)

TABLE OF CONTENTS (Continued)

LIST OF TABLES

LIST OF TABLES

LIST OF FIGURES

FOREWORD

The Air Compliance Inspection Manual has been developed to support inspection personnel in conducting the field inspections which are necessary to promote stationary source compliance by providing inspectors with access to standardized procedures for conducting complete, accurate air compliance and other types of air-related inspections.

The depth of coverage of the material in the manual is intended to provide the qualified inspector with the basic guidance necessary to perform a organized and thorough inspection. The manual presents standard procedures relevant to the majority of air compliance inspections; it is assumed that the inspector has a basic knowledge of air pollution control technologies. However, new inspection personnel should find the manual useful in developing an orderly and detailed approach to conducting an inspection and for identification of subject areas for further inquiry. It is obvious that all information relevant to conducting an effective inspection could not be included in one volume; thus, in instances where additional appropriate information is available, the reader has been further referred in the form of footnotes and reference lists at the end of each chapter. In addition, this manual seeks to focus primarily on the inspection portion of the national air compliance enforcement effort; the reader is specifically referred to the Clean Air Act Compliance/Enforcement Guidance Manual* for extensive information on the EPA's enforcement and compliance monitoring policy.

The technical portion of the manual emphasizes the inspection and evaluation of particulate emission sources. This was done for several reasons: (1) among the major types of pollutant control, particulate controls are the most widespread; (2) these controls have been in place longer; (3) more refined inspection techniques have been developed for particulate controls; and (4) the basic approach to the particulate inspection can easily be adapted to other types of air pollutants. It is planned that future updates to the manual will contain additional material specific to the other regulated pollutants.

The manual is organized into eight chapters. The chapters are further divided into numbered sections to accommodate the large amount of material in some chapters. Chapter contents are summarized below.

- Chapter 1.0 Overview and Introduction - outlines the basis for air compliance inspections according to the Clean Air Act and the scope of existing Federal and State regulations. Inspector responsibilities and liabilities are also addressed.

- Chapter 2.0 Compliance Monitoring and the On-Site Inspection - examines the roles and purpose(s) and levels of EPA and State conducted compliance inspections. Also addressed are the

*Clean Air Act Compliance/Enforcement Manual, draft report, 1984.

methods used to select facilities for inspection, inspection frequency, inspection complexity, and current alternatives to the on-site inspection for compliance monitoring.

- Chapter 3.0 General Inspection Procedures - details a standardized set of general procedures common to all types of air compliance inspections including pre-inspection preparation, entry, opening conference, documentation, closing conference, file update, and inspection report preparation. Also addressed are procedures for the handling of confidential business information and chain of custody documentation.

- Chapter 4.0 Recordkeeping and Reporting - discusses recordkeeping and reporting requirements under the various categories of regulations. It also outlines procedures for reviewing a source's compliance with applicable requirements.

- Chapter 5.0 Inspection Safety - addresses the safety considerations which should be a part of all field inspections. Topics covered include types of hazards encountered, appropriate personnel protection equipment, safety procedures, and the U. S. Environmental Protection Agency's Safety Program.

- Chapter 6.0 Visible Emission Observation - summarizes the procedures for making and documenting a visible emissions observation. Major points relevant to making the observation for control device performance evaluation or enforcement purposes are discussed. The reader is referred to recent procedural guidelines for more detailed information.

- Chapter 7.0 Observing the Compliance Test - covers procedures for the compliance test observation since it is often the responsibility of the field inspector. Topics covered include pretest review of sampling protocols, establishing representative conditions for facility operations, using test data to create a baseline data set, appropriate observations during the test, test report review, and observation documentation.

- Chapter 8.0 Baseline Inspection Procedures for Air Pollution Control Systems - provides logical sets of inspection data and diagnostic inspection methodologies for each level of inspection for the major types of particulate control equipment including fabric filters, electrostatic precipitators, mechanical collectors, and wet scrubbers. Included are detailed explanations of baseline evaluation procedures and the preparation of baseline data sets using performance test reports and previous inspection reports. Also included are procedures for fugitive dust inspections and information on assembling a technical library on processes and control equipment.

The information contained in this manual is comprehensive and is designed to address a range of activities associated with an air compliance inspection. Since every inspection may not include all these activities, the

inspector should use those parts of the manual applicable to the particular inspection. A detailed table of contents is included to facilitate locating the pertinent sections of the manual.

It is currently planned that revised or additional material will be developed for this manual. It is anticipated that much of this material will be additional technical procedures for control device evaluation and policy revisions. These updates will be available through the Stationary Source Compliance Division (EN-341), U. S. Environmental Protection Agency, 401 M Street, S. W., Washington, DC 20460. The revised or additional pages will be identified such that insertion into the existing manual can be easily accomplished.

1.0 OVERVIEW AND INTRODUCTION

The Clean Air Act (CAA), as written in 1970 and amended in 1977, was passed "to protect and enhance the quality of the Nation's air resources so as to promote the "public health and welfare and the productive capacity of its population." More specifically, the CAA provides the U. S. Environmental Protection Agency (EPA) with the broad responsibility and authority to implement a federal program to achieve these goals through (1) the institution of a research and development program, and (2) the provision of technical and financial assistance to State and Local governments who are ultimately charged with the primary responsibility for the prevention and control of air pollution at its source. A copy of the Act (42 U. S.C. 7401 et seq.) is reproduced in Appendix A.

A major element in the prevention and control of air pollution at its source has been the development and adoption of standards and regulations designed to limit the emissions of pollutants from stationary sources. These standards and regulations were written and adopted based on stipulations of the Clean Air Act and fall into three categories:

- State-adopted EPA-approved State Implementation Plan (SIP) requirements adopted to meet national ambient air quality standards (Section 110 of CAA);

- Standards of Performance for New Stationary Sources (Section 111 of CAA) which are federally-promulgated and can be state-delegated; and

- Hazardous air pollutant standards (Section 112 of CAA) which are also federally promulgated and can be state-delegated.

Clearly an obligation closely associated with the adoption of such regulations is ensuring that the facilities affected by the regulations <u>first</u> attain initial compliance and then, continue to comply with these regulations.

Collecting compliance related information is referred to as compliance monitoring; this information is used to determine compliance of sources, identify sources which may be in violation, and to provide evidence to support enforcement of violations. The primary method of compliance monitoring is the on-site inspection. This manual outlines the basic administrative and technical procedures necessary to complete an informative, accurate, and legally sound air compliance inspection. In addition, it addresses other topics relevant to the on-site inspection and compliance monitoring including the basis for the on-site inspection, the selection or targeting of sources for inspection, recordkeeping and reporting reviews, inspection safety, inspection related aspects of the compliance test observation, and technical inspection procedures. As explained in more

detail in the Foreward, the technical inspection procedures presented emphasize inspection of particulate emission sources and control devices. Inspection procedures for other types of control devices and emission sources is currently outside the scope of this manual. However, the basic approach for all types of sources is the same. It is planned that future updates to the manual will contain procedures specific to the inspection of sources of other regulated pollutants.

To perform the most complete and informative inspection, the field inspector should have an adequate perspective on (1) the full authority of EPA and states to conduct on-site inspections, (2) the regulations with which the inspection aids in determining compliance, and (3) the personal responsibilities and liabilities of the inspector as an individual. The remainder of this first chapter addresses these topics. Chapter 2 discusses in detail the purpose of the EPA compliance inspection, source selection, inspection complexity, and alternatives to the on-site inspection for compliance monitoring.

1.1 LEGAL AUTHORITY FOR INSPECTIONS

Section 114 of the Clean Air Act provides the Administrator of EPA or his authorized representative with the authority, upon presentation of his credentials, to enter the premises of facilities subject to regulations under the Act to conduct on-site inspections to monitor compliance with these regulations.

1.1.1 Scope

Inspections conducted under Section 114 extend to all things relating to compliance with the requirements of the Clean Air Act which are within the premises being inspected. These may include:

- Records;
- Files;
- Processes;
- Monitoring equipment;
- Controls;
- Sampling methods; and
- Emissions.

1.1.2 State Authority

In accord with the intent of the Clean Air Act, much of the compliance monitoring, including on-site inspections, is accomplished at the state level. Section 114 of the Act provides for the extension of Federal authority to the States to carry out that Section. Where a State has been delegated Section 114 authority from EPA, the same authority EPA has to monitor, sample, inspect or copy records, and any other authority under Section 114 can, in like manner, be exercised by the State. No representative of EPA need accompany the State officials.

1.1.3 Authorized Representatives

EPA does not always have the manpower resources available to conduct all of the compliance monitoring functions on its own. In order to accomplish these functions, EPA frequently hires private contractors to provide technical support for on-site inspections and sampling, among other things. EPA maintains that such contractors upon proper designation are "authorized representatives" of the Administrator within the meaning of Section 114; however, the courts have not unanimously upheld EPA's position. For this reason, EPA has adopted a policy that duly-authorized contractors are only used to conduct on-site inspections in those Circuits where Court of Appeals decisions have not been against the use of contractors as authorized representatives.

EPA's current policy on the use of contractors to conduct on-site inspections is as follows:[1]

- First, Second, Third, Fourth, Fifth, Seventh, Eighth, Eleventh, and District of Columbia Circuits. Authorized contractors may be designated to provide technical support for inspections of facilities owned by anyone other than Stauffer Chemical Company.

- Ninth Circuit. Authorized contractors may be designated to provide technical support for any inspections.

- Sixth and Tenth Circuits. Absent express permission from Headquarters, authorized contractors should not be designated to provide technical support for any inspections.

1.1.4 Off-Site Inspections

EPA also has the authority to conduct unannounced, off-the-premises inspections, such as visible emission observations.

1.2. SCOPE OF REGULATIONS UNDER THE CLEAN AIR ACT

Basic to an overall understanding of the air compliance inspection and the procedures (and policies) involved is the understanding of the regulations under which compliance is determined and/or the inspection is conducted. As outlined by the Clean Air Act, the regulations affecting stationary sources of air pollution are part of three basic areas:

(1) state implementation plan (SIP) requirements,
(2) new source performance standards (NSPS), and
(3) national emission standards for hazardous air pollutants (NESHAPs).

Two other major elements under the CAA also have a significant effect on the regulation of emissions from stationary sources and should be noted by the inspector. These are:

(1) Prevention of Significant Deterioration (PSD), and
(2) Provisions for Non-Attainment Areas (NAA).

1.2.1 National Ambient Air Quality Standards

Because Congress recognized the interstate nature of air pollution, the EPA was charged with the responsibility of establishing uniform national ambient air quality standards (NAAQS) to assure consistency in protecting the inhabitants of all states. These standards were set for the so-called "criteria" pollutants, those pollutants which the Administrator identified as widespread (emitted by numerous or diverse mobile and stationary sources) and endangering public health and welfare. The name "criteria" pollutants comes from the fact that the CAA (Section 108) requires the EPA to issue Air Quality Criteria Documents for each pollutant identified as described above and hence occasions to an ambient air quality standard. These documents address air pollutant concentrations, exposure times, pollutant interactions, atmospheric variables, and any other factors which produce with the criteria pollutant itself kinds and degrees of damage to human health or welfare. The EPA is also responsible for preparing a parallel Control Techniques Document. This Document addresses "state of the art" emission control techniques for the criteria pollutant including cost of installation and operation, energy requirements, emission reduction benefits, and environmental impact.

Through the end of 1983 the EPA had identified seven criteria pollutants and promulgated national ambient air quality standards for each of the seven: particulate matter, sulfur oxides, nitrogen oxides, carbon monoxide, hydrocarbons (revoked in January 1983), ozone, and lead. Standards for all the pollutants are shown in Table 1-1.

To attain and subsequently maintain the NAAQS, each state was required to adopt and submit to EPA a plan providing for the implementation, maintenance, and enforcement of the standards over the entire state. Each State Implementation Plan (SIP) includes many provisions for attaining the primary and secondary NAAQS; however, a major portion of each plan is devoted to emission limitations and other regulations and programs to prohibit stationary sources from "emitting any air pollutant in amounts which will prevent attainment with the NAAQS or interfere with measures to prevent significant deterioration of air quality" (see Part C of Title 1 of CAA). Thus, each state directs its control regulations towards its unique set of sources and circumstances as long as the end result will be attainment of the NAAQS in the required time frame.

1.2.2 New Source Performance Standards

The New Source Performance Standards (NSPS)[2] apply to new, modified, and reconstructed stationary sources of air pollution. These standards are required under Section 111 of the Clean Air Act and take advantage of new source construction for the integration and application of advanced control technology thus avoiding the difficulties and extreme costs associated with retrofitting existing sources.

The source categories affected by these standards are those which have been identified by the EPA as emitting one or more pollutants in quantities significant enough to endanger the public health or welfare. Under NSPS

TABLE 1-1. NATIONAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Physical Form	Averaging Time	Primary Standards[a]	Secondary Standards[b]
Particulate Matter[d]	Particulate	Annual Geometric Mean	75 $\mu g/m^3$	60 $\mu g/m^3$
		24 hours[c]	250 $\mu g/m^3$	150 $\mu g/m^3$
Sulfur Dioxide	Gaseous	Annual Arithmetic Mean	80 $\mu g/m^3$ (0.03 ppm)	--
		24 hours[c]	365 $\mu g/m^3$ (0.14 ppm)	--
		3 hours[c]	--	1300 $\mu g/m^3$ (0.5 ppm)
Nitrogen Dioxide	Gaseous	Annual Arithmetic Mean	100 $\mu g/m^3$ (0.05 ppm)	Same as Primary Standard
Carbon Monoxide	Gaseous	8 hours[c]	10 mg/m^3 (9 ppm)	Same as Primary Standard
		1 hour[c]	40 mg/m^3 (35 ppm)	Same as Primary Standard
Ozone	Gaseous	1 hour[c]	235 $\mu g/m^3$ (0.12 ppm)	Same as Primary Standard
Lead	Particulate	Monthly[c]	1.5 $\mu g/m^3$	--

[a]The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[b]The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects.

[c]Not to be exceeded more than once per year.

[d]Proposed revision to standard for particulate matter will impose a limitation only on particles less than 10μm in diameter.

these categories must either (1) achieve the degree of emission limitation or percentage reduction, or (2) apply a design, equipment, work practice, operational standard, or combination which reflects the best available technological system of continuous emission reduction (considering cost and non-air quality impacts). Examples of control methods currently in use under the New Source Performance Standards are:

- Control equipment (e.g., electrostatic precipitators, fabric filters, wet scrubbers),
- Fuel selection based on emission characteristics,
- Precombustion cleaning or treatment of fuels,
- Use of a production process which is inherently low polluting or nonpolluting, and
- Use of particular work practices and/or operational standards so as to decrease emissions.

Source categories for which EPA has promulgated New Source Performance Standards are presented in Table 1-2.

1.2.3 National Emission Standards for Hazardous Air Pollutants

The National Emission Standards for Hazardous Air Pollutants (NESHAPs) are federally promulgated under Section 112 of the Clean Air Act. They cover air pollutants (noncriteria) which are not covered by ambient air quality standards. These pollutants are not covered by ambient air quality standards because they generally cause only localized problems, but are covered by emission standards because they cause or contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness.

Any source constructed or modified subsequent to the promulgation of an applicable hazardous air pollutant standard must in some manner meet the standard. Existing sources (those constructed prior to the promulgation of any of these standards) have 90 days after the standard is promulgated to comply (extensions may be granted).

These regulations may take the form of an emission standard or, if an emission standard is not feasible, a design, equipment, work practice, or operational standard. Unlike the New Source Performance Standards, although cost may be considered in setting a standard, consideration of cost is not explicitly required by Section 112.

The EPA has currently promulgated NESHAPs for five pollutants: asbestos, benzene, beryllium, mercury, and vinyl chloride and equipment leaks of volatile organic compounds. Standards have been proposed for an additional two pollutants: radionuclides and arsenic. The affected facilities and effective dates for each promulgated standard are summarized in Table 1-3.

TABLE 1-2. NSPS SOURCE CATEGORIES

Subpart[a]	Source Category	Year of Promulgation[b]
D	Fossil Fuel-Fired Steam Generators	1971
Da	Electric Utility Steam Generating Units constructed after September 18, 1978	1979
E	Incinerators	1971
F	Portland Cement Plants	1971
G	Nitric Acid Plants	1971
H	Sulfuric Acid Plants	1971
I	Asphalt Concrete Plants	1974
J	Petroleum Refineries	1974
K	Storage Vessels for Petroleum Liquids	1974
Ka	Storage Vessels for Petroleum Liquids constructed after May 18, 1978	1980
L	Secondary Lead Smelters	1974
M	Secondary Brass and Bronze Plants	1974
N	Iron and Steel Plants	1974
O	Sewage Treatment Plants	1974
P	Primary Copper Smelters	1976
Q	Primary Zinc Smelters	1976
R	Primary Lead Smelters	1976
S	Primary Aluminum Reduction Plants	1975
T	Phosphate Fertilizer Plants	1975
U	Super Phosphoric Acid Plants	1975
V	Diammonium Phosphate Plants	1975
W	Triple Superphosphate Plants	1975
X	Granular Triple Superphosphate Storage Facilities	1975
Y	Coal Preparation Plants	1976
Z	Ferroalloy Production Facilities	1976
AA	Steel Plants: Electric Arc Furnaces	1975
AAa	Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels	1984
BB	Kraft Pulp Mills	1978

(Continued)

TABLE 1-2. NSPS SOURCE CATEGORIES (continued)

Subpart[a]	Source Category	Year of Promulgation[b]
CC	Glass Manufacturing Plants	1980
DD	Grain Elevators	1978
EE	Surface Coating of Metal Furniture	1982
GG	Stationary Gas Turbines	1979
HH	Lime Manufacturing Plants	1978
KK	Lead-Acid Battery Manufacturing Plants	1982
LL	Metallic Mineral Processing Plants	1984
MM	Automobile and Light-Duty Truck Surface Coating Operations	1980
NN	Phosphate Rock Plants	1982
PP	Ammonium Sulfate Manufacture	1980
QQ	Graphic Arts: Rotogravure Printing	1982
RR	Pressure Sensitive Tapes and Labels	1983
SS	Surface Coating of Large Appliances	1982
TT	Metal Coil Surface Coating	1982
UU	Asphalt Roofing Manufacture	1982
VV	Equipment Leaks of VOC in the Synthetic Organic Chemical Manufacturing Industry	1983
WW	Beverage Can Surface Coating	1983
XX	Bulk Gasoline Terminals	1983
FFF	Flexible Vinyl and Urethane Coating and Printing	1984
GGG	Equipment Leaks of VOC in Petroleum Refineries	1984
HHH	Synthetic Fiber Production Facilities	1984
JJJ	Petroleum Dry Cleaners	1984

[a]Indicates Subpart of 40 CFR Part 60 - Standards of Performance for New Stationary Sources.

[b]Year of promulgation of standard; dates of revisions are not listed.

TABLE 1-3. NESHAP SUMMARY

Subpart[a]	Pollutant	Affected Facilities	Year of Promulgation[b]
C	Beryllium	Extraction Plants Ceramic Plants Foundries Incinerators Propellant Plants Machine Shops	1973
D	Beryllium (Rocket Motor Firing)	Rocket Motor Test Sites Closed Tank Collection of Combustion Products	1973
E	Mercury	Ore Processing Chlor-Alkali Manufacture Sludge Driers or Incinerators	1973
F	Vinyl Chloride	Ethylene Dichloride Manufacture Vinyl Chloride Manufacture Polyvinyl Chloride Manufacture	1976
J	Equipment Leaks (Fugitive Emission Sources) of Benzene	Pumps Compressors Pressure Relief Devices Sampling Connection Systems Open-ended Valves or Lines Valves Flanges and Other Connectors Product Accumulator Vessels Control Devices or Systems	1984
M	Asbestos	Asbestos Mills Roadway Surfacing Manufacturing of Asbestos Containing Products Demolition and Renovation Spraying Friable Asbestos Fabricating Friable Insulating Materials Waste Disposal Waste Disposal Sites	1984

(continued)

TABLE 1-3. NESHAP SUMMARY (continued)

Subpart[a]	Pollutant	Affected Facilities	Year of Promulgation[b]
V	Equipment Leaks (Fugitive Emission Sources)	Pumps Compressors Pressure Relief Devices Sampling Connection Systems Open-ended Valves or Lines Valves Pressure Relief Devices Flanges and Other Connectors Product Accumulator Vessels Closed Vent Systems Control Systems	1984

[a]Indicates Subpart of 40 CFR Part 61 - National Emission Standard for Hazardous Air Pollutants.

[b]Year of promulgation of standard; dates of revisions are not listed.

1.2.4 Prevention of Significant Deterioration

The program for Prevention of Significant Deterioration (PSD) is implemented under Part C of the CAA. Its purpose is to avoid significant future degradation of the nation's clean air areas. A clean air area is one where the air quality is better than the ambient primary or secondary standard. Designation is pollutant specific so that an area can be nonattainment for one pollutant, but clean for another. PSD applies only to new and modified sources in clean air areas. Clean air areas are divided into 3 categories:

- Class I - only minor air quality degradation allowed;
- Class II - moderate degradation; and
- Class III - substantial degradation.

In no case would PSD allow air quality to deteriorate below secondary air quality standards.

"Increments" are the maximum amount of deterioration that can occur in a clean air area over baseline. "Baseline" is the existing air quality for the area at the time the first PSD application is made. Increments in Class I areas are smaller than for Class II, and Class II increments are smaller than Class III areas. For purposes of PSD, a major emitting source is one of 26 designated categories which emits or has the potential to emit 100 tons/year of the designated air pollutant. A source that is not within the 26 designated categories is a major source if it emits more than 250 tons/year. The 26 designated categories are listed in Table 1-4.

New sources subject to PSD requirements must obtain permits before construction. This process requires that extensive data be assembled. The permit describes the level of control to be applied and what portion of the increment may be made available to that source by the State.

1.2.5 Provisions for Nonattainment Areas

Requirements affecting stationary sources planned for nonattainment areas are found in Part D of the CAA. Nonattainment areas are those which are not in compliance with National Ambient Air Quality Standards. New construction in a NAA is prohibited unless the SIP has been amended and approved by the EPA to reflect the following conditions:

- Total allowable emissions for the area will be less than emissions from existing sources.
- The new source must comply with the lowest achievable emission rate (LAER).
- All other sources within the State owned by the subject Company are in compliance.
- The SIP is being carried out for the area.

TABLE 1-4. PSD MAJOR EMITTING SOURCE CATEGORIES

Fossil-fuel fired steam electric plants (>250 MM/Btu/hr)
Coal cleaning plants
Kraft pulp mills
Portland cement plants
Primary zinc smelters
Iron and steel mill plants
Primary aluminum ore reduction plants
Primary copper smelters
Municipal incinerators (>250 tons/refuse/day)
Hydrofluoric acid plants
Nitric acid plants
Sulfuric acid plants
Petroleum refineries
Lime plants
Phosphate rock processing plants
Coke oven batteries
Sulfur recovery plants
Carbon black plants (furnace process)
Primary lead smelters
Fuel conversion plants
Sintering plants
Secondary metal production facilities
Chemical process plants
Fossil-fuel boilers (>250 MM Btu/hr)
Petroleum storage and transfer facilities (capacity >300,000 barrels)
Taconite ore processing facilities
Glass fiber processing plants
Charcoal production facilities

The applying source in an NAA must therefore obtain a greater than 1:1 reduction of the pollutant or pollutants for which the area has been designated nonattainment. The source must undergo a relatively stringent pre-construction review.

Emission offsets from existing sources may need to be obtained especially if the new source will have emissions that would exceed the allowance for the NAA. In these situations, the source would need to obtain enforceable agreements from other sources in the NAA or from its own plant in the NAA.

Emission reductions can also be "banked" by an existing source to permit future new source growth. Banked offsets may be sold or traded to other sources. Rules are yet to be established by the States governing the sale or trade of these banked offsets.

1.3 INSPECTOR RESPONSIBILITIES AND LIABILITIES 4,5,6

The primary role of the air compliance inpsector is to gather information needed in the determination of compliance with applicable regulations and relevant to other enforcement related activities, such as case development. Closely coupled with the accomplishment of these functions are certain responsibilities of the air compliance inspector, which include: (1) knowing and abiding by the legal requirements of the inspection, (2) using proper procedures for effective inspection and evidence collection, (3) practicing accepted safety procedures, (4) maintaining certain quality assurance standards, and (5) observing the professional and ethical responsibilities of the government employee. An additional important consideration for the inspector are any potential liabilities of his position.

1.3.1 Legal Responsibilities

It is essential that all inspection activities be conducted within the legal framework established by the Clean Air Act. In particular, this includes:

- Proper handling of confidential business information;
- Presentation of proper credentials and plant entry at reasonable times;
- Protection of the company's and its personnel's legal rights under the U. S. Constitution;
- Knowledge of all applicable statutes, regulations, and permit conditions; and
- Use of notice(s) and receipts, if appropriate.

1.3.2 Procedural Responsibilities

The inspector must be familiar with and adhere to, when possible, all general inspection procedures and evidence gathering techniques. This will ensure accurate inspections and avoid the possibility of endangering a legal proceeding on procedural grounds.

- Inspection Procedures - Inspectors should observe standard procedures for conducting each portion of the inspection, when possible. All deviations should be clearly documented. The accepted general inspection procedures are covered in detail in Chapter 3.0 of this manual.

- Evidence Collection - Inspectors must be familiar with general evidence gathering techniques. Because the government's case in a civil or criminal prosecution depends on the evidence gathered by the inspector, it is imperative that the inspector keep detailed records of each inspection. These records will serve as an aid in preparing the inspection report, in determining the appropriate enforcement response, and in giving testimony in an enforcement case. Documentation of evidence is covered in Chapter 3.0. Several responsibilities involved in evidence collection and presentation should be addressed here. Specifically, inspectors must:

  - Know how to substantiate facts with items of evidence, including samples, photographs, document copies, statements from persons, and personal observations.

  - Know how to detect lack of good faith during interviews with company personnel.

  - Be familiar with all applicable regulations and know what type of information is required to determine compliance with each.

  - Be able to evaluate what documentation is necessary (routine inspection).

  - Collect evidence in a manner that will be incontestable in legal proceedings.

  - Be able to write clear, informative inspection reports.

  - Know how to testify in court and at administrative hearings.

1.3.3 Safety Responsibilities

The inspection of air pollution control equipment and related work in other areas of industrial facilities generally involves potential exposure to numerous hazards. The inspector must, at all times, avoid putting him/herself or any plant personnel at unnecessary risk. To accomplish this, it is the inspector's responsibility to:

- Know and observe all plant safety requirements, warning signals, and emergency procedures.

- Know and observe all agency safety requirements, procedures, and policies.

- Remain current in safety practices and procedures by regular participation in agency safety training.

- Use any safety equipment required by the facility being inspected in addition to that required by the agency.

- Use safety equipment in accordance with agency guidance and labeling instructions.

- Maintain safety equipment in good condition and proper working order.

- Dress appropriately for each inspection activity, including protective clothing, if appropriate.

Chapter 5.0 of this manual and listed references address inspection safety procedures and other safety related questions in more detail.

1.3.4 Professional and Ethical Responsibilities

As professionals and employees of the Federal government, inspectors are expected to perform their duties with the highest degree of honesty and professionalism. Procedures and requirements ensuring ethical actions have been worked out through many years of governmental inspection activities. These procedures and standards of conduct have evolved for the protection of the individual and the Agency, as well as industry. The inspector is constantly in a position to set an example for private industry and to encourage concern for the health and safety in environment and compliance with the laws that protect them.

Specifically, the inspector should always consider and observe the following responsibilities:

- U. S. Constitution. All investigations are to be conducted within the framework of the United States Constitution and with due regard for individual rights regardless of race, sex, creed, or national origin.

- EPA Employee Conduct. Inspectors are to conduct themselves at all times in accordance with the regulations prescribing EPA Employee Responsibilities and Conduct, codified in 40 CFR Part 60, Part 3.

- Objectivity. The facts of an investigation are to be developed and reported completely, accurately, and objectively. In the course of an investigation, any act or failure to act motivated by reason of

private gain is illegal. Actions which could be construed as such should be scrupulously avoided.

- Knowledge. A continuing effort to improve professional knowledge and technical skill in the investigative field should be made. The inspector should keep abreast of changes in the field of air pollution, including current regulations, EPA and other agency policies, control technology, methodology, and safety considerations.

- Professional Attitude. The inspector is a representative of EPA and is often the initial or only contact between the Agency and industry. In dealing with facility representatives and employees, inspectors must be dignified, tactful, courteous, and diplomatic. They should be especially careful not to infringe on union/company agreements. A firm but responsive attitude will help to establish an atmosphere of cooperation and should foster good working relations. He should always strive to obtain the respect of, inspire confidence in, and maintain good will with industry and the public.

- Attire. Inspectors should dress appropriately, including wearing protective clothing or equipment, for the activity in which they are engaged.

- Industry, Public, and Consumer Relations. All information acquired in the course of an inspector's duties is for official use only. Inspectors should not speak of any product, manufacturer, or person in a derogatory manner.

- Gifts, Favors, Luncheons. Inspectors should not accept favors or benefits under circumstances that might be construed as influencing the performance of governmental duties. EPA regulations provide an exemption whereby an inspector could accept food and refreshment of nominal value on infrequent occasions in the ordinary course of a luncheon or dinner meeting or other meeting, or during an inspection tour. Inspectors should use this exemption only when absolutely necessary.

- Requests for Information. EPA has an "open-door" policy on releasing information to the public. This policy aims at making information about EPA and its work freely and equally available to all interested individuals, groups, and organizations. In fact, EPA employees have both a legal and traditional responsibility for making useful educational and safety information available to the public. This policy, however, does not extend to information relating to the suspicion of a violation, evidence of possible misconduct, or confidential business information.

1.3.5 Quality Assurance Responsiblities

The inspector assumes primary responsibility for ensuring the quality of data generated as a result of the inspection. He should thus adhere to quality assurance procedures appropriate to the type of data being generated. In general, quality assurance procedures are developed towards the following elements:

- Valid data collection;
- Approved, standard methods;
- Control of service, equipment, supplies;
- Quality analytical techniques; and
- Standard data handling and reporting.

1.3.6 Potential Liabilities

In this section concerning inspector responsibilities, mention might also be made of potential personal liabilities of the inspector. Althoughthese liabilities are not overwhelming, they definitely deserve consideration. Some examples of more prevelant liabilities are listed below. The inspector should consult his/her supervisor or agency legal staff for exact legal determinations on personal liability.

- Confidential Business Information - Under Section 1905 of Title 18 of the United States Code, Federal employees can be fined, imprisoned, or both for disclosure of confidential business information.

- Waivers, Visitor Releases - Some company's waivers or visitor releases, if signed, may purport to make the person signing liable for certain acts he or she might commit on plant property. These must never be signed by the inspector.

- Authority - In some cases, the inspector could be held liable for actions committed while acting beyond his/her authority; the inspector must always know exactly what his/her authority is.

1.4 REFERENCES

1. Clean Air Act Compliance/Enforcement Guidance Manual. Draft, 1984.

2. Code of Federal Regulations. Title 40, Part 60. Standards of Performance for New Stationary Sources, revised as of July 1, 1983.

3. Code of Federal Regulations. Title 40, Part 61. National Emission Standards for Hazardous Air Pollutants, revised as of July 12, 1982.

4. Multi-Media Compliance Audit Inspection Procedures. National Enforcement Investigations Center. Denver, Colorado. Office of Enforcement, U.S. Environmental Protection Agency. February 1983.

5. Toxic Substances Control Act Inspection Manual. Pesticides and Toxic Substances Enforcement Division. U.S. Environmental Protection Agency. January 1983.

6. The National Pollutant Discharge Elimination System (NPDES) Compliance Inspection Manual. Office of Water Enforcement and Permits. U.S. Environmental Protection Agency. October 1983.

2.0 COMPLIANCE MONITORING AND THE ON-SITE INSPECTION

As previously mentioned, the on-site inspection is the fundamental compliance monitoring technique used in EPA and State air compliance/enforcement programs. This chapter examines a number of subjects related to the execution of the on-site inspection or the on-site inspection itself. In particular, the following topics are addressed:

- Function of the EPA/State on-site inspection;
- Selection or targeting of sources for inspection;
- Inspection complexity; and
- Alternatives to the on-site inspection.

2.1 FUNCTION OF THE ON-SITE INSPECTION

On-site inspections perform a number of functions in the air compliance effort. The most important of these are:

- They are used to gather compliance data to determine or confirm compliance with regulations.
- They are used to identify violations.
- They are used to establish the basis for an enforcement action through documentation of a violation.
- They are a visible manifestation of the regulatory process and thus, tend to promote compliance.
- They provide informal consulting to assist a facility in identifying and resolving compliance problems.

The majority of on-site inspections conducted are routine compliance monitoring inspections. And, since the Clean Air Act puts the primary responsibility for control of air pollution with state and local governments, the majority of routine compliance inspections are performed by the State and local agencies. State and local agencies also conduct on-site inspections to collect evidence for enforcement actions.

EPA Regional Offices perform routine compliance inspections, but generally focus their efforts on conducting other types of inspections. The scope of the EPA inspection activities is outlined below:

- NSPS. EPA conducts routine inspections of NSPS sources in cases where the State agency has not been delegated the NSPS program.

- NESHAPs. EPA conducts routine inspections of NESHAPS sources in cases where the State agency has not been delegated the NESHAPS program.

- Certain SIPs. EPA conducts routine inspections of sources covered by EPA-promulgated State Implementation Plans.

- Oversight. EPA conducts overview inspections as a means to review the overall effectiveness of State efforts towards maintaining compliance of SIP and delegated NSPS and NESHAP sources.

- Known Violations. EPA conducts inspections to collect evidence of known violations in cases where a State agency is not responding in a "timely manner" or not responding at all.

- Overdue State Program. EPA conducts compliance inspections in cases where the State agency has not inspected a facility within the defined period (see Section 2.2).

- Inactive State Program. EPA conducts various types of inspections in cases where a State agency is not carrying out its compliance/enforcement related responsibilities.

2.2 SELECTION OR TARGETING OF FACILITIES FOR INSPECTION

As discussed in Chapter 1 Section 1.8, the Clean Air Act establishes the authority to perform an on-site inspection of a facility for the purpose of determining its compliance with regulations promulgated as a result of the Act. The selection or targeting of a facility for an on-site inspection is clearly an important part of the inspection process. Although not generally the responsibility of inspection personnel, facility selection or surveillance targeting involves a number of considerations of which the inspector should be aware.

The selection or targeting of sources for inspection is influenced in part by two Constitutional amendments.

- Fourth Amendment. This amendment protects sources against unreasonable searches.

- Fourteenth Amendment. This amendment provides the source with equal protection and "due process" of the law.

Under the Fourth Amendment, when a source refuses to consent to entry for the purposes of inspection and the agency must resort to using a search warrant, the warrant application must show either (1) "probable cause" or "reasonable suspicion" of a violation or (2) that the source was selected for inspection under a neutral inspection scheme. An agency must also be able to demonstrate these in the event that a source challenges an EPA inspection as being harassing. This was shown to be necessary by the Supreme Court decision in Marshall v. Barlow's, Inc., 436 U.S. 307 (1978).

The Fourteenth Amendment ensures that sources are not classified unreasonably. Thus, agencies must have a rational basis for treating similarly situated sources differently.

The result in terms of agency policy concerning surveillance targeting is that the agency must select sources for inspection by reasonable suspicion of a violation under the Clean Air Act or by a clearly documented neutral inspection scheme. And, the neutral inspection scheme must provide a rational basis for all source classifications.

In many instances, an EPA conducted inspection is done under reasonable suspicion of a violation. This occurs in cases where EPA is following up on a state-identified violation at their request or when the State has not made a timely and/or appropriate response in the case of suspected noncompliance.

In other instances EPA must utilize some type of neutral inspection scheme for source selection. These instances include planning overview inspections, and conducting inspections of non-delegated NSPS and NESHAPs sources. EPA might also use a neutral inspection scheme to target sources not inspected by a state which should be inspected. The following section outlines EPA's guidance on neutral inspection schemes.

2.2.1 Neutral Inspection Scheme

As a result of Barlow's decision, EPA issued the Regional Offices its first guidance for developing neutral inspection schemes. This guidance was in the form of a written framework for the selection of sources within each Region for periodic inspections and was entitled "Criteria for Selection of Stationary Sources for Routine Compliance Inspections."[1] These criteria (or a logical extension of them) were written to be utilized in source selection in each Regional Office and for presentation to the court in the event that a source challenges the inspection scheme or in the event that a warrant is needed to gain entry to a source for a routine inspection.

EPA's amended and most current guidance from a memo of May 13, 1981 is reproduced in Table 2-1[2]. Using this scheme, a source to be inspected must meet at least one of the Primary Criteria under point 1 and one of the Primary Criteria under point 2 and, in addition, must meet at least one of the Secondary Criteria. Any source not covered by the neutral inspection scheme is not be inspected unless there is a reasonable suspicion of a violation.

TABLE 2-1.
CRITERIA FOR SELECTION OF STATIONARY SOURCES
FOR ROUTINE COMPLIANCE INSPECTIONS

I. Sources subject to State Implementation Plans (including provisions approved or promulgated under 40 CFR 51.18 and Parts C and D of Title I of the Clean Air Act), or 111 of the Act (NSPS) or 112 of the Act (NESHAPS).

A. Primary Criteria

1. In selecting a stationary source for a compliance inspection, the source should be one which:

a. Emits an air pollutant subject to the Clean Air Act and the regulations promulgated thereunder, and for which:

1. The actual emissions or potential emissions while operating at design capacity with pollution controls are equal to or exceed 100 tons per year of the regulated air pollutant (Class A1 sources), or

2. The uncontrolled emissions while operating at design capacity are equal to or exceed 100 tons per year of the regulated air pollutant (Class A2 sources); or

b. Emits less than 100 tons per year of a regulated air pollutant in the absence of pollution controls (Class B sources) and which may contribute to nonattainment of an ambient air quality standard for that pollutant; or

c. Emits lead; or

d. Is subject to a NSPS or NESHAPS.

2. The source should also be one which:

a. Was reported within the preceding year by a State or local agency as being in compliance with applicable emission limits; or

b. Was either not inspected by a State or local agency or by EPA during the preceding year, or was subject to an inconclusive inspection during the preceding year.

(continued)

TABLE 2-1. (Continued)

B. Secondary Criteria

The following criteria (at least one) should be used in selecting facilities for inspection from among those which meet the Primary Criteria (and may be used by each Regional Office in any order it chooses and in a manner best suited to its resource, workload, manpower, and area of geographic responsibility):

Factor 1. Source emits a criteria pollutant and is located in a nonattainment area for that pollutant, or in an area unclassified for such pollutant;

Factor 2. Source has a significant impact upon local ambient air quality or emits a hazardous air pollutant;

Factor 3. Source is located in an urban area where there is greatest exposure of population;

Factor 4. Source has a history of violations and now is reported as in compliance;

Factor 5. Source has had frequent changes in compliance status;

Factor 6. Source has undergone process changes subsequent to its most recent inspection or has commenced initial operation;

Factor 7. Source requires particularly good operation and maintenance of pollution control or process equipment in order to maintain compliance;

Factor 8. Source is located near other sources which have been scheduled for inspection at approximately the same time in accordance with this Criteria for Selection of Stationary Sources for Routine Compliance Inspections or under probable cause to believe the source is in violation of the Clean Air Act;

Factor 9. Source was subject to a prior compliance test, inspection or information request which produced inconclusive data concerning its compliance status.

2.2.2 State and Local Government Methods for Selecting Sources for Inspection

State and local governments are subject to the same constraints in selection of sources for inspection as EPA. However, most State agencies must inspect many more sources on a routine basis than EPA. In addition, EPA has issued guidance to the states requiring certain categories of sources to be inspected with certain frequencies. Therefore, the states tend to have a more complex surveillance targeting problem.

In order to discuss surveillance targeting at the State (and local level) EPA's guidance on inspection frequency must first be addressed.

2.2.2.1 Inspection Frequency - Over the years EPA guidance to State and local agencies on inspection frequency has been evolving. Initially EPA specified, at least an annual inspection of each "major source" (source with an uncontrolled emission rate equal to or in excess of 100 tons per year of a regulated pollutant).

Revised inspection frequency guidance was issued in March 1980[3] as the result of a change in the definition of "major source" under the Clean Air Act. This guidance specified at least annual inspections of NSPS, NESHAPS, and Class Al SIP sources. Biennial inspection were specified for Class A2 SIP sources. These new source class definitions are shown below.

Major Sources

- Class Al Source - Stationary source whose actual or potential controlled emissions of any regulated pollutant equal or exceed 100 tons per year while operating at design capacity.

- Class A2 Source - Stationary source whose potential uncontrolled emissions of any regulated pollutant equal or exceed 100 tons per year while operating at design capacity.

Minor Sources

- Class B Source - Stationary source whose uncontrolled emissions of any regulated pollutant are greater than 25, but less than 100 tons per year.

Most recently EPA has proposed revised guidance on inspection frequency which seeks to balance the need for a nationally-uniform data base on facility compliance with the needs of State and local agencies to make optimal use of their limited resources. This revised guidance includes the following key points.

- Source Classification. All sources should be classified by applicable air program (SIP, NSPS, or NESHAPs) and by SIP class (Al, A2, B), if applicable. These classifications should be entered into EPA's Compliance Data System (CDS).

- Class A1 SIP Sources. All operating Class A1 SIP sources shall be inspected at least once every Federal fiscal year. Exceptions may be permitted if a source is constrained by an operating permit or is seasonal in nature; excepted sources shall be inspected once every five years.

- Class A2 SIP Sources. Operating Class A2 SIP sources shall be inspected biennially. A State may propose modifications if the overall scheme represents the same level of resource commitment and is more responsive to the needs of its air quality program. This might consist of any combination of additional Class A1 SIP inspections, Class A2 SIP inspections, and inspections of other regulated sources. The following conditions must be met:

  - SSCD must receive informational copies of such agreements at the start of each fiscal year.

  - A method of monitoring the agreement must be in place and data reporting requirements clearly established.

  - The State must demonstrate that the modified approach is based on at least the same resource expenditure as would be required to inspect all Class A2 SIP sources on a biennial basis.

  - All operating Class A2 SIP sources must be inspected at least once every five years.

- NSPS Sources. Any operating NSPS source which is also a Class A1 SIP source shall be inspected at least once every Federal fiscal year. All other NSPS sources shall be treated as Class A2 SIP sources.

- NESHAP Sources. All operating nontransitory NESHAP sources shall be inspected at least once every Federal fiscal year.

- On-site Inspection Alternatives. In some cases, continuous emission monitoring quarterly excess emission reports or fuel characteristics may substitute for an on-site inspection (see Section 2.4 for more detail).

2.2.2.2 Surveillance Targeting Techniques - Some type of surveillance targeting is a necessary activity in any air pollution program, particularly State programs. No program has the resources to inspect every source, so there must be a system to select sources for inspection and preferably one which targets sources in a manner which optimizes continuous compliance. In most cases, State surveillance targeting schemes combine the neutral inspection scheme, the EPA guidance on inspection frequency, and the selection of sources based on compliance history, citizen complaints, previous evidence of violation, etc. Since every State must design its own surveillance targeting plan based on State conditions such as source types, non-attainment areas, and agency resources, no one specific type of targeting plan will be discussed here. Instead, the remainder of this section defines and presents the various targeting factors, aids, and techniques currently in use at the State and local levels.[5]

Targeting Factors - A targeting factor is a consideration used by an agency in deciding whether a facility should be targeted for some type of surveillance action. The most commonly used targeting factors are:

- Source size
- Source location
  - Nonattainment areas
  - Rural versus urban
- Ambient impact
- Type of process and control equipment
- Type of pollutant
- Compliance history and attitude

Targeting Aids - A targeting aid is a mechanism used by an agency to assist it in the application of targeting factors. Typical targeting aids include:

- Citizen complaints
- Malfunction reports
- Excess emission reports
- Inspection reports
- Permit renewal applications
- Automated compliance data systems

Targeting Techniques - A targeting technique is the method by which targeting factors and aids are actually utilized. Typical targeting techniques include:

- The review of continuous emission monitoring (CEM) excess emission reports to determine whether certain sources with a greater probability of non-compliance require an on-site inspection.
- The review of malfunction reports for the same purpose.
- Use of an on-site inspection to determine whether CEM requirements are warranted or a more rigorous malfunction abatement plan is needed.
- Use of self-monitoring mechanisms as a principal targeting aid.

2.3 INSPECTION COMPLEXITY (LEVELS OF INSPECTION)

When a facility is selected (through whatever scheme) for an on-site inspection, the Agency must also decide the degree of complexity of the inspection. The degree of complexity of the inspection should reflect the degree of complexity of the facility, its control equipment, and its compliance history. Also considered are the precise objectives of the inspection.

The degree of complexity of the on-site inspection as is currently performed can be classified into four distinct levels. These levels of inspection are denoted 1 through 4 with the inspection complexity increasing with the level number. The inspection activities normally associated with each level are summarized below; detailed explanations of each level are provided in Section 8.1 of the chapter on inspection procedures for air pollution control systems.

Level 1 Inspection

- Unannounced, facility not entered.
- Visible emission observations.
- Fugitive emission observations.
- Odor conditions noted.
- Observation of facility operations, to extent possible.

Level 2 Inspection

- "Walkthrough" evaluation of emission source and/or control device.
- Visible emission observations.
- Data collection from and evaluation of process and control device instrumentation.
- Checks (from outside) of internal conditions of control devices (if shut down).
- Routine check of CEM (continuous emission monitor) data.
- Check of source-maintained records.
- Annual determination of continued operation and process throughput of sources that do not operate control equipment.*

*Previously referred to as a Level 0 Inspection.

Level 3 Inspection

- Portable instrumentation used to measure specific operating parameters such as pressure drop, gas stream temperature, flue gas oxygen and carbon dioxide level, gas stream velocity, and scrubber liquor pH.
- Check of process operating conditions.
- Detailed evaluation of CEM monitoring data.
- Raw material and fuel analysis.
- Visible emissions observations, where appropriate.
- Checks (from outside) of internal conditons of control devices (if shut down).
- Generally performed only on units with apparent problems.

Level 4 Inspection

- Similar in complexity to Level 3 inspection.
- Done in conjunction with a compliance test to document "representative" conditions and gather baseline data (see Chapter 7.0 Observing the Compliance Test and Chapter 8.0).
- For smaller sources, may be done during a period when source is believed to be in compliance and control device is working properly.

These alternatives in inspection complexity allow the agency (be it EPA or a State or local agency) to tailor the inspection to the facility and situation. This avoids wasted manpower and resources and allows a concentration of effort toward those sources which have the greatest potential to exceed emission limits. For example, a Level 3 inspection might reveal performance data indicating compliance with all regulations. Thus, a higher level of inspection would not be warranted. In fact, subsequent inspections of the same source might rationally be adjusted down to a lower level.

2.4 ALTERNATIVES TO THE ON-SITE INSPECTION

This section presents several alternatives to the on-site inspection for compliance monitoring.

These are:

- Continuous emission monitoring (and reporting);
- Fuel characteristics;
- Parameter monitoring;

- Environmental auditing; and

- Section 114 letters.

These alternatives vary greatly in their utilization and their degree of acceptance as methods which can be used to collect data for enforcement purposes. They are presented here only as background information for the inspector; detailed information on applicability, acceptability, and application of each alternative is available in other reports and publications.

2.4.1 Excess Emission Reports from Continuous Monitoring Programs

The U. S. EPA Stationary Source Compliance Division has indicated in a recently released draft guideline document[4] that compliance monitoring based on the use of excess emission reports (EERs) may be a suitable alternative to on-site inspections. Many sources are required to implement continuous monitoring programs which involve the application of continuous emission monitoring systems (CEMSs). These programs are directed at monitoring opacity, sulfur dioxide (SO_2), nitrogen oxides (NO_x), carbon monoxide (CO), and total reduced sulfur (TRS) compounds. Depending on the specific regulations that apply to the source, the results afforded by CEMSs may be used by the control agency for purposes of assessing compliance with either (a) operation and maintenance requirements, or (b) emission standards. Sources affected by monitoring regulations are required to submit reports to the control agency on a quarterly basis; these reports are generally referred to as excess emission reports.

The information required in an EER is not restricted to excess emissions and thus indicates a range of source performance. For sources subject to New Source Performance Standards the required information falls into three potential categories:

- Source operation and performance;

- CEMS operation and performance; and

- Negative declaration (no excess emissions).

Items pertinent to source operation are identified within 40 CFR Part 60[9], paragraph 60.7 and reflect the following reporting requirements:

- "The magnitude of excess emissions... and the date and time of commencement and completion of each time period of excess emissions."

- "Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventive measures adopted."

- "When no excess emissions have occurred or the continuous monitoring system(s) [i.e., CEMS(s)] have not been inoperative, repaired, or adjusted, such information shall be stated in the report."

To a great extent the quality of the CEMS data determines the quality of the information pertaining to source operation and performance. Consequently, the usefulness of EERs to agencies is constrained by the quality of the source's monitoring program (which can be affected by the agency's approach to monitoring programs in general).

The effective use of EERs depends on the use of three general program elements:

- Recordkeeping and review;
- Periodic assessment of CEMS data quality; and
- Follow-up action.

Recordkeeping and review activities enable the agency to establish baseline performance data with respect to the source itself and to the source relative to sources in the category. Such information enables the control agency to establish source performance limits, and therefore, criteria for assessing whether on-site inspections are needed.

Periodic assessments of CEMS data quality are necessary to ensure that the control agency can accurately discriminate source performance from CEMS data. CEMS data quality can be assessed from the results provided by CEMS performance tests and audits.

Follow-up actions establish the agency's presence and demonstrate the clear intent to use the EERs for compliance monitoring. Actions can be at several levels, ranging from telephone contacts to requests for source performance testing to be conducted.

The draft guideline document[4] specifies certain criteria for the use of EERs as an alternative to on-site inspections; they are the following:

- The data reported in the EER to assess compliance are at least comparable to the data which would have been obtained during an on-site inspection to assess compliance.
- As part of the State's CEM quality assurance/quality control program, the monitor must be quantitatively audited at least every three years.
- EERs must be input into the CEM subset of CDS.
- The intended use of the EER alternative to on-site inspections must be agreed upon between the State and the EPA Regional Office.
- The Stationary Source Compliance Division must receive the names and CDS numbers of all Class A1 SIP and NSPS sources covered by the EER alternative to adjust properly the data base for subsequent analysis and reporting.

- The State must conduct an on-site inspection of all sources being tracked under the EER alternative at least once every three years. (This could be conducted in conjunction with the quantitative audit previously described.)

2.4.2 Fuel Characteristics

In some cases compliance of a combustion source may be based solely on the characteristics of the fuel burned. In these cases, a review of the fuel supplier's records and the sampling and appropriate analysis of the fuel being burned may substitute for the on-site inspection.[4]

2.4.3 Parameter Monitoring

The purpose of parameter monitoring is to reduce the number of routine Level 2 inspections which must be done by agency personnel. Industrial facilities agreeing to do parameter monitoring also benefit through improved air pollution control device performance data and less frequent agency inspections.

The agency and the source operator must reach agreement on the types of data necessary to evaluate performance and on the quality assurance procedures to be used in data acquisition and reduction. Then a baseline data set is compiled to aid in future evaluations. It is the responsibility of the source operators to maintain the control system in compliance with all applicable regulations and to submit the agreed upon data documenting this performance. Any malfunctions or control equipment failures must be reported to the regulatory agency within 12 to 24 hours.

Regulatory agencies must continue to perform Level 1 inspections to check on the adequacy of the parameter monitoring. For example, it is possible to have frequent short term excess emission incidents which could not be identified by control device monitoring instruments and continuous emission monitors. If such short term problems were identified or if the evaluation of the submitted data indicated a possible performance problem, a Level 3 inspection should be conducted by the agency. A Level 3 inspection should also be performed if the source fails to submit the agreed upon information on schedule.

Both parties should maintain applicable records. All raw data and strip charts used by the source operators should be maintained for a period of at least a year in a retrievable archive. Calculations used in data reduction and presentation should be maintained. The agency should also maintain a file which documents that a full evaluation of the submitted data has been performed upon receipt.

2.4.4 Environmental Auditing

The term environmental auditing refers to the use of internal management systems by a company to review facility operations and practices in order to assess and verify compliance with environmental regulations and corporate

policy. It can also be used to evaluate the effectiveness of environmental management systems already in place or assess environmental risks from regulated and unregulated materials and practices. Environmental auditing is currently in the primary stages of development as a tool for compliance monitoring.

Among the advantages of environmental auditing tool are:[6,7,8]

- Better environmental performance. Companies can more readily and effectively identify problems and determine compliance status since they know where to look, what to ask, and whom to question. The result is faster problem identification, more problem avoidance, and better compliance over time.

- Better use of limited agency resources. Effective environmental auditing systems could assist inspection and enforcement targetting.

- Better government/industry cooperation. Knowledge of what constitutes an effective environmental auditing system and which companies have effective systems can reduce the adversarial roles between government and industry, since government would have more confidence in such a company's ability and desire to meet environmental requirements without government intervention.

- Acquisiton of more information. Agencies are likely to acquire better compliance data, even without requiring industry to turn over their audit reports. Through enviromental audits companies may acquire and possibly share information on improved control technologies and techniques, better management systems, effective training, etc. In addition, audit generated information could result in significant improvements in monitoring reports, emissions inventories, and other data bases.

2.4.5 Section 114 Requests for Information

Section 114 of the Clean Air Act authorizes the EPA Administrator to require the owner or operator of an emission source subject to the Act to provide such relevant information as he requests. This is generally accomplished using what is referred to as a "Section 114 letter." Section 114 letters can serve as an alternative to the on-site inspection in cases when the on-site inspection is not cost effective or when the information obtained under the request eliminates the need for the inspection. Section 114 letters may also be used to supplement the on-site inspection by providing advance notification or by requesting information beforehand which will facilitate the inspection.

Information typically requested utilizing a Section 114 request includes:[9]

- Raw materials, products, by products, production levels;
- Facility layout maps identifying process equipment, control equipment, and emission points;
- Flow diagrams;
- Description and design of pollution control equipment and normal operating parameters;
- Recent self-monitoring reports such as fuel analyses and control equipment parameters;
- Description of self-monitoring equipment in use, normal operating levels, and types of data produced; and
- Copies of any records required to be kept under applicable regulations.

2.5 REFERENCES

1. Memorandum on "Criteria for Neutral Inspections of Stationary Sources under Title I of the Clean Air Act - - - Final Guidance," from the Director of Division of Stationary Source Enforcement to Enforcement Division Directors, Region I-X. Office of Enforcement. U. S. Environmental Protection Agency. October 29, 1980.

2. Memorandum on "Regional Office Criteria for Neutral Inspections of Stationary Sources -- Amended Guidance," from the Director of Division of Stationary Source Enforcement to Enforcement Division Directors, Region I-X. Office of Enforcement. U. S. Environmental Protection Agency. May 13, 1981.

3. Reich, E.E., Memorandum to Enforcement Division Directors Regions I-X, March 19, 1980.

4. "Memorandum on Compliance Strategy for Stationary Sources of Air Pollution (November 14, 1983)," from the Assistant Administrator for Air and Radiation to the Deputy Administrator. Office of Air Noise and Radiation. U. S. Environmental Protection Agency. November 1983.

5. Quarles, Perrin. State and Local Government Surveillance Targeting Techniques. Draft Report. Perrin Quarles Associates, Inc. Environmental Protection Agency Contract No. 68-01-6312, Task No. 92. June 26, 1984.

6. Fleckenstein, L. J. Environmental Auditing: A Management Tool and Potential Regulatory Reform Presentation, Annual Meeting of APCA, San Francisco, California, June 1984.

7. Current Practices in Environmental Auditing. Report to U. S. Environmental Protection Agency by Arthur D. Little, Inc. EPA No. EPA-230-09-83-006.

8. Kuusinen, T. L. U. S. EPA Policy Towards Effective Environmental Auditing. Presented at Air Pollution Control Association Annual Meeting, June 18, 1985. Paper No. 85-48.3.

9. Clean Air Act Compliance/Enforcement Manual. Draft, 1981.

10. Memorandum on "Guidance on Timely and Appropriate EPA/State Enforcement Response for Significant Air Violators (June 28, 1984)," from the Assistant Administrator for Air and Radiation to Regional Administrators, Regions I-X. Office of Air and Radiation. U. S. Environmental Protection Agency. June 1984.

11. Code of Federal Regulations. Title 40, Part 60. Standards of Performance for New Stationary Sources, revised as of July 1, 1983.

3.0 GENERAL INSPECTION PROCEDURES

This chapter describes the administrative and legal procedures common to most air compliance inspections. These include procedures which help to ensure a complete and up-to-date technical inspection and those which ensure a legally sound inspection. These procedures result in the gathering of more appropriate and useful data which ultimately can be effectively used in compliance monitoring and determination, and enforcement actions if necessary.

These general inspection procedures can be grouped into categories according to the time they occur in the inspection process: (1) pre-inspection preparation, (2) pre-entry observations, (3) entry, (4) opening conference, (5) documentation, (6) closing conference, and (7) file update and report preparation. The general procedures under each category are covered in the sections which follow. In addition, special sections of this chapter are devoted to: (1) handling of confidential business information and (2) chain of custody procedures.

The procedures described are common to most compliance inspections. However, the emphasis given to any procedure or set of procedures will vary with the requirements of a particular inspection.

3.1 PRE-INSPECTION PREPARATION

Pre-inspection preparation is always necessary to ensure effective use of the inspector's time and the facility's time, and to ensure that the inspection is properly focused on collecting relevant data and information. This preparation involves:

- Review of facility background;
- Development of an inspection plan;
- Notifications; and
- Equipment preparation.

3.1.1 Review of Facility Background

A review of the available background information on the facility to be inspected is essential to the overall success of the inspection. The review should enable the inspector to become familiar with the facility's process and emission characteristics; conduct the inspection in a timely manner; minimize inconvenience to the facility by not requesting unnecessary data such as that

previously provided to the EPA or another agency; conduct an efficient, but thorough inspection; clarify technical and legal issues before entry; and prepare a useful inspection report. The following types of information should be reviewed.

Basic Facility Information

- Names, titles, and phone numbers of facility representatives.
- Maps showing facility location and geographic relationship to residences, etc. potentially impacted by emissions.
- Process and production information.
- Flowsheets identifying sources, control devices, monitors, and other points of interest.
- Safety equipment requirements.

Pollution Control Equipment and Other Relevant Equipment Data

- Description and design data for control devices and relevant process equipment.
- Sources and characterization of emissions.
- Continuous emission monitoring system(s) data.
- Previous inspection checklists (and reports).
- Baseline performance data for control equipment.

Regulations, Requirements, and Limitations

- Most recent permits for facility sources.
- Applicable Federal, State, and local regulations and requirements.
- Special exemptions and waivers, if any.
- Acceptable operating conditions.

Facility Compliance and Enforcement History

- Previous inspection reports.
- Complaint history including reports, follow-up, findings, remedial action.
- Past conditions of noncompliance.

- Previous enforcement actions.
- Pending enforcement actions, compliance schedules and/or variances.
- Self-monitoring data and reports.

The following are recommended sources for obtaining this background information.

- Inspector's "Working" File - The inspector's own concise file for a facility containing basic plant and process information, flowsheets, baseline performance data for control equipment and process equipment, chronology of enforcement related actions, recent permits, and safety equipment requirements.
- Regional Office Files and Data Bases - These files should include much of the information needed including inspection reports, permits and permit applications, compliance and enforcement history, exemption or waiver information, and some self-monitoring data.
- State/Local Files and Contacts - These should be used to supplement and update the information available in the Regional Office files.
- Laws and Regulations - The Clean Air Act and related regulations establish emission standards, controls, procedures, and other requirements applicable to a facility. State and local laws and regulations should also be considered.
- Technical Reports, Documents, and Guidelines - These can often be valuable in providing information and/or guidance concerning specific processes, control techniques, performance advantages and limitations of particular types of control equipment, and specific inspection procedures.

3.1.2 Development of an Inspection Plan

Based on the review of the facility background information and the intended purpose of the inspection, the inspector should develop an inspection plan. This plan should address the following items.

- Inspection Objectives - Identify the precise purpose of the inspection in terms of what it will accomplish.
- Tasks - Decide on the specific tasks which will accomplish the inspection objectives including the exact information which must be collected.
- Procedures - Determine the procedures to be used in completing the tasks, particularly special or unfamiliar procedures.
- Resources - Determine what equipment and personnel will be required.

- Schedule - Estimate the time requirements for the inspection; determine a reasonable time for the inspection (when plant is operating at representative conditions).

3.1.3 Notification of the Facility

EPA Regional offices vary in their exact policies concerning giving a facility advance notification of an inspection. In a recent EPA policy memo entitled "Final Guidance on Use of Unannounced Inspections," however, the Stationary Source Compliance Division recommends that all Regional inspection programs incorporate unannounced inspections as part of their overall inspection approach.[1] The advantages of the unannounced inspection are: (1) the opportunity to observe the source under normal operating conditions, since the source does not have time to prepare for the inspection; (2) detection of visible emissions and O&M-type problems and violations; (3) creation of an increased level of attention by a source to its compliance status; and (4) projection of a serious attitude toward surveillance by the Agency.

The potential negative aspects of performing unannounced inspections are: (1) the source may not be operating or key plant personnel may not be available and (2) there could be an adverse impact on EPA/State or EPA/source relations. However, it has been demonstrated by the Regional offices who already use the unannounced inspections that, in the majority of cases, these drawbacks can be overcome.

When using the unannounced inspection, an alternative to arriving at the source totally unannounced is to contact the source shortly before the scheduled inspection time. This is left to the discretion of the Regional office and/or the inspector and must be done so as not to alter the representativeness of the source operation. The amount of advanced notice given should be noted in the inspection report.

Announced inspections are performed by EPA and its authorized representatives when some specific purpose is served by providing such notice. Situations where announced inspections are appropriate are:

- When specific information is being sought which must be prepared by the source, or where the source must make significant accomodations for the inspector to gather the information;

- When the assistance of specific plant personnel is necessary for the successful performance of the inspections, i.e., the information they provide cannot be obtained from other on-duty plant personnel or by a follow-up information request;

- When inspecting government facilities or sources operating under government contract where entry is restricted due to classified operations; and

- When inspecting un-manned or extremely remote sources.

When the inspection is announced in advance, a lead time of five working days is generally appropriate. Notification may be by telephone or letter and it may or may not include the exact date and time of the inspection. Instances where written notification (instead of oral) is appropriate are:

- When requested by the State/local agency or by the source;
- When extensive or specific records are being sought;
- When the inspection is to be performed solely by an EPA contractor;
- When inspecting government facilities with classified operations or otherwise restricted entry; and
- Special-purpose inspections, e.g., to establish conditions for a source-specific SIP revision.

A "114 Letter" is sometimes used for notification if there is a need to request facility information prior to the inspection. The facility representative notified should have the authority to release data and samples and to arrange for access to specific processes. In addition, when notifying a facility on an inspection, information should be requested in regard to on-site safety regulations. This will avoid problems concerning safety equipment at the time of the inspection.

3.1.4 Notification of Responsible State Agency

State and/or local agencies should be given a minimum of five working days advance notice of unannounced or announced inspections to be conducted within their jurisdiction.[1] In the case of an announced inspection, this notification should precede that given to the source.

Notification can be written or oral; in any case, a record should be kept. The thorough notification and record thereof should include the following items:

- Name and location of subject facility;
- Date and approximate time of the activity;
- Regional Office contact (phone number, etc);
- Reason for the inspection;
- Name of the state contact; and
- Date and time of notification.

State/EPA Memorandums of Agreements should be consulted for further information on notification procedures.

3.1.5 Equipment Preparation

Part of the pre-inspection preparation involves obtaining and preparing inspection and safety equipment. The type of equipment may vary according to the inspection objectives, the level of inspection, and the process, control equipment, and safety requirements at the facility itself. A general list of recommended equipment is provided in Table 3-1.[3]

All equipment should be checked, calibrated, and tested before use. The inspector is responsible for seeing that all equipment necessary to conduct an inspection is brought to the inspection site.

Safety equipment required for a facility is based on the response to a "114 Letter" used for the inspection announcement or on the safety requirements for that facility previously recorded in the agency files. Safety requirements must be met, not only for safety reasons, but to ensure that the inspector is not denied entry to the facility or parts of it.

As previously stated, Table 3-1 shows a listing of standard inspection and safety equipment for air compliance inspections. It is recommended that those items necessary for the majority of inspections (Level 2) be carried in a portable case or tool belt pouch from emission point to emission point. The appropriate items from the list of "Equipment Required for Certain Inspections" (Level 3 and 4 and certain safety equipment not normally required) should be added to the equipment carried, or placed in a central location at the plant or in the inspector's car to be retrieved if needed.

Before or after equipment preparation, the inspector must also consider what written materials, forms, documents, etc. he/she will require during the inspection. These should also be gathered and organized before the inspection. These materials may include any or all from the following list.

- Maps
- Flowcharts
- Plant layout
- Applicable regulations
- Inspection checklists
- Field Notebook
- Reference materials
- Visible Emission Observation Forms
- Inspection plan or agenda
- EPA credentials
- Facility information
- Baseline data
- Information requested by facility

TABLE 3-1. RECOMMENDED INSPECTION AND SAFETY EQUIPMENT

Equipment Necessary for Most Inspections	Equipment Required for Certain Inspections
Hardhat	Respirator with appropriate cartridge(s)
Safety glasses or goggles	Velometer
Gloves	Pump and filter system
Coveralls	Bucket
Safety shoes	Manometer or differential pressure gauges
Ear protectors	Combustion gas analyzer
Tape measure	Thermometer or thermocouple
Flashlight	pH paper or pH meter
Stopwatch	Multimeter
Duct tape	Sample bottles
NIOSH/OSHA Pocket Guide to Chemical Hazards	Strobe
	Inductance ammeter
	Tachometer
	Oxygen and combustibles meter(s)
	Self-contained breathing equipment
	Rope

3.2 PRE-ENTRY OBSERVATIONS

Two types of observations, conducted prior to plant entry, have been shown to be valuable in the determination of facility compliance. These are the observation of the plant surroundings and the visible emission observation.

3.2.1 Plant Surroundings Observation

Observations of areas surrounding the plant before entering may reveal a variety of signs of operational practices and pollutant emissions which can aid in the pre-entry evaluation. These include:

- Obvious vegetation damage near the plant;
- Odors downwind of the plant;

- Deposits on cars parked closeby;
- Other signs of "dusting" downwind of the plant;
- Fugitive emissions near plant boundaries;
- Conditions around the product and/or waste storage piles;
- Conditions near lagoons and sludge ponds; and
- Proximity of source to potential receptors.

Some of the signs may indicate that fugitive emission sources should be added to the inspection plan. If odors are a problem, the weather conditions including wind direction should be noted for inclusion in the inspection report: once inside the plant, olfactory fatigue may (under certain circumstances) reduce the inspector's ability to detect these odors.

3.2.2 Visible Emissions Observation

In addition to observing the plant surroundings prior to entry, the inspector may also perform visible emission observations at that time. It is possible that not all emission points will be visible from a location outside the plant property lines, but those that are may be conveniently read before entry. Visible emission observation procedures are detailed in Chapter 6.0.

It is appropriate for the inspector to inform plant officials of excess visible emissions subsequent to their observation. At the same time he should find out what caused them; this gives them the opportunity to promptly evaluate, answer to, and correct the problem. There may be State statutes which require notification; the inspector should be aware of these before he visits the plant.

3.3 ENTRY

This section details the accepted procedures under the CAA for entry to a facility to conduct an on-site inspection. It does not provide detailed procedures for obtaining an inspection warrant in the case of refusal of entry, since refusal is not prevalent and this subject is covered in detail in other publications.

3.3.1 Authority

The Clean Air Act authorizes plant entry for the purposes of inspection. In specific, Section 114 of the Act states:[4]

> ".....the Administrator or his authorized representative, upon presentation of his credentials shall have a right of entry to, upon or through any premises of such person or in which any records required to be maintained..... are located, and may at

reasonable times have access to and copy any records, inspect any monitoring equipment or methods....., and sample any emissions which such person is required to sample....."

3.3.2 Arrival

Arrival at the facility must be during normal working hours. Entry through the main gate is recommended unless the inspector has been previously instructed otherwise. As soon as the inspector arrives on the premises he should locate a responsible plant official usually the plant owner, manager, or chief environmental engineer. In the case of an announced inspection this person would most probably be the official to whom notification was made. The inspector should note the name and title of this plant representative.

3.3.3 Credentials

Upon meeting the appropriate plant official, the inspector should introduce himself or herself as an EPA inspector and present the official with the proper EPA credentials and state the reason for requesting entry. The credentials provide the plant official with the assurance that the inspector is a lawful representative of the agency. Each office of the EPA issues its own credentials; most include the inspector's photograph, signature, his physical description, (age, height, weight, color of hair and eyes), and the authority for the inspection. Credentials must be presented whether or not identification is requested.[4] After facility officials have examined the credentials, they may telephone the appropriate EPA Office for verification of the inspector's identification. Credentials should never leave the sight of the inspector.

3.3.4 Consent

Consent to inspect the premises must be given by the owner, operator, or his representative at the time of the inspection. As long as the inspector is allowed to enter, entry is considered voluntary and consensual, unless the inspector is expressly told to leave the premises. Express consent is not necessary; absence of an express denial constitutes consent.[5]

3.3.4.1 Reluctance To Give Consent - The receptiveness of facility officials toward inspectors is likely to vary from facility to facility. Most inspections will proceed without difficulty. If consent to enter is flatly denied, the inspector should follow the procedures in Section 3.3.7 on Problems with Entry or Consent. In other cases, officials may be reluctant to give entry consent because of misunderstandings of responsibilities, inconvenience to a firm's schedule, or other reasons that may be overcome by diplomacy and discussion.

If there is difficulty in gaining consent to enter, inspectors should tactfully probe the reasons and work with officials to overcome the obstacles. Care should be taken, however, to avoid threats of any kind, inflammatory discussions, or deepening of misunderstandings. Whenever the

situation is beyond the authority or ability of the inspector, he should contact his supervisor for guidance.

3.3.4.2 Uncredentialed Persons Accompanying an Inspector - The consent of the owner or agent in charge must be obtained for the entry of persons accompanying an inspector to a site if they do not have specific authorization. If consent is not given voluntarily, these persons may not enter the premises. If consent is given, these persons may not view confidential business information unless officially authorized for access.

3.3.5 Waivers, Releases, and Sign-In Logs

When the facility provides a blank sign-in sheet, log, or visitor register, it is acceptable for inspectors to sign it. Under no circumstances should EPA employees sign any type of "waiver" or "visitor release" that would relieve the facility of responsibility for injury or which would limit the rights of the Agency to use data obtained from the facility.

If such a waiver or release is presented, the inspector should politely explain he/she cannot sign it and request a blank sign-in sheet. If an inspector is refused entry because they do not sign such release, they should leave and immediately report all pertinent facts to the appropriate supervisory and/or legal staff. All events surrounding the refused entry should be fully documented. Problems should be discussed cordially and professionally.

3.3.6 Nondisclosure Statements

Inspectors have, in the past, occasionally been asked to sign nondisclosure statements or agreements. These agreements vary slightly in content from one to another, but generally require that confidential information, disclosed to an inspector during the course of an inspection, be handled thereafter in a specified manner. An inspector should not sign such agreements since Federal Regulations (40 CFR Part 2, as amended) on the confidentiality of business information already protect the businesses from disclosure of confidential information.[6]

3.3.7 Problems with Entry or Consent

Because some facilities may consider inspections adversarial, the inspector may be challenged concerning the legal authority for the inspection techniques, and/or his competency. In all cases, the inspector must cordially explain the authority and the reasons for the protocols followed. If explanations are not satisfactory or disagreements are irresolvable, the inspector should leave and obtain further direction from the appropriate Agency supervisory or legal staff. Professionalism and politeness must prevail at all times.

3.3.7.1 Denial of Entry - The inspector must always gain entry to the premises of a facility and perform inspection activities with the consent of the owner. This is consistent with a company's right of privacy guaranteed by

the Fourth Amendment of the U. S. Constitution. If an inspector is refused entry into a facility for the purpose of an inspection under the Clean Air Act, certain procedures must be followed. These procedures have been developed in accordance with a 1978 U. S. Supreme Court decision [Marshal v. Barlow's Inc. 436 U. S. 307] which served to clarify a company's rights under the Fourth Amendment regarding entry by inspectors.[5]

1. Tactfully discuss the reason for denial with the plant official. This is to ensure that it has not been based on a misunderstanding of some sort. If resolution is beyond the authority of the inspector, he might suggest that the official seek advice from the company's attorneys on clarification of the EPA's authority for inspection under the Clean Air Act and State law.

2. The inspector should be very careful to avoid any situations that might be construed as threatening or inflammatory. Under no circumstances should he cite the potential penalties of entry denial.

3. The inspector should withdraw from the premises and contact his supervisor to decide on a subsequent course of action.

4. At the time of withdrawal, the inspector should note the facility name and exact address, the name and title of the plant officials approached, the authority of the person issuing the denial (he must be authorized), the date and time of denial, the reason for denial, facility appearance, and any reasonable suspicions as to why entry was refused. This information will be important should a warrant be sought.

3.3.7.2 Withdrawal of Consent During Inspection - If the plant official asks the inspector to leave the premises after the inspection has begun, the inspector should follow the procedures discussed in the previous section on Denial of Entry. The April 11, 1979 EPA "Memorandum on Inspection Procedures" confirms that all evidence gathered and activities performed prior to withdrawal of consent is considered valid.[5]

3.3.7.3 Denial of Access to Some Areas of Facility - If the inspector is denied access only to certain parts of a facility, he should make note of these areas and the circumstances surrounding the denial including the facility official's reason for denying access. The inspection should be completed to the extent allowed. After leaving the facility, the inspector should contact the appropriate Agency office for further instructions; this should include a determination of whether a warrant should be obtained to inspect the portions of the facility not seen.

3.3.8 Warrants

In the event that a plant official persists in refusing plant entry or withdraws consent during the course of an inspection, an administrative or criminal warrant may be used to gain entry into the plant. A warrant is a judicial authorization for an appropriate official to enter a specifically

described location and perform specifically described inspection functions. The inspector should always confer with his supervisor to determine that this course of action is the most appropriate.

There are two types of warrants: criminal and civil (or administrative) warrants. Administrative inspection warrants are the type most often sought in the case of plant entry denial; criminal search warrants are only used in cases where the inspection is intended, in whole or in part, to gather evidence for a possible criminal prosecution. To obtain a criminal search warrant, one must be able to demonstrate criminal probable cause which is based on whether a person of ordinary caution and prudence would be led to believe and conscientiously entertain a strong suspicion of a violation. Administrative warrants are issued upon the showing of (1) civil probable cause or (2) that the establishment was selected for inspection pursuant to a neutral administrative inspection scheme. Showing civil probable cause consists of demonstrating specific evidence of an existing violation. A neutral or reasonable inspection scheme would include schemes such as annual inspections of sources covered by a specific type of permit. Detailed procedures for obtaining a warrant are available in Reference 2.

3.4 OPENING CONFERENCE

Once legal entry has been established, the inspector should proceed with a vital part of every inspection, the opening conference. The purpose of the opening conference is to inform the facility official(s) of the purpose of the inspection, the authorities under which it will be conducted, and the procedures to be followed. The opening conference also offers the inspector the opportunity to strengthen Agency - industry relations through a positive attitude and providing relevant information and other assistance. The effective execution of the opening conference on the inspector's part often facilitates the remainder of the inspection.

During the opening conference, the inspector is responsible for covering the following items.

- Inspection Objectives. An outline of inspection objectives will inform facility officials of the purpose and scope of the inspection and may help avoid misunderstandings.

- Inspection Agenda. Discussion of the sequence and content of the inspection including operations and control equipment to be inspected and their current operating status. This will help eliminate wasted time by allowing officials time to make any preparations necessary. The types of measurements to be made and the samples to be collected (if any) should also be addressed.

- Facility Information Verification. The inspector should verify or collect the following information:

  - Correct name and address of facility;
  - Correct names of plant management and officials;
  - Principal product(s) and production rates;
  - Sources of emissions; and
  - Locations of emission points.

- List of Records. A list of records (NSPS or permit requirements) to be inspected will allow officials to gather and make them available to the inspector.

- Accompaniment. It is imperative that a facility official accompany the inspector during the inspection, not only to describe the plant and its principal operating characteristics, but also to identify confidential data and for safety and liability considerations.

- Safety Requirements. The inspector should determine what facility safety regulations including safety equipment requirements will be involved in the inspection, and should be prepared to meet these requirements. The inspector should also inquire about emergency warning signals and procedures.

- Meeting Schedules. A schedule of meetings with key personnel (if necessary) will allow them to allocate a clear time to spend with the inspector.

- Closing Conference. A post-inspection meeting should be scheduled with the appropriate officials to provide a final opportunity to gather information, answer questions, and make confidentiality declarations.

- New Requirements. The inspector should discuss any new rules and regulations that might affect the facility and answer questions pertaining to them. If the inspector is aware of proposed rules that might affect the facility, he or she may wish to encourage facility officials to obtain a copy.

- Duplicate Samples and/or Simultaneous Measurements. Facility officials should be informed of their right to receive a duplicate of any physical sample collected for laboratory analysis or to conduct simultaneous measurements such as visible emission observations.

- Confidentiality Claims. Company officials should be advised of their right to request confidential treatment of trade secret information (see Section 3.8).

- Photographs. If necessary, the inspector should request permission to take photographs during the inspection. (See Section 3.9 for more discussion of the use of photographs.)

3.5 INSPECTION DOCUMENTATION

The air compliance inspection is generally conducted to achieve one or more of three main objectives.

1. To provide data and other information for making a compliance determination.

2. To provide evidentiary support for some type of enforcement action.

3. To gather the data required for other agency functions.

Taking physical samples, reviewing records, and documenting facility operations are the methods used by the inspector to develop the documentary support required to accomplish these objectives. The documentation from the inspection establishes the actual conditions existing at the time of the inspection so that the evidence of these conditions may be objectively examined at a later time in the course of an enforcement proceeding or other compliance related activity.

Documentation is a general term referring to all print and mechanical media produced, copied, or taken by an inspector to provide evidence of facility status. Types of documentation include the field notebook, field notes and checklists, visible emission observation forms, drawings, flowsheets, maps, lab analyses of samples, chain of custody records, statements, copies of records, printed matter, and photographs. Any documentation gathered or produced in the course of the inspection process may eventually become part of an enforcement proceeding. It is the inspector's responsibility to recognize this possibility and ensure that all documentation can pass later legal scrutiny.

3.5.1 Inspector's Field Notebook and Field Notes

The core of all documentation relating to an inspection is the inspector's field notebook or field notes, which provide accurate and inclusive documentation of all field activities. Even where certain data or other documentation is not actually included in the notebook or notes, reference should be made in the notebook or notes to the additional data or documentation such that it is completely identified and it is clear how it fits into the inspection scheme.

The field notebook and/or notes form the basis for both the inspection report and the evidence package and should contain only facts and pertinent observations. Language should be objective, factual, and free of personal feelings or terminology that might prove inappropriate.

Since the inspector may eventually be called upon to testify in an enforcement proceeding, or his/her field data may be entered into evidence, it is imperative that he/she keep detailed records of inspections, investigations, samples collected, and related inspection functions. The types of information that should be entered into the field notebook or notes include:

- Observations. All conditions, practices, and other observations relevant to the inspection objectives or that will contribute to valid evidence should be recorded.

- Procedures. Inspectors should list or reference all procedures followed during the inspection such as those for entry, sampling, records inspection, and document preparation. Such information could help avoid damage to case proceedings on procedural grounds.

- Unusual Conditions and Problems. Unusual conditions and problems should be recorded and described in detail.

- Documents and Photographs. All documents taken or prepared by the inspector should be noted and related to specific inspection activities. (For example, photographs taken at a sampling site should be listed, described, and related to the specific sample number.)

- General Information. Names and titles of facility personnel and the activities they perform should be listed along with other general information. Pertinent statements made by these people should be recorded. Information about a facility's recordkeeping procedures may be useful in later inspections.

The field notebook is apart of the Agency's files and is not to be considered the inspector's personal record although copies may be made for the inspector's "working file." Notebooks are usually held indefinitely pending disposition instructions.

3.5.2 The Visible Emission Observation Form

Since visible emission (VE) observations are such a frequently used enforcement tool, a separate form has been developed for recording data from the VE observation (see Figure 3-1). This form has been designed to include all the supporting documentation necessary, in most cases, for VE observation data to be accepted as evidence of a violation. Thus, it is recommended that the inspector utilize this form for recording opacity observations; an appropriate reference should be made to the form in the field notebook or notes.

3.5.3 Samples, Chain of Custody, and Laboratory Analysis

Samples are often gathered by inspectors. For the laboratory analysis of a sample to be admissable as evidence, a logical and documented connection must be shown between the samples taken and the analytical results reported. This connection is shown by using the chain of custody procedures which serve to document sample integrity from the time the sample was taken to the time it is analyzed. Chain of custody procedures are described in detail in Section 3.9.

3.5.4 Drawings and Maps

Schematic drawings, flowsheets, maps, charts, and other graphic records can be useful as supporting documentation. They can provide graphic clarification of site location relative to the overall facility, relative

SOURCE NAME			OBSERVATION DATE	START TIME	STOP TIME
ADDRESS			SEC / MIN	SEC / MIN	
CITY	STATE	ZIP			
PHONE	SOURCE ID NUMBER				
PROCESS EQUIPMENT	OPERATING MODE				
CONTROL EQUIPMENT	OPERATING MODE				
DESCRIBE EMISSION POINT					
START	STOP				
HEIGHT ABOVE GROUND LEVEL	HEIGHT RELATIVE TO OBSERVER				
START STOP	START STOP				
DISTANCE FROM OBSERVER	DIRECTION FROM OBSERVER				
START STOP	START STOP				
DESCRIBE EMISSIONS					
START	STOP				
EMISSION COLOR	PLUME TYPE CONTINUOUS ☐				
START STOP	FUGITIVE ☐ INTERMITTENT ☐				
WATER DROPLETS PRESENT	IF WATER DROPLET PLUME				
NO ☐ YES ☐	ATTACHED ☐ DETACHED ☐				
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED					
START	STOP				
DESCRIBE BACKGROUND					
START	STOP				
BACKGROUND COLOR	SKY CONDITIONS				
START STOP	START STOP				
WIND SPEED	WIND DIRECTION				
START STOP	START STOP				
AMBIENT TEMP	WET BULB TEMP	RH,percent			
START STOP					

MIN	0	15	30	45	SEC / MIN	0	15	30	45
1					31				
2					32				
3					33				
4					34				
5					35				
6					36				
7					37				
8					38				
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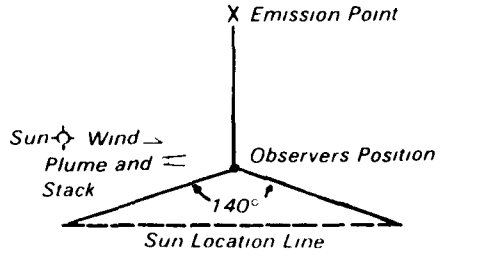
Source Layout Sketch Draw North Arrow



AVERAGE OPACITY FOR HIGHEST PERIOD	NUMBER OF READINGS ABOVE % WERE
RANGE OF OPACITY READINGS MINIMUM	MAXIMUM
OBSERVER'S NAME (PRINT)	
COMMENTS	OBSERVER'S SIGNATURE / DATE
	ORGANIZATION
I HAVE RECEIVED A COPY OF THESE OPACITY OBSERVATIONS SIGNATURE	CERTIFIED BY / DATE
TITLE / DATE	VERIFIED BY / DATE

Figure 3-1. Visible Emission Observation Form

height and size of objects, and other information which, in combination with samples, photographs, and other documentation, can produce an accurate, complete, evidence package.

Drawings and maps should be simple and free of extraneous details. Basic measurements and compass points should be included, if necessary, to provide a scale for interpretation.

3.5.5 Copies of Records

A facility's records and files may be stored in a variety of information retrieval systems, including written or printed materials, computer or electronic systems, or visual systems such as microfilm and microfiche.

When copies of records are necessary for an inspection report, storage and retrieval methods must be taken into consideration:

- Written or printed records can generally be photocopied on-site. Portable photocopy machines may be available to inspectors through the Regional Office. When necessary inspectors are authorized to pay a facility a "reasonable" price for the use of facility copying equipment. All copies made for or by the inspector should be initialed and dated for identification purposes (see identification procedures below). (When photocopying is impossible or impractical, close-up photographs may be taken to provide suitable copies.)

- Computer or electronic records may require the generation of "hard" copies for inspection purposes. Arrangements should be made during the opening conference, if possible, for these copies. (Photographs of computer screens may possibly provide adequate copies of records if other means are impossible.)

- Visual systems (microfilm, microfiche) usually have photocopying capacity built into the viewing machine, which can be used to generate copies. (Photographs of the viewing screen may provide adequate copies if "hard" copies cannot be generated.)

Immediate and adequate identification of records reviewed is essential to ensure the ability to identify records throughout the Agency custody process and to ensure their admissibility in court. When inspectors are called to testify in court, they must be able to positively identify each particular document and state its source and the reason for its collection. Initial, date, number, and record the facility's name on each record, and reference these items in the field notebook or notes.

- Initialing/Dating. The inspector should develop a unique system for initialing and dating records and copies of records so that he/she can easily verify their validity. This can be done by initialing each document in a similiar position, or by another method, at the time of collection. Both the original and copy should be initialed. All record identification notations should be made on the back of the document.

- Numbering. Each document or set of documents substantiating a suspected violation or violations should be assigned an identifying number unique to that document. The number should be recorded on each document and in the field notebook.

- Logging. Documents obtained during the inspection should be entered in the field notebook or notes according to some logical system. The system should include the following information:

  - Identifying Number.
  - Date.
  - The reason for copying the material.
  - The source of the record.
  - The manner of collection.

Other considerations regarding the handling of copies of facility records are listed below.

- Originals must be returned to the proper personnel or to their correct location.

- Related records should be grouped together.

- Confidential business records should be handled according to the procedures discussed in Section 3.8.

3.5.6 Statements

On a rare occasion it may be considered necessary to the objectives of the inspection to obtain a formal statement from a person(s) who have personal, firsthand knowledge of relevant facts. A statement of fact is signed by the person who can testify to those facts in court. The principal objective of obtaining a statement is to record in writing, clearly and concisely, relevant factual information so that it can be used as documentary support. In most cases, however, a 114 letter is used at a later date to obtain pertinent information. The following are procedures and considerations for use if it is ever necessary for the inspector to take a statement.

- Determine the need for a statement. Will it provide useful information? Is the person making the statement qualified to do so by personal knowledge?

- Ascertain all the facts and record those which are relevant and which the person can verify in court. Make sure all information is factual and firsthand. Avoid taking statements that cannot be personally verified.

- In preparing a statement use a simple narrative style; avoid stilted language.

  - Narrate the facts in the words of the person making the statement.

- Use the first-person singular.
- Present the facts in chronological order (unless the situation calls for other arrangement).

- Positively identify the person (name, address, position).

- Show why the person is qualified to make the statement.

- Have the person read the statement and make any necessary corrections before signing. All mistakes that are corrected must be initialed by the person making the statement.

- Ask the person making the statement to write a brief concluding paragraph indicating that he or she read and understood the statement. (This safeguard will counter a later claim that the person did not know what he or she was signing.)

- Have the person making the statement sign it.

- If he or she refuses to sign the statement, elicit an acknowledgement that it is true and correct. Ask for a statement in his or her own hand ("I have read this statement and it is true but I am not signing it because..."). Failing that, declare at the bottom of the statement that the facts were recorded as revealed and that the person read the statement and avowed it to be true. Attempt to have any witness to the statement sign the statement including witness' name and address.

- Provide a copy of the statement to the signer if requested.

3.5.7 Printed Matter

Brochures, literature, labels, and other printed matter may provide important information regarding a facility's condition and operations. These materials may be collected as documentation if, in the inspector's judgment, they are relevant. All printed matter should be identified with the date, inspector's initials, and related sample numbers. Reference to these materials should be made in the field notebook or notes.

3.5.8 Photographs

The documentary value of photographs ranks high as admissible evidence; clear photos of relevant subjects, taken in proper light and at proper lens settings, provide an objective record of conditions at the time of inspection. However, the use of photographic documentation often elicits a negative reaction from plant officials, thus, it is recommended that photographic documentation be used only sparingly and only when necessary to document an inspection finding.

When a situation arises that dictates the use of photographs, the inspector should obtain the company's permission to take photographs. This is

most conveniently accomplished during the opening conference. The inspector may offer to provide the official with duplicates of all photographs taken. As with other business data collected, during and/or at the conclusion of the inspection, the inspector should ascertain whether any of the photographs taken contain proprietary information and if the company wishes to designate any as confidential. Photographs taken employing a Polaroid-type instant camera are useful for inspections because they allow an immediate confidentiality review and the opportunity for the inspector to readily provide the company with duplicate shots.

The inspector must be tactful in handling any concerns or objections about the use of a camera. In some cases, the inspector may explain that emission related information is public information and not considered confidential. The photographs will generally be limited to air pollution control equipment and the inspector can offer to shield any proprietary features in the background.

In the event the permittee's representative still refuses to allow photographs and the inspector believes the photographs will have a substantial impact on future enforcement proceedings, Regional enforcement attorneys should be consulted for further instructions. At all times the inspector is to avoid confrontations that might jeopardize the completion of the inspection.

Photographs may always be taken from areas of public access (e.g. outside the fence, from the road, from a parking lot, etc.) as long as no unusual equipment is used.

3.5.8.1 Equipment - A single lens reflex camera should be used whenever one is available. This type of camera will take high-quality photographs, enable the inspector to use a variety of film speeds, and allow the use of appropriate lenses.

It is suggested that all photographs should be made with color print film since additional equipment, such as projector and screen, are not needed to review the photographs. Also, the negatives are easily duplicated and the prints can be enlarged and distributed as needed.

3.5.8.2 Scale, Location, and Direction - It is useful to photograph a subject from a point that will indicate the location and direction of the subject. The addition of an object of known size (e.g., a person) will help indicate the approximate size of the subject.

3.5.8.3 Safety - In areas where there is a danger of explosion, flash photographs should not be taken. If there is a danger of electrical shock, photographs should be taken from a distance known to be safe.

3.5.8.4 Documenting Photographs - A photographic log should be maintained in the inspector's field notes for all photographs taken during an inspection, and the entries are to be made at the time the photograph is taken. These entries are to be numerically identified so that after the film is developed

the prints can be serially numbered corresponding to the logbook descriptions and, if necessary, pertinent information can be easily transferred to the back of the photograph. The log entries are to include:

- Signature of the photographer;
- Description of film used (i.e., its expiration date, ASA number, origin, etc.);
- Focal length of the lens being used;
- F-stop and shutter speed at which the camera is set;
- Lighting conditions encountered;
- Time of day, weather conditions;
- Date;
- Location; and
- A brief descripton of the subject being photographed.

Polaroid-type instant photos should be immediately identified on the back after shooting with the corresponding photo ID number; photographs which require developing and printing should be numbered as soon as possible. One recommendation which will ensure that all prints and negatives can be positively identified is that prints and negatives be left uncut and the photographic log be photographed at the beginning and end of each roll of film. Photographs of a confidential nature must be developed by an authorized contractor.

3.6 CLOSING CONFERENCE

The closing conference with facility officials enables the inspector to "wrap up" the inspection including answering any questions the company may have, filling in any gaps in the data collected, and identifying information considered confidential. Thus, the following elements generally constitute the closing conference.

- Review of Inspection Data. At this point, the inspector can identify and fill in any gaps in the information collected and ensure that there is general agreement on the technical facts.

- Inspection Follow-up Discussion. The inspector should be willing to answer inspection related questions from facility officials, but should only state matters of fact. Under no circumstances should the inspector make judgments or conclusions concerning the facility's compliance status, legal effects, or enforcement consequences.

- Declaration of Confidential Business Information. Plant officials authorized to make business confidentiality claims should be given the opportunity to asset a claim of confidentiality by noting such claim on documentary material provided to EPA (or its contractor).* The inspector should note all information claimed confidential and handle materials accordingly, even if a written declaration is not made at this time (see Section 3.8).

*It is the policy of most Regional offices not to give the source copies of the inspector's notes and/or checklists. In lieu, some Regions offer to forward the source a copy of the inspection report upon request.

- Preparation of Receipts. The inspector should prepare and deliver receipts for any samples or records taken.

Since EPA and State inspectors are often the only direct contact between the regulatory agency and the regulated industry, the inspector should always be aware of opportunities to improve industry-agency relations. The closing conference provides an ideal opportunity to offer various kinds of assistance to facility officials. At this point, the inspector has first-hand knowledge of questions, problems, and possible solutions to problems. The inspector should consider:

- Answering all questions within his ability and authority.
- Referral of questions and problems to other EPA personnel when necessary.
- Discussion of problems and tactful suggestion of possible solutions and assistance.
- Tactful probing of problem areas uncovered during the inspection.
- Offering or suggesting available resources such as technical publications, special services available to industry, etc.

It is very important that the inspector follow up all referrals and offers of help. A letter, phone call, or repeat visit will indicate to facility officials a genuine interest on the part of the agency and aid the Agency's industry relations.

3.7 FILE UPDATE AND REPORT PREPARATION

During the inspection, the inspector collects and substantiates inspection data which may later be used as evidence in an enforcement proceeding. When he/she returns to the office it is his/her responsibility to see that this data is organized and arranged so that other agency personnel may make maximum use of it. Thus, the file update and inspection report preparation are an important part of the inspection process. These should both be done as soon as possible after the inspection to ensure that all events of the inspection are still fresh in the inspector's memory. He/she must be able to confirm during a later enforcement proceeding that the information contained in the inspection report is true.

3.7.1 File Update

The U. S. EPA including the Regional Offices utilize several types of "files" for facility information storage, which include the computer data bases CDS (Compliance Data System) and NEDS (National Emissions Data System) and hard copy storage, the agency source files. For the efforts of the inspection to be most beneficial, the information collected must be used to update each of these files (or state equivalent such as EIS/P&R).

3.7.1.1 CDS - The Compliance Data System is an EPA managed computer data system containing information relevant to the compliance status of regulated facilities. The information stored includes the following categories of data for each facility.

- General Facility Information
  - Name
  - Address
  - Industrial Process Type

- Compliance Related Activities
  - Inspections
  - Opacity Observations
  - Source Tests
  - Issuance of NOV's
  - Notices of Start-Up, Construction
  - Pending Actions

- Point Source Information
  - Process Equipment
  - Pollutants
  - Applicable Regulations
  - Control Equipment
  - Production Rates

- Monitoring Data (CDS/CEM Subset)
  - CEM Instrument Data
  - Applicable Regulations
  - CEM Related Activities
  - Excess Emission Report Summaries

The inspector should check to see if any of this data is missing or has changed since the last update and then work within the office system to use the data he has collected to update CDS. Since CDS data form the basis for virtually all Agency reporting on compliance status, a current data base is absolutely essential to Agency programs for use in making air management planning and budgetary decisions.

3.7.1.2 NEDS - The National Emissions Data System is an EPA managed computer data system containing information related to emissions from each point source at a facility. This information is used in air quality modeling, air management planning, and related activities. The information stored includes the following categories of data for each facility.

- General Facility Information
  - Name
  - Address
  - Industrial Process Type
  - Air Quality Control Region Coordinates

- Point Source Information
  - Process Equipment
  - Production Capacity
  - Production Rate
  - Production Schedule
  - Pollutants
  - Control Equipment
  - Control Efficiencies
  - Stack Data
  - Emission Factors
  - Emission Estimates

As was recommended for CDS, the inspector should check to see if any of this data is missing or is not up-to-date and ensure that the missing or current data available from the inspection is used to update NEDS.

3.7.1.3 Agency Files - The Agency files, particularly those at the Regional offices usually contain the hard copies of all information, correspondence, reports, etc. relevant to a particular facility. Examples of such items are listed below.

- General Facility Information
- Correspondence to Facility
- Correspondence from Facility
- Permit Applications
- Permits
- Facility Layout
- Flowcharts
- Raw Data from Inspections
- Inspection Reports
- Source Test Reports
- Excess Emission Reports
- Case Development Workups
- Agency Notes, etc. on Compliance Actions

The inspector's data should be used to update the general facility information including plant contact, correct address, changes in production rates, new flowcharts, layouts, etc. and of course, the inspector's raw data and inspection report will be added to the file.

3.7.1.4 Inspector's "Working" File - In the course of updating the agency's computerized data bases and facility file, the inspector should take the opportunity to update his own "working" file on the facility (see Description Section 3.1.1). This should not require much effort since the "working" file is a summary file for the inspector's use; however, the effort made will usually pay off in the long run with quick-to-retrieve information on a particular facility.

3.7.2 Report Preparation

The inspector's inspection report serves two very important purposes in agency operations: (1) it provides other agency personnel with easy access to the inspection information because it has been organized into a comprehensive, usable document; and (2) it constitutes a major part of the evidence package on the inspection which will be available for subsequent enforcement proceedings and/or other types of compliance-related follow-up activities.

To meet the objectives discussed above, the information contained in the inspection report must be:

- Accurate. All information must be factual and based on sound inspection practices. Observations should be the verifiable result of firsthand knowledge. Compliance personnel must be able to depend on the accuracy of all information.

- Relevant. Information in an inspection report should be pertinent to the objectives of inspection. Irrelevant facts and data will clutter a report and may reduce its clarity and usefulness.

- Comprehensive. Suspected violation(s) should be substantiated by as much factual, relevant information as is feasible to gather. The more comprehensive the evidence is, the better and easier the outcome of any enforcement action will be.

- Coordinated. All information pertinent to the subject should be organized into a complete package. Documentary support (e.g., photographs, statements, sample documentation, etc.) accompanying the report should be clearly referenced so that anyone reading the report will get a complete, clear overview of the situation.

- Objective. Information should be objective and factual; the report should not speculate on the ultimate result of any factual findings.

- Clear. The information in the report should be presented in a clear, well-organized manner.

- Neat and Legible. Allow time to prepare a neat, legible report.

3.7.2.1 Elements of the Inspection Report - Although specific information contained in the inspection report will vary depending upon the inspection objectives, most reports will contain the same basic elements:

- Cover page

- Narrative report; and

- Documentary support.

3.7.2.1.1 Cover Page - A cover page is used for easy access to basic facility information. It should include:

- Facility name and address,
- Facility identification number,
- Facility contact and/or representative (including phone number),
- Type of inspection,
- Date of inspection, and
- Inspector's name.

3.7.2.1.2 Narrative Report - The narrative portion of an inspection report should be a concise, factual summary of observations and activities, organized in a logical, legible manner, and supported by specific references to accompanying documentary support.

The following work plan will simplify preparation of the inspection report and will help ensure that information is organized and in a usable form. The basic steps in writing the narrative report include:

- Reviewing the Information. The first step in preparing the narrative is to collect all information gathered during the inspection. The inspector's field notebook should be reviewed in detail. All evidence should be reviewed for relevance and completeness. Gaps may need to be filled by a phone call or, in unusual circumstances, by a follow-up visit to the facility.

- Organizing the Material. The information may be organized in many forms depending on the individual need, but should present the material in a logical, comprehensive manner. The narrative should be organized so that it will be easily understood by the reader.

- Referencing Accompanying Material. All documentary support accompanying a narrative report should be clearly referenced so that the reader will be able to locate these documents easily. All documentary support should be checked for clarity prior to writing the report.

- Writing the Narrative Report. Once the material collected by the inspector has been reviewed, organized, and referenced, the narrative can be written. The purpose of the narrative is to record factually the procedures used in, and findings resulting from, the evidence-gathering process. The inspector need only refer to routine procedures and practices used during the inspection, but should describe facts relating to potential violations and discrepancies in detail.

If the inspector follows the steps presented, the report should develop logically from the organizational framework of the inspection. In writing the narrative, the inspector should keep the following in mind:

- Use a simple writing style; avoid stilted language.
- Use an active, rather than passive approach: (e.g., "He said that..." rather than "It was said that...").
- Keep paragraphs brief and to the point.
- Avoid repetition.
- Proofread the narrative carefully.

A basic format which can be adapted for most narrative reports is outlined below.

- General Inspection Information
  - Inspection objectives
  - Facility selection scheme
  - Inspection facts (date, time, location, plant official, etc.)

- Summary of Findings
  - Factual compliance findings (include problem areas)
  - Compliance status with applicable regulations
  - Administrative problems (as with entry, withdrawal of consent, etc.)
  - Recommended future action (if appropriate)

- Facility Information
  - Process information
  - Raw materials, production rates
  - Control equipment
  - Applicable regulations
  - Enforcement history

- Inspection Procedures and Detail of Findings
  - Refer to standard procedures used
  - Describe nonroutine procedures used
  - Reference inspection data attached
  - Note and reference any statements taken
  - Reference photographs, if relevant
  - Reference any drawings, charts, etc. made
  - Reference visible emission observation forms
  - List records reviewed and address inadequacies

- Sampling
  - Refer to methods used
  - Reference analytical results attached

- Attachments
  - List of all documentary support attached

3.7.2.1.3 Documentary Support - The documentary support is all evidence referred to in the inspection report. It will include:

- Inspector's field notes, forms, checklists;
- Drawings, charts, etc;
- Photographs;
- Analysis results of sample collected;
- Statements taken; and
- Visible emission observation forms.

3.7.2.2 Confidential Business Information - In preparing the report, material claimed confidential business information should preferably be referenced in a nonconfidential manner. Alternatively, the report may include the confidential information; however, the entire inspection report must then be treated as a confidential document (see Section 3.8).

3.8 HANDLING CONFIDENTIAL BUSINESS INFORMATION

As part of the data gathering involved in the air compliance inspection, the inspector may encounter and/or collect information claimed confidential by the company. It is recommended that such information be avoided unless it is essential to the inspection objectives. The less confidential data collected, the less confidential data that will require safeguarding. At all times during the inspection, the inspector should communicate to the company officials that the Agency has an organized, secure scheme for confidential business information handling. This will do much to increase their confidence and rapport with the Agency.

The remainder of this section describes procedures which must be followed for the handling of confidential business in those cases where it proves necessary to collect it.

3.8.1 Federal Laws and Regulations Governing Confidential Business Information

Trade secrets and confidential information are protected from public disclosure by Section 114 (c) of the Clean Air Act. The type of information that may be claimed confidential business information is defined in Title 40, Code of Federal Regulations, Part 2, as amended.[6] Part 2 (211) also covers the penalty for wrongful disclosure:

> "(A) No EPA Officer or employee may disclose, or use for his or her private gain or advantage, any business information which came into his or her possession, or to which he or she gained access, by virtue of his or her official position or employment, except as authorized by this subpart.
>
> (B) Each EPA Officer or employee who has custody or possession of business information shall take appropriate measures to properly safeguard such information and to protect against its improper disclosure.
>
> (C) Violation of paragraphs (A) or (B) of this section shall constitute grounds for dismissal, suspension, fine, or other adverse personnel action. Willful violation of paragraph (A) of this section may result in criminal prosecution under 18 U.S.C. 1905 or other applicable statute."

3.8.2 Defining Confidential Business Information

From the inspector's standpoint, confidential information may be defined as information received under a claim of confidentiality (see Section 3.8.3) which may concern or relate to trade secrets, processes, operations, style of work, apparatus, confidential statistical data, amount or source of any income, profits, losses, or expenditures. This information could be in written form, in photographs, or in the inspector's memory.

3.8.3 Declaration of Confidential Business Information

Section 114 (a) of the Clean Air Act states that an inspector may sample any emissions, request information, have access to and copy any records, and inspect any equipment.[4] The information that is collected is available to the public. If a company does not want inspection information to be available to the public, it must request that the Administrator of EPA consider the information confidential. In its declaration of confidential business information, the company must show that the information, if made available, would divulge trade secrets. The information may then be handled as if it were confidential, but may still be disclosed to authorized representatives of EPA.

Therefore, a business is entitled to make a declaration or claim of confidentiality for all information that an inspector requests or has access to; but a business may not refuse to release information requested by the inspector under the authority of Section 114 of the Act on the grounds that the information is considered confidential or a trade secret. The claim of confidentiality relates only to the public availability of such data and cannot be used to deny access to a facility to EPA inspectors performing duties under Section 114 of the Act.

Information which EPA determines to be emissions data or not trade secret may, upon such a determination and upon notice to the company, be disclosed to the public. See Reference 2 for a description of relevant procedures.

It is the inspector's responsibility to inform company officials during the opening conference of their rights regarding confidentiality claims. He should explain that they will have the opportunity both during and after the inspection to identify any data to be claimed confidential. They may then supply the inspector with a written Declaration of Confidential Business Information listing each item at the closing conference, or at a later date. The inspector should handle data identified as confidential in a confidential manner until the company has made its written claim. Claims should include:

- Name, title, and address of firm and individual making the declaration;
- Date of declaration;

- List, by title or description of all information or samples claimed confidential;
- Dates and other information concerning data that requires confidential treatment only until a certain date or event;
- EPA Regional Office; and
- Name and title of inspector.

The paragraph below is an excerpt from 40 CFR Part 2[6] and is suggested language for use by the inspector in explaining claims of confidentiality.

> "If you believe that any of the information required to be submitted pursuant to this request is entitled to be treated as confidential, you may assert a claim of business confidentiality, coveraing all or any part of the information, by placing on (or attaching to) the information a cover sheet, stamped or typed legend, or other suitable notice, employing language such as "trade secret," "proprietary," or "company confidential." Allegedly confidential portions of otherwise nonconfidential information should be clearly identified. If you desire confidential treatment only until a certain date or until the occurrence of a certain event, the notice should so state. Information so covered by a claim will be disclosed by EPA only to the extent, and through the procedures, set forth at 40 CFR Part 2, Subpart B."

3.8.4 Receipt of Confidential Business Information

As stated previously, the inspector must be careful to identify all privileged information collected during an inspection. And, since confidential information involves extra handling, paperwork and possible legal consequences, he should avoid collecting privileged information unnecessarily. Under ideal circumstances, a facility official will accompany the inspector and make preliminary indications of information which may be claimed confidential. The inspector himself should never speculate whether any data claimed confidential will eventually be determined confidential; this determination is a legal and administrative policy decision and not within the inspector's authority.

If possible, confidential information should not be entered into the field notebook. One technique is to use a nonconfidential reference to the information in the notebook and separate sheets (which are considered separate documents) on which to record the confidential information.

Photocopies or manual copies of records or other documents considered confidential can be separated and kept with the confidential field notes. At the end of the inspection, the inspector should make a complete inventory of the confidential information received. This may be done during the closing conference where the company officials may to make their claims of confidentiality. Company officials should be informed that they may also make claims of confidentiality at a later time.

Each page of confidential information received should be stamped with a statement such as these examples below.

CONFIDENTIAL BUSINESS INFORMATION

CLAIMED CONFIDENTIAL

DOCUMENT_____ PAGE_____OF_____
REC'D. FROM_____DATE_____
REC'D. BY_____PN_____

An inventory should be prepared which lists for each document:

- Document number;
- Number of pages;
- Brief description;
- Date received.

3.8.4.1 Samples - If the company has declared a physical sample confidential business information, the inspector should mark the seal "Confidential Business Information."

3.8.5 Handling in the Field

The inspector may sometimes be on the road for several days while doing inspections. During this time, it is his/her full responsibility to ensure that the confidential information collected is handled securely. Procedures for handling in the field are listed below.

- Documents and field notes are considered secure if they are in the physical possession of the inspector and are not visible to others while in use.

- Confidential inspection documents should be kept inside an unlabeled envelope which is in a locked briefcase. If it is impractical to carry the briefcase into a given siutation, the briefcase may be stored in a locked area such as a motel room or the trunk of a motor vehicle.

- If it is necessary for the inspector to review a confidential document, it should be done in privacy since the "Confidential Business Information" marking is likely to arouse curiosity. If privacy is violated, the documents must be shielded from view immediately.

- Physical samples should be placed in locked containers and stored in a locked portion of a motor vehicle. The chain of custody procedures provide further protection for ensuring the integrity of the sample.

3.8.6 Handling in the Office

Immediately upon return to the agency, the potentially confidential information (data, charts, drawings, etc.) should be placed in a secure, locked file cabinet (in a locked room) designated especially for confidential information. Only personnel authorized by the Regional Administrator, Division Director, or Branch Chief will be allowed access to the file. Records should be kept of every person who uses a document including their name, signature, and date taken from file. EPA Form 1481-2, Privileged Information Control Record, may be used for this purpose.[8]

Samples considered confidential should be assigned a document number and sent to an approved lab for analysis. The chain of custody and analysis results should bear this document number. At all times prior to analysis and/or disposal, the samples should be stored in a locked cabinet. Analysis results should also be treated as confidential information.

Copies of information marked "trade secret" and/or "confidential" should not be made unless written authorization has been obtained from the Regional Administrator, Division Director, or Branch Chief. When it becomes necessary to copy privileged information, all copies should be included in the confidential document inventory and accounted for as would be an original.

Requests for access to confidential information by any member of the public, or by an employee of a State, local, or Federal Agency, shall be handled according to the procedures contained in the Freedom of Information Act regulations (40 CFR Part 2).[6] All such requests shall be referred to the responsible Regional organizational unit.

3.8.7 Privileged Data and Report Preparation

In preparing the inspection report, it is recommended that confidential information be referenced in a nonconfidential manner (i.e., by reference to the document in the confidential files and a general description of the information contained therein). If necessary, the confidential data may be included in the report, but the entire report must then be treated as a confidential document.

3.9 CHAIN OF CUSTODY PROCEDURES

An important aspect of the introduction of evidence during enforcement proceedings is documentation of the possession and handling of that evidence from the moment of its collection to its introduction as evidence. This documentation is generally referred to as the "chain of custody." Chain of custody documentation assures the court or other quasi-judicial body of the data integrity and is applicable to the following types of evidence.

- Samples
- Photographs
- Field Notes
- Laboratory Notes

The most rigorous proof of a chain of custody is usually required for physical samples, thus this discussion will focus on chain of custody procedures for samples.

3.9.1 Elements of Custody

A sample or document is in "custody" if:

- It is in one's actual physical possession.
- It is in one's view.
- It was in one's physical possession and it was secured so it couldn't be tampered with.
- It is kept in a secured area with access restricted to authorized personnel only.
- It is placed in a container or other receptacle sealed with an Official Seal (see Figure 3-2) that will be broken when the receptacle is opened.

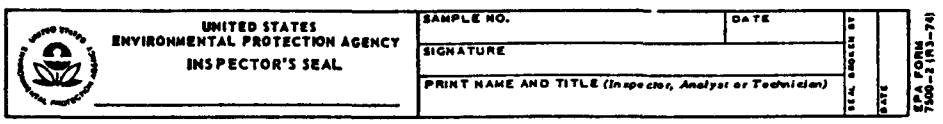


Figure 3-2. Official Seal for Chain of Custody.

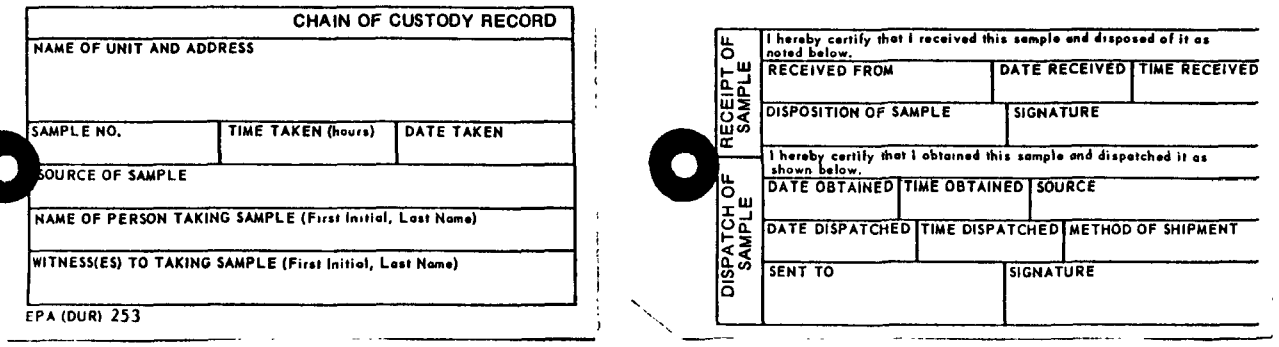
3.9.2 Chain of Custody Procedures

Establishing and maintaining the chain of custody requires adherence to a number of procedures which ensure the integrity of the sample. These procedures are initiated with the identification of the sample and continue through sample transit, laboratory analysis, until introduction of the data into evidence. Sample integrity is generally easier to document as the number of people who handle the sample decreases. Thus, all chain of custody procedures are aimed at limiting the number of persons who handle the sample or the data.

1. Establishing Custody. Sample custody is initiated at the time of collection by labeling the sample with a sample tag (see Figure 3-3) and sealing the sample with the Official Seal. The sample container or wrapper is sealed with the Official Seal so that it may not be opened at any point without breaking the seal and/or the original unit package. No more than one sample should be sealed under one seal.

If the company declares a physical sample confidential business information, the inspector should mark the tag and seal "Confidential Business Information." (See Section 3.8 for more discussion of confidential business information.)

If it becomes necessary to break a seal, it should be mounted on a piece of paper, properly initialed and dated and submitted with the sample records to provide as part of the continuous history of the sample. The sample itself should be resealed with a new seal.


CHAIN OF CUSTODY RECORD

NAME OF UNIT AND ADDRESS

SAMPLE NO.	TIME TAKEN (hours)	DATE TAKEN

SOURCE OF SAMPLE

NAME OF PERSON TAKING SAMPLE (First Initial, Last Name)

WITNESS(ES) TO TAKING SAMPLE (First Initial, Last Name)

EPA (DUR) 253

RECEIPT OF SAMPLE

I hereby certify that I received this sample and disposed of it as noted below.

RECEIVED FROM	DATE RECEIVED	TIME RECEIVED

DISPOSITION OF SAMPLE	SIGNATURE

DISPATCH OF SAMPLE

I hereby certify that I obtained this sample and dispatched it as shown below.

DATE OBTAINED	TIME OBTAINED	SOURCE

DATE DISPATCHED	TIME DISPATCHED	METHOD OF SHIPMENT

SENT TO	SIGNATURE

Figure 3-3. Example of a Sample Tag.

2. Preparing Sample Documentation. A major aspect of the chain of custody is the preparation and maintenance of written information describing the collection, shipment, and storage of the sample. Preparation of this documentation is the responsibility of the inspector and lab personnel. Properly maintained, this documentation serves as a clear and complete account indicating the sample has remained intact from collection to introduction as evidence.

The sample must be consistently identified throughout this documentation. Sample numbers are used for this purpose; one unique

sample number is used for each sample. It should appear on all documentation relating to a sample including; seals, sample tags, the Chain of Custody Record, inspector's field notes, drawings, photographs, etc.

3. Coordinating Sample and Documentation. The inspector must assure that the relationship between the physical sample and the related documentation is clear, complete, and accurate. The sample number, date, and inspector's initials should appear on all documents, and the forms should be completed accurately and completely. An example chain of custody form or record is shown in Figure 3-4.

4. Ensuring Custody during Transit. Shipment to sample of the laboratory will involve the following procedures:

   - Samples must always be accompanied by the Chain of Custody Record. Copies of documents should be retained by the originator.

   - Sample packages which are mailed must be sent registered or certified mail with return receipt requested.

   - If sent by other common carrier, such as U.P.S., a bill of lading should be used.

   - Samples should be shipped to the person designated laboratory custodian and labeled "deliver to addressee ONLY." This person accepts custody and continues the chain of custody from that point onward.

   - All receipts and shipping documents must be included in the chain of custody documentation.

   - Shipped samples should always be properly packed to prevent breakage, and the package should be sealed or locked so that any evidence of tampering may be readily detected.

EPA United States Environmental Protection Agency

Chain of Custody Record

Sample Number	Task Number	
Inspection Number		
Sample Name		
Inspector Name and Address	Date Sample / Time / Duplicate Requested ( ) Yes ( ) No	
Inspector Signature	Location of Sampling	
Analysis/Testing Required		

Laboratory			
Date Received			
Received By			
Sent Via			
Sample Condition			
Condition of Seals			
Units Received			
Storage Location			
Assigned By			
Assigned To			
Delivered By			
Date Delivered			
Number of Units Received			
Units Analyzed			
Date Seal Broken			
Date Resealed			
Resealed By			
Storage Location			
Date Results of Analysis Issued to EPA		Date Results of Analysis Issued to Facility	
Remarks			

Figure 3-4. Example Chain of Custody Record.

3.10 REFERENCES

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