BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

The Bay Area Air Quality Management District

Request for Proposals

Public Safety Voice and Data Radio Communications System

Supplemental Material

January 2006

THAYER
consulting

The Bay Area Air Quality Management District
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Section 1 Overview

This volume provides supplemental materials to be used with the Bay Area Air Quality Management District's (BAAQMD or District) Public Safety Voice and Data Radio Communications System RFP.

The material contained in this document provides detailed information on BAAQMD's current communications systems.

Section 2 Existing Systems Description

The systems identified in this section are currently in operation to support communications for the Compliance and Enforcement Division within all of seven counties - Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara and Napa, and portions of two others - southwestern Solano and southern Sonoma. A map of the BAAQMD jurisdiction is included as Appendix 1. Approximately 70 inspectors drive vehicles equipped with UHF mobile radios. In addition, inspectors have Sprint Nextel BlackBerry 7520 hand-helds and laptop computers. No portable UHF radios are in use. The mobile radios communicate with three dispatch consoles located at BAAQMD headquarters at 939 Ellis St. in San Francisco. Backhaul of the radio system is achieved through a combination of BAAQMD owned microwave, leased microwave, and leased 4-wire line. A more detailed description of these systems follows.

2.1 Conventional UHF Voice System

The UHF radio system currently provides wide area voice coverage to inspectors who are responsible for enforcing compliance with air quality regulations. Based on 30 years of usage, inspectors have come to value the system for its ability to enhance their job function, safety in the field and sense of community. Prior to the radio system, inspectors communicated remotely with the central office via pay phones. The radio system is now the primary means for maintaining contact with the District's central office and for monitoring inspector safety. Because inspectors are primarily located in the field, the radio system has become an important tool for sharing information. Inspectors rely on the ability to listen to the activities of nearby inspectors throughout the day.

The system is used by inspectors to provide status on location and availability to radio telephone operators (RTOs), to transmit compliance data, as well as to ask questions for which inspectors do not have local resources to answer (i.e., permit compliance information). The radio system is used by RTOs to dispatch assignments, complaints and general messages to inspectors, many of whom seldom come into the headquarters office.

The current radio system was constructed in the mid-1970s and consists of four transceiver sites utilizing two UHF frequency pairs. Each transceiver is a Motorola 60 watt Micor. Two repeaters, operating on one frequency pair, are located in the "North" zone (with sites at Big Rock Ridge and Mt. Vaca). The other two repeaters, operating on a second frequency pair, are located in the "South" zone (with sites at Mt. San Bruno and Sunol Ridge). Each frequency pair uses two private line (PL) tones facilitating mobile transmissions to each transceiver in each zone, creating a total of four virtual channels. No voting receiver sites are used. Access to an additional site, located on Mt. Diablo, was leased within the last year to increase coverage throughout Contra Costa County. The Mt. Diablo site utilizes LTR trunking on one UHF frequency pair. A diagram of the transceiver sites is shown in Figure 2-1. All five tower and shelter locations are leased by the District. Information about site management is included as Appendix 2.

BAAQMD UHF System Diagram

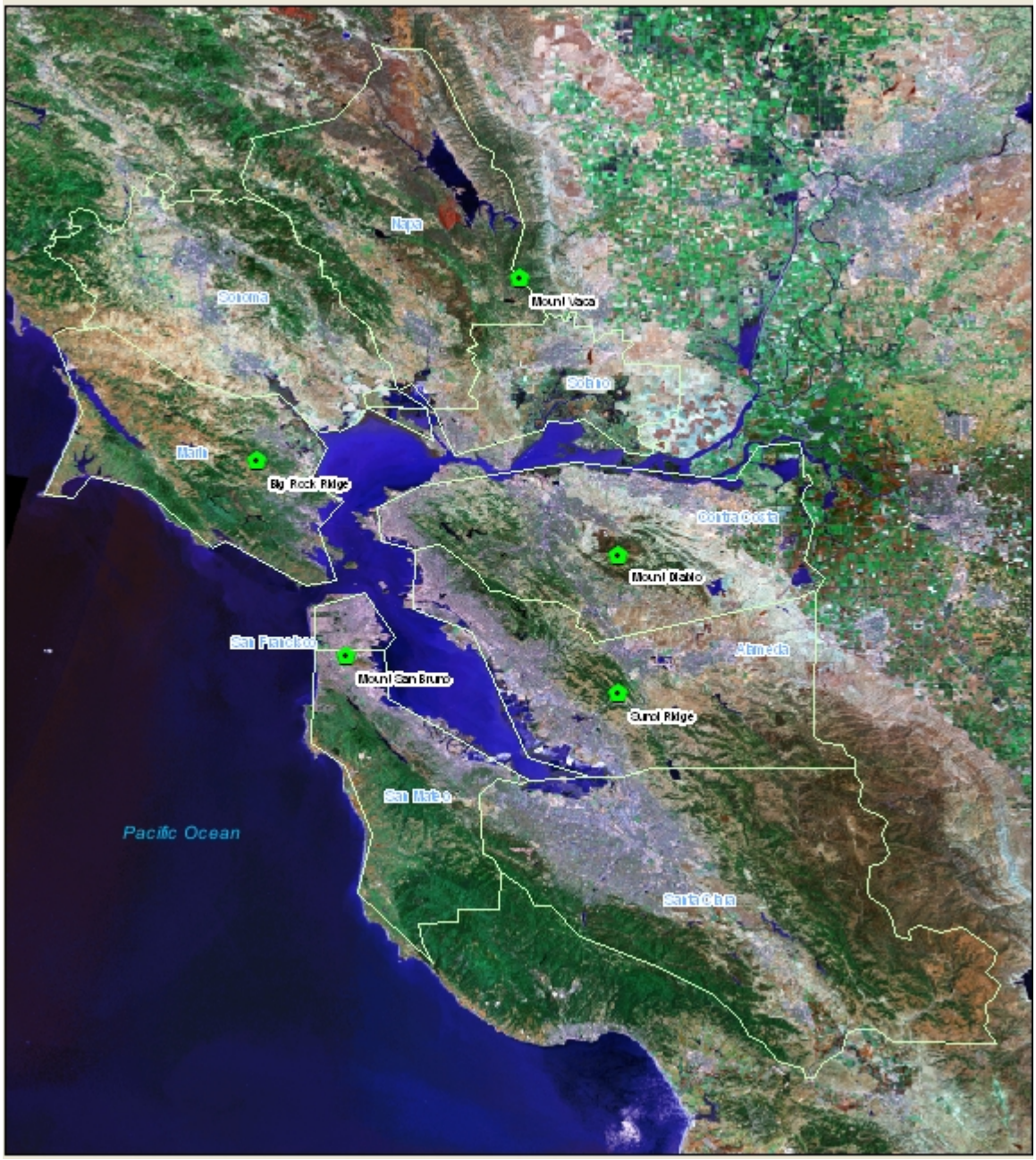


Figure 2-1

Technical information for each transceiver is listed in the table below. In addition to the five repeater sites previously mentioned, the control station at BAAQMD headquarters, which can transmit in a similar manner to each of the mobile radios, is listed in the table.

Transceivers

Site Name	Elevation (m)	HTT (m)	Max ERP (W)	Latitude	Longitude
Mount Vaca	841	30	223	38-24-20.7	122-6-31.9
Big Rock Ridge	549	17	163	38-3-32.7	122-36-18.9
Mount San Bruno	372	30	96	37-41-20.8	122-26-13.9
Sunol Ridge	661	24	182	37-37-11.8	121-55-19.8
Mount Diablo	1091	86	250	37-52-54.0	121-55-09.0
Headquarters	34	46	47	37-47-1.7	122-25-18.9

Note: "HTT" is the height to the tip of the transmit/receive antenna from the base of each tower. "Max ERP" is the maximum permitted effective radiated power, as allowed by the FCC.

While there are currently 75 mobile radio users at the District, the current system is licensed for up to 89 mobile units. The UHF frequencies used are subject to 47CFR90 Subpart L – UHF-TV Sharing. Any proposed voice or data systems that do not plan to use these frequencies should consider their value for commercial use. More detailed information regarding the frequencies is included as Appendix 3.

Coverage

The system, as initially designed, adequately covered field inspectors throughout the jurisdiction where the vast majority of air pollution is controlled – primarily urban areas. However, a number of factors have resulted in inspectors increasingly operating outside of the radio coverage areas, including:

- Deterioration of the radio infrastructure which has been in place for approximately 30 years.
- Change to lower powered mobile transmitters. For various reasons, all mobiles now transmit at 25 watts rather than their historic 40 – 50 watts. This has created a communications system that is "talk-in" limited.
- Population and business growth in the fringe areas of the jurisdiction has created greater need for inspectors where there was previously limited need.
- Stringent pollution regulations require inspectors to be in rural areas where encounters with residents have become increasingly risky to inspector safety. Uncontrolled burns (fires) present a particularly high risk to inspector safety due to the lack of communications coverage in rural areas and the sometimes aggressive resistance to enforcement policies.

Initial site selection was also limited to towers available in the 1970s. Since that time many new tower locations have been developed, thus more optimal site selection may be available today. The UHF radio frequencies are propagated in analog format. A map with approximate radio coverage throughout the BAAQMD jurisdiction is included as Appendix 4. Areas of poor coverage and interference as experienced by inspectors are noted following the coverage map.

Capacity

Capacity for voice communications on the current UHF system is more than adequate. The system has light to moderate use from approximately 7:30 AM to early afternoon on weekdays and is rarely used on nights or weekends. The heaviest usage is typically during roll call each morning wherein every inspector is expected to call in to dispatch. Status communications throughout the day using 10-codes are brief. The longest calls tend to be dispatch of complaints, which include address, type of complaint, status and contact information.

Radio interference has been experienced from radio systems in both Redwood City and San Rafael. Neither city has reported any interference from the District's radio system. No encryption is used on the radio system.

A complete inventory of mobile radios is listed in Appendix 5. Mobile radios are typically purchased and installed with each new fleet vehicle. Approximately ten to 20 fleet vehicles are replaced each year. Therefore, the vast majority of mobile radios vary in age from 0 - 7 years old.

2.2 Backhaul System

Interconnection between the radio sites is achieved through a combination of BAAQMD microwave links, a leased microwave link, a leased 4-wire line and a UHF control link. A Motorola Starpoint microwave system was constructed in the mid 1970s to support the UHF radio system. BAAQMD-owned microwave hops connect the Mount Vaca and Big Rock Ridge sites, the Big Rock Ridge site and San Leandro Hill, and San Leandro Hill and BAAQMD headquarters. A Motorola MC 400 MUX shelf with a capacity of 6 channels is located at each of these sites. San Leandro Hill is a tower operated by Alameda County Communications. BAAQMD leases a microwave hop between San Leandro Hill and the Sunol Ridge site. Mount San Bruno is linked to BAAQMD headquarters through a leased 4-wire line. The Mount Diablo site is linked to BAAQMD via a UHF control link. This backhaul system is shown graphically in Figure 2-2.

Backhaul System

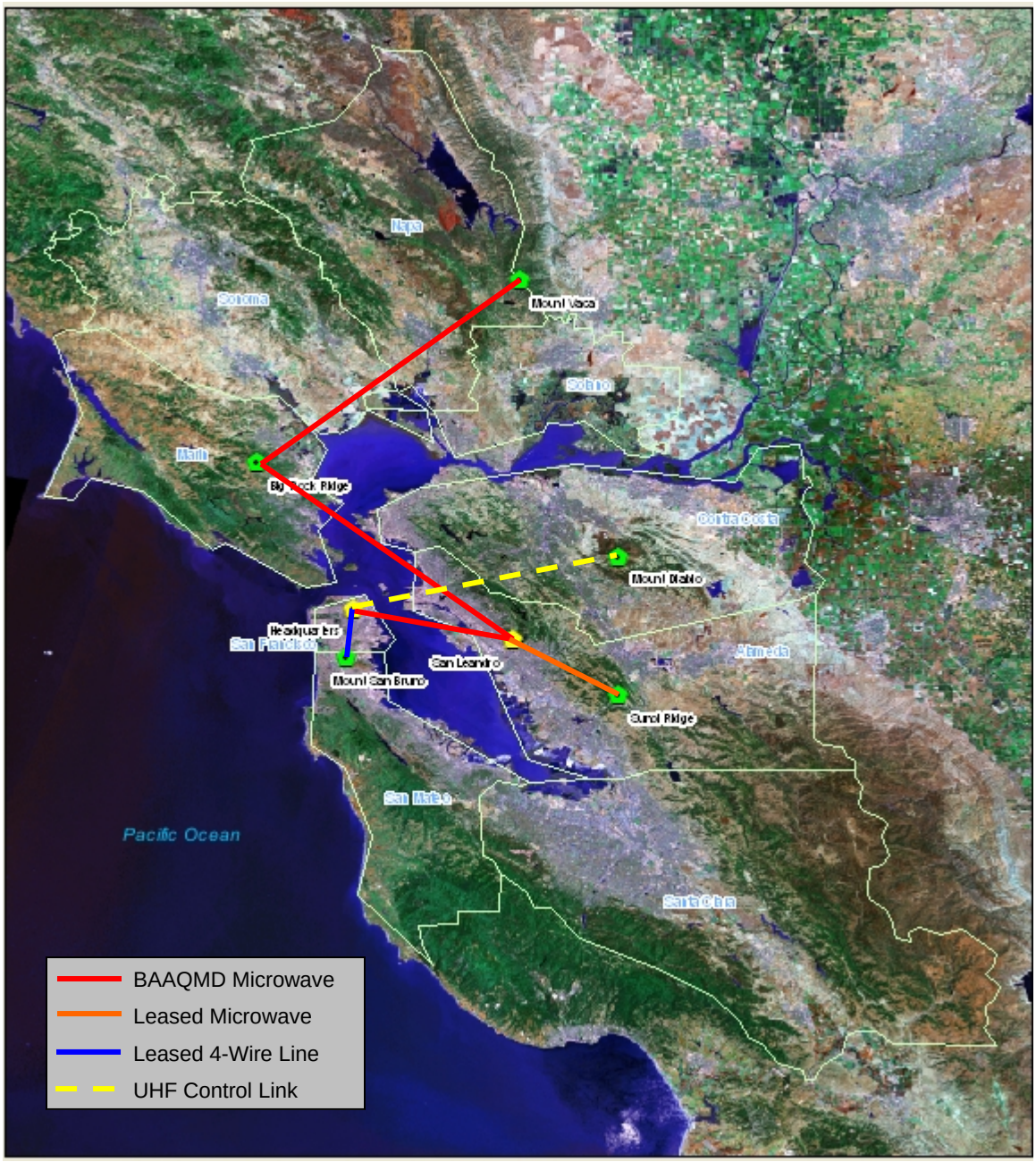


Figure 2-2

The backhaul sites and link types used are listed on the following table:

Transmit Location	Latitude	Longitude	Link Type	Tx (MHz)	Receive Site
Headquarters	37-47-1.7	122-25-18.9	Microwave	2139.6	San Leandro
Mount Vaca	38-24-20.7	122-6-31.9	Microwave	2194.4	Big Rock Ridge
Big Rock Ridge	38-3-32.7	122-36-18.9	Microwave	2130.8	San Leandro
Big Rock Ridge	38-3-32.7	122-36-18.9	Microwave	2144.4	Mount Vaca
San Leandro	37-43-26.7	122-07-10.8	Microwave	2189.6	Headquarters
San Leandro	37-43-26.7	122-07-10.8	Microwave	2180.8	Big Rock Ridge
San Leandro	37-43-26.7	122-07-10.8	Leased Microwave*	*	Sunol Ridge
Sunol Ridge	37-37-11.8	121-55-19.8	Leased Microwave*	*	San Leandro
Headquarters	37-47-1.7	122-25-18.9	Leased 4-wire line	N/A	Mount San Bruno
Mount San Bruno	37-41-20.8	122-26-13.9	Leased 4-wire line	N/A	Headquarters
Headquarters	37-47-1.7	122-25-18.9	UHF	492.0625	Mount Diablo
Mount Diablo	37-52-54.0	121-55-09.0	UHF	489.0625	Headquarters

* Leased microwave connections are managed by Alameda County Communications

Information about site management for each of the backhaul sites is included in Appendix 2.

2.3 Dispatch Facilities/Consoles

Radio dispatch is conducted from one room at the BAAQMD headquarters located at 939 Ellis St., San Francisco, CA 94109. The dispatch room has four console positions. One is a call taking position and three are equipped with Zetron Model 4000 radio dispatch positions. In addition, one separate stand-alone console (consisting of a phone) has been added next to one of the Zetron positions to support approximately 15 inspectors that are using Channel 5 (Mt. Diablo) on their mobile radios.

RTOs communicate with inspectors by individually selecting a specific channel. As previously noted, RTOs dispatch assignments, complaints, and general announcements. They also acknowledge status and location information received from the field inspectors. All radio calls are manually logged into the IRIS computer system (described in Section 2.7.1) by the RTOs. These radio logs are occasionally reviewed by supervising inspectors.

The proposed system will require replacement of the radio electronics at each console listed above. New console furniture to support the new radio equipment may be included as an option. Proposers will be responsible for integrating the radio electronics with the existing systems.

2.4 Instant Call Check Recorders

A voice recording system provides instant call check functionality for telephone and radio communications, with two minutes of backup recorded. This system is used frequently by the RTOs.

2.5 Mobile Data System

Currently, inspectors have very limited use of mobile data systems. Laptops used by inspectors have internal radios, PCMCIA slots and USB ports. The laptops are not currently mounted in any fashion in the vehicles. Inspectors in each area often use public internet "hot-spots", where they access web applications, including e-mail.

There are a number of areas where mobile data applications may be used to enhance inspector operations. Many of the current radio voice communications may be achieved more efficiently over a wide area data network using existing Sprint Nextel BlackBerry 7520 hand-helds or equivalent. Most inspector communications are not required in real-time, thus higher bandwidth applications can be reserved for occasional visits to central offices and Wi-Fi hotspots. Some of the potential wide area mobile data applications envisioned include:

- Basic text messaging, used for transmitting compliance and job information
- Status buttons with pre-coded messages equivalent to current 10-codes (e.g., out of area, in a meeting, in car, at a facility), coupled with GPS coordinates.

A summary of data input to IRIS (described below) by dispatchers for a typical week is included as Appendix 6.

2.6 GIS

The District maintains an ESRI map file with ArcGIS software. The District also owns an ESRI enterprise GIS system ArcSDE server, which interfaces with an Oracle 9i database. Application options to look at inspectors and other staff in the field are currently being explored. In addition, inspection staff uses Sprint Nextel Blackberry hand-helds with GPS capabilities.

2.7 Information Systems

2.7.1 Information Systems Services (ISS) Division

The District's Information Systems Services Division provides infrastructure and implementation support as well as strategic guidance for information technology utilization. Among its responsibilities, ISS manages two enterprise business applications, a JD Edwards finance system and an internally developed production system. The two primary components of the production system,

called Databank and IRIS, are described in the following sections. The production system is expected to be replaced over the next few years.

ISS is capable of providing expertise and resources for implementing a mobile data solution.

2.7.2 Ingres Relational Information System (IRIS)

IRIS is an internally developed group of visual basic applications (modules) that access an Ingres database with ODBC drivers. All reports are generated with Crystal Reports. Inspector access to IRIS from the field is generally via one of two methods, virtual private networking (VPN) or dial-up networking. The VPN uses a Cisco solution which requires a piece of client software. The secure network is available to a properly configured client with an open internet connection provided the proper authentication is provided. The dial-up remote access server (RAS) provides point-to-point protocol (PPP) connections using POTS (plain old telephone service) to authenticated clients. A Microsoft PPTP solution is also currently in use, but is being phased out. A brief description of each of the IRIS applications follows. More detailed information is maintained by the District.

Dispatch Module: The Enforcement Division is using this program to dispatch complaint, asbestos, hearing board and episode information to inspectors in the field, facilitate communication between RTOs and inspectors to update inspection status via 10-codes and radio logs, and provide complaint, compliance, hearing board, and Notice of Violation entry or status.

Episode Module: The Enforcement Division is using this program to handle Episode (also known as a Reportable Compliance Activity) information entry, update and tracking.

Complaint Module: The Enforcement Division is using this program to record entries and update citizen complaints.

Smoking Vehicle (SMV) Module: The Enforcement Division uses this program to handle Smoking Vehicle incident data entry, print owner notification letters and process owner survey responses. In addition to the internal client application, a web front-end is available for public access.

While IRIS is currently thick-client based, future systems are intended to be thin-client, browser-based applications.

The following table provides an estimate of the frequency and respective amount of data entered into IRIS by dispatchers from radio calls in a typical week.

Module / Activity	Occurrences (per week)	Amount of data (bytes per week)
Dispatch logs	3069	368,280
Asbestos Jobs	140	78,540
Complaints	60	155,570
Episodes	14	8,400

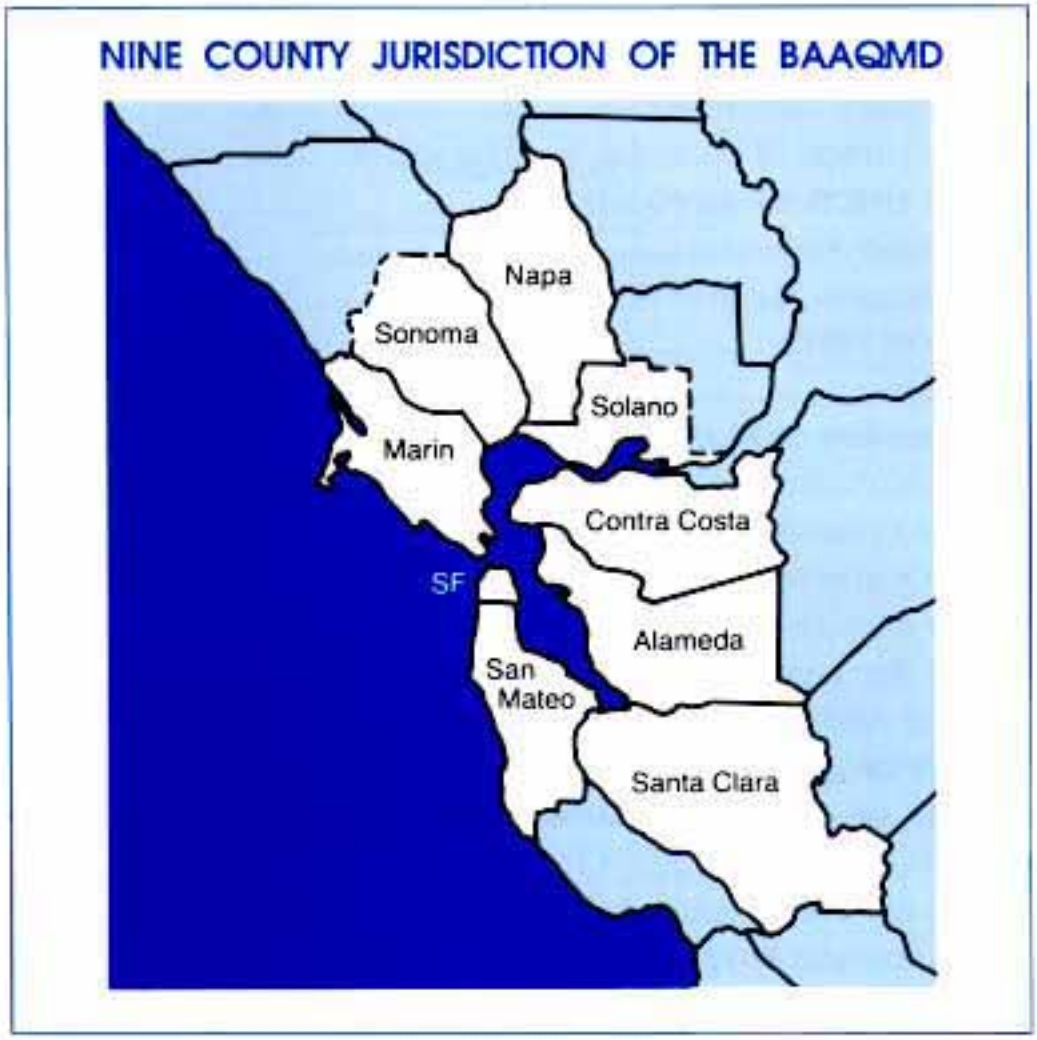
2.7.3 Databank

Databank is a customized application used primarily for permit generation, historical queries and specific calculations such as source and emissions inventories and facility throughput and emissions. Databank runs on an HP3000 and is a flat file system. Databank is expected to be replaced along with IRIS during the production system upgrade. Databank applications are not anticipated to be used directly with any mobile data system. The terminal emulation software used to access Databank is Reflection for HP.

Section 3 Appendices

[The appendices follow this page.]

Appendix 1 – BAAQMD Jurisdiction



Appendix 2 – Radio Site Management

Tower Site	Site Management	Address
Mount Vaca	American Tower	116 Huntington Ave., Boston, MA 02116
Big Rock Ridge	C & C Equipment	300 Valley St. #203, Sausalito, CA 94965
Mount San Bruno	American Tower	116 Huntington Ave., Boston, MA 02116
Sunol Ridge	Alameda County	2000 150th Ave., San Leandro, CA 94578
Mount Diablo	American Tower	116 Huntington Ave., Boston, MA 02116
San Leandro	Alameda County	2000 150th Ave., San Leandro, CA 94578
Headquarters	BAAQMD	939 Ellis St., San Francisco, CA 94109

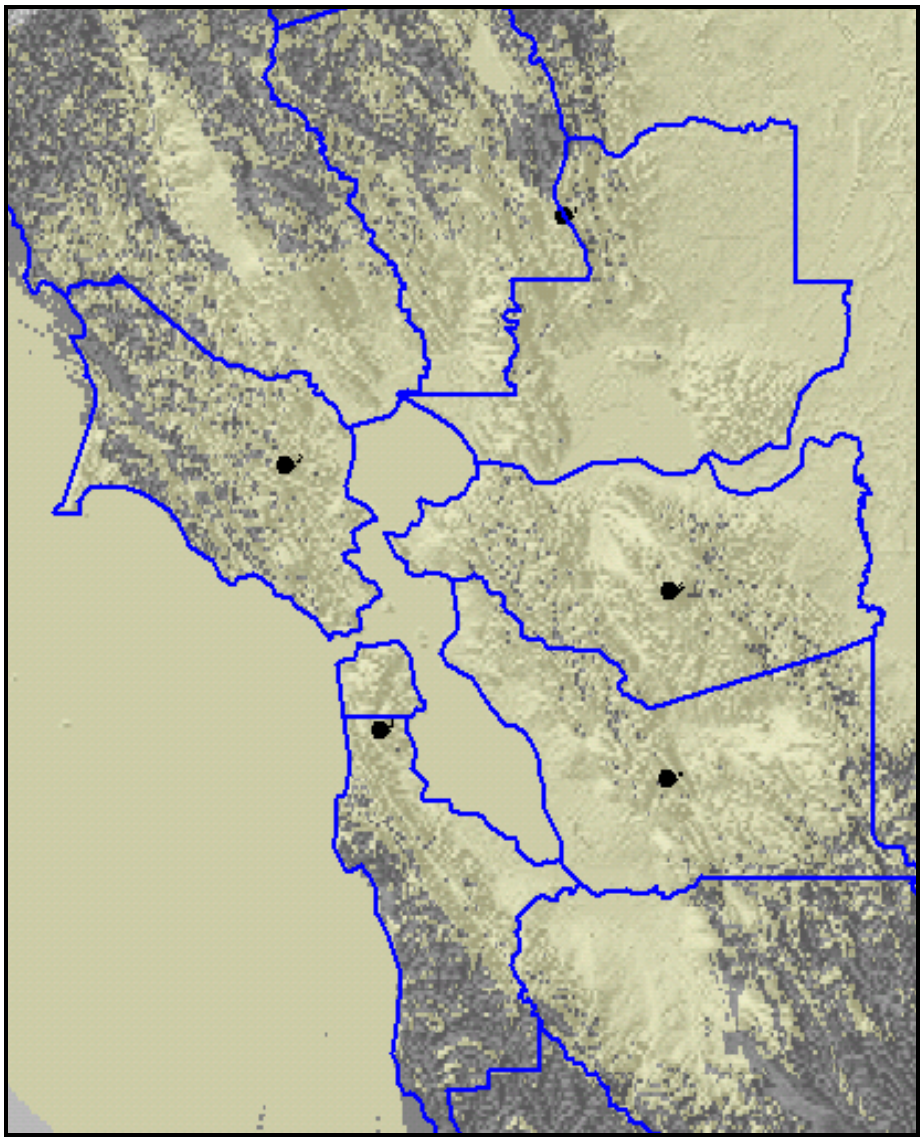
Microwave Site	Site Management	Address
Mount Vaca	American Tower	116 Huntington Ave., Boston, MA 02116
Big Rock Ridge	C & C Equipment	300 Valley St. #203, Sausalito, CA 94965
San Leandro	Alameda County	2000 150th Ave., San Leandro, CA 94578
Headquarters	BAAQMD	939 Ellis St., San Francisco, CA 94109

Appendix 3 – BAAQMD System Frequencies

Channel	Name	Call Sign	Base to Mobile (MHz)	PL	Mobile to Base (MHz)	PL
1	Mount Vaca	KWM922	488.5125	103.5	491.5125	103.5
2	Big Rock Ridge	KWM922	488.5125	103.5	491.5125	94.8
3	Mount San Bruno	KWM922	488.9625	103.5	491.9625	103.5
4	Sunol Ridge	KWM922	488.9625	103.5	491.9625	94.8
5	Mount Diablo	WPTF232	489.0625	N/A	492.0625	N/A
6*	North Direct	KWM922	488.5125	103.5	488.5125	103.5
7*	South Direct	KWM922	488.9625	103.5	488.9625	103.5

* The use of Nextel ESMR has replaced much of the use of the North and South Direct channels; many mobile radios are no longer programmed with these channels.

Appendix 4 – Radio Coverage



The figure above roughly approximates "talk-in" radio coverage on the current system. Outdoor areas with no radio coverage are indicated in dark gray. The five radio transmission sites are represented in black. Counties within BAAQMD jurisdiction are highlighted in blue. Interference from radio systems in Redwood City and San Rafael is not indicated on this figure.

This table highlights areas noted by inspectors with inadequate radio coverage. BAAQMD hopes to improve coverage in each of these areas with the proposed radio system improvements.

Location Description	Channel 1		Channel 2		Channel 3		Channel 4		Channel 5	
	Talk-In	Talk-Out	Talk-In	Talk-Out	Talk-In	Talk-Out	Talk-In	Talk-Out	Talk-In	Talk-Out
Whipple / 880 (Union City)					x					
Collusium Way / Independence Ave (Oakland)					x					
B & Center St. (Hayward)					x		x			
A & Mission Blvd (Hayward)					x	x	x	x		
92 / Jackson (Hayward)							x	x		
10th & Howard (SF)					x	x	x	x		
Broadway & Filbert (SF)					x	x				
Bay & Powell (SF)					x	x				
Geary & 20th Ave. (SF)					x	x				
Ellis & Van Ness (SF)						x				
Parnassus & 5th Ave (SF)					x	x				
Lake St. & 28th Ave (SF)					x	x	x	x		
California St. between 22nd - 28th Ave (SF)					x	x	x	x		
Geary to Lake and 3rd to 10th Ave (SF)					x	x	x	x		
Presidio (SF)					x	x	x	x		
Golden Gate Park (SF)					x	x	x	x		
Pacheco and 19th (SF)							x	x		
Great Highway (SF)					x	x	x	x		
Geary and 12th Ave (SF)					x	x	x	x		
Ocean Ave & Sunset (SF)					x	x	x	x		
Balboa & 8th Ave (SF)					x		x	x		
Fulton & 42nd Ave (SF)					x	x	x	x		
Ellis St. open parking lot (SF)					x		x			
Evans Ave & Jennings St. (SF)					x		x			
Clearfield & Ocean (SF)					x	x	x	x		
Taraval & 31st (SF)					x	x	x	x		
Santiago & 30th (SF)					x	x	x	x		
Downtown (Redwood City)							x			
Parking lot (Redwood City)							x			
El Camino Real & Valparaiso (Menlo Park)					x		x			
Willow & Hamilton (Menlo Park)							x			
Embarcadero/101, Airport (Palo Alto)							x			
Highway 35 (West San Mateo County)							x	x		
Highway 84 West of 280 (West San Mateo County)							x	x		
Alemany / Worcester (SF)					x	x	x	x		
Skyline Blvd					x	x	x	x		

Location Description	Channel 1		Channel 2		Channel 3		Channel 4		Channel 5	
	Talk-In	Talk-Out	Talk-In	Talk-Out	Talk-In	Talk-Out	Talk-In	Talk-Out	Talk-In	Talk-Out
Junipero Serra / Westlake					x		x	x		
Grand / Linden							x	x		
Serramonte / Hillside Blvd							x			
El Camino / San Bruno Ave					x	x				
North Access Rd / McDonnell Rd.					x	x	x			
Bayshore Blvd / Tunnel Rd.					x		x			
San Bruno Mountain					x	x	x	x		
Lake Merced / Westlake (unclear)							x	x		
Cherry / San Bruno Ave					x					
Top of the hill (Daly City)					x		x			
West Field / McDonnell Rd.					x	x				
(Dublin)					x	x				
(Pleasanton)					x	x				
680 Corridor					x	x				
24 Corridor					x	x	x	x		
880 at Davis St							x			
Marina / Fairway							x			
Whitney Place & Warm Springs							x			
Stevenson / Paseo Padre							x			
Osgood / Automall							x	x		
Lockheed Martin Area / Campus S…					x	x	x	x		
Pastoria Ave (Sunnyvale)					x		x			
Washington Ave & Sunnyvale Ave					x		x			
El Camino Real / Remington Ave					x	x				
Dela Cruz & Martin, near airport (Santa Clara)					x	x				
Central Expressway & Lawrence Expressway						x				
Woodard Dr. & Esther Dr. (San Jose)					x					
Winchester & Division Rd. (Campbell)							x			
Stevens Creek Blvd & Bascom (San Jose)							x			
Saratoga @ 280							x			
Capitol Expressway to Gilroy					x	x				
(Los Gatos)					x	x				
West of ECR (Redwood City)					x	x				
East of ECR (Redwood City)						x				
280 South of 92 to Saratoga					x	x				
West of 280 to Pacific Ocean					x	x				
(Saratoga)					x	x				
Alum Rock & 680 (San Jose)							x	x		
Mission & 84 (Fremont)							x			
Harbor & Old Colony (Belmont)						x				

Location Description	Channel 1		Channel 2		Channel 3		Channel 4		Channel 5	
	Talk-In	Talk-Out	Talk-In	Talk-Out	Talk-In	Talk-Out	Talk-In	Talk-Out	Talk-In	Talk-Out
Fulton & 30th (SF)						x		x		
Center & 4 (Martinez)									x	x
Bernal Ave (Pleasanton)									x	x
Mirando Pl (Alamo)									x	x
Pine Center (Martinez)									x	
(Martinez to Alhambra)									x	
See Contra Costa Map	x	x								
Napa County			x	x						
Napa County (North of Napa City)	x		x	x						
Napa County (East of Silverado Trail)	x	x	x	x						
Sebastapol (NW of Hwy 12 &116, Grafton Rd.)	x	x	x	x						
Sonoma County, Hwy 12, East Santa Rosa to Glen Ellen	x	x	x							
Windsor, 101, Airport Rd. to Shilo Rd.	x	x								
Marin County (West of Fairfax to Petaluma/Pt. Reyes)	x	x	x	x						
1735 Willow Pass Rd. (Concord)	x	x	x	x						
1510 Humphrey Dr. (Suisun City)	x	x	x	x						
1322 Texas (Fairfield)	x	x	x	x						
885 Beck (Fairfield)	x	x	x	x						
1126 Western St. (Fairfield)	x	x	x	x						
West Sepastopol	x	x	x	x						
Grafton Area	x	x	x	x						
Somersville & Buchannon (Antioch)	x	x	x	x					ok	ok
Leland & Bailey (Pittsburg)	x	x	x	x					ok	ok
Hwy 4 & Balfour (Brentwood)	x	x	x	x					ok	ok
Discovery Bay (Byron)	x	x	x	x					ok	ok
Hwy 580 @ Grant Line (Livermore)	x	x	x	x					ok	ok
24 Fwy & Pleasanthill Rd. (Lafayette)	x	x	x	x					ok	ok
Moraga Library, St. Mary's Rd. (Moraga)	x	x	x	x					x	x
Hwy 580 @ Vasco Rd. (Livermore)	x	x	x	x					ok	ok
Mt. Diablo & California (Walnut Creek)	x	x	x	x					ok	ok
Contra Costa Blvd. & Monument (Pleasant Hill)	x	x	x	x					ok	ok

Appendix 5 – User Equipment to be Re-used or Traded-In

The table below is a list of mobile radios currently owned by the District. This equipment may be re-used as part of a proposed system or it may be traded-in or sold to recoup value.

Model	Power (W)*	Currently In use	Spare (new)	Spare (used)
Kenwood TK-840	25	4		4
Kenwood TK-860	25	1		
Kenwood TK-860 G	25	2		
Kenwood TK-880	25	14		
Kenwood TK-860 H	35	22		9
Kenwood TK-860 G(H)	40	24	10	4
Kenwood TK-880 H	40	1		
Motorola Syntor	50	1		7
EF Johnson (unknown)	-	6		4
Total		75	10	28

* Although some of the radios are capable of operating at higher power, all radios are currently programmed to operate at 25 watts and use 25 watt transmitters. This is specifically noted because the current system is "talk-in" limited.

Any other equipment from the existing BAAQMD systems that will not be re-used should also be considered for trade-in.

Appendix 6 – IRIS Modules

The following are typical excerpts of information stored by IRIS modules. Included are two samples of typical Inspector Radio Logs, Complaints, Episodes and Asbestos jobs. These samples are demonstrations of information accessible from dispatch consoles. The following table provides an estimate of the occurrence and respective amount of data entered into IRIS by dispatchers from radio calls in a typical week.

Module / Activity	Occurrences (per week)	Amount of data (bytes per week)
Dispatch logs	3069	368,280
Asbestos Jobs	140	78,540
Complaints	60	155,570
Episodes	14	8,400

Inspector Radio Log - Sample 1

Log of Employee	264 - Name Removed
Start Date	22 Aug 05
End Date	26 Aug 05

Date	Time	Status	Description
22 Aug 05	08:32:07 AM	8	ROLL CALL
	08:59:46 AM	7	PPWK GARFLD & CAULFLD
	10:16:29 AM	7	PETALU LIB
	04:57:12 PM	OD	ROLL CALL
23 Aug 05	08:34:04 AM	8	ROLL CALL
	08:54:29 AM	7A	
	09:11:49 AM	8	
	09:32:47 AM	7	ROHNERT PK LIB
	04:56:10 PM	OD	ROLL CALL
24 Aug 05	08:32:33 AM	8	ROLL CALL
	08:44:54 AM	7	GARFIELD/CAULFIED
	09:27:33 AM	8	
	09:35:15 AM	7A	
	09:50:57 AM	8	
	09:59:42 AM	7	PET LIB
	04:55:44 PM	OD	ROLL CALL
25 Aug 05	08:32:00 AM	8	
	08:55:03 AM	7	GARFIELD/CAULFIELD
	09:30:33 AM	7	C9748
	10:38:24 AM	8	
	10:51:47 AM	7	C4961
	05:13:07 PM	8	
	05:13:09 PM	OD	
26 Aug 05	08:32:53 AM	8	ROLL CALL
	08:33:32 AM	8	NO NEXTEL
	08:35:06 AM	7	PPWK GARFIELD/CAULFIELD
	12:37:47 PM	C7	
	01:39:34 PM	8	

	02:14:52 PM	7	C9748
	02:57:09 PM	8	
	02:58:00 PM	V	NOV ISSUED: A47361 C9748 R8-7-301.5
	02:58:07 PM	V	NOV CLEARED: A47361 8/25/05
	03:24:54 PM	7	C4961
	03:42:24 PM	8	
	03:43:59 PM	V	R8-7-302.2 R8-7-302.3
	03:44:00 PM	V	431 53432 53433 53434 53435 53436 53437 53438 53439 53440 53441
	03:44:01 PM	V	NOV ISSUED: A47362 C4961 53425 53426 53427 53428 53429 53430 53
	03:44:32 PM	V	NOV CLEARED: A47362 8/25/05
	05:55:12 PM	OD	

Inspector Radio Log - Sample 2

Log of Employee	764 - Name Removed
Start Date	22 Aug 05
End Date	26 Aug 05

Date	Time	Status	Description
22 Aug 05	08:04:28 AM	8	ROLL CALL
	08:13:20 AM	CS	C#191191 DISPATCHED
	08:26:05 AM	7	FAIRMONT & SAN P PPWK
	09:50:27 AM	19	
	10:19:43 AM	DO	
	03:27:16 PM	CS	C#191191 N
	04:48:39 PM	8	
	04:57:14 PM	OD	ROLL CALL
23 Aug 05	08:02:21 AM	8	ROLL CALL
	09:47:08 AM	7	3RD/CAMELIA
	10:34:48 AM	8	
	10:49:43 AM	CS	C#191216 DISPATCHED
	11:20:51 AM	7	C191216
	11:42:05 AM	8	
	11:42:10 AM	CS	C#191216 N
	12:07:15 PM	7A	
	12:16:34 PM	8	
	12:37:21 PM	CS	C#191218 DISPATCHED
	12:37:28 PM	7	C191218
	12:45:03 PM	8	
	12:45:15 PM	CS	C#191218 C A0703
	12:45:23 PM	C7	
	01:27:11 PM	8	
	01:35:28 PM	87	ECO
	04:56:11 PM	OD	ROLL CALL
24 Aug 05	08:03:21 AM	8	ROLL CALL
	08:27:02 AM	7	FAIRMONT/SAN PABLO PPWK
	11:04:58 AM	8	
	12:04:35 PM	C7	
	01:03:12 PM	8	

	02:00:58 PM	7	SEAWALL/UNIV PPWK
	02:03:55 PM	CS	C#191234 DISPATCHED
	02:07:54 PM	8	
	02:12:32 PM	7	C191234
	02:32:05 PM	OS	1430-OPEN
	02:39:19 PM	8	
	02:39:46 PM	CS	C#191234 C A0703
	02:53:58 PM	7	A0703
	03:54:44 PM	8	
	04:17:27 PM	7A	
	04:27:49 PM	8	
	05:31:38 PM	OD	
25 Aug 05	08:02:59 AM	8	ROLL CALL
	08:04:20 AM	DO	
	08:16:00 AM	CS	C#191240 DISPATCHED
	11:13:39 AM	8	
	11:49:56 AM	E	CO
	12:55:07 PM	8	
	12:55:09 PM	C7	
	01:47:49 PM	8	
	02:20:44 PM	CS	C#191258 DISPATCHED
	02:23:00 PM	7	C191258
	02:32:58 PM	8	
	02:33:06 PM	CS	C#191258 C A0703
	02:38:37 PM	7	C191240
	02:44:47 PM	8	
	03:00:04 PM	7	A0703
	04:06:19 PM	8	
	04:29:06 PM	7A	
	04:47:20 PM	8	
	05:29:37 PM	OD	
26 Aug 05	07:30:29 AM	RD	
	04:55:40 PM	OD	ROLL CALL

Complaint - Sample 1

Complaint #	191205 Odor
Description	industrial
Alleged Site	A0703 Address Removed Address Removed Berkeley, CA 94710
Pertinent Data	
Occurrence	Started: Aug 22,2005 11:30:00 AM
Ongoing	Y
Confirmed Site	
Complainant	03646D
Petitioners	0
Referer	
Reported	By
Received by	By 426 Aug 22,2005 12:03 PM
Confirmation	UNCNF Aug 22,2005
Dispatched	To 560 Aug 22,2005 12:09 PM
NOV#	
Job #	

Complainant

Complainant #	03646D
Name	Name Removed
Address	Address Removed Address Removed
Contact	Home Phone : (123)-123-1234 Alternate Phone:

Complaint - Sample 2

Complaint #	191213 Odor
Description	diesel
Alleged Site	Q9844 Address Removed Address Removed San Francisco, CA 94108
Pertinent Data	
Occurrence	Started: Aug 23,2005 08:30:00 AM
Ongoing	Y
Confirmed Site	
Complainant	03646G
Petitioners	0
Referer	
Reported	By
Received by	By 521 Aug 23,2005 09:09 AM
Confirmation	UNCNF Aug 23,2005
Dispatched	To 275 Aug 23,2005 09:16 AM
NOV#	
Job #	

Complainant

Complainant #	03646G
Name	Name Removed
Address	Address Removed Address Removed
Contact	Home Phone : (123)-123-1234 Alternate Phone:

Episode - Sample 1

Episode #	04P52 BREAKDOWN
Site#	B0438
Address	Name Removed
	Address Removed
	Milpitas CA 95035
Contact	Name Removed 123 123-1234
Occurrence	Started: 08/23/2005 19:48 Cleared: 08/23/2005 21:06
Reported	08/23/2005 23:18 By: Name Removed (123)-123-1234
Received by	Name Removed (521)
Dispatched	8/24/2005 9:06:06 AM To: Name Removed (483)
Acknowledgement Sent	8/25/2005 6:30:15 AM
Problem	LOW TEMPERATURE
Source	1 Wafer Fabrication Area
Abatement	4 Regenerative Thermal Oxidizer
Stack	4
Breakdown	Related Emission: OTH
Relief Valve	
Monitor	
Monitor Parameters	
Excess	Indicated Excess: Allowable Limit: AVG Time: Minutes
Related Episodes	04P53
Initial Report to Tech or Field Engineering	
Inspector's Report Routed to Tech	
Tech Evaluation Received	
Monitor Evaluation	NO EVAL YET OR NONE REQUIRED
Tech Evaluation	

Forwarded for Inspection	
Company Report Received	
Inspection Assessment	
Final	PENDING
NOV#	
Inspector's Report Routed to Field Eng	
Excess Emissions Calculation	
Excess Emissions	

Episode - Sample 2

Episode #	04G02 EXCESS EMISSION
Site#	A1812
Address	Name removed
	Address removed
	Morgan Hill CA 95037
Contact	Name removed 123 123-1234
Occurrence	Started: 08/25/2004 17:00 Cleared: 08/26/2005 17:00
Reported	08/26/2004 16:44 By: Name removed (123)-123-1234
Received by	Name removed (521)
Dispatched	8/27/2004 10:32:05 AM To: Name removed (551)
Acknowledgement Sent	8/30/2004 6:30:19 AM
Problem	SHUTDOWN DUE TO GCCS HEADER PIPE DAMAGE DURING CONSTRCTION
Source	1 Municipal Solid Waste, Landfill, & Gas Collection Sys
Abatement	11
Stack	1
Breakdown	Related Emission:
Relief Valve	
Monitor	Type: PARM Description: TEMPERATURE
Monitor Parameters	TEMP
Excess	Indicated Excess: 0 PARTS PER MILLION Allowable Limit: 0 AVG Time: 0 Minutes
Related Episodes	
Initial Report to Tech or Field Engineering	8/30/2004 6:30:25 AM
Inspector's Report Routed to Tech	
Tech Evaluation Received	

Monitor Evaluation	NO EVAL YET OR NONE REQUIRED
Tech Evaluation Forwarded for Inspection	
Company Report Received	
Inspection Assessment	
Final	PENDING
NOV#	
Inspector's Report Routed to Field Eng	
Excess Emissions Calculation	
Excess Emissions	

Asbestos Job - Sample 1

Job Notification #:	2H524 boiler insulation, pipe insulation	
Contractor	Name Removed G2645	
Address:	Address Removed	
City:	San Leandro CA 94577	
Contact:	Name Removed 123-123-1234	
Site	Name Removed	
Address:	Address Removed	
City:	San Francisco CA 94109	
Site Type:	MFD Multiple-Family Dwelling	
Type:	REN	
Owner:	Name Removed	
Project Dates:	Start: 24-aug-2005 Completion: 29-aug-2005	
Notification Dates:	Postmark: 8/10/2005 Entered: 8/16/2005 Last Updated: 8/17/2005 8:41:48 AM	
Removal Amount:	150 ln ft 425 sq ft 0 cu ft	
Disposal Site:	Altamont Sanitary Landfill L2099	
Inspection Priority:	10	
Inspector:	Name Removed 481 Dispatched:	
Billing Approval:		
Termination:		
Date:		
Invoice#:	1EK80	
Job Fee:	$364.00	

Asbestos Job - Sample 2

Job Notification #:	2H346 Demolition		
Contractor	Name Removed Q9451		
Address:	Address Removed		
City:	San Francisco CA 94116		
Contact:			
Site	Name Removed		
Address:	Address Removed		
City:	San Francisco CA 94116		
Site Type:	SFD Single-Family Dwelling		
Type:	DEM		
Owner:	Name Removed		
Project Dates:	Start: 22-aug-2005	Completion: 30-aug-2005	
Notification Dates:	Postmark: 8/8/2005 Entered: 8/8/2005 Last Updated: 8/9/2005 12:58:17 PM		
Removal Amount:	0 ln ft 0 sq ft 0 cu ft		
Disposal Site:	NA 0		
Inspection Priority:	60		
Inspector:	Name Removed 481	Dispatched:	
Billing Approval:			
Termination:			
Date:			
Invoice#:	1EH20		
Job Fee:	$43.00		