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September 29, 1995 DAQ--95

Douglas M. Skie, Chief
Air Programs Branch
EPA Region VIII - 8ART-AP
999 18th Street - Suite 500
Denver, Colorado 80202-2466

Re: 1. Milestone Report and Extension Year Requests for Utah's PM10 Nonattainment Areas
2. Draft PM10 SIP Revisions to Incorporate Recent NSR Activities in Both Salt Lake and Utah Counties

Dear Doug:

As you will recall, our offices were in agreement that Utah would send the stated work products to EPA Region VIII by the end of September, in order that certain SEA commitments would be completed. This letter accompanies both of those products.

Enclosed, please find the final copy of Utah's milestone report and request for an extension year. The State has implemented the PM10 SIP for Salt Lake and Utah Counties and has collected ambient data which supports the notion that such implementation is indeed having a positive effect on air quality in the area. The State of Utah feels that it qualifies for an extension year as provided for in Section 188(d) of the Act, and hereby requests that such extension year be granted by the Administrator.

Section 189© of the Clean Air Act identifies, as a required plan element, quantitative milestones which are to be achieved every 3 years until the area is redesignated attainment and which demonstrate reasonable further progress (RFP) toward attainment of the standard by the applicable date. States in which moderate PM10 nonattainment areas are located must submit to the Administrator a demonstration that the measures in the approved plan have been implemented and that the milestone has been met. In the case of initial moderate areas, this (first) milestone has the meaning of all control measures identified in the plan as being sufficient to bring the area into attainment by the statutory attainment date of December 31, 1994. Utah has two initial moderate nonattainment areas for PM10, Utah County and Salt Lake County.

Section 188(d) of the Act allows the States to petition the Administrator for a one-year extension of the attainment date, provided that all SIP elements have been implemented and that the ambient data collected in the area during the year preceding the extension year indicates that the area is on-target to attain the NAAQS. Presumably, this is because the statutory attainment date for initial moderate PM10 nonattainment areas occurs only one year after the statutory implementation date for RACM, the central control element of all

DAQ 2015-004564 Document Date 4/27/2015

implementation plans for such areas, and because three consecutive years of "clean" ambient data are required in order for an area to demonstrate that it has attained the standard.

Because the milestone report and the request for extension of the attainment date both require a demonstration that all SIP elements have been implemented and a showing that reasonable further progress has been achieved, it is convenient to "package" them together as one report. Also, for the sake of convenience, the milestone report and extension year request for each of Utah's two PM10 nonattainment areas have been included in a single report.

Milestone demonstrations are due to the Administrator no later than 90 days after the date on which the particular milestone occurs. Again, in the case of initial moderate PM10 nonattainment areas, the relevant date is December 31, 1994. Because there were some outstanding issues to be addressed in this report, your staff has been gracious enough to consider, as a draft, the report submitted within the 90-day window, and to allow Utah some additional time to resolve these issues. Region VIII presented its concerns in a letter received July 21, 1995. Utah believes that the issues identified in this letter have either been resolved, been clarified, or are currently on-track toward a mutually agreeable resolution. The items contained in Attachment IV to the letter were particularly detailed. These concerns have subsequently been boiled-down and restated in a letter received September 18 from Mike Owens to Lynn Menlove. As stated, these concerns have been addressed.

Also enclosed are the "blueprints", if you will, for revisions to the PM10 SIPs for both Salt Lake and Utah Counties. EPA Region VIII has expressed concern that recent New Source Review activities have possibly jeopardized the viability of these SIPs. Utah is providing, at this time, new demonstrations of attainment for each county which incorporate any numerical changes to the SIP authorized by current approval orders. You will see that Utah is still able to demonstrate attainment, and the same degree of maintenance, as before. Also included is a source by source account of which approval orders are currently enforceable and may be used to support the numbers used in the attainment demonstrations. Utah is still proposing to replace existing SIP text with references to the appropriate approval (and/or banking) orders. Recall that this revision is still in draft form. There are still several sources with whom DAQ must still meet to finalize allowable emissions. Nevertheless, the enclosed package represents a significant starting point for a meaningful discussion with your staff on this issue. Of final note is the fact that all credit for control of salting and sanding on roadways has been zeroed-out in this analysis. Again, this is something our staffs may wish to discuss at length.

Again, I wish to thank you for working with Utah on the milestone issues, and I'll look forward to hearing from you in regards to the SIP revision issues.

Sincerely,

Russell A. Roberts
Executive Secretary

RAR:BR:sle

Attachment

UTAH PM10 IMPLEMENTATION PLANS

Utah County
Salt Lake/Davis Counties

MILESTONE REPORTS

and

EXTENSION YEAR REQUESTS

TABLE OF CONTENTS

I. Summary and Background ..... pp. 1

II. Utah County ..... pp. 3

A. SIP Overview ..... pp. 3

B. Quantitative Milestone Demonstration ..... pp. 4

1. SIP Elements and their Implementation Status ..... pp. 4
Point Sources ..... pp. 4
Area Sources ..... pp. 19
Mobile Sources ..... pp. 23
Other Provisions ..... pp. 25

2. Reasonable Further Progress (RFP) Analysis ..... pp. 27
Emissions Table ..... pp. 28

C. Request for 1-Year Extension of Attainment Date ..... pp. 31

1. Implementation of SIP Elements ..... pp. 32
2. Ambient Air Quality Data ..... pp. 32
3. State's Request ..... pp. 33

III. Salt Lake County ..... pp. 34

A. SIP Overview ..... pp. 34

B. Quantitative Milestone Demonstration ..... pp. 34

1. SIP Elements and their Implementation Status ..... pp. 35
Point Sources ..... pp. 35
Area Sources ..... pp. 70
Mobile Sources ..... pp. 73
Other Provisions ..... pp. 76

2. Reasonable Further Progress (RFP) Analysis ..... pp. 77
Emissions Table ..... pp. 79

C. Request for 1-Year Extension of Attainment Date ..... pp. 83

1. Implementation of SIP Elements ..... pp. 84
2. Ambient Air Quality Data ..... pp. 84
3. State's Request ..... pp. 90

Appendix A: Woodburning

1. Information Pamphlets

2. Tax Form; Clean Fuel Stoves/Fireplaces

3. Woodburning Compliance; '94 /'95

4. Smoke Patrol Schedules

   a) '94 /'95
   b) '93 /'94
   c) '92 /'93

5. Warnings Issued; '92 /'93

6. Smoke Patrol Protocol

Appendix B: Monitoring Data

1. Annual Average and Number of Exceedances; 1985-1994, Both Counties

2. Exceedance Values and Dates; 1985-1994, Both Counties

3. SLAMS Reports; 1985-1994, Both Counties

Appendix C: Fugitive Dust

1. Fugitive Dust Control Initiative

2. Special Event Data Protocol

PM10 SIP; Milestone Report and Request for One-Year Extension of Attainment Date.

I. Summary and Background

Summary: The Clean Air Act (CAA) requires that Moderate Area PM10 State Implementation Plans (SIPs) demonstrating attainment of the National Ambient Air Quality Standards (NAAQS) must provide for a periodic assessment of progress. This assessment shall occur every three years until such time as the area is redesignated to one of attainment, and shall take the form of a "milestone report". The milestone report shall address two issues: 1) that all control measures in the approved plan have been implemented and 2) that reasonable further progress (RFP) has been made toward attainment of the standard in terms of reducing emissions.

The first such milestone coincides with the attainment date for initial Moderate PM10 nonattainment Areas (December 31, 1994). In order for such an area to show attainment by that date, it must have collected three years of "clean" ambient data; encompassing calendar years 1992, 1993, and 1994. However, the implementation of RACT in these areas was not required until December 10, 1993; so presumably there would only be one "clean" year of data (1994) within the three-year span used to demonstrate attainment. For this reason, Congress has allowed such areas to request up to two one-year postponements of their attainment dates. In order to qualify for such an extension a State must demonstrate that: 1) all SIP measures have been implemented, including a demonstration that RFP has been made toward attainment of the standard and 2) the ambient data in the year preceding the extension year shows no more than one exceedance of the 24-hour standard, and no violation of the annual standard.

Utah has two nonattainment areas for PM10 and an approved SIP for each one. Thus, the State must submit to EPA a milestone report for each area. The State has implemented each of these SIPs, and has collected good ambient data for calendar year 1994. Therefore, the State is requesting an extension of the attainment date for each of these areas.

This report addresses both the milestone reporting requirement and the request for a one-year extension of the attainment date in each of Utah's two PM10 nonattainment areas.

Background: Utah has two nonattainment areas for PM10 that were designated pursuant to CAA section 107(d), and classified by operation of law as Moderate Areas at the time of enactment of the CAA as amended in 1990. These two areas are Utah County and Salt Lake County; two adjacent counties each containing a topographically distinct air basin surrounded by mountains and containing the bulk of the respective urban populations.

The Act requires that states in which all or part of such an initial Moderate Area is located

were to have submitted implementation plans for such areas no later than November 15, 1991. For an initial Moderate Area, the attainment date is to be no later than December 31, 1994.

Under the federal Clean Air Act (CAA) as amended in 1977, Utah was to have submitted its plan in 1998. In 1989, after failure to do so, a lawsuit was filed forcing EPA to develop a Federal Implementation Plan. A settlement agreement was signed in 1990 which stipulated December 31, 1991 as the final deadline for completion of the SIP.

Utah submitted a final plan, showing attainment, for both areas in November of 1991. The lawsuit was dismissed, and subsequent EPA approval was noticed in the Federal Register / Vol. 59, No. 130 / Friday, July 8, 1994.

Milestones - Section 189© of the CAA requires that plan revisions demonstrating attainment shall contain quantitative milestones which are to be achieved every three years until the area is redesignated attainment, and which demonstrate Reasonable Further Progress (RFP) toward attainment by the applicable date. As defined in Section 171(1), RFP means such annual incremental reductions in emissions of the relevant air pollutant as are required by this part or may reasonably be required by the Administrator for the purpose of ensuring attainment of the applicable national ambient air quality standard by the applicable date.

EPA has addressed the timing of the milestone reporting requirements for all initial Moderate Area PM10 SIPs. States including these areas were to have submitted, by November 15, 1991, SIPs which demonstrated attainment by December 31, 1994. In the General Preamble, EPA determined that the starting point for counting the three-year milestone would begin from the due date for the SIP revision containing the control measures for the area. As such, the first three-year milestone would come due on November 15, 1994. Because this is so close to the attainment date of December 31, 1994, EPA decided it would be administratively more practical to evaluate the progress made as of the attainment date. Therefore, the first milestone for initial Moderate Areas for PM10 will be December 31, 1994, and RFP will mean such annual incremental reductions in emissions of PM10 and its precursors as are required to attain the national ambient air quality standards for PM10 by the date of the milestone itself.

The CAA requires, in Section 189(c)(2), that states are to submit their milestone reports no later than 90 days after the date on which a milestone occurs. This report shall demonstrate to the Administrator that all measures in the approved plan have in fact been implemented and that the milestone has been met. Thus, one of the purposes of this report is to satisfy the milestone requirement of Section 189(c)(2) and to verify that Utah has in fact made reasonable further progress toward attainment of the PM10 standard.

Extension Year - The attainment date for the initial Moderate Areas for PM10 was December 31, 1994. In making a determination of whether or not an area has attained the NAAQS for PM10, the Administrator will rely entirely on ambient data. In accordance with 40 CFR Part 50 Appendix K, attainment of the annual PM10 standard is achieved when the annual

arithmetic mean concentration is equal to 50 $\mu g/m^3$ or less. Attainment of the 24-hour standard is determined by calculating the expected number of exceedances per year. The 24-hour standard is attained when the expected number of exceedances is 1.0 per year or less. Three consecutive years of ambient air quality data is generally necessary to show attainment of the 24-hour and annual standards for PM10.

Section 189(a)(1) of the CAA outlines plan provisions for Moderate Area PM10 SIPs. It requires that reasonably available control measures (RACM) be implemented no later than December 10, 1993 in areas classified upon enactment (initial Moderate Areas). Thus, the ambient air quality data collected between December 10, 1993 and December 31, 1994, the attainment date for initial Moderate Areas, should be the first year's worth of data representative of SIP controls. However, since three years of data are necessary to demonstrate attainment of the standard, two years worth of data representing pre-SIP conditions will be factored into any determination made as of the attainment date.

For the reasons outlined above, the Act (Section 188(d)) has allowed states to apply for a one-year extension of the attainment date, provided that:

1) The State has complied with all requirements and commitments in the applicable implementation plan and

2) no more than one exceedance of the 24-hour standard has occurred at any one monitor in the area in the year preceding the extension year, and the annual mean concentration of PM10 for such year is less than or equal to the standard at all monitors in the area.

A state may apply for two such one-year extensions, one at a time, in order to collect the three years of clean ambient data necessary to demonstrate attainment.

Utah believes that each of its nonattainment areas qualifies for the first such extension of the attainment date, and that it would be otherwise unable to demonstrate attainment of the standard using the past three years of ambient data.

Thus, the second purpose of this report is to address the necessary criteria and make formal application for an extension year (under CAA Section 188(d)) in each of Utah's two initial nonattainment areas for PM10.

II. Utah County

A. SIP Overview

Characterization of the PM10 problem in Utah County was based on ambient data collected at three monitoring locations: Lindon, North Provo, and West Orem. A two year data set from April 1988 through March of 1990 was used to select the design days at each monitor site.

Although filter profiles from additional days were evaluated in terms of the control strategy selected, it may help to look at the source apportionment on the design days themselves. By far, the largest contributor in Utah County was Geneva Steel, whose overall impact ranged from 45% to 63%. Their impact from primary PM10 ranged from 33 to 54%, while secondary precursors accounted for 9 to 12%. Other industrial sources made up from 10 to 13% of the mass. Mobile source contribution ranged from 10 to 22%; woodsmoke was consistently about 15%, and other means of spaceheating accounted for the remaining 3 to 4%. Of particular significance is the fact that secondary PM10 emissions, from all source categories, was responsible for roughly 25% of all filter mass on the design days.

In light of the results of the source apportionment analysis, the control strategy for Utah County focused heavily on the steel mill. At a cost of approximately 110 million dollars, Geneva Steel replaced its Open Hearth furnaces with a Quell Basic Oxygen Process furnace (QBOP), applied sulfur removal technology to the coke oven gas, and constructed a water treatment facility which cut down on its slag quenching emissions.

Other significant emission control projects within Utah County included; installation of 90% efficient NOx scrubbers at each of LaRoach's (two) nitric acid plants, elimination of coal combustion at Pacificorp's (Hale) power generation station and the Brigham Young University hot water plant, and an aggressive woodburning program with voluntary and mandatory no-burn days.

B. Quantitative Milestone Demonstration

As discussed earlier, the CAA requires that any Moderate Area PM10 SIP demonstrating attainment must provide for periodic assessment of progress. This assessment shall occur every three years until such time as the area is redesignated to one of attainment, and shall take the form of a "milestone report". The milestone report shall address two issues; 1) that all control measures in the approved plan have been implemented and 2) that reasonable further progress (RFP) has been made toward attainment of the standard in terms of reducing emissions. The following pages will address each of these items in turn.

1. SIP Elements and their Implementation Status:

Point Sources - As discussed earlier, the source apportionment analysis in Utah County identified 60 to 70% of the PM10 impact as belonging to industrial point sources. Naturally, a large portion of the control strategy was directed at the group of point sources within the immediate area. All significant sources in existence when this SIP was developed were issued new limitations on emissions of PM10, SO2 and NOx, based on the application of RACT. These new "operating conditions" effectively replaced all conditions involving such pollutants in any pre-existing approval order. In this way, an upper emissions cap was established for existing industrial sources located in the nonattainment area. The following is a brief discussion of the control (RACT) applied to each of these sources and the present status of source compliance.

In General

1. Visible emissions were established as follows, unless otherwise designated in source specific conditions:
   Baghouses - 10%
   Scrubbers and ESPs - 15%
   Uncontrolled Combustion Sources - 10%
   Fugitive Emissions - 15%
   Fugitive Dust - 20%

2. All unpaved operational areas used by mobile equipment shall be water sprayed and/or chemically treated to reduce fugitive dust. Control is required 24 hours / day.

A.P. Green (formerly General Refractories)

RACT was established as a plantwide emissions cap which was based on the following assumptions:

1. Consumption limit of 550 MMCF natural gas per year.

2. Operational limit of 4,160 hours per year for any baghouse.

3. A limitation of 81.5 tons NO_x per year due to the addition of calcium nitrate binder (because PM10, SO2, and NOx are aggregated in the emission limit this does not represent an individual NOx limitation).

General Refractories had been considered a "grandfathered" source and as such had never received an approval order. They did however submit a notice of intent to increase their production of silica bricks and construct a new press at their facility. All three of the above limitations are proportionate to the indicated increase. Their primary source of NO_x emissions is a chemical binder (calcium nitrate) that is added to (some of) the silica bricks. An additional condition requires that they continue to search for a substitute binder for this purpose.

Status: A.P. Green was issued an approval order dated 8/3/93 (DAQE-0661-93). There are no significant differences between the SIP and the approval order. A surveillance inspection conducted on 3/31/95 found excessive opacity at the magnesite crushing baghouse. The source has since submitted a compliance plan and repaired the problem. The source has also been targeted for inspection in the third quarter of 1995. A.P. Green is presently considered to be in compliance with its approval order.

Bonneville Pacific Corp. (Lehi Cogeneration)

RACT was established as the following:

1. A reduction in the NO_x emission rate from 3.75 gram/kW*hr to 3.41 gram/kW*hr.

2. An increase in energy production from 60,000 MW*hrs/yr to 65,000 MW*hrs/yr. The production increase was awarded as per their Notice of Intent (dated February 14, 1989).
3. A cap on total plant-wide NO_x production of 249.9 TPY (a decrease from 248.3 TPY). In spite of the increase in electric production, the lower emission factor for NOx resulted in a net emission decrease (even though PM_{10} and SO_x emissions increased).

This facility did not operate in 1988.

Status: This source has not operated since 1991.

Brigham Young University (Heating Plant)

RACT was initially established as the following:

1. Control of primary PM_{10} based on the assumption that they would install a baghouse. In light of the requirement that they control 90% of all SO_x emissions, it would probably be most economical to install a baghouse in conjunction with a dry flue gas de-sulfurization system.

2. 90% Control of SO_x. This was the upper end of what EPA felt was achievable for such a system, but because there was no restriction on NO_x control it was decided that no less than 90% would be acceptable.

3. A 32,839 ton per year limitation on the amount of coal consumed. This was based on the maximum fuel combustion in terms of BTU^s over the last five years. 10% was added to this figure to arrive at a 773.44 X 10^3 MMBTU/yr. An average heat content of 12,000 BTU/lb was then applied to convert this value to 32,839 tons of coal.

4. A reduction in the allowable sulfur content in the coal from 1.2 wt.% to 0.60 wt.%

Status: BYU was issued a permit dated 10/18/91 (DAQE-0783-91) for compliance with the SIP. The source elected to restrict combustion to only natural gas during the winter PM10 season. They installed three gas fired heaters with low NOx burners for wintertime use, and installed a baghouse (no de-sulfurization system) to better collect PM emissions during summertime coal firing. The SIP conditions for this source were updated by order of the UAQB on July 24, 1992 to reflect the permit. Construction on the project was largely completed by the fall of '92. The source was last inspected in February of 1995 and found to

be in compliance with the Utah County SIP. Stack tests for boiler no. 1 (5/3/93), boiler no. 4 (1/11/94) and boiler no. 6 (1/12/94) all found the units to be in compliance with their respective NOx limitations. The baghouse was tested for PM10 (5/3/93) and found to be in compliance.

Consolidated Red E Mix (Concrete Batch Plant)

RACT was established as the following set of operating conditions:

1. The following Production Limits have been imposed:

    a. 100 cubic yards of concrete per hour
    b. 16,000 cubic yards of concrete per year
    c. 16 hrs per day
    d. 4,800 hrs per year

2. Use of a Baghouse on cement/flyash silos.

3. Water control on haul roads and storage piles.

4. Cleaning of paved roads.

The annual limitation of concrete production was based on 110% of their 1988 total. The hourly limitations are more consistent with the normal operation of a concrete plant. Conditions no. 2 through 4 were applied to all concrete plants.

Status: Consolidated Red E Mix is not operating now, and did not operate in 1994. A SIP inspection was never conducted. The State will conduct regular surveillance to verify that the source is not operating, or verify compliance if the source resumes operation.

Geneva Rock Products (Orem)

RACT was established as the following set of operating conditions:

1. Asphalt Plant

    a. .028 grains/dscf (PM_{10})
    b. 300 tons per hour
    c. 180,759 tons per year

2. Noble Concrete Plant

a. 100 yd^3 per hour
b. 100,000 yd^3 per year

3. Ross Bandit Concrete Plant

a. 135 yd^3 per hour
b. 135,000 yd^3 per year

4. Ross Uniplant Concrete Plant

a. 100 yd^3 per hour
b. 100,000 yd^3 per year

5. Hours of operation limitations of 12 hrs/day and 4,916 hrs/yr.

6. Sulfur limitations on coal (0.55 lb/MMBTU) and oil (0.45 wt.%) burned.

7. Watering requirements for haul roads and storage piles.

For the sake of consistency throughout the industry, the allowable grain loading for the asphalt plant was increased from the previous limit of .030 gr/dscf to .035 gr/dscf (TSP).

The annual production limit for asphalt production was based on 110% of the production they reported for 1988.

Hours of operation were previously unlimited, which is somewhat unrealistic for this industry. Thus, daily and annual limitations were established to be more consistent with actual practice.

Restrictions concerning haul road watering and fuel sulfur content were applied to all sources included in the SIP.

The addition of a third concrete plant (Notice of Intent dated April of 1989) resulted in a moderate increase in primary PM_{10} over that reported for 1988, but the additional mixer trucks idling on site (for 4,916 hrs instead of the 3,120 hrs reported for 1988) were responsible for an increase in SO_x and NO_x totaling 46.5 tons per year.

Status: Geneva Rock was issued an approval order dated 4/2/92 (DAQE-0333-92) for installation of a new Ross Bandit concrete batch plant. The order also specified that two existing batch plants were to be removed from service. The SIP conditions were updated by order of the UAQB (July 24, 1992) to be consistent with this approval order. The source was inspected on 4/6/94 and found to be in compliance. The Cedarapids asphalt plant was stack tested on 7/18/94 for PM10 and found to be in compliance.

Geneva Steel

RACT was established as the following:

Coke Plant - A byproduct of the coking process is a BTU laden gas that is captured and burned throughout the plant. This coke oven gas is also rich in reduced sulfur compounds. These compounds are then oxydized to form SO2 during combustion. Thus, in order to reduce SO2, the reduced sulfur compounds may be removed from the coke oven gas prior to combustion. This is accomplished in a two-stage process; first by using a catalyst to sweeten the coke oven gas, and second to recover the elemental sulfur from the acid gas. The facility designed for Geneva Steel targets 95% removal of sulfur from the coke oven gas; a reduction of approximately 4,000 tons per year, or roughly 35% of the total plantwide emissions of PM10 and its precursors.

Open Hearth - This phase of the steelmaking process converts liquid "pig iron" from the blast furnace into steel by reacting the impurities with oxygen and lime, thereby removing them in the form of slag. The open hearths utilized air for this process, of which roughly 80% is nitrogen. This nitrogen would readily oxydize to form NOx. Geneva Steel replaced its open hearth with a more modern process called a QBOP. This is a basic oxygen process furnace in which pure oxygen is blown through the bottom of the pig iron in an enclosed vessel. Since there is no nitrogen there will be no NOx. Also, the enclosed nature of the vessel makes capture of PM laden offgas relatively simple. A primary capture system is placed over the vessel during the oxygen "blow". This gas is cooled and scrubbed with a high pressure venturi scrubber. Other stages of the process involve charging the vessel, tapping the molten steel, and removing the slag. At such times the vessel is tilted, and the primary capture hood is unable to surround the vessel. Therefore, a secondary capture system is employed to collect any offgasses, and this gas stream is routed to a baghouse. This represents a significant improvement from the open hearths. Another benefit is the prevention of SO2 emissions which were associated with the fuel burned to fire the open hearths. The QBOP process derives the heat necessary to maintain the iron/steel in a liquid state and melt any cold scrap from the very oxydation of the impurities to be removed. Replacement of the open hearth furnaces with the QBOP was expected to reduce 1,900 tons/year of PM10, SO2 and NOx. This represents roughly 85% of all such pollutants from the open hearth process.

Slag Quenching - Historically, wastewater streams generated at the coke ovens and other facilities were disposed of by evaporation over hot slag. Thus, any impurities were entrained directly into the air. With the construction of a biological wastewater treatment facility, Geneva will now be removing the ammonia and other impurities in the wastewater streams.

Sinter Plant - Geneva was permitted to operate its sinter plant 8,760 hrs/yr provided that they replace the existing rotoclones with a baghouse.

Status: Geneva Steel was issued an approval order for the sulfur plant (BAQE-0368-91, 6/4/91), which became fully operational in the summer of '93. The facility was last inspected

on 3/16/94 and found to be in compliance.

Geneva Steel was issued an approval order for the QBOP (BAQE-0367-91, 6/4/91), which was phased into operation during the fall of '91. The facility was last inspected on 4/21/94 and found to be in compliance. All stack tests conducted in the past two years on the scrubber flare and various modules of the baghouse have indicated compliance with the conditions of the approval order. Because dust from the flare stack cannot be quantified with a stack test, the actual percentage of PM10 reduction is somewhat unclear.

The wastewater treatment plant also became operational in the fall of '91. This had been an element of the Consent Decree.

Geneva Steel was issued an approval order for the sinter plant (BAQE-0930-93, 10/18/93), which was installed in December, 1993. During the course of the engineering for the project, it was learned that the emission rates for SO2 and NOx had been grossly underestimated in the SIP. Having identified a major source of SO2, Geneva revised its plans for the baghouse to include a dry lime injection system to effectively remove up to 70% of the SO2. EPA objected to the apparent increases in the permissible annual emissions for these two pollutants, but allowed the State to issue the permit with the stipulation that these newly identified emissions should not alter Geneva's overall emissions cap. The State will address the difference in emissions estimation at the sinter plant between the SIP and the approval order in a forthcoming SIP revision. This revision will also address all other approval orders issued to Geneva Steel since promulgation of the PM10 SIP. The State will also clarify, in Section 1.2.F of the PM10 SIP, that the plantwide emissions total is the only annual allowable at Geneva Steel, and that the annual emission values listed in Section III for individual "sources" at the steel mill (e.g., the sinter plant) are only intended by the State as estimates, not allowables.

The attention given in the SIP to Geneva Steel was much more inclusive than the four "schematic" items discussed above. Every phase of the steelmaking process is regulated by operating conditions and emission limitations. Inspections and stack tests conducted over the past two years at the following facilities all found the source to be in compliance with the Utah County PM10 SIP: blast furnace, coke shed baghouses, coke batteries, coke combustion stacks, mixer building, desulfurization station, ore car rollover building, mold foundry, and the power house.

Also of note were the revisions made to Geneva's SIP conditions by order of the UAQB (July 24, 1992). These revisions will also be addressed in the forthcoming SIP revision. The revisions were made for the following reasons:

1. A "hot oil heater unit" was added to the equipment list for the sulfur removal system (which was required as part of the SIP). The heater will be fired on desulfurized coke oven gas. The emissions produced by the heater will be offset with an equivalent decrease in emissions at the power house. The changes to the SIP which concern these emissions appear

under SECTION III, condition no. 2; where emissions at the Coke Plant have increased by 5 tons/yr under the PM_{10} column and 82 tons/yr under the NO_x column. The Power House then shows identical decreases in the respective columns.

2. Corrections of typographical errors involving: the allowable grain loading of the rotoclones at the sinter plant, the units of allowable emission rates at the power house, and column heading in Appendix 3 (conversion from TSP to PM_{10} Particulate).

3. The addition of two small baghouses in the Flux Handling System of the Q-BOP furnace and plant.

4. An increase in the amount of emissions associated with the scarfing process. These emissions had been estimated at 4.98 tons/yr (and had been included in the PM_{10} totals of the 132" Mill Reheat Furnace), but a change in the method of calculation detailed in their notice of intent for a hot machine scarfer (approved for public comment on 3/20/92) now makes this 86 tons/yr. The appropriate changes were also made to the annual emissions total (no.2 of SECTION III), and to the formula for calculating these emissions which appears in SECTION III of Geneva's SIP conditions under ROLLING MILLS.

5. Discontinuing the practice of using quench water to cool blast furnace slag, and changing the emission factors for cooling slag at the Q-BOP, the Coke Plant, and the blast furnace. The blast furnace slag will now be air cooled. The other slags will still be quenched with water (less water than before), however the allowable amount of total dissolved solids in the quench water will be greater than originally anticipated. Specifically, these operational changes affected changes to the emission totals and emission factors of SECTION III (4 tpy less at the Coke Plant and 10 tpy less at the Q-BOP), changes to any language referencing the TDS levels of the quench water, and forthcoming changes to the Second Amended Consent Order (regarding the biological wastewater treatment plant) referenced in Appendix 6 of Geneva Steel's portion of Appendix A.

Of final note is the fact that preliminary estimates of 1994 annual emissions show Geneva Steel to be within its SIP cap.

Heckett Engineering (A HARSCO Corp)

RACT was established as the following set of operational restrictions:

1. Blast Furnace Slag Primary Recovery & Sizing Section (from simplicity grizzly to screening building)

    a. 500 tons/hr
    b. 594,000 tons/yr
    c. 8 hours/day

d. 1900 hours/yr

2. Blast Furnace Slag Secondary Screening Section (from screen M-22 to the 7' crusher)

   a. 300 tons/hr
   b. 356,400 tons/yr
   c. 8 hours/day
   d. 1900 hours/yr

3. Blast Furnace Slag Final Product Screening & Storage (from the 7' crusher to the product and waste bins)

   a. 475 tons/hr
   b. 237,600 tons/yr
   c. 8 hours/day
   d. 1900 hours/yr

4. Open Hearth Slag Primary Recovery Section (from the Nico feeder to the Sintron feeders)

   a. 500 tons/hr
   b. 533,170 tons/yr
   c. 8 hours/day
   d. 1800 hours/yr

5. Open Hearth Slag Crushing Section (from the Sintron feeders into the crusher building to the open hearth product & waste bins)

   a. 315 tons/hr
   b. 319,902 tons/yr
   c. 8 hours/day
   d. 1800 hours/yr

6. Open Hearth Slag Metal Cleaning Section (from the Sintron feeders to the refining building)

   a. 190 tons/hr
   b. 159,951 tons/yr
   c. 8 hours/day
   d. 1800 hours/yr

7. Open Hearth Slag Metal Refining Section

   a. 110 tons/hr

b. 52,784 tons/yr
c. 8 hours/day
d. 1800 hours/yr

8. Water control required on unpaved roads, storage piles, feed hoppers and crushers.

The production limits shown above were based on 110% of the maximum production rates recorded over the last five years. Maximums were selected for both basic processes: Blast Furnace Slag processing, and Open Hearth Slag processing.

The projected emissions decrease was primarily due to increased control required on screening operations. This decrease was offset somewhat by the fact that 1988 production fell short of Post-SIP allowable rates.

Status: Heckett Engineering was issued an approval order dated 12/13/93 (DAQE-1097-93) which specifies total annual PM10 emissions that are roughly 4.6% greater (in the amount of 3.87 tpy) than those listed in the SIP. The permit conditions are also quite different from those contained in the SIP. This re-estimation of emissions will be addressed in a forthcoming SIP revision, in order to demonstrate that this will not interfere with attainment and maintenance of the 24-hr standard. The two previous annual inspections at Heckett's metallic recovery and aggregate processing operations have turned up violations of the watering and records keeping requirements. In both instances, the inspector recommended a Source Compliance Action Notice (SCAN).

LaRoche Industries

RACT was established as 90% control of NO_x emissions required at both Acid Plants.

Reduction of NO_x at a nitric acid plant to the extent of 90% was considered by the EPA to be "achievable RACT". The method recommended to institute such control was extended absorption, but other options were evaluated, including: selective catalytic reduction, wet scrubbing, refrigeration of chill absorber feed water, and replacing pure absorber feed water with a 4-6% nitric acid solution.

Status: LaRoche Industries was issued an approval order dated 7/21/92 (DAQE-0688-92) to install the pollution control equipment required by the SIP. Both nitric acid plants, the Montecatini and Weatherly, were stack tested (Method 7E) on 9/20/93 and found to be in compliance with the limits specified in the approval order. An annual inspection on 6/29/94 found the source out of compliance with a NOI requirement to notify the State when the NOx analyzer is out of service. A SCAN was recommended, and a follow-up inspection on 3/1/95 found the source to be in compliance.

Pacific States Cast Iron Pipe

RACT was established as the following set of operational restrictions:

1. Cupola Operation

   a. 55 tons/hr
   b. 165,000 tons/yr
   c. 12.5 hours/day
   d. 3,000 hours/yr

2. Shell Sand Coating Machine

   a. 4.6 tons/hr
   b. 2,760 tons/yr
   c. 12.5 hours/day
   d. 600 hours/yr

3. Cement Lining Machine

   a. 17 hours/day
   b. 4,000 hours/yr

4. Shot Blasting Machine

   a. 12.5 hours/day
   b. 3,000 hours/yr

5. Natural Gas Consumption was limited to 304 X 10^6 scf/yr

6. A decrease in the allowable grain loading from the Cupola from .050 gr/dscf to .037 gr/dscf (for TSP).

Most of the reduction in emissions came from the Cupola and Casting Area. The decrease in allowable grain loading coupled with a 3,000 hrs/yr production cap accounted for a 124 ton per year decrease in potential emissions. The reduction in hours per year was also responsible for a 24 ton reduction in PM_{10} at the Casting Area Baghouse, and a 38 ton reduction in NO_x from the Annealing Furnace and the Hot Blast Oven (both are sources of natural gas combustion).

The allowable grain loading at the Cupola (Venturi Scrubber) was determined to be RACT. It was arrived at by adding 10% to their highest stack tested value.

It should be noted that the hours of operation logged in 1988 were well short of those proposed as part of the SIP.

Status: Stack tests conducted on the casting area baghouse (11/4/93, Method 5) and the cupola scrubber exhaust stack (9/15/94, Method 201) both indicated the source to be in compliance with the SIP. Annual inspections, however, have turned up violations of watering records (3/4/93) and most recently for fugitive opacity levels at the cupola charging door (12/1/94). A notice of violation was recommended for the opacity violation. PSCIP has also received an approval order dated 6/18/93 (DAQE-0547-93) for installation of a baghouse to control their resin coating operation. This will amount to a reduction in current, but undocumented, emissions.

Pacificorp - Hale Plant (formerly Utah Power & Light)

RACT was established as the following:

1. SO_x control of no less than 80%.

2. NO_x control of no less than 40%.

3. A reduction in allowable grain loading from 0.33 lb/MMBTU to 0.010 grain/dscf (a 34.4 % reduction).

4. A reduction in the allowable fuel sulfur content from 1.0 lb/MMBTU to 0.60 weight percent.

The plant has actually been shut down for the last several years and really didn't have any allowable emissions except for 83.3 tons per year of banked TSP emissions. The Pre-SIP allowable emissions totals are actually based on the operation reported for 1977 (one of the last big years for Hale). Nevertheless, several RACT options were evaluated for this source if for no other reason than to establish a new baseline for bankable emissions. Burning straight natural gas was rejected due to the interruptability of this resource. UP&L evaluated baghouses, low NO_x burners, wet scrubbers, dry scrubbers, and upgrading their ESP. The Bureau felt that low NO_x burners (the most cost effective option at 40% control) were essential, but that this alone would not be sufficient. Therefore, some percentage of SO_x control would also be required. The EPA has documented that 90% control of SO_x is achievable, but in light of the low NO_x burners the Bureau felt that 80% would be acceptable. The grain loading limitation and the sulfur restriction were implemented across the board for all power utilities.

Status: This source has not operated since promulgation of the SIP; in fact, the entire structure has been demolished. Pacificorp has received a banking order for the emissions identified in the Utah County SIP.

Provo City Power

RACT was established as the following:

1. Only natural gas is to be fired in the two boilers.

2. Energy Production limits on (the sum of) the two boilers:

   a. 40,000 MW*hrs per year
   b. 160 MW*hrs per day

3. Production limits on (each of) the dual fuel engines:

   a. 8,000 MW*hrs per year
   b. 800 hrs per year
   c. 12 hrs per day

4. Fuel oil sulfur content not to exceed 0.45 % by weight.

5. Fuel oil combusted in the dual fuel engines not to exceed 5 % on a BTU basis.

Several RACT options were evaluated for the boilers, primarily for the purpose of bringing them into compliance with the existing opacity regulations. These included baghouse control which was expensive, and burning a combination of coal and gas which still lead to opacity violations. Thus Provo City agreed to burning natural gas in conjunction with the production limits.

It should be noted that boiler no. 4 was down for repairs in 1988, which was also a relatively slow year for Provo City Power. In addition this is a peaking facility, and as such they require the capacity to produce large quantities of power even if they don't expect to generate that much. The more capacity they have the easier it is for them to buy (less expensive) power from other resources such as hydro-electric power. For this reason the production limitations established by the SIP were significantly higher than the production reported for the last five years.

Status: The annual inspection for 1993 found the source to be in excess of the 5% fuel oil condition. This was due to the fact that the engines are only in operation 0 - 6 hours per month, and not running under heavy load. The compliance status is listed as "pending further review". The annual inspection for 1994 (12/22/94) found the plant not operating, but planning to start up boiler no. 4 in 2/95. The engines are also scheduled for stack testing in 4/95). Provo City Power was issued an approval order on June 7, 1995 (DAQE-0494-95) which modifies the fuel oil requirement. The source is considered to be in compliance with the approval order and the SIP.

Reilly Industries

RACT was established as the following:

1. Production limits:

   a. 22 million gallons of processed tar products per year based on 110% of what they reported as their best year.
   b. 193 million cubic feet of natural gas consumption per year, which was proportional to the permissible rate of production.

2. Water control on the Flaker Belt (95% control).

Production in 1988 fell far short of the limitations established by the SIP, however the SIP also requires that the sulfur content of the fuel oil burned (as backup ...10%) would decrease. Thus at an even production rate the Post-SIP emissions total would be less than the 1988 total.

Status: Annual inspections conducted on 2/3/93 and 12/8/93 found the source to be in compliance with the Utah County SIP. The annual inspection conducted on 12/6/94 revealed a violation of UACR 3.1, installing a feed bin/crusher/conveyor/baghouse without a permit. The inspector recommended a SCAN. Reilly Industries did receive an approval order for installation of some low-NOx burners in various furnaces (DAQE-0689-94, 8/17/94). These burners were being installed at the time of the last inspection.

Springville City Power

RACT was established as the following:

1. Reduction in the allowable fuel sulfur content from .85 lb/MMBTU to 0.45 wt.%.

This was the only new restriction imposed as part of the SIP. All other conditions remain unchanged from their current approval order dated Dec. 1, 1987, which the State feels is the best approval order to be issued to this type of installation. The approval order had required the use of natural gas, specified a limit of 3.70 g/hp*hr for the NOx emission rate, and imposed a production limitation of 43,000 MW*hr/yr.

The reason the Post-SIP allowable emissions are so much higher than the 1988 emissions is that this is a peaking facility, and as such they need the capacity to generate large quantities of power even if they don't expect to. Most of their power is purchased (more cheaply) from other energy sources.

Allowable emissions remained unchanged in spite of the restriction on fuel oil sulfur content (this is not factored into the emission calculations).

Status: The most recent annual inspection (8/18/93) found the source to be in compliance with the Utah County SIP. Stack testing (8/24/94, Method 7) of the Delaval DSRV-6-4 engines also indicates that the source is in compliance.

Westrock (Highland Pit)

RACT was established as the following:

1. Production Limits:

   a. 53,000 tons per year (dry and washed aggregate)
   b. 200 tons per hour (dry and washed aggregate)
   c. 2,000 hours per year operation
   d. 10 hours per day

2. Watering requirements for haul roads, storage piles, crushers, and screens.

The decrease in emissions shown here is due to the increase in the required control of primary PM_{10} on the unpaved roads (95% instead of 80%) and the crushing operations (90% instead of 80%). Also partly responsible is a decrease in the acreage of storage piles. These two factors more than offset the increase in emissions due to the fact that their annual production did not match the limit established by the SIP (481,820 TPY vrs. 530,000 TPY).

Status: Westrock's pit is considered to be in compliance with its SIP limitations.

Westrock (Pleasant Grove Batch Plant)

RACT was established as the following:

1. Production Limits:

   a. 71,500 yd^3 per year (concrete)
   b. 150 yd^3 per hour (concrete)
   c. 2,000 hours per year operation
   d. 10 hours per day

2. Watering requirements for haul roads and storage piles.

Annual production for 1988 did not reach the allowable limits established by the SIP.

Nevertheless, emission reductions will be achieved through increased control required on the haul roads and on the silo loading.

Status: Westrock's pit in Pleasant Grove is considered to be in compliance with its SIP limits.

Footnote: Sources indicated as having not been inspected did not come up on the inspection targeting model as approved by EPA.

Area Sources:

1. Solid Fuel Burning Devices

In conjunction with SIP development, the maximum allowable opacity from solid fuel burning devices was changed from 40% to 20% This requirement has been incorporated into the Utah Air Conservation Rules (UACR) at R307-1-4.12.2, and applies to residential solid fuel burning devices and fireplaces on any day other than a "no-burn" day as outlined below.

As proposed in the SIP, the State initiated a woodburning program beginning Sept 1, 1992. In the beginning, data was collected to verify the effectiveness of the program, and a public awareness/education campaign was initiated. The State began its woodburning program, on a voluntary basis, in September of 1992. Early efforts focused on the details of the notification system, conditioning the residents to the routine of the program, and evaluating the effectiveness of a voluntary program. Despite the voluntary nature of the program in its first year, the DAQ was very aggressive in patrolling residential areas on red days, devoting approximately 72 man hours per red day and issuing 94 citations over 39 red days. The state now implements a mandatory no-burn program within 3 counties. Due to an increase in public awareness, DAQ has been able to cut back the number of man hours applied to each red day (from roughly 72 to about 40). The rule has been codified in the State Rules at UACR 307-1-4.12. The details of the program are very similar to the proposal outlined in the SIP, and are repeated below.

The "no-burn" area for Utah County is north of the southernmost border of Payson City and east of State Route 68.

Mandatory no-burn days are called when the ambient air contains 120 micrograms/cubic meter or more as measured by the real time monitor in Lindon and the forecasted weather for the area includes a temperature inversion which is predicted to last for at least 24 hours. During a mandatory no-burn (red) day, no person is allowed to burn unless their solid burning device is certified as a sole source of heat, or unless there are no visible emissions.
Voluntary no-burn (yellow) days are triggered when the ambient levels reach 100 $\mu g/m^3$.

As required by the SIP, DAQ reached an agreement with local news media, and the red/yellow/green status for the day is now included in the newspapers and broadcast over the T.V. and radio.

As outlined in the SIP, the proposed woodburning plan was to strengthen enforcement capabilities and alleviate the burden of penalizing violators through the court system by seeking statutory authority to allow assessment and collection of administrative penalties for woodburning violators. This has been completed, and the DAQ has been collecting the appropriate fines.

Enforcement of the no-burn rule is conducted by the DAQ. Patrol cars are assigned to each county on a no-burn day. When a violation is found the individual is informed of the violation and informed of the DAQ penalty policy. The address is taken down and a determination is made as to whether it is a first time violation, a repeat offense, or a sole source of heat. If appropriate, a violation is sent to the address of the offender. Additional inspectors are on call to investigate complaints. If deemed in violation of the rule, a citation is issued to the offender in accordance with the penalty policy. As outlined in the proposed program, the penalty policy is one of Category D; $0 - $25 for the first violation, $50 - $150 for the second violation, and $150 - $299 for a third violation. Information packets are also distributed by the inspectors, and first-time offenders are encouraged to attend an educational session at the DAQ as an alternative to paying the fine. Sites found in violation are reinspected within 24 hours, or on the next red day, and issued another NOV if still in noncompliance.

Other elements of the proposed program as outlined in the SIP include the following:

a) DAQ was to develop a public awareness program by spring of 1992. The State has produced two information pamphlets which outline the rules of the woodburning program and provide information on the health effects of woodsmoke, the impact on our nonattainment areas due to woodsmoke, proper stove operation, and the selection of clean-burning stoves (see Appendix A.1). These pamphlets are made available at the DAQ and local health departments, and early newspaper reports covering the woodburning program encouraged people to contact DAQ for such information. Inspectors also routinely distribute these pamphlets while on shift. The State has also staffed an information booth at the State Fair in each of the last several years, where proper use of woodstoves and compliance with the voluntary no-burn periods is pitched as "something each person can do to help". Each year in October, radio talk show host John Berg has discussed the woodburning program with a DAQ representative. Most importantly, the State feels that media broadcasts of the woodburning status during every day of the last three winter seasons have not only conditioned the public to consider the status before lighting a fire, but have ingrained in the residents the notion that each of our fireplaces can have an effect on the quality of the air. The newspaper also publishes a number to call for answers to questions regarding the status for the day or the woodburning program in general. Phone logs indicate that over 128,000 calls were received during the program's first season. The number of calls the following year was only 57,900

and 46,000 the year after that. This would indicate not only that the public is much more informed about the woodburning program now, as compared to the first year, but also that many residents are calling the number simply to check the daily status before starting a fire. The State will continue to be proactive in the release of public information regarding the proper use of woodstoves and alternatives to burning wood.

b) Mandatory no burn for coal, unless approved as sole source of heat. After 1993, the use of coal burning stoves was to have been prohibited unless there were no visible emissions. This was to have resulted in a 50% decrease in emissions. The current rule does not absolutely ban coal burning, but the State feels that on a no-burn day, when the opacity is limited to 0%, that coal stoves will not be able to operate within the confines of the rule, as can certain EPA-certified wood stoves. Of the 214 sole source exemptions that were granted by the DAQ, none were for coal burners. Thus they are essentially outlawed, at least on no-burn days, by the present rule.

c) The City/County Health Dept of Utah County has mirrored the state rules in regards to burning devices as outlined in the SIP. The Board of County Commissioners has adopted a resolution supporting the implementation of the program. Those rules adopted by the counties were to have been formally adopted into the SIP when submitted to the state. The County basically adopted the State rule on woodburning, so there was no need to submit them to the State or incorporate them into the SIP.

d) The Utah County Commission on Clean Air submitted a plan to be incorporated by reference into the SIP. This plan proposed that the following program elements be adopted by the local government agencies in Utah County:

1. Ban on residential coal burning.
2. Installer/operator training programs for residential solid fuel burning devices.
3. Solid fuel burner inspection program.
4. Weatherization requirements for homes.

The state is claiming a 60% emission reduction credit in this SIP based on the strategies found in a-d above.

As mentioned above, local governmental agencies adopted the State woodburning rule.

Regarding the program elements:

- The 0% opacity requirement on red days precludes burning coal on those days
- There is no installer/operator training program, however DAQ does make this information available in a pamphlet and offers a class to that end as an alternative to paying the fine on a first-time violation
- There is no solid fuel burner inspection program, however the uniform mechanical code requires a building permit and a subsequent inspection to verify proper installation of any

solid fuel burning device.
- There is no requirement for home weatherization per se, but there is a tax credit for energy systems installation as well as a tax exemption for the installation of an EPA certified pellet burning stove, high mass wood stove, solid fuel burning device, and natural gas or propane fireplace or insert. This credit is referenced in one of the DAQ's woodburning pamphlets, as well as the Utah Tax Forms and Instruction Booklet (see Appendix A.2).
- Information gathered in order to assess the effectiveness of the program as implemented suggests a compliance rate on the order of 90 to 100% (see Appendix A.3).

2. Road Salting and Sanding

During the SIP development process, UACR 307-1-3.2.7 was revised to limit the application of deicing/deslicking materials within a PM10 nonattainment area to salt containing no more than 2% insoluble solids, sand or crushed slag of which no more than 10% could pass through a #16 mesh, which contained no more than 3% fines, and had a Vicker's hardness of 1000+. This regulation was predicted to reduce the emissions from road salting and sanding by 20%.

Public comment in response to this rulemaking made it necessary for the State to gather more information to confirm the projected 20% reduction, and the proposed rule was changed to eliminate the limitations on salt/sand/slag applied during the winter of 1991/'92. With the study still pending, it was agreed that, within six months of the completion of the study, all agencies responsible for the application of salt, sand, or other deslicking grit to any roadway in a PM10 nonattainment area would submit a plan and implementation schedule to reduce initial street loading of particulate matter by 25% from the base year of 1989. The elements of these plans were to have been implemented no later than October 1, 1993.

The study to verify the 20% reduction in PM10 emissions was conducted, and it determined that the background concentrations of re-entrained road dust declined dramatically after the application of salt, rather than sand, to the road. Thus, the rule was again amended to require the application of salt that is at least 92% sodium chloride on all arterial roadways. Furthermore, the rule stipulates that any other material applied to such roadways must be proven to be at least as clean as salt (92% NaCl) or be vacuum swept off of the roadways within three days of the storm. The rule as revised no longer requires the submittal of a plan and schedule to reduce street loading of particulate matter by 25%, nor does it require an annual submittal of compliance verification. The rule does, however, require as an enforcement mechanism the maintenance of records of the material applied by those who are responsible for its application. For salt, the records are to include the quantity applied, the percentage that are insoluble solids and the percentage that is NaCl. For sand or grit, the records are to include the quantity applied and the percent of the fine material that will pass the number 200 sieve in a standard gradation analysis. All records must be made available to the Executive Secretary upon request.

Mobile Sources:

1. Provo Canyon Closure to Truck Traffic

In the SIP, The UAQB recommended that all non-destinational heavy duty truck traffic on the interstate system should remain there. They also recommended that the DOT work with the DAQ to perform a study on the impact of heavy duty diesel truck traffic in Provo Canyon on the air quality in Utah County and its impact if moved to Salt Lake County. The DAQ did locate a monitor in Provo Canyon to evaluate the impact of diesel traffic on air quality. The results of the monitoring showed no significant impact. Thus, there would be no benefit to be gained by restricting heavy duty diesel traffic from Provo Canyon.

2. Diesel Inspection and Maintenance Program

Davis, Salt Lake and Utah Counties were required to implement a Diesel I/M program as part of the PM10 SIP. Not only was it considered necessary to inspect and maintain the diesel fleet in an effort to minimize PM10 emissions, but a diesel I/M program was also perceived as an equity issue since owners of gasoline powered vehicles had been required to have their vehicles inspected and repaired for a number of years.

At the time, Utah County had already submitted a draft diesel I/M program ordinance, and the other affected counties were to have submitted their plans too. The ordinances were to be included as appendices to the SIP. The Utah County draft ordinance was used as a template in the SIP for the proposed program, which in any case, was to be designed to insure compliance with existing opacity standards for diesel vehicles (UACR 307-1-4.1.4, 5 & 6). It was stated that the program would be modified as more effective methods were identified, and that any changes would be consistent with the DAQ's goal of a 20% reduction in PM10 emissions. A schedule was outlined in the SIP for the implementation of a diesel I/M program, including an effective date of July 1, 1993.

Implementation of a diesel I/M program for vehicles registered in PM10 nonattainment areas has now started. Testing began on December 1, 1994. This was a year and a half behind schedule because the Society of Automotive Engineers, which was charged with development of the test procedure, had to insure the least intrusive and most cost effective test method that would meet the needs of the entire nation. Regional consistency became a big issue for the interstate trucking companies.

The program is very similar to the one outlined in the SIP; the details are discussed below:

* Repairs will be required when excessive opacity indicates the engine is out of tune. This would be in contrast to scheduling maintenance at a regular interval. Correlation between engine performance and opacity is very good when opacity levels are relatively high.

* Documentation of compliance with the opacity test, or a waiver thereof, will be required in

order for an owner/operator to register the vehicle for the subsequent year.

* Although stickers are still being considered, compliance with the opacity standard is a prerequisite for registration of the vehicle, so there is really no need for an additional sticker on either the windshield or the license plate to verify compliance on the roadway.

* In Salt Lake County, documentation of vehicle testing will be maintained electronically, and will be available (via downloading) to the county authority for Q/A auditing.

* I/M mechanics will need to be certified by the appropriate county authority.

* I/M stations will be subject to covert audits in addition to the regular audits.

* Heavy duty diesel vehicles will be required to pass a test procedure called the snap acceleration mode in which the vehicle is brought from fully closed to fully open throttle (fuel delivery) as rapidly as possible. An opacity monitor will calculate an average opacity based on readings taken incrementally during the course of acceleration.

* The cut point for failing a vehicle is yet to be determined. The cut point will not be assigned based on a predetermined percentage of failures, but rather will be assigned so as to fail the grossest emitters.

* There are provisions such that if a particular engine design is unable to meet the standard, that the owner may petition for a higher opacity standard for that engine type.

* Light duty diesel vehicles (<= 1,600 lbs. gross weight vehicle rating) will be tested on a loaded dynamometer in a test designed to simulate maximum fuel delivery mode. Again, the cut point for failure will be determined after a statistically significant quantity of data has become available. The cut point will be assigned so as to fail and repair the gross emitter.

* Roadside opacity enforcement will become part of the program at some later date. Confidence levels must first be established around the opacity cut points for the test in order to identify the appropriate opacity level for field compliance. Also, the instrumentation used in the field, to perform the opacity readings, must be calibrated to account for differences in engine performance under variable conditions.

* Fleets of 25 or more vehicles may be "self-certified" provided that the fleet owner purchases a PC driven test procedure for data collection and Q/A with anti-tampering features.

* There will be a waiver provision for vehicle owners who have spent a certain amount of money to repair their vehicles and still cannot pass the opacity test. The waiver will probably be a one-time only option. Cut points for dollars spent are still under discussion, but are presently recommended as $750 for light duty vehicles and $1500 for heavy duty vehicles.

* The program could include some unobtrusive anti-tampering provisions, but this has not yet been decided.

* The fee to inspect a vehicle will be $23 in Utah County. $4 of this fee will be used to fund the program.

* Right now the program does not specifically apply to locomotive engines.

* Counties are still considering idling ordinances, but as yet there are none.

* The EPA originally estimated that a diesel I/M program would be 20% effective in reducing PM10 emissions. The State is confident that this figure accurately represents the amount of reduction achievable with this program.

Other Provisions of the SIP:

1. Maintenance

The PM10 SIP for Utah County demonstrates that the PM10 NAAQS will be achieved by December 31, 1993. The plan must also demonstrate maintenance of the standard in the years to follow. Although the first milestone report is to address only the progress made up to the attainment date (the second milestone report will address maintenance), the following list outlines the "safety margin" built into the SIP for maintenance purposes.

a. With the population growth originally projected at 1.5% per year, Utah County proposed to establish building code requirements for additional weatherization to reduce the impact of natural gas heating on the county. Although Utah County has never adopted such a rule, there is a state tax exemption for home weatherization.

b. Federal law prohibits the sale of non-certified woodburning stoves after July 1, 1990. Also, the mandatory no burn requirement will be in place to reduce the impact from woodsmoke on the counties, with the exception of those devices which can operate with no visible emissions. UACR 307-1-4.12 outlines the no-burn requirements for red days.

c. State and local agencies commit to reducing NOx emissions from automobiles in either of two ways. 1) by reducing VMT growth or 2) by actually reducing NOx emissions from automobile exhaust. A list of TCMs is outlined in the SIP, and their implementation will be explored in conjunction with various air quality issues (CO, conformity, PM10 etc.) in the coming years.

d. The 1990 CAA required the g/vmt NOx standard to be lowered to 0.4 g/vmt (a 60% reduction in NOx emissions which can be credited by the State). 1994 and newer cars must meet this new standard. Improvement should continue through the year 2012 (18 year

turnover). If the required emission reductions are not realized the State will evaluate options necessary to gain the reductions needed to meet the standard. This has been implemented at the federal level, although the inconsistencies between subsequent versions of the Mobile model make the associated emission reduction difficult to assess.

e. DOT and local planning agencies are required to review all proposed construction projects for any impact on the PM10 NAAQS and on the strategies included in the PM10, Ozone and CO SIPs. These impacts should be reviewed and mitigative steps stipulated as part of the planning process. This process is becoming much more prominent with the advent of the conformity regulations.

f. The federal standard for sulfur in diesel fuel became .05% in 1993. A standard of 40 C-tane was also proposed. This has been implemented at the federal level.

g. EPA promulgated emission standards for diesel transit bus engines (1991 and newer) and for heavy duty truck engines (1994 and newer). This has been implemented at the federal level.

h. With commercial growth originally estimated at 1.5% per year, local planning agencies are required to review construction projects to assure consistency with SIP requirements. Any adverse impacts must be mitigated. Offset requirements represent one way to do this, and since most of the emissions associated with commercial development come from boilers or burners for space heating, the State now requires low NOx burner technology in an effort to mitigate commercial growth. Both strategies have been implemented through the State's New Source Review program. Specifically, emissions offsets at 1:1 are required of any new or modified source which emits between 25 TPY and 50 TPY of combined PM10, SO2 and NOx and is located in or impacts a nonattainment area. Any 50 TPY or more source is required to obtain a 1.2:1 credit prior to receipt of an approval order. Also, low-NOx burners and BACT are required on all new source construction. When burners are replaced, low-NOx burners (or whatever is determined as BACT at the time of replacement) will be required if technologically and economically feasible.

2. Contingency Measures

A contingency plan was to be developed and submitted to EPA by November 15, 1991, pending publication of guidance developed by EPA. The due date for this plan element eventually slipped to November 15, 1994, but the State has still not submitted a contingency plan for Utah County. A draft plan for all nonattainment counties was presented to the UAQB as early as August of 1993. A second draft was presented in December of 1993 This draft plan included an enhanced I/M program for Salt Lake County which had previously adopted such a plan in conjunction with its ozone plan. Since no such plan had been adopted for Utah County, its contingency plan was withdrawn at that time. As the details of the Salt Lake County plan became more defined, a similar plan was drafted for Utah County. This

plan was to have been submitted to the UAQB in August of 1994, but the DAQ felt that this action would have forced the County's hand in selecting an appropriate control strategy for its Carbon Monoxide SIP. The State finally submitted a contingency plan to the UAQB in April of 1995, although the County still has not reached a decision regarding an enhanced I/M program.

2. Reasonable Further Progress (RFP) Analysis:

The CAA requires that plan revisions demonstrating attainment shall contain quantitative milestones which are to be achieved every three years until the area is redesignated attainment, and which demonstrate Reasonable Further Progress (RFP) toward attainment by the applicable date. As defined in Section 171(1), RFP means such annual incremental reductions in emissions of the relevant air pollutant for the purpose of ensuring attainment of the applicable NAAQS by the applicable date. The attainment date for the initial Moderate Areas for PM10 was December 31, 1994. PM10 SIPs for the initial Moderate Areas were to be submitted no later than November 15, 1991. As such RFP over the last three-year period will mean such annual incremental reductions in emissions of PM10 and its precursors as were required to attain the national ambient air quality standards for PM10 since the inception of the SIP.

In issuing the guidance to the states concerning what information was to be included in such a milestone report, the Administrator did not require an in-depth inventory for the purpose of the RFP assessment, but asked that the State provide significant and reliable estimates. This is most likely because the timing of the report makes it almost impossible to collect quality assured data for calendar year 1994. This becomes significant when recalling that the statutory deadline for the ultimate implementation of RACM was December 10, 1993. As such, 1994 should represent the first year of full SIP implementation, but the data for that year is yet unavailable. As an editorial note, the reader should keep this fact in mind when evaluating the following assessment of SIP's progress made to date. In some instances, assumptions to that end were made by the State in compiling these numbers. Having said that, the following is a quantitative assessment of the RFP made as a result of the PM10 SIP for Utah County.

RFP Emissions Summary (tons/yr) - Utah County

Point Source	1988	Post SIP	Change	Current	notes	Tons +/-
BYU	534.7	348.9	-185.8	251.5	a	-97.4
Consolidated Red E Mix	140.4	39.7	-100.7	0.0	b	-39.7
General Refractories	114.6	134.5	19.9	134.6	c	0.1
Geneva Rock	54.4	90.0	35.6	87.4	c	-2.6
Geneva Steel	14,297.9	6,862.3	-7,435.6	9,310.5	a	2,448.2
Heckett	153.9	146.7	-7.2	132.1	a	-14.7
LaRoche	1,215.7	339.3	-876.4	464.7	a	125.4
Lehi Cogeneration	0.0	305.3	305.3	0.0	b	-305.3
PSCIP	65.0	88.0	23.0	215.2	a	127.2
Provo City	68.3	272.5	204.2	50.0	d	-222.5
Reilly Industries	15.7	18.3	2.6	5.2	a	-13.1
Springville City	1.3	239.4	238.1	137.7	a	-101.7
UP&L Hale	0.0	800.6	800.6	0.0	b	-800.6
Westrock Highland	33.2	21.3	-11.9	25.0	e	3.7
Westrock Pleasant Grove	9.2	21.7	12.5	30.0	f	8.3
Subtotal	16,704.3	9,728.5	-6,975.8	10,843.9		1,115.4

Overall Tons Reduced:	5,860.4
% of Control Achieved:	84.0%

Notes:

All figures are in tons/year of SO2 + NOx + PM10.

a : Current emissions estimate is from the 1993 annual inventory.
b : Source did not operate in 1994.
c : Source not included in 1993 inventory. Current emissions estimate is from approval order.
d : Source inspection revealed minimal operation.
e : Source neither inventoried nor inspected.
f : Source not in compliance with production limits.

Area and Mobile Sources:

	1988	Proj.'94	Change	Current	notes	Tons +/-
Vehicles	8,049.6	7,638.2	-411.4	10,917.3	A	3,279.1
Spaceheating	1,166.2	913.9	-252.3	1,029.8	B	115.9
Subtotal	9,215.8	8,552.2	-663.6	11,947.2		3,395.0

Overall Tons Reduced:	-2,731.4
% of Control Achieved:	-411.6%

Notes:

All figures are in tons/year of SO2 + NOx + PM10.

A: 1988 estimate, times average growth rate (5.21% per yr.), compounded for 6 years.
B: 1988 estimate less 60% of woodsmoke PM10, times average growth rate (3.3% per yr.), compounded for 6 years.

Grand Total:	1988	Proj.'94	Change	Current	notes	Tons +/-
	25,920.1	18,280.7	-7,639.4	22,791.1		4,510.4

Overall Tons Reduced:	3,129.0
% of Control Achieved:	41.0%

EPA's guidance memorandum to the states (November 14, 1994) also specifies that the report should provide an explanation of why 100% implementation was not achieved; why the projected emission reductions were not achieved; and what steps will be taken to achieve the emission reductions which were not met.

Before responding directly to the preceding charge, the following points must be made to shed some light on the numbers in the preceding chart.

Regarding Geneva Steel - The numbers for the 1993 inventory reflect only partial operation of the coke oven gas de-sulfurization unit, which did not come on line until November 1, 1993. A closer inspection of the 1993 inventory reveals that, of the 5,144 tons SO2 emitted as a by-product of coke oven gas combustion, 5,068 tons were emitted prior to operation of the de-sulfurization plant. Had the plant been on line at the beginning of 1993, emissions would have been on the order of 500 tons per year rather than 5,000.

Also, the Sinter plant is now assumed to emit far more SO2 and NOx than at the time the SIP was written. At full operation (8,760 hrs/yr) the difference would be roughly 525 tpy more SO2 and 1,000 tpy more NOx. Although the sinter plant only operated at about 60% capacity in 1993, and without the benefit of the new control equipment, this underscores the fact that the emissions from Geneva Steel are estimated differently now (for inventory purposes) than they were when the SIP was written, so the comparison is somewhat of "apples and oranges". As the State updates the SIP to incorporate subsequent NSR actions, it will take a closer look at this revised estimation algorithm and make sure it is in full agreement with the demonstration of attainment.

Regarding LaRoche - The source was issued an approval order dated 7/21/92 for installation of NOx abatement equipment at each of its two (Montecatini and Weatherly) nitric acid plants. Installation was completed in the latter part of that year. The equipment performed as anticipated on the Weatherly plant, but NOx abatement at the Montecatini plant, the larger of the two, was only about 50%. LaRoche's contractor proposed some modifications which were then slated for the pre-scheduled turnaround in July of '93. The problem was fixed by August of '93, and as noted above, the plant successfully passed its stack test in September of that year. Thus, the annual inventory for 1993 reflects only partial implementation of the SIP with respect to the Montecatini acid plant.

Regarding Pacific States Cast Iron Pipe (PSCIP) - The margin by which the 1993 emissions estimate exceeds the projected SIP emissions is best explained by the fact that mobile source emissions from the source were included in the annual inventory, but were left unaccounted for by the SIP. These mobile emissions accounted for about 76 tpy PM10 and 78 tpy NOx.

Regarding the Hale Plant and Lehi Cogeneration - Although these facilities did not operate in 1994, it would be incorrect to count their absence as an emissions reduction. The Hale Plant will never operate again (it has been torn down), but its emissions have been banked and must therefor be considered as viable emissions which, like those belonging to Lehi Cogeneration,

could be emitted with the "flip of a switch".

If one were to make the adjustments discussed above and to re-analyze the RFP assessment the results might be quite different. Adjusting Geneva Steel by subtracting 4,500 tons of pre-control coke oven gas SO2 and adding 592 tons of sinter plant emissions to represent full operation, adjusting LaRoche downward to reflect a full year of control equipment, adjusting PSCIP to ignore the 154 tons of mobile source emissions that were not accounted for in the SIP, and adjusting Hale, Lehi Cogeneration, and Consolidated Red E Mix upward to reflect full operation, show that we could just as well be under the projection by 20%.

Regarding Mobile Sources - The 1993 inventory tallies 8,495 tons of PM10 and 6,519 tons of NOx. Clearly the method of estimating the emissions from mobile sources has changed dramatically over the past six years. Of fundamental importance, though, to any estimate for mobile source emissions is the assumption concerning the rate of vmt growth. The SIP had assumed a steady vmt growth rate of 3% per year from 1988 forward. A review of the 1993 inventory documentation shows a measured vmt growth rate of 5.21% per year from 1990 through 1993. Thus, regardless of the method used to calculate the emissions, one could safely say that the SIP has underpredicted the impacts associated with mobile sources. This position is further supported by the direction taken in the revisions made to the Mobile model subsequent to its use in the PM10 SIP. The new version of the model assumes, with respect to the old version, that: a) NOx emissions are greater, and b) that the improvement in NOx performance due to newer/cleaner cars is much less than previously anticipated. The number which appears in the RFP table was obtained by simply applying the measured growth rate to the original estimate for 1988. This number does not assume any improvement in the fleetwide emission factor for NOx, or any improvement in the SO2 emissions from diesels due to the federal on-road rule.

There are two ways to reduce emissions from mobile sources: 1) reduce the number of vehicle miles traveled, and 2) reduce the amount of pollution per vmt per car. The State has no control over the amount of vmt that will occur, and most of the progress made in cleaning up the individual tailpipe will happen at the federal level. The State does, however, have some influence over the Inspection/Maintenance program. Utah County officials have committed to adopt an enhanced I/M program or to implement equivalent CO strategies in order to solve CO problems. Enhanced I/M would provide a benefit in terms of PM10 by minimizing NOx emissions from the fleet.

Regarding emissions from spaceheating - Again, the refinement of the inventory process has come a long way since 1989, but by examining the most basic of assumptions, growth, one is able to see whether the projections made by the SIP were conservative or not. The inventory documents population growth rates relative to 1990. Averaging this growth rate between 1990 and 1994 shows 3.3% per year which is more than twice the rate of 1.5% used in the SIP. Here too, there is nothing the DAQ can do to slow the growth of Utah County, but a closer look at the projections made by the State Office of Planning and Budget shows that they do not expect the growth rate to continue at its present rate. In short, Utah County has

been experiencing a boom over the last several years. DAQ is convinced that its woodburning program has been very effective, and is still improving as residents become more used to "checking to see if it's a red day" before lighting a fire. The State has also revised its rule so as to lower the ambient thresholds at which red and yellow days are called in the event that a contingency plan is triggered in any nonattainment area (this is an element of the S.L. County contingency plan). Although Utah County does not yet have a contingency plan, the present draft does include such a measure.

The foregoing is not to say that there is nothing left to be done in Utah County. Rather, it is to reinforce the notion that the State and the affected sources have lived up to their respective obligations to apply RACM/RACT within the nonattainment area, and that the benefits of those measures are now becoming apparent. The State will continue to assume a proactive role through enforcement, new source review, and the planning process to ensure continued implementation of the PM10 SIP in Utah County.

In summary, Utah feels that it has been successful in implementing the PM10 SIP for Utah County, and has therefore achieved its first three-year milestone.

C. Request for 1-year Extension of Attainment Date

As discussed earlier, the attainment date for the initial Moderate PM10 Areas was December 31, 1994, as of which time the Administrator must make an attainment determination based entirely on the past three years of ambient data. Since RACM, as required by Section 189(a)(1) of the CAA, for initial Moderate Areas was to have been implemented no later than December 10, 1993, the ambient air quality data collected between then and the attainment date should be the first year's worth of data representing SIP controls. Thus, the three years of ambient data necessary for the attainment determination will include two years worth of data representing pre-SIP conditions. For this reason, the Act (Section 188(d)) has allowed states to apply for a one-year extension of the attainment date, provided that: 1) The State has complied with all requirements and commitments in the applicable implementation plan, and 2) no more than one exceedance of the 24-hour standard has occurred at any one monitor in the area in the year preceding the extension year, and the annual mean concentration of PM10 for such year is less than or equal to the standard at all monitors in the area. EPA, Office of Air Quality Planning and Standards, did issue a guidance memorandum concerning extension requests (November 14, 1994), and therein made clear that the authority delegated to the Administrator to extend attainment dates for moderate areas is discretionary. In exercising this discretionary authority, it says, EPA will examine the air quality planning progress made in the area, and in addition to the two criteria specified in Section 188(d), EPA will be disinclined to grant an attainment date extension unless a state has, in substantial part, addressed its moderate PM10 planning obligations for the area. The EPA will expect the State to have adopted and substantially implemented control measures submitted to address the requirement for implementing RACM/RACT in the moderate nonattainment area, the central control requirement that applies to such areas. Furthermore, EPA believes this request is

appropriate, as it provides a reliable indication that any improvement in air quality evidenced by a low number of exceedances reflects the application of permanent steps to improve the air quality in the region, rather than temporary economic or meteorological changes. As part of this showing, EPA will expect the State to demonstrate that the PM10 nonattainment area has made emission reductions amounting to reasonable further progress toward attainment of the NAAQS, as defined in Section 171(1) of the Act.

Each of the two requirements for obtaining an extension year will be discussed below.

1. Implementation of SIP Elements:

A detailed list of the requirements of and commitments made by the State, as well as a reasonable further progress demonstration, has already been included as a separate element of this report (See Sections II.B. 1 & 2), and will not be reiterated here. As stated before, Utah feels that it has been successful in implementing the PM10 SIP for Utah County.

2. Ambient Air Quality Data:

Ambient data for PM10 is collected at three sites in Utah County: Lindon, North Provo, and West Orem. Although the data for calendar year 1994 has been compiled and submitted to EPA, via the AIRS system, within the time frame outlined in the State/EPA Agreement, it has been included as an attachment to this report. In addition, it will be briefly summarized below. This summary indicates that the ambient data collected for calendar year 1994, the year preceding the extension year, is in agreement with the necessary criteria for obtaining an extension year as outlined in Section 188(d)(2) of the Act.

The State and Local Air Monitoring Station (SLAMS) report indicates the following:

At the North Provo site:

> There were 0 exceedances of the 24-hour standard in 1994, and only one value was recorded between 101 and 125 $\mu g/m^3$.
>
> The annual arithmetic mean for 1994 was 29 $\mu g/m^3$.

At the Lindon site:

> There were 0 exceedances of the 24-hour standard in 1994. Two values were recorded between 101 and 125 $\mu g/m^3$, and another between 126 and 150 $\mu g/m^3$.
>
> The annual arithmetic mean for 1994 was 39 $\mu g/m^3$.

At the West Orem site:

> There were 0 exceedances of the 24-hour standard in 1994. Three values were recorded between 101 and 125 $\mu g/m^3$, and another between 126 and 150 $\mu g/m^3$.
>
> The annual arithmetic mean for 1994 was 33 $\mu g/m^3$.

The "Quick Look Report" generated by AIRS reveals that the number of estimated exceedances for each of these three sites was 0.00 in 1994.

Also included as an attachment to this report is the air monitoring data from Calendar years 1985 forward. Examination of this data indicates a good correlation between the trends of the annual average and the number of exceedances registered in a particular calendar year. There is also good correlation between these parameters as measured in Utah County and as measured in Salt Lake County. Although the trends of both the annual average and the number of exceedances are downward (in both counties) since 1991, the year the SIP was promulgated, one would hesitate to draw the conclusion that the SIP is solely responsible. A glance at the data prior to 1991 reveals large fluctuations in the values that are due, in large part, to variable meteorology. This variable still pervades the data compiled since the implementation of the SIP. Nevertheless, the annual averages recorded in 1994 at the North Provo and West Orem monitors are the lowest in 10 years, while the annual average recorded at Lindon was the second lowest. There were no exceedances of the 24-hour standard at any of the three monitors. Regardless of any superimposed meteorological effect, one would have to believe that the RACT control implemented as a result of this SIP has manifested in improved air quality in Utah County. This RACT control is permanent and enforceable, and will therefore continue to provide air quality benefits to the Wasatch Front for years to come.

Of final note is the fact that there has been no data collected thus far in 1995 to suggest an exceedance of either standard.

3. State's Request:

Having completed the exercise to demonstrate that Utah has in fact implemented the PM10 SIP for Utah County, and having collected ambient data which supports the notion that such implementation is indeed having a positive effect on air quality in the area; the State of Utah feels that it does in fact qualify for an extension year, as provided for in Section 188(d) of the Act, and hereby requests that such extension year be granted by the Administrator.

III. Salt Lake County

A. SIP Overview

Characterization of the PM10 problem in Salt Lake County was based on ambient data collected at three monitoring locations: Salt Lake City, the Air Monitoring Center, and North Salt Lake. Although filter profiles from additional days were evaluated in terms of the control strategy selected, it may help to look at the source apportionment on the design days themselves. The largest contributor was the industrial sector, which accounted for about 45% of the filter mass. Included in this industrial sector were the refineries. Although three of the five refineries are actually located in Davis County, their impact was shown to affect the nonattainment area, and so they were included in the SIP for Salt Lake County. Kennecott Utah Copper was also shown, by a tracer study, to impact the monitors. Mobile source contribution was roughly 30% on the design days; woodsmoke was consistently about 15%, and other means of spaceheating accounted for 7 or 8%. The remaining portion was assigned to planes/trains etc. Of particular significance is the fact that secondary PM10 emissions, from all source categories, was responsible for roughly 50% of all filter mass on the design days.

In light of the results of the source apportionment analysis, the control strategy for Salt Lake County focused heavily on industrial sources, and in particular, on the gaseous emissions of SO2 and NOx which lead to the formation of secondary particulate. Some of the more notable control measures are; replacement of Kennecott's existing sulfuric acid plants (which control smelter emissions) with state of the art double contact acid plant technology, installation of 95% efficient sulfur removal equipment at each of the refineries, and fuel switching to natural gas at many of the large steam/hot water generators in the valley. Also implemented was an aggressive woodburning program with voluntary and mandatory no-burn days.

The State also operates a monitoring site in Magna, near the Kennecott mine. Some very high values were recorded from 1985 through 1988. These exceedances are of entirely different character than those measured at the other monitoring sites; associated more with wind events which entrain the tailings from the mine. Many of these exceedances were exacerbated by the fact that Kennecott was shut down during that time, and the tailings pond was no longer maintained in a surface damp condition. The DAQ has also addressed this type of exceedance in the PM10 SIP for Salt Lake County, by requiring Kennecott to enhance its dust control plan.

B. Quantitative Milestone Demonstration

As discussed earlier, the CAA requires that any Moderate Area PM10 SIP demonstrating

attainment must provide for periodic assessment of progress. This assessment shall occur every three years until such time as the area is redesignated to one of attainment, and shall take the form of a "milestone report". The milestone report shall address two issues: 1) that all control measures in the approved plan have been implemented, and 2) that reasonable further progress (RFP) has been made toward attainment of the standard in terms of reducing emissions. The following pages will address each of these items in turn.

1. SIP Elements and their Implementation Status:

Point Sources - As discussed earlier, the source apportionment analysis in Salt Lake County identified roughly 45% of the PM10 impact as belonging to industrial point sources. Naturally, a large portion of the control strategy was directed at the group of point sources within the immediate area. All significant sources in existence when the SIP was developed were issued new limitations on emissions of PM10, SO2 and NOx, based on the application of RACT. These new "operating conditions" effectively replaced all conditions involving such pollutants in any pre-existing approval order. In this way, an upper emissions cap was established for existing industrial sources located in the nonattainment area. The following is a brief discussion of the control (RACT) applied to each of these sources as well as the present status of source compliance.

<u>In General</u>

1. Visible emissions were established as follows, unless otherwise designated in source specific conditions:
   - Baghouses - 10%
   - Scrubbers and ESPs - 15%
   - Uncontrolled Combustion Sources - 10%
   - Fugitive Emissions - 15%
   - Fugitive Dust - 20%
   - Cat. Crackers - 20%
   - Process Flares - 20%

2. All unpaved operational areas used by mobile equipment shall be water sprayed and/or chemically treated to reduce fugitive dust. Control is required 24 hours / day.

3. The basic RACT applied to all refineries was as follows:

   a. A sulfur removal system that would be at least 95% effective in removing reduced sulfur compounds from the streams fed to it. Many of these feed streams were specified for treatment by DAQ.

   b. Restriction on the burning of (sulfur rich) liquid fuel oil, except during natural gas curtailment. Exceptions were made to allow trade offs resulting in equivalent control.

c. Required use of low-SOx catalyst in fluid cat cracking units, resulting in no more than 9.8 kg of SO2 emitted/1000 lb of coke burn-off. Exceptions were made to allow trade offs resulting in equivalent control.

Amoco Oil Company

RACT was considered a 95% efficient sulfur plant to effectively reduce the SO2 from plant gas burned at the facility and low SO_x catalyst technology. These measures were expected to reduce SO2 emissions by roughly 3,500 tons per year. Amoco was given daily (24-hr) limits for SO2, NOx and PM10 to reflect application of these technologies as well as good operating practices. No additional controls/improvements were applied as RACT to 1988 NO_x or particulate emissions, as an increase in the sulfur content of future crude stock was not accounted for by this SIP. Amoco did however negotiate an increase in its SO2 limits to accommodate a sulfur recovery system that was larger than originally anticipated (SIP revision of November, 1992), and as a result installed catalytic converters on its hydrogen compressors to offset the impact from the increase in allowable SO2. This modification will be submitted as an official SIP revision to EPA. All SIP conditions for Amoco are now included in the following approval orders: DAQE-0570-93 (dated 6/23/93), and DAQE-0554-95 (dated 6/22/95).

Status: Amoco was issued an approval order dated 11/20/92 (DAQE-1101-92) for construction of the sulfur removal system. The plant came on line in the summer of '93. The cat-cracker is operating on low-SOx catalyst, and the catalytic converters on the hydrogen compressors have been installed and tested. Compliance inspections (3/31/94) and stack tests (FCU/ESP, CO Boiler Stack, SRU, Hydrogen Compressors, and Ultraformer Furnace) indicate that the facility is operating within the limits specified in the SIP. EPA had indicated (in a letter dated 12/15/94) that the lb/hr and ton/day limitations at the sulfur recover unit were not enforceable due to the lack of any requirement to accurately measure volumetric flow. This letter addressed the same deficiency at Chevron and Flying-J. In subsequent discussions with EPA, the State has agreed to amend the approval orders for each of these sources to include such a requirement.

Asphalt Materials (Asphalt Plant)

RACT was considered to be the following set of operating restrictions:

1. The Asphalt plant baghouse was required to meet the following mass emission limitations for PM-10:

   4.79 lbs/hr 0.024 grains/dscf

2. Use of only natural gas as a fuel in the asphalt plant.

3. The following production limitations:

   A. 220 tons/hr of asphalt
   B. 160,000 tons/yr of asphalt
   C. 9 hours/day
   D. 1800 hours/yr

The above restrictions are within the capabilities of a well operated plant and an attempt was made to accommodate the requirement of the company. The restrictions provides an upper limit to protect the annual standards and the hours of operation protects the short term daily standard.

Status: The annual inspection for this facility (5/13/94) cited a violation of the allowable production limits. Asphalt Materials was subsequently issued an approval order on 11/9/94 (DAQE-0981-94) which modified the production limits. The associated changes in emissions will be incorporated into a forthcoming demonstration of attainment.

Asphalt Materials (Screening Plant)

RACT was considered to be the following set of operating restrictions:

1. The following production limitations:

   A. 350 tons per hour of aggregate screen feed rate
   B. 560,000 tons per year of aggregate screen feed rate
   C. 8 hours per day
   D. 1600 hours per year

The operational limitations were established in order to ensure that the source's potential to emit more closely approximated what they were typically producing.

Status: Asphalt Materials was issued a SCAN after the annual inspection of 6/21/93, but is otherwise considered to be in compliance with these limitations.

Bountiful City Light & Power

RACT was considered to be the following set of operating restrictions:

Energy production limits placed on each of the approved engines such that the total power generated would not exceed 35,990 MW*hr/yr. Mass emission limitations were applied to the

9,750 HP Enterprise engine. The limitations on energy production were selected such that the plantwide annual NOx emissions would be at 250 tons per year. Although this is much higher than the annual emissions typically produced by the facility, it still allows them to demonstrate adequate power supply capability in order to insure that they may purchase their power at a favorable rate (and therefore make it more economical to buy their power rather than produce it). The CEM requirement will insure that they stay within the limitation, should they produce power other than for peaking levels.

Use of only natural gas as the primary fuel and number 2 fuel oil or better as the pilot fuel was also required. The sulfur content of any fuel oil burned can not exceed 0.45 weight percent.

A 12-month rolling total emissions inventory is required. If the NO_x emissions exceed 200 tpy for the previous 12 months, the source must submit a plan to continuously monitor NO_x emissions. The CEM must be on line within 12 months following the approval of the plan.

Status: BCL&P has been issued an approval order dated 12/22/93 (DAQE-1122-93) which is slightly different from the SIP but accomplishes the same end. Annual inspections (12/23/93 and 12/15/94) indicate compliance with this approval order.

Central Valley Water Reclamation Facility

RACT was considered to be as follows:

Central Valley Water Reclamation was to retrofit one of its engine-generator sets with a catalytic convertor or clean burn configuration so as to achieve a reduction in NO_x emissions. The emission factor for NOx (as well as CO) would go from 9.5 grams per horsepower hour to 2.0 g/hp*hr. Mass emission limits were also established for its other engines. When this facility originally submitted its notice of intent to construct, it had proposed equipping each engine with a catalytic convertor. It was then discovered that the sulfur in the digester gas would poison these units, and so they were put into storage. Because the facility buys enough natural gas (for blending with the digester gas) to operate one of these engines without any additional digester gas, it was felt that they could run one of the catalytic convertors without fear of poisoning the catalyst. Production limits were established such that plantwide emissions would reflect the application of this technology. The production limits essentially allow unlimited operation of the retrofitted engine, while restricting the uncontrolled engines to current levels.

Status: Central Valley has purchased a new lean burn Caterpillar engine generator to comply with its SIP limits. Their approval order dated 12/30/92 (DAQE-1156-92) outlines the specifics. The annual inspection (6/30/93) and the initial stack test on engine no. 2 (9/23/93) both found the source to be in compliance with this approval order. Central Valley has since been issued another approval order, DAQE-0666-95 (8/3/95) to upgrade an existing engine to

a lean burn configuration. This will result in a decrease in emissions, although the difference may be banked.

Centrex Corporation (formerly Lone Star Industries, Inc.)

RACT was established as operational limitations on mass emission rates, production rates and hours of operation in order to ensure that the potential to emit more closely approximated what the source had typically been producing. The conditions regarding fuel for the plant, were implemented uniformly across the industries that use fossil fuel. Fugitive dust control was applied throughout industry wherever necessary.

Status: The cement kiln is no longer operational, however the emission totals (all but 36 tpy of PM10) identified in the SIP have been banked. The source was inspected on 6/4/93, and found to be in compliance with the SIP. Some of the banked emissions have since been transferred to Frito-Lay. EPA has not acknowledged this transaction as federally enforceable because Centrex was never issued a permit, or SIP modification, which would have reduced its allowable emissions to 36 tpy PM10. The State has agreed to make the necessary modifications to ensure that the transaction will comply with federal regulations.

Chevron U.S.A. Inc.

RACT was considered a 95% efficient sulfur plant (which required replacement of an existing sulfur plant) and no burning of fuel oil. Low SO_x catalyst technology was also required in the FCC, however Chevron elected instead to take an equivalent reduction in NOx. Chevron was given daily (24-hr) limits for SO2, NOx and PM10 to reflect application of these technologies as well as good operating practices. No additional controls/improvements applied as RACT to the 1988 NO_x or particulate emissions, as an increase in the sulfur content of future crude stock was not accounted for by the SIP.

Status: Chevron was issued an approval order dated 11/27/91 (DAQE-0900-91) for construction of the sulfur removal system. The plant came on line in the fall of '92. Chevron also changed out some of its existing compressor engines and installed electric motors to comply with their SIP limits. Compliance inspections (6/2/93, 12/9/93, and 5/4/94) and stack tests (HCC Disengager, FCC/CO Boiler, and SRU) indicate that the facility is operating within the limits specified in the SIP. As of 10/15/93, Chevron has shut down the HCC (the older of its cat-crackers). The associated emissions have been preserved in a banking order. EPA had indicated (in a letter dated 12/15/94) that the lb/hr and ton/day limitations at the sulfur recover unit were not enforceable due to the lack of any requirement to accurately measure volumetric flow. This letter addressed the same deficiency at Amoco and Flying-J. In subsequent discussions with EPA, the State has agreed to amend the approval orders for each of these sources to include such a requirement. Also included in the forthcoming revision will be a specification for the recovery efficiency of sulfur at the SRU. As

mentioned above, part of the RACT determination for all of the refineries was a 95% efficient sulfur recovery unit. Chevron's SIP conditions are presently contained in A.O. DAQE-0977-93, dated 11/4/93.

Concrete Products Corp. (Hobush Pit)

RACT was considered to be the following set of operating restrictions:

A. 250 tons/hr aggregate production
B. 160,000 tons/yr aggregate production
C. 200 cubic yards per hour concrete production
D. 100,000 cubic yards per year concrete production
E. 8 hours/day plant operation
F. 2080 hours/year plant operation

The operational limitations were established in order to ensure that the source's potential to emit more closely approximated what they were typically producing. Requirements for watering, silt content and silo loading were implemented throughout the industry.

Status: CPC was found in violation of its production limits during an annual inspection on 5/25/93. CPC was subsequently issued an approval order for its Hobusch Pit (DAQE-0135-94, 2/28/94) which authorizes higher production limits. The facility has agreed to more rigorous control in order to maintain emission levels at or below those outlined by the SIP. The most recent annual inspection (5/9/94) found the source to be in compliance with this approval order. This approval order, and the associated emission levels, will be incorporated into a forthcoming SIP revision.

Concrete Products Corp. (Plant no. 3 2200 N.)

RACT was considered to be the following set of operating restrictions:

A. 200 cubic yards of concrete per hour
B. 85,000 cubic yards of concrete per year
C. 8 hours/day of plant operation
D. 2080 hours/yr of plant operation

The operational limitations were established in order to ensure that the sources potential to emit more closely approximated what they were typically producing. Requirements for watering, silt content and silo loading were implemented throughout the industry.

Status: CPC was issued an approval order on 2/15/95 (DAQE-0119-95) which authorizes an increase in the annual production limitations. This production increase will not result in an

increase in the SIP allowable emissions, but the actual emissions will increase. CPC is considered to be in compliance with these restrictions.

Concrete Products Corp. (Walker Wasatch Pit)

RACT was considered to be the following set of operating restrictions:

A. 340 tons/hr aggregate production
B. 200,000 tons/yr aggregate production
C. 300 tons/hr asphalt production
D. 100,000 tons/yr asphalt production
E. 8 hours/day plant and pit operation
F. 2080 hours/yr plant and pit operation

Also, mass emission limitations were applied to the asphalt plant baghouses, and only natural gas was allowed as fuel in the asphalt plant. In order to minimize fugitive dust emissions, water sprays or chemical dust suppression sprays were required at all screens, crushers, and conveyor transfer points.

The operational limitations were established in order to ensure that the source's potential to emit more closely approximated what they were typically producing. Requirements for watering were implemented throughout the industry. The requirement to burn only natural gas in the asphalt plants is consistent with what was done for other combustion sources within the county. The mass emission limitations were based on .02 grains (TSP) per dry standard cubic foot, and on the assumption that 80% of that would be PM-10.

Status: CPC was found in violation of its production limits during an annual inspection on 6/1/93. A more recent inspection (9/23/93) found the source to be in compliance. CPC was subsequently issued an approval order for its Walker Pit (DAQE-1060-94, 12/15/94) which authorizes higher production limits. The facility has agreed to more rigorous control in order to maintain emission levels at or below those outlined by the SIP. This approval order, and the associated emission levels, will be incorporated into a forthcoming SIP revision.

Concrete Products Corp. (Whitehill Pit)

RACT was considered to be the following set of operating restrictions:

A. 325 tons/hr of aggregate production
B. 475,000 tons/yr of aggregate production
C. 8 hours/day of plant operation
D. 2080 hours/yr of plant operation

The operational limitations were established in order to ensure that the source's potential to emit more closely approximated what they were typically producing. In order to minimize fugitive dust emissions, water sprays or chemical dust suppression sprays were required at all screens, crushers, conveyor transfer points, and storage piles, as they were throughout the industry.

Status: The most recent annual inspections (4/13/93 and 3/7/94) have found CPC to be in compliance with these restrictions.

Crysen Refining Inc.

RACT was considered a 95% efficient sulfur plant to effectively reduce the SO2 from plant gas burned at the facility. This essentially capped emissions at the 1988 level. Crysen was given daily (24-hr) limits for SO2, NOx and PM10 to reflect application of the sulfur plant as well as good operating practices. No additional controls/improvements were applied as RACT to 1988 NO_x or particulate emissions, as an increase in the sulfur content of future crude stock was not accounted for by the SIP.

Status: Crysen was issued an approval order dated 12/16/93 (DAQE-1095-93) for construction of the sulfur removal system. The plant came on line in the summer of '94. The annual compliance inspection of 12/21/93 indicates that the facility is operating within the limits specified in the SIP.

Engelhard (Formerly Harshaw Filtrol)

RACT was considered to be the following production/operational limits:

A. 2.6 ton/hr regenerated catalyst feed rate
B. 2,250 ton/yr regenerated catalyst
C. 1.5 ton/hr new catalyst materials feed rate
D. 3,500 tons/yr new catalyst
E. 7,884 hours per year

Also, mass emission limitations were applied to Stack #2 (PM10), the Micro-pulse baghouse and Stack #6, wet caustic scrubber (PM10, SO2 and NOx). Both PM-10 mass emission limitations were based on 0.02 grains (TSP) per dry standard cubic foot, and on the assumption that 80% of that would be PM-10. The mass emission rate for SO2 was based on a 90% minimum removal efficiency of the SO_2 scrubber, and on the operational restrictions regarding the catalyst. The mass emission limitation for NOx was based on standard emission factors. Operational limits on hours per year are based on what the company expects they will do.

Status: Annual inspections conducted on 12/1/93 and 11/23/94 indicate that Engelhard has remained in compliance with its SIP limits. Some information and limitations from an earlier approval order (DAQE-0673-89, 9/11/89) were incorporated into the SIP limits by order of the UAQB on July, 24 1992.

Flying-J, INC.

RACT was considered a 95% efficient sulfur plant and no burning of fuel oil. Flying-J was given daily (24-hr) limits for SO2, NOx and PM10 to reflect application of these technologies as well as good operating practices. The allowable emissions were essentially capped at the 1988 levels. No additional controls/improvements applied as RACT to the 1988 NO_x or particulate emissions, as an increase in the sulfur content of future crude stock was not accounted for by the SIP.

Status: Flying-J was issued an approval order dated 9/23/92 (DAQE-0774-92) for construction of the sulfur removal system. The plant came on line in December of '93. Compliance inspections (10/19/93 and 10/26/94) indicate that the facility is operating within the limits specified in the SIP. EPA had indicated (in a letter dated 12/15/94) that the lb/hr and ton/day limitations at the sulfur recover unit were not enforceable due to the lack of any requirement to accurately measure volumetric flow. This letter addressed the same deficiency at Amoco and Chevron. In subsequent discussions with EPA, the State has agreed to amend the approval orders for each of these sources to include such a requirement. Also included in the forthcoming revision will be a specification for the recovery efficiency of sulfur at the SRU. As mentioned above, part of the RACT determination for all of the refineries was a 95% efficient sulfur recovery unit. Flying-J's SIP conditions are presently contained in A.O. DAQE-0814-93, dated 9/15/93.

Geneva Rock Products Inc. (350 W. 3900 S.)

RACT was considered to be the following set of operating restrictions:

A. 400 Cubic Yards/hr
B. 167,500 Cubic Yards/yr
C. 14 hours/day
D. 3,120 hours/yr

The operational limitations were established in order to ensure that the source's potential to emit more closely approximated what they were typically producing. In order to minimize fugitive dust emissions, the mix truck haul road was to be paved and kept clean and all silos were to be pneumatically loaded and equipped with fabric filters.

Status: Geneva Rock has been found to be in compliance with these restrictions during the

annual inspection of 5/24/94.

Geneva Rock Products Inc. (Point of the Mountain)

RACT was considered to be the following set of operating restrictions:

A. For the Asphalt Plant:
   1. 285 tons/hr
   2. 250,000 tons/yr

B. For the Concrete Batch Plant:
   1. 100 cubic yards/hr
   2. 200,000 cubic yards/yr

C. For the Aggregate Pits:
   1. 900 tons/hr of crushing/screening production
   2. 1,000,000 tons of mined material per year
   3. 2,000 hours of operation per unit per year

In addition, mass emission limitations were applied to the CMI Asphalt Plant, and it was required that the only Number 2 fuel oil or better with a sulfur content of less than 0.45% (less then 0.05% after December 1993) be used for fuel.

In order to minimize fugitive dust emissions, water sprays or chemical dust suppression sprays were to be installed at all screens, crushers, conveyor transfer points, and storage piles. Silos must be pneumatically loaded and equipped with a fabric filter.

The operational limitations on tons of aggregate and hours were established in order to ensure that the source's potential to emit more closely approximated what they were typically producing. The mass limitations placed on the asphalt plant, and the conditions regarding fuel for the plant, were implemented uniformly across this industry, as were the requirements to minimize fugitive dust.

Status: The most recent annual inspection (6/27/94) found the source to be in violation, and a notice of violation was recommended. Geneva Rock was subsequently issued an approval order for its pits at Point of the Mountain (DAQE-0019-95, 1/18/95) which authorizes higher asphalt production limits and replacement of the F1 hot plant with a new asphalt plant that has a baghouse instead of a scrubber. The facility has agreed to more rigorous control in order to maintain emission levels at or below those outlined by the SIP. This approval order, and the associated emission levels, will be incorporated into a forthcoming SIP revision. Also of note is the fact that the new approval order did not include the L-9 or the L-10 crushers which had been cited in the notice of violation as not having been approved for that site. The State had responded to EPA by identifying these crushers as temporary, however the State has

agreed to provide additional assurance to EPA that temporary permits will not "drift" into permanent permits. The State has also recently requested a fugitive dust plan from the facility (2/24/95).

Geodyne Transport (formerly W.W. & W.B. Gardner Construction Company) - Beck Street

RACT was established as the following:

Mass emission limits were established for PM10, SO2 and NOx at the Cedar Rapids Asphalt Plant.

Production limits were established at both the asphalt plant and the aggregate pit.

For the Asphalt Plant:

275 tons/hr
250,000 tons/yr
2,500 hrs/yr

For the Aggregate Pit:

300 tons/hr of crushing/screening production
300,000 tons of mined material per year
2,500 hrs/yr

The sulfur content of any coal burned was capped at 0.60 percent by weight.

The asphalt plant is only approved for virgin asphalt production. Production of recycle asphalt products is prohibited.

In order to minimize fugitive dust emissions, water sprays or chemical dust suppression sprays were required at all screens, crushers, conveyor transfer points, storage piles, and disturbed areas.

Status: The annual inspection of 6/10/93 found Geodyne Transport to be in compliance with the SIP.

Harper Sand & Gravel Inc. (Pit no. 1)

RACT was considered to be the following set of operating restrictions:

A. 280 tons/hr of aggregate

B. 400,000 tons/yr of aggregate
C. 12 hours/day
D. 3744 hours/yr

Also, in order to minimize fugitive dust emissions, water sprays or chemical dust suppression sprays were to be installed at all screens and crushers. The operational limitations were established in order to ensure that the source's potential to emit more closely approximated what they were typically producing. Requirements to minimize fugitive dust were implemented throughout the industry.

Status: The source was found to be in compliance by the annual inspection conducted on 8/6/93, but the pit has subsequently been closed. The County has purchased the land for a golf course.

Harper Sand & Gravel Inc. (Pit no. 10)

RACT was considered to be the following set of operating restrictions:

A. 280 tons/hr of aggregate
B. 400,000 tons/yr of aggregate
C. 12 hours/day
D. 3744 hours/yr

Also, in order to minimize fugitive dust emissions, water sprays or chemical dust suppression sprays were to be installed at all screens and crushers. The operational limitations were established in order to ensure that the source's potential to emit more closely approximated what they were typically producing. Requirements to minimize fugitive dust were implemented throughout the industry.

Status: Although this is still a viable pit, Harper has not operated there since 1993.

Hercules Aerospace Company (Plant 1)

RACT was established as the following:

Hercules must use natural gas as primary fuel in all fuel burning furnaces, ovens and boilers. The plant shall be limited to 880 Million cubic feet of natural gas per year, with number 2 fuel oil (sulfur content of less than 0.45%) as a backup.

Replacement of the Keeler coal fired boiler with a natural gas fired boiler

Operating limits at the waste propellant burning grounds as an interim measure until

construction of an incinerator

A. 4500 lb/day waste propellant
B. 822 tons/yr total waste propellant
C. 1,114 tons/yr total waste burned

A notice of intent to construct a waste propellant incinerator by December 31, 1992.

No burning when Salt Lake County "No Burn" order is in effect for wood stoves (except for the most unstable materials).

Status: Hercules has transferred Plant 1, Bacchus West, Plant 2, NIROP, and the Boiler and (3) Structures buildings from Plant 3 to Alliant Tech Systems. Two approval orders for all of these facilities was issued to Alliant Tech Systems on 3/14/95 (DAQE-0209-95 and DAQE-0210-95). A State inspection was conducted on 6/6/95, and verified compliance. The replacement of the coal-fired Keeler boiler, and the other operational limits had been detailed in DAQE-0099-94 (2/18/94). This has since been superseded by the approval order issued to Alliant Tech Systems. Alliant Tech Systems has decided not to build an incinerator for its waste propellant, but will meet the limits outlined in the SIP through "pollution prevention" measures such as waste minimization and by shipping some of its waste to hazardous waste incinerators outside the county.

Hercules Aerospace Company (Plant 3)

RACT was established as the following:

Use of only natural gas as fuel in ovens and incinerator, and a limit of 175 million scf of natural gas per year.

A limit of 10.8 million lb of carbon fibers from the fiberlines per year.

Visible emissions no greater than 10% opacity from any point or fugitive emission source.

Status: Hercules has transferred the Boiler and (3) Structures buildings from Plant 3 to Alliant Tech Systems, and has been issued an approval order, dated 3/15/95 (DAQE-0212-95) for the remainder of Plant 3.

Interstate Brick Company

RACT was established as the following set of operational limits:

A. Raw Clay Consumption:

120 tons/hr
1,051,200 tons/yr

B. Tunnel Kiln #1:
5000 hours/yr
68,250 tons of brick/year

C. Tunnel Kiln #3:
148,044 tons of brick/year

D. Tunnel Kiln #4:
291,288 tons of brick/year

E. Shuttle Kiln #5:
5000 hours/yr
5000 tons of tile/year

Also, mass emission limits for PM10 and NOx were placed on each of the appropriate emission points.

The moisture and silt contents of the clay feed were specified as limitations.

Only natural gas was approved as fuel in the brick/tile kilns.

There was also a requirement that Interstate Brick do some stack testing to determine the amount of SO2 that may be present in the off gas, and to subsequently submit a notice of intent to reduce the emissions via application of RACT.

Status: As suspected, stack testing revealed significant amounts of SO2 evolved during the kilning process. The source of the sulfur is the raw clay feed. The source intended to upgrade the scrubbing systems on kilns no. 3 and 4, but the state of kiln no. 3 is in such disrepair that the contractor delayed work on it for safety reasons. Kiln no. 1 is presently out of service, and Interstate has agreed not to operate it until such time as it can achieve the same level of control as will be achieved at Kiln 3. Interstate was issued a notice of violation for failure to apply RACT by the statutory deadline. The source inspection also identified two unapproved baghouses. Interstate has since made payment of $27,000 as per the settlement agreement, and has also completed work on Kiln 4. Interstate has recently provided the State with emission estimations for baseline conditions as well as for proposed operating conditions. The State will evaluate the emissions in a forthcoming SIP revision, and will incorporate the operational conditions into an approval as expeditiously as practicable. The State and EPA are in agreement that the approval order will reflect the application of RACT at each of the Kilns.

Kennecott - Barney's Canyon Operations

RACT was applied as follows:

An operational limit of ore throughput was established at 2,400,000 tons per 12-month period.

Operational limitations were also established in accordance with UACR 3.1 and are based upon best available control technology (BACT) evaluation:

Material handling rates
Annual fugitive road dust control plan report
Road haulage miles
Push slope operation procedures
Opacity limitations
Haul road length limits
Truck trip limits

Visible emissions limits were established at each significant sources of emissions.

Application of magnesium chloride solution to the ore and waste haul roads.

Diesel fuel consumption was capped at 1,500 killogallons per year. Also, the sulfur content of diesel fuel oil burned in the equipment engines is not to exceed 0.21 pound of sulfur per million BTU (This represents 0.4% sulfur by weight in the fuel oil, 137,000 btu/gal, and 7.05 lb/gal).

In order to minimize fugitive dust emissions, water sprays or chemical dust suppression sprays were to be installed at all screens, crushers, conveyor transfer points, and storage piles. The moisture content of the material is to be maintained at a value of no less than 4% by weight.

Status: Kennecott, Barney's Canyon is presently operating under an approval order issued on 8/24/94 (DAQE-0704-94) which caps the total emissions of SO2, NOx and PM10 at 466.9 tons per year. This represents an increase above the established SIP levels by 67.9 tpy. The increase was offset at a ratio of 1.2:1 (81.5 tpy). The permit establishes the calculation algorithm as the method of compliance, allowing for some flexibility within the operation. Kennecott, Barney's Canyon is considered to be in compliance with its permit and its dust control plan.

Kennecott Utah Copper - Garfield Smelter, Magna

RACT was established as the following:

The following mass emission rates were imposed on the tall stack:

1. PM_{10} - 400 lb/hr, 24 hour average; 200 lb/hr, annual average - both to take effect 6 months after the new acid plant becomes operational.

2. SO_2 - 6,450 lb/hr, 3 hour average (rolling); 5,700 lb/hr, 24 hour average (calendar day); 3,240 lb/hr, annual average

3. Acid Plant tail gas - 1200 lb SO2/hr (6-hr average); 1,950 lb SO2/hr (3-hr average, rolling); 1,050 ppmdv (3-hr average, rolling).

The hourly mass emission limitation for SO_2 on the tall stack represent NSPS for an acid plant plus the best current estimates of fugitives captured in the secondary hoods. The emission limit for PM_{10} is essentially not much different from what is currently measured as an annual average, but is now to be complied with for a much higher percentage of the time. The CEM^s are already in place, as are the record keeping requirements.

The Utah Smelter will utilize best engineering techniques for reducing emissions to the atmosphere and to capture sulfur oxides emissions and vent them through a stack or stacks. Such techniques shall include:

A. Installing and operating primary hoods and slag and matte tapping port hoods on each active reactor;

B. Installing and operating primary and secondary hoods on each active converter;

C. Installing and operating vents, fans, and duct work in the ceiling above each reactor to capture emissions in the general building air;

D. To the extent practicable, maintaining and operating all mechanical parts, including hoods, doors, dampers, fans, and associative controls in continuous and full use when respective process units are in operation;

E. Maintenance of all ducts, flues, and stacks in such a fashion that leakage of gases to the ambient air will be prevented to the maximum extent practicable;

F. Maintaining all reactors and converters under normal operating conditions in such a fashion that out leakage of gases to the air will be prevented to the maximum extent practicable;

G. Wherever practicable, capturing emissions and ducting all captured emissions through the tallest stack or stacks serving the source.

The copper concentrate feed rate was capped at 80 tons/hr.

KUC will use only natural gas as fuel in the boilers and rotary driers. Natural gas

consumption for these sources may not exceed 938 million cu-ft/yr.

For control of smelter emissions other than from the main stack, the owner/operator shall:

A. Install improved primary emission capture at reactors #2 and #3 slag skimming and matte tapping operations.

B. Modify converter hooding and replace flues to more effectively capture emissions into the primary system.

C. Install automatic tuyere punchers on reactors #2 and #3.

D. Rebuild or replace preheaters in acid plants #7 and #8.

E. Install hoods over the #2 and #3 reactor bath measuring stations.

F. Through operation controls, minimize generation of fugitive emissions.

Furthermore, the following operational procedures for the capture of fugitive emissions in the smelter building were required:

Primary system:

a. Water cooled hood for each active smelting reactor and converter. Hood to be in closed/covered position during reactor and/or converter operation.

b. Off gases from reactors fed from hoods through waste heat boiler, hot cyclones and dry electrostatic precipitators.

c. Off gases from converters fed from hoods through dropout chamber, shot cooler and dry electrostatic precipitators.

Secondary System:

Hooding around each converter and at the tapping ports of the active reactors. Also, for reactors and converters, collection manifold with baffles, ventilating fans, and duck work to the main stack.

Tailings pond: The compliance order dated October 4, 1989, has been incorporated by reference into the regulations.

Status: Kennecott has an approval order dated 7/20/94 (DAQE-0587-94) which encompasses all smelter modifications. The limitations imposed by the SIP presume application of a

double contact (sulfuric) acid plant to the existing Noranda smelter process. KUC now plans to replace the Noranda reactor with a Flash Furnace, which will reduce emissions far below the levels required by the SIP. KUC will continue to operate within the SIP limits until the new smelter is completed (summer of '95), after which a new set of emission limits (contained in the approval order) become effective. KUC has banked the reduction in emissions below the levels specified by the SIP. Inspections were conducted on 2/4/92 and 12/28/92. The rotary concentrate dryer was stack tested on 12/16/93. Neither the inspections nor the stack test indicate a problem with compliance.

Kennecott Utah Copper - Refinery, Garfield

RACT was established as the following:

Mass emission limits were established for the Selenium extraction process (SO2), the Dore' furnace electrostatic precipitator, and secondary hood baghouse (PM10), and the boilers (SO2, NOx, and PM10).

After November 15, 1992, coal may only be used in the boilers from March 15 through November 15, inclusive. In all other equipment, only natural gas, LPG or #2 fuel oil may be used as fuel. Fuel consumption for all non-exempt equipment may not exceed 601,000 million Btu per 12-month period, of which no more than 293,000 million Btu shall be in the form of coal.

Status: Kennecott has received an approval order dated 10/20/93 (DAQE-0933-93) for refinery modernization. The modernization will result in emission levels that are significantly lower than those required by the SIP. State inspections conducted on 8/25/92, 10/14/93, and 2/4/94 have all found the source to be in compliance.

Kennecott Utah Copper - Bingham Canyon Mine

RACT was applied as follows:

Total material moved (ore and waste) was capped at 150,500,000 tons per 12-month period, and the following operating parameters are not to be exceeded:

A. Maximum daily total mileage for haul trucks: 30,000 miles
B. Minimum design payload per haul truck: 150 tons
C. Maximum number of wheels per haul truck: 6
D. Any new haul trucks purchased will be rated at the indicated minimum net payload weight: 190 tons

Mass emission limits were placed on the in-pit crusher baghouse vent and the two controlled drop point baghouse vents near Copperton.

Visible emissions from the following emission points were limited to the following:

A. Crushers - 7% opacity
B. Conveyor transfer points equipped with baghouses - 7% opacity
C. All other conveyor transfer points - 10% opacity
D. Lime silo - 10% opacity
E. Unpaved ore haul roads, front-end loading, truck dumping, stockpiles, blasting area - minimize emissions
F. Drilling - 10% opacity
G. All other points - 10% opacity

KUC must propose a plan to keep trigger opacity on active waste slopes at less than 20%. The waste dump slopes must be monitored, and if the 20% limitation cannot be met on any waste dump slope, additional and/or alternate control measures, as defined in the fugitive dust control plan shall be taken.

KUC will use frequent watering or chemical dust suppressant to control road dust from all trafficked roads and areas in the mine, and will submit an annual road dust control report, in conjunction with the fugitive dust control plan, by February 1 of each calendar year.

Diesel fuel consumption may not exceed 27,500,000 gal/yr, and after December 31, 1993, the sulfur content of diesel fuel oil burned in the equipment engines may not exceed 0.03 pound of sulfur per million BTU (This represents 0.05% sulfur by weight in the fuel oil, 137,000 btu/gal, and 7.05 lb/gal).

Status: Annual inspections conducted on 8/12/93, 9/22/94, and 1/5/95 indicate that Kennecott is operating the Bingham Canyon Mine within the constraints of the SIP and the fugitive dust control plan dated 1/29/92.

Kennecott Utah Copper - Copperton Concentrator

RACT was established as the following:

Opacity limits and mass emission limits were placed on all baghouses based on 0.02 grains of TSP per dry standard cubic foot, 80% of which was considered to be PM_{10}.

Only natural gas or LPG was allowed as fuel in the combustion sources. Natural gas consumption was capped at the following limitations for the equipment listed:

Molybdenite Heat Treater	4.8×10^6 SCF per 30 days

Feed Molybdenite Dryers (each)	4.1×10^6 SCF per 30 days
Steam Boiler	12.0×10^6 SCF per 30 days

The Molybdenite Heat Treater shall be operated as a dryer with water as the Scrubbing Solution in the venturi scrubber. When used as a heat treater, the following measures shall be taken:

A. The SO_2 scrubber will be fully activated.
B. The installed continuous emissions monitor (CEM) shall be used to determine compliance with the SO_2 limitation (26.2 lb/hr) on an hourly basis.
C. The monitor shall meet all requirements listed in Section 4.6, UACR.

Status: This source was inspected as part of the annual inspection on 3/4/94. Kennecott is operating the Copperton Concentrator within the constraints of the SIP.

Kennecott Utah Copper - Bonneville Concentrator

RACT was established as the following:

Mass emission limits were placed on all baghouses based on 0.02 grains of TSP per dry standard cubic foot, 80% of which was considered to be PM_{10}.

Visible emissions were limited to 10% opacity.

Annual and hourly limits on ore throughput of 12,500,000 and 1,700 tons respectively.

In an effort to control fugitive dust emissions, ore reporting to the storage piles must be watered to minimize generation of fugitive dusts as dry conditions warrant.

Status: Annual inspections conducted on 12/28/93, 3/4/94, and 1/5/95, and a stack test of the primary crusher (12/10/93) indicate that Kennecott is operating the Bonneville Concentrator within the constraints of the SIP. An approval order has since been issued to update the operating conditions (DAQE-0041-95, 1/24/95).

Kennecott Utah Copper - Utah Power Plant, Magna

RACT was established as the following:

In an effort to gain maximum emission control during the time period when the meteorological conditions which contribute to PM_{10} exceedances are most likely to occur, the four boilers may only use natural gas as a fuel from November 1 to March 1, unless a natural gas curtailment is imposed by the gas company. Seasonal mass emission limits were

set to reflect each mode of operation. The mass emission limitations for the wintertime period assume AP-42 emission factors with 40% control of NO_x. No additional NO_x or SO_x control was assumed during periods of coal burning.

In addition, the following production limits were established for both natural gas and coal:

A. 2.53 million cubic feet per hour of natural gas
B. 7,680 million cubic feet per year of natural gas
C. 88 tons per hour of coal for entire plant
D. 511,000 tons per year of coal for entire plant

The limitations on hourly and annual fuel consumption were based on operation at full capacity.

Status: Kennecott has complied with its obligation to burn natural gas during the winter inversion season, and has remained in compliance with its mass emission limits. Furthermore, Units 1,2 and 3 have recently been fitted with low NOx burners as required by the nonattainment status for ozone in the surrounding area (NOx RACT, see CAA Section 182(f)). KUC received an approval order (DAQE-0433-94, 5/27/94) to make the modification. Annual inspections conducted on 4/29/93 and 9/8/94 both found the source to be in compliance. A stack test on unit no. 3 (2/12/93) also found the source to be in compliance. More recent stack testing on all four boilers burning coal, in November '93, and burning gas in December '93 also indicated that the source was in compliance.

Kennecott - Magna area

As mentioned above, exceedances of a totally different character from the rest of the valley were measured at the Magna site. The strategy to prevent these types of episodes from recurring (RACT) is outlined below.

1. Construct a series of dikes and sprinkler systems on the tailings pond to distribute water on the pond until such time as KUC could resume operation - This has been completed.

2. Replace the existing tailings distribution system to guarantee that the tailings pond would remain covered with wet tailings after the company resumed operation - This has been completed.

3. Apply controls to the periphery of the pond - A peripheral discharge system was completed July 1, 1988, which maintains a surface damp condition at the tailings pond to reduce or eliminate wind blown tailings.

4. Develop and submit a plan to control emissions from the pond in the event of a

temporary plant shutdown - This has been completed.

5. Develop a plan to control emissions from the pond in the event of a permanent plant shutdown - This too has been completed.

Status: Kennecott has complied with all elements of the fugitive dust plan. They have also been issued a new approval order (DAQE-0627-95, dated 7/14/95) which authorizes expansion and upgrade of the Kennecott Tailings Impoundment as part of ongoing modernization activities. The proposed Tailings Modernization project consists of the North Expansion to the existing impoundment and transition of the tailings storage operations over a four year period beginning in 1995. Areas previously used by the Morton Salt Plant, and the Chevron fertilizer plant will be included in the new tailings impoundment expansion. The existing tailings impoundment had a top surface area in 1994, of approximately 3,936 acres where as the surface area for the new tailings impoundment has been estimated to be approximately 2,714 acres in the year 2004. A decrease in emissions will result from the decrease in surface area.

LDS Hospital

RACT was established as the following:

Use of natural gas in the boilers from November through February each season beginning in the winter season of 1992-1993. Coal may be used the remainder of the year.

Mass emission limitations were established for coal fired operation based on the following: for PM-10, baghouses less than 20,000 ACFM were limited to 0.02 grains per dry standard cubic feet (TSP), and baghouses greater than 20,000 ACFM were limited to 0.01 gr/dscf. PM-10 was assumed to make up 60% of the TSP (from AP-42 table 1.1-6). The sulfur content of any coal burned was limited to no more than 0.60 pounds per million BTU heat input.

A limit of 10,467 tons/yr was established for coal consumption. This represents two thirds of a pre-existing approval order condition.

Status: LDS Hospital was issued an approval order on 4/3/92 (DAQE-0331-92) for "boiler replacement in response to PM10 SIP". The source elected to remove from service its coal fired boiler, and replace it with two natural gas fired units. The approval order allows for natural gas or no. 2 fuel oil only. Since the emission limits specified by the permit are significantly less than those required by the SIP, LDS Hospital was able to bank the difference. This was approved in an order. The last two annual inspections (12/22/93 and 10/27/94) indicate that the source has remained in compliance with its approval order.

LDS Welfare Square

RACT was established as the following:

The source was required to use natural gas as primary fuel in the three boilers. This required modifications to the (large) Keeler boiler. Number 2 fuel oil or better was allowed as back up fuel, the sulfur content of which may not exceed 0.45 pounds per million BTU.

Annual production limitations were imposed as follows:

A. Combined heat input (for all three boilers) shall not exceed 20,000 MMBTU per year.
B. Annual throughput of grain shall not exceed one million tons.

Mass emission limitations in accordance with NSPS were placed on the grain elevator baghouse.

Status: LDS Welfare Services was issued a permit (DAQE-0322-93, 4/15/93) for installation of a new 480 BoHP boiler equipped with low NOx burners and flue gas recirculation. Operation of all other boilers is not to exceed 80 hrs per 12-month period. The new boiler is fit to burn natural gas as well as backup fuel oil. There is no significant change in allowable emissions. The grain elevator baghouse was tested on 2/25/93, and found to be in compliance.

Monroc Inc. - (Beck Street)

RACT was established as the following:

Mass emission limitations, consistent with those for all asphalt plants and baghouses, were applied to the asphalt plant stack and the specialty sands stack.

The following production limits were applied to the facility:

A. 190 tons asphalt/hr
B. 150,000 tons asphalt/yr
C. 3,000 hours/yr
D. 300 ton aggregate/hr
E. 600,000 ton aggregate/yr
F. 300 ton ballast/yr
G. 500,000 ton ballast/yr

In order to minimize fugitive dust emissions, water sprays or chemical dust suppression sprays were required at all screens, crushers, conveyor transfer points, and storage piles. The paved

haul road must be cleaned by a street vacuum equipped with a baghouse or by water flooding as necessary.

The sulfur content of any coal or coal blend fired is limited to 0.6% by weight.

Status: Monroc received an approval order to install a new concrete batch plant on 9/7/93 (DAQE-0761-93). The order stipulates that this shall not construe an increase in overall aggregate production. All SIP conditions, including allowable emissions totals, have been retained in the approval order. Monroc was found to be in compliance with this approval order during the annual inspection of 6/28/94. The grit blast sand kiln was stack tested for PM10 on 8/17/93, and also found to be in compliance.

Monroc Inc. - (Kearns)

The conditions which appear in SIP Section IX.A.H.2.b.EE actually pertain to a plant in Cottonwood that has been closed down. The correct conditions were added by Order of the Utah Air Quality Board in July of 1992. RACT at the Kearns location was established as the following:

The following production limits were applied to the facility:

A. 300 ton/hr aggregate screen feed rate
B. 480,000 ton/yr aggregate screen feed rate
C. 16 hours/day
D. 4,480 hours/yr

In order to minimize fugitive dust emissions, water sprays or chemical dust suppression sprays shall be installed at all screens, crushers and conveyor transfer points. The haul road must be paved and kept clean as necessary.

Status: Monroc received an approval order dated 1/13/95 (DAQE-0010-95) to increase production of washed aggregate to 600,000 tons per year and to add a concrete batching facility at the Kearns location. Monroc is considered to be in compliance with the approval order which will be incorporated into the SIP in a forthcoming revision.

Morton Salt Company

RACT was established as; a set of production limits, mass emission limits on venturi scrubbers, use of natural gas, and dust control on unpaved haul roads. On August 22, 1991 Morton International notified DAQ that they had moved their place of business from Salt Lake County to Tooele County. Their emissions were banked, and subsequently sold to Kennecott. Thus, none of these conditions applies.

Mountain Bell - Offices (Emergency Generators)

RACT was established as the following:

1. A 240,000 Kilowatt-hours per year production limit.

2. A limit on the sulfur content of diesel fuel oil (0.40 percent by weight).

Status: Mountain Bell is considered to be in compliance with all SIP conditions.

Mountain Fuel Supply Co. - (General Offices)

RACT was established as the following:

A production limit of 16,600 Megawatt hours of electricity per year was established to insure that one of the five approved turbine engine/generator sets was to be used as a back-up unit. An equivalent hourly limitation of 2,540 horsepower hours per hour (1,895 kW-hr/hr) was also specified. Mass emission limitations were specified for each of the engines, and only natural gas was allowed as fuel. These gas turbines are significantly cleaner than the engines they replaced (in 1986) so the only restriction was to limit the output of the facility to what they really needed.

Status: Mountain Fuel was inspected on 1/29/93, and is considered to be in compliance with all SIP conditions.

Mountain Fuel Supply Co. - (Operations Center)

RACT was established as the following:

A production limit of 8,300 Megawatt hours of electricity per year was established to insure that one of the five approved engine/generator sets was to be used as a back-up unit. An equivalent hourly limitation of 1,270 horsepower hours per hour (947 kW-hr/hr) was also specified. Mass emission limitations were specified for each of the engines, and only natural gas was allowed as fuel. These gas turbines are significantly cleaner than the engines they replaced (in 1986) so the only restriction was to limit the output of the facility to what they really needed.

Status: Mountain Fuel was inspected on 12/9/93, and is considered to be in compliance with all SIP conditions. Also, Mountain fuel was issued an approval order on 4/14/94 (DAQE-0287-94) for a new cogeneration plant adjacent to the existing facility. The engines will be equipped with double banked catalytic converters and electronic air/fuel ration controllers. The emissions from this facility will be addressed in a forthcoming SIP revision.

Murray City Power

RACT was established as the following:

The following production/consumption limits were applied to the facility:

A.	Total Power generated	14,425	MW*hr/yr
B.	Fuel Oil Consumption	150,000	gallons/yr

The limitations on energy production were selected such that the plantwide annual NOx emissions would be at 250 tons per year. Although this is much higher than the annual emissions typically produced by the facility, it still allows them to demonstrate adequate power supply capability in order to insure that they may purchase their power at a favorable rate (and therefor make it more economical to buy their power rather than produce it).

On the first day of each month a new 12-month rolling total emissions inventory shall be compiled. If the NO_x emissions exceed 200 tpy for the previous 12 months, the source shall submit a plan with proposed specifications for a continuous emissions monitoring system (CEMS) for NO_x. The CEM shall be on line within 12 months following the approval of the plan.

Any fuel oil burned in the dual-fuel engines must be of number two grade or better.

Status: SIP conditions for Murray City Power were modified by Order of the Utah Air Quality Board on July 24, 1992 to clarify their stack testing and inventory reporting requirements. Murray City Power has remained in compliance with all SIP conditions.

Ostler Rocky Mountain Refractory Company

RACT was established as the following:

The following mass emission limits were applied for PM10 to all baghouses.

A.	Dryer/Crusher Baghouse Vent		
	PM_{10}	0.54 lbs/hr	0.016 grains/dscf
B.	Ball Mill Baghouse Vent		
	PM_{10}	1.74 lbs/hr	0.016 grains/dscf
C.	Screen/Mixer Baghouse Vent		
	PM_{10}	0.14 lbs/hr	0.016 grains/dscf

Production limits were established for the following processes:

A. Clay/Barite Drying and Crushing
B. Ball Mill Grinding
C. Concrete Mixing/Screening

Natural gas or propane became the only acceptable fuels for use in the dryers.

In order to minimize fugitive dust emissions, water sprays or chemical dust suppression sprays were required at all material transfer points.

Status: Ostler Rocky Mountain Refractory Co. is considered to be out of compliance with its SIP conditions. A cease and desist order has been sent to the company (11/10/94), and a resolution is still pending.

Pacificorp - 40 N. 100 W., Boilers (formerly Utah Power & Light)

RACT was established as the following:

NOx emission limits of 6.26 lbs/hr (and 143 ppmdv) were established for each of the two boilers.

Natural gas was specified as the primary fuel in the boilers. Number 2 fuel oil or better may be used as a backup fuel during periods of natural gas curtailment.

Status: Pacificorp is considered to be in compliance with all SIP limitations.

Pacificorp - Gadsby Plant (formerly Utah Power & Light)

RACT was established as the following:

Natural gas was specified as primary fuel in the units, with number 2 fuel oil or better as back-up. The sulfur content of any fuel oil burned may not exceed 0.45 percent by weight.

Mass emission limitations for NOx were established assuming that low NOx technology would result in 40% control based on AP-42 emission factors (for lack of a stack test). It should be noted that unit three is tangentially fired so the emission factor used for this unit was 275 lb/mmcf instead of 550 lb/mmcf.

A 70% capacity factor was superimposed over the mass emission limits for the facility during the winter-time period from November through February.

Status: Pacificorp has resumed operation of the Gadsby plant, which had been shut down as of the time the SIP was written. All three units are operational, and are fired when needed on

natural gas. Unit 3 was able to meet its mass emission limits for both winter and summer without any significant modification. Units 1 and 2, however, were retrofit with low-NOx burners such that they are now able to satisfy the winter-time emission rates at full capacity. Pacificorp received an approval order for this modification dated 2/3/94 (DAQE-0063-94). This approval order and the associated emissions will be incorporated into a forthcoming SIP revision. Of final note is the fact that the Gadsby plant is located in an area that is also a moderate nonattainment area for ozone. As such, the facility was evaluated in terms of NOx RACT, and was found to have achieved an emissions level substantially below that which was presumed as "RACT for certain utility boilers". Stack testing was conducted on 3/5/92 and 3/25/93, and the source was found to be in compliance with the SIP.

Jack B. Parson - Kearns (6000 West 5400 South)

RACT was established as the following:

The following production limits were established:

A. 150 cubic yards per hour of concrete
B. 100,000 cubic yards per year of concrete
C. 12 hours/day
D. 2700 hours/yr

The haul road must be paved and kept clean.

Status: This source is considered to be in compliance with all SIP limitations.

Jack B. Parson - Woodscross (1055 West 500 South)

RACT was established as the following:

The following production limits were established:

A. 100 cubic yards per hour of concrete
B. 100,000 cubic yards per year of concrete
C. 12 hours/day
D. 2700 hours/yr

The paved haul road shall be kept clean.

Status: This source is considered to be in compliance with all SIP limitations.

Phillips 66 Company

RACT was considered a 95% efficient sulfur plant and no burning of fuel oil. Phillips was given daily (24-hr) limits for SO2, NOx and PM10 to reflect application of these technologies as well as good operating practices. The allowable emissions were essentially capped at the 1988 levels. Some individual point source limitations on SO_x and NO_x were left out pending stack test results. No additional controls/improvements applied as RACT to the 1988 NO_x or particulate emissions, as an increase in the sulfur content of future crude stock was not accounted for by the SIP.

Status: Phillips was issued an approval order dated 10/29/92 (DAQE-1044-92) for construction of the sulfur removal system. The point source limitations on SO_x and NO_x at the TCC unit were still omitted pending stack test results. The sulfur plant came on line in the fall of '93. Compliance inspections indicate that the facility is operating within the emission caps specified in the SIP. Although compliance with an undetermined TCC unit emission limit cannot be determined, the limits were to be established based on existing operating conditions, and there is nothing to suggest that emission rates from the TCC unit have increased. The most recent annual inspections (6/24/93 and 6/23/94) have indicated that the source is in compliance with the SIP. The SRU was stack tested on 9/27/94, and found to be in compliance with the limits of the approval order. Phillips has since been issued an approval order (DAQE-0623-95, 7/13/95) which addresses the remaining point source limitations. These limits will be incorporated into the SIP in a forthcoming revision.

Pioneer Sand and Gravel

RACT was established as the following:

The following production limits were established:

A. 350 tons/hr of aggregate
B. 560,000 tons/yr of aggregate
C. 8 hours/day
D. 1600 hours/yr

In order to minimize fugitive dust emissions, water sprays or chemical dust suppression sprays were required at all screens, crushers, and conveyor transfer points.

Status: Pioneer Sand and Gravel is considered to be in compliance with all SIP limitations.

Salt Lake City Asphalt - 1850 North Redwood Road

RACT was established as the following:

The following production limits were established:

A. 150 tons/hr of asphalt
B. 160,000 tons/yr of raw material
C. 8 hours/day
D. 1560 hours/yr

Mass emission limits were set at the asphalt plant baghouse, and fuel selection was limited to only natural gas.

Standard measures to minimize fugitive dust emissions were required.

Status: The annual inspection conducted on 3/24/93 found the source to be in compliance with all SIP limitations; however, the source is no longer in operation, as confirmed by a letter dated 7/19/94.

Salt Lake County Asphalt - Welby Pit

RACT was established as the following:

Production limits were established for the following processes:

A. 1964 Cedar Rapids Crusher (equipment #316)
B. 1965 Twin Jaw Crusher (equipment #317)
C. 1984 El Jay Crusher (equipment #320)
D. Cedar Rapids Asphalt Batch Plant (equipment #300)

Mass emission limits were set on the asphalt plant baghouse.

Natural gas was specified as primary fuel in the asphalt plant.

In order to minimize fugitive dust emissions, water control or chemical dust suppression were required at all screens, crushers, conveyor transfer points, and all disturbed areas. The paved roads must be kept clean.

Note also that the SIP as originally written included a condition for Kennecott's tailings distribution system in the section concerning Salt Lake County Asphalt. This language was deleted by Order of the Utah Air Quality Board on July 24, 1992.

Status: Annual inspections conducted on 5/25/93 and 6/28/94 found Salt Lake County Asphalt to be in compliance with all SIP limitations.

Salt Lake Valley Sand and Gravel - point of the mountain

RACT was established as the following:

The following production limits were established:

A. 100 tons/hr cone crusher throughput
B. 250,000 tons/yr cone crusher throughput
C. 300 tons/hr total sand and gravel throughput
D. 800,000 tons/yr total sand and gravel throughput
E. 18 hours/day sand and gravel plant operation
F. 4752 hours/yr sand and gravel plant operation
G. 10 tons/hr of finished dryer product
H. 12,000 tons/yr of finished dryer product
I. 9 hours/day dryer plant operation
J. 1200 hours/yr dryer plant operation
K. 80 cubic yards/hr concrete production
L. 160,000 cubic yards/yr concrete production
M. 12 hours/day concrete batch plant operation
N. 2000 hours/yr concrete batch plant operation

Fuel was specified as number 2 fuel oil or better in the dryer kiln, the sulfur content of which is not to exceed 0.25 pounds per million BTU. Fuel consumption was capped at 340,000 gal/yr.

In order to minimize fugitive dust emissions, water control or chemical dust suppression was required at all screens, crushers, conveyor transfer points, and all disturbed areas. In addition, only washed concrete sand may be fed to the dryer, the dryer screening process shall be enclosed in a building, and silo loading will be controlled by a baghouse.

Status: Annual inspections conducted on 8/18/93 and 6/30/94 both found Salt Lake Valley Sand and Gravel to be in compliance with all SIP conditions.

Savage Rock Products - 6200 South 3100 East

RACT was established as the following:

The following production limits were established:

A.	300	tons/hr, Crusher Plant
B.	1,000,000	tons/yr
C.	16	hours/day
D.	3,333	hours/yr of Crusher Operations

In order to minimize fugitive dust emissions, water control or chemical dust suppression was required at all screens, crushers, and conveyor transfer points.

Status: The annual inspection conducted on 5/24/93 found that this source was no longer in operation at this location.

Staker Paving And Construction Company - North Beck Street

RACT was established as the following:

Mass emission limits were set on the H & B Asphalt plant for PM10 (virgin and recycle) SO2 and NOx.

The following production limits were established:

A. For the Asphalt Plant:

1. 700 tons/hr
2. 700,000 tons/yr (including recycle mix)
3. 150,000 tons per year recycled asphalt pavement (RAP)
4. 2,500 hrs/yr

B. For the Aggregate Pit:

1. 750 tons/hr of crushing/screening production
2. 1,250,000 tons of mined material per year
3. 2,500 hrs/yr

C. No more than 250,000 cubic yards per year of material shall be blasted for mining. There shall be no more than 30 blasts per year. Also, the area to be blasted shall be soaked with water prior to blasting.

The sulfur content of any coal burned was limited to 0.60 percent by weight.

In order to minimize fugitive dust emissions, water sprays or chemical dust suppression sprays were required at all screens, crushers, conveyor transfer points, and disturbed areas.

Status: Staker Paving and Construction Co. was issued an approval order dated 4/12/94 (DAQE-0276-94; since replaced by DAQE-0734-94, dated 9/8/94) for the addition of a grizzly feeder and three conveyors to handle approximately 300,000 tons of product per year. This is expected to increase PM10 emissions by 1.87 tons/yr. In order to offset this increase, the source has agreed to burn less diesel fuel thereby producing less SO2 and NOx. This approval order and the associated emissions will be incorporated into a forthcoming SIP

revision. Annual inspections of 5/14/93 and 6/2/94, as well as a stack test conducted on the H&B asphalt plant (5/12/94), found the source to be in compliance.

Staker Paving and Construction Company - 15290 South State Street

RACT was established as the following:

The following production limits were established:

A. 500 tons/hr aggregate crushing and screening
B. 250,000 tons/yr aggregate crushing and screening
C. 12 hours/day
D. 2160 hours/yr

In order to minimize fugitive dust emissions, water sprays or chemical dust suppression sprays were required at all screens, crushers, and conveyor transfer points.

Status: Staker Paving and Construction Co. is no longer operating in this pit.

Staker Paving and Construction Company - 6820 West 7400 South

RACT was established as the following:

The following production limits were established:

A. 500 tons/hr aggregate crushing and screening
B. 250,000 tons/yr aggregate crushing and screening
C. 12 hours/day
D. 2160 hours/yr

In order to minimize fugitive dust emissions, water sprays or chemical dust suppression sprays were required at all screens, crushers, and conveyor transfer points.

Status: Staker Paving and Construction Co. is no longer operating in this pit.

Union Pacific Resources - @ Kennecott Minerals Corporation slag pit

RACT was established in the SIP, and subsequently modified by Order of the Utah Air Quality Board in July '92, as follows:

The following production limits were established:

For the Grit Plant:

A. 40 tons/hr
B. 51,000 tons/yr
C. 16 hour/day
D. 2080 hours/yr

For the Ballast Plant:

A. 350 tons/hr
B. 1,000,000 tons/yr
C. 16 hours/day Nov 1 to Feb 28
24 hours/day all other times
D. 3,600 hours/yr

Natural gas was specified as fuel in the dryer. Fuel consumption was limited to 18.6 MMcf/yr. Number 2 fuel oil or better is permissible in all other sources, but the sulfur content is limited to 0.45% by weight.

Mass emission limits were established for PM10 at all four baghouses based on 0.016 gr/dscf.

In order to minimize fugitive dust emissions, water sprays or chemical dust suppression sprays were required at the following points:

A. All unwashed material conveyor transfer points
B. All rejected material conveyer transfer points
C. Point #1 Vibrating feeder
D. Point #6 Conveyor drop point from reclaim tunnel to plant feed conveyor
E. Point #11 Conveyor Discharge from crusher
F. Point #17 Transfer from field to stacking conveyors and
#23 rainbird type sprinklers at top of product radial stacker conveyors

In addition, the storage piles must be watered to minimize generation of fugitive dust, and reject fines from both the Grit Plant and the Ballast Plant must either be covered with ballast material or be sprayed with an encrusting agent as dry conditions warrant.

Status: Slight changes were made to the SIP conditions on July 24, 1992, by Order of the Board. Union Pacific Resources has remained in compliance with all SIP conditions. The most recent annual inspections (6/9/93 and 5/11/94) both found the ballast plant to be operating normally, but that the grit plant had been shut down since July of 1991. This source is considered to be in compliance with the SIP.

The University of Utah - (Hot Water Plant)

RACT was established as the following:

Fuel switching to natural gas from November 1 to February 28 each season.

Fuel consumption limits of 18,730 tons of coal and 490 million cubic feet of gas per year based on the assumption that one half of the required annual input of heat (fuel) would occur during the four month winter period and that the remainder of their needs would be met using coal for fuel during the summer months.

The sulfur content of any coal burned was limited to 0.60 percent by weight.

Discontinuing the practice of re-injecting flyash into the boilers for additional combustion.

Mass emission limitations were applied to the facility for each mode of firing (coal and gas) based on AP-42 factors.

Status: Stack tests of boilers no. 2 & 3 (7/18/94), as well the annual inspection of 11/29/93, indicate that the University is in compliance with all SIP limitations.

Utah Metal Works

RACT was established as the following:

Operational limits were placed on the incinerator, baghouse, and aluminum furnace.

Natural gas or propane was specified as fuel in the incinerator and the furnace.

Mass emission limitations for PM10 were applied to both the baghouse and the incinerator.

Status: The annual inspection of 6/9/93 found the source to be in compliance and that the aluminum furnace had been shut down and was to be demolished. The wire chopper baghouse and the reclaim incinerator exhaust stack were tested in July of '93. Both units were found to be in compliance with the SIP. The annual inspection conducted on 12/29/93 found that the source had not been keeping records of operation hours for the baghouse and incinerator. A SCAN was recommended. The source was also found to have been recovering lead in its wire stripping incinerator.

Veterans Administration Medical Center

RACT was established as the following:

Natural gas was specified as the primary fuel in all furnaces, ovens and boilers. Number 2

fuel oil or better may be used only as a backup; not to exceed 50,000 gal/yr.

The following operating parameters were applied to the pathological incinerator:

A. The charge rate shall not exceed 250 lbs/hr
B. The temperature in the secondary chamber shall be maintained between 1,800 and 2,000 °F

Mass emission limits for NOx were applied to each of the three boilers.

Status: Veterans Administration Medical Center was issued an approval order dated 10/22/93 (DAQE-0952-93) to install three new replacement natural gas fired low-NOx boilers and one new replacement medical waste incinerator. The approval order and the associated emissions will be incorporated into a forthcoming SIP revision. The Veterans Administration Medical Center was inspected on 3/9/94, and is considered to be in compliance with all SIP requirements.

Wolff Gravel Products, Inc. - North Beck Street

RACT was established as the following:

The following production limits were established:

A. 300 tons/hr
B. 300,000 ton/yr
C. 16 hours/day
D. 4,000 hours/yr

In order to minimize fugitive dust emissions, water sprays or chemical dust suppression sprays were required at all screens, conveyor transfer points, storage piles, and disturbed areas. Also, the speed limit on the haul road was set at 10 miles per hour.

Status: Wolff Gravel Products was inspected on 8/18/93, and was considered to be in compliance with all SIP limitations. More recently, the source ceased its operations at this pit.

Footnote: Sources indicated as having not been inspected did not come up on the inspection targeting model as approved by EPA.

Area Sources:

1. Solid Fuel Burning Devices

In conjunction with SIP development, the maximum allowable opacity from solid fuel burning devices was changed from 40% to 20% This requirement has been incorporated into the Utah Air Conservation Rules (UACR) at R307-1-4.12.2, and applies to residential solid fuel burning devices and fireplaces on any day other than a "no-burn" day as outlined below.

As proposed in the SIP, the State initiated a woodburning program beginning Sept 1, 1992. In the beginning, data was collected to verify the effectiveness of the program, and a public awareness/education campaign was begun. The State began its woodburning program, on a voluntary basis, in September of 1992. Early efforts focused on the details of the notification system, conditioning the residents to the routine of the program, and evaluating the effectiveness of a voluntary program. Despite the voluntary nature of the program in its first year, the DAQ was very aggressive in patrolling residential areas on red days, devoting approximately 72 man hours per red day and issuing 94 citations over 39 red days. The state now implements a mandatory no-burn program within 3 counties. Due to an increase in public awareness, DAQ has been able to cut back the number of man hours applied to each red day (from roughly 72 to about 40). The rule has been codified in the State Rules at UACR 307-1-4.12. The details of the program are very similar to the proposal outlined in the SIP, and are repeated below.

The no-burn area includes all of Salt Lake County and areas in Davis County south of the southernmost border of Kaysville.

Mandatory no-burn days are called when the ambient air contains 120 micrograms/cubic meter or more as measured by the real time monitor at the Air Monitoring Center and the forecasted weather for the area includes a temperature inversion which is predicted to last for at least 24 hours. During a mandatory no-burn (red) day, no person is allowed to burn unless their solid burning device is certified as a sole source of heat, or unless there are no visible emissions. Voluntary no-burn (yellow) days are triggered when the ambient levels reach 100 $\mu g/m^3$.

As required by the SIP, DAQ reached an agreement with local news media, and the red/yellow/green status for the day is now included in the newspapers and broadcast over the T.V. and radio.

As outlined in the SIP, the proposed woodburning plan was to strengthen enforcement capabilities and alleviate the burden of penalizing violators through the court system by seeking statutory authority to allow assessment and collection of administrative penalties for woodburning violators. This has been completed, and the DAQ has been collecting the appropriate fines.

Enforcement of the no-burn rule is conducted by the DAQ. Patrol cars are assigned to each county on a no-burn day. When a violation is found the individual is informed of the violation and informed of the DAQ penalty policy. The address is taken down and a

determination is made as to whether it is a first time violation, a repeat offense, or a sole source of heat. If appropriate, a violation is sent to the address of the offender. Additional inspectors are on call to investigate complaints. If deemed in violation of the rule, a citation is issued to the offender in accordance with the penalty policy. As outlined in the proposed program, the penalty policy is one of Category D; $0 - $25 for the first violation, $50 - $150 for the second violation, and $150 - $299 for a third violation. Information packets are also distributed by the inspectors, and first-time offenders are encouraged to attend an educational session at the DAQ as an alternative to paying the fine. Sites found in violation are reinspected within 24 hours, or on the next red day, and issued another NOV if still in noncompliance.

Other elements of the proposed program as outlined in the SIP include the following:

a) DAQ was to develop a public awareness program by spring of 1992. The State has produced two information pamphlets which outline the rules of the woodburning program and provide information on the health effects of woodsmoke, the impact on our nonattainment areas due to woodsmoke, proper stove operation, and the selection of clean-burning stoves (see Appendix A.1). These pamphlets are made available at the DAQ and local health departments, and early newspaper reports covering the woodburning program encouraged people to contact DAQ for such information. Inspectors also routinely distribute these pamphlets while on shift. The State has also staffed an information booth at the State Fair in each of the last several years, where proper use of woodstoves and compliance with the voluntary no-burn periods is pitched as "something each person can do to help". Each year in October, radio talk show host John Berg has discussed the woodburning program with a DAQ representative. Most importantly, the State feels that media broadcasts of the woodburning status during every day of the last three winter seasons have not only conditioned the public to consider the status before lighting a fire, but have ingrained in the residents the notion that each of our fireplaces can have an effect on the quality of the air. The newspaper also publishes a number to call for answers to questions regarding the status for the day or the woodburning program in general. Phone logs indicate that over 128,000 calls were received during the program's first season. The number of calls the following year was only 57,900 and 46,000 the year after that. This would indicate not only that the public is much more informed about the woodburning program now, as compared to the first year, but also that many residents are calling the number simply to check the daily status before starting a fire. The State will continue to be proactive in the release of public information regarding the proper use of woodstoves and alternatives to burning wood.

b) Mandatory no burn for coal, unless approved as sole source of heat. After 1993 use of coal burning stoves was to be prohibited unless no visible emissions are possible. This was to result in a 50% decrease in emissions. The current rule does not absolutely ban coal burning, but the State feels that on a no-burn day, when the opacity is limited to 0%, that coal stoves will not be able to operate within the confines of the rule, as can certain EPA-certified wood stoves. Of the 214 sole source exemptions that were granted by the DAQ, none were for coal burners. Thus, they are essentially outlawed, at least on no-burn days, by the present rule.

c) The Salt Lake City/County Board of Health and the Davis County Board of Health were to adopt rules which would then be formally incorporated into the SIP when submitted to the State. Both agencies basically adopted the State rule on woodburning, so there was no need to submit them to the State or incorporate them into the SIP.

2. Road Salting and Sanding

During the SIP development process, the UACR was revised to limit the application of deicing/deslicking materials within a PM10 nonattainment area to salt containing no more than 2% insoluble solids, sand or crushed slag of which no more than 10% could pass through a #16 mesh, which contained no more than 3% fines, and had a Vicker's hardness of 1000+. This regulation was predicted to reduce the emissions from road salting and sanding by 20%.

Public comment in response to this rulemaking made it necessary for the State to gather more information to confirm the projected 20% reduction, and the proposed rule was changed to eliminate the limitations on salt/sand/slag applied during the winter of 1991/'92. With the study still pending, it was agreed that, within six months of the completion of the study, all agencies responsible for the application of salt, sand, or other deslicking grit to any roadway in a PM10 nonattainment area would submit a plan and implementation schedule to reduce initial street loading of particulate matter by 25% from the base year of 1989. The elements of these plans were to have been implemented no later than October 1, 1993.

The study to verify the 20% reduction was conducted, and it determined that the background concentrations of re-entrained road dust declined dramatically after the application of salt, rather than sand, to the road. Thus, the rule was again amended to require the application of salt that is at least 92% sodium chloride on all arterial roadways. Furthermore, the rule stipulates that any other material applied to such roadways must be proven to be at least as clean as salt (92% NaCl) or be vacuum swept off of the roadways within three days of the storm. The rule as revised no longer requires the submittal of a plan and schedule to reduce street loading of particulate matter by 25%, nor does it require an annual submittal of compliance verification. The rule does, however, require as an enforcement mechanism the maintenance of records of the material applied by those who are responsible for its application. For salt, the records are to include the quantity applied, the percentage that are insoluble solids and the percentage that is NaCl. For sand or grit, the records are to include the quantity applied and the percent of the fine material that will pass the number 200 sieve in a standard gradation analysis. All records must be made available to the Executive Secretary upon request.

Mobile Sources:

1. Diesel Inspection and Maintenance Program

Davis, Salt Lake and Utah Counties were required to implement a Diesel I/M program as part of the PM10 SIP. Not only was it considered necessary to inspect and maintain the diesel fleet in an effort to minimize PM10 emissions, but a diesel I/M program was also perceived as an equity issue since owners of gasoline powered vehicles had been required to have their vehicles inspected and repaired for a number of years.

At the time, Utah County had already submitted a draft diesel I/M program ordinance, and the other affected counties were to have submitted their plans too. The ordinances were to be included as appendices to the SIP. The Utah County draft ordinance was used as a template in the SIP for the proposed program, which in any case, was to be designed to insure compliance with existing opacity standards for diesel vehicles (UACR 307-1-4.1.4, 5 & 6). It was stated that the program would be modified as more effective methods were identified, and that any changes would be consistent with the DAQ's goal of a 20% reduction in PM10 emissions. A schedule was outlined in the SIP for the implementation of a diesel I/M program, including an effective date of July 1, 1993.

Implementation of a diesel I/M program for vehicles registered in PM10 nonattainment areas has now started. Testing began on December 1, 1994. This was a year and a half behind schedule because the Society of Automotive Engineers, which was charged with development of the test procedure, had to insure the least intrusive and most cost effective test method that would meet the needs of the entire nation. Regional consistency became a big issue for the interstate trucking companies.

The program is very similar to the one outlined in the SIP; the details are discussed below:

* Repairs will be required when excessive opacity indicates the engine is out of tune. This would be in contrast to scheduling maintenance at a regular interval. Correlation between engine performance and opacity is very good when opacity levels are relatively high.

* Documentation of compliance with the opacity test, or a waiver thereof, will be required in order for an owner/operator to register the vehicle for the subsequent year.

* Although stickers are still being considered, compliance with the opacity standard is a prerequisite for registration of the vehicle, so there is really no need for an additional sticker on either the windshield or the license plate to verify compliance on the roadway.

* In Salt Lake County, documentation of vehicle testing will be maintained electronically, and will be available (via downloading) to the county authority for Q/A auditing.

* I/M mechanics will need to be certified by the appropriate county authority.

* I/M stations will be subject to covert audits in addition to the regular audits.

* Heavy duty diesel vehicles will be required to pass a test procedure called the snap

acceleration mode in which the vehicle is brought from fully closed to fully open throttle (fuel delivery) as rapidly as possible. An opacity monitor will calculate an average opacity based on readings taken incrementally during the course of acceleration.

* The cut point for failing a vehicle is yet to be determined. The cut point will not be assigned based on a predetermined percentage of failures, but rather will be assigned so as to fail the grossest emitters.

* There are provisions such that if a particular engine design is unable to meet the standard, that the owner may petition for a higher opacity standard for that engine type.

* Light duty diesel vehicles (<= 1,600 lbs. gross weight vehicle rating) will be tested on a loaded dynamometer in a test designed to simulate maximum fuel delivery mode. Again, the cut point for failure will be determined after a statistically significant quantity of data has become available. The cut point will be assigned so as to fail and repair the gross emitter.

* Roadside opacity enforcement will become part of the program at some later date. Confidence levels must first be established around the opacity cut points for the test in order to identify the appropriate opacity level for field compliance. Also, the instrumentation used in the field, to perform the opacity readings, must be calibrated to account for differences in engine performance under variable conditions.

* Fleets of 25 or more vehicles may be "self-certified" provided that the fleet owner purchases a PC driven test procedure for data collection and Q/A with anti-tampering features.

* There will be a waiver provision for vehicle owners who have spent a certain amount of money to repair their vehicles and still cannot pass the opacity test. The waiver will probably be a one-time only option. Cut points for dollars spent are still under discussion, but are presently recommended as $750 for light duty vehicles and $1500 for heavy duty vehicles.

* The program could include some unobtrusive anti-tampering provisions, but this has not yet been decided.

* In Salt Lake County, the fee to inspect a vehicle will be $23. $4 of this fee will be used to fund the program. In Davis County, the fee will be $24, of which $10 will be for registration of the vehicle.

* Right now the program does not specifically apply to locomotive engines.

* Counties are still considering idling ordinances, but as yet there are none.

* The EPA originally estimated that a diesel I/M program would be 20% effective in reducing PM10 emissions. The State is confident that this figure accurately represents the amount of reduction achievable with this program.

Other Provisions:

1. Maintenance

The PM10 SIP for Salt Lake County demonstrates that the PM10 NAAQS will be achieved by December 31, 1993. The plan must also demonstrate maintenance of the standard in the years to follow. Although the first milestone report is to address only the progress made up to the attainment date (the second milestone report will address maintenance), the following list outlines the "safety margin" built into the SIP for maintenance purposes.

a. With the population growth originally projected at 1.5% per year, Salt Lake County proposed to establish building code requirements for additional weatherization to reduce the impact of natural gas heating on the county. There is currently a state tax exemption for home weatherization.

b. Federal law prohibits the sale of non-certified woodburning stoves after July 1, 1990. The mandatory no burn requirement will be in place to reduce the impact on the counties with the exception of those devices which can operate with no visible emissions. UACR 307-1-4.12 outlines the no-burn requirements for red days.

c. State and local agencies commit to reducing NOx emissions from automobiles in either of two ways. 1) by reducing VMT growth or 2) by actually reducing NOx emissions from automobile exhaust. A list of TCMs is outlined in the SIP, and their implementation will be explored in conjunction with various air quality issues (CO maintenance, conformity, PM10 etc.) in the coming years.

d. The 1990 CAA required the g/vmt NOx standard to be lowered to 0.4 g/vmt (a 60% reduction in NOx emissions which can be credited by the State). 1994 and newer cars must meet this new standard. Improvement should continue through the year 2012 (18 year turnover). If the required emission reductions are not realized the State will evaluate options necessary to gain the reductions needed to meet the standard. This has been implemented at the federal level, although the inconsistencies between subsequent versions of the Mobile model make the associated emission reduction difficult to assess.

e. DOT and local planning agencies are required to review all proposed construction projects for any impact on the PM10 NAAQS and on the strategies included in the PM10, Ozone and CO SIPs. These impacts should be reviewed and mitigative steps stipulated as part of the planning process. This process is becoming much more prominent with the advent of the conformity regulations.

f. The federal standard for sulfur in diesel fuel became .05% in 1993. A standard of 40 C-tane was also proposed. This has been implemented at the federal level.

g. EPA promulgated emission standards for diesel transit bus engines (1991 and newer) and for heavy duty truck engines (1994 and newer). This has been implemented at the federal level.

h. With commercial growth originally estimated at 1.5% per year, local planning agencies are required to review construction projects to assure consistency with SIP requirements. Any adverse impacts must be mitigated. Offset requirements represent one way to do this, and since most of the emissions associated with commercial development come from boilers or burners for space heating, the State now requires low NOx burner technology in an effort to mitigate commercial growth. Both strategies have been implemented through the State's New Source Review program. Specifically, emissions offsets at 1:1 are required of any new or modified source which emits between 25 TPY and 50 TPY of combined PM10, SO2 and NOx and is located in or impacts a nonattainment area. Any 50 TPY or more source is required to obtain a 1.2:1 credit prior to receipt of an approval order. Also, low-NOx burners and BACT are required on all new source construction. When burners are replaced, low-NOx burners (or whatever is determined as BACT at the time of replacement) will be required if technologically and economically feasible.

2. Contingency Measures

A contingency plan was to be developed and submitted to EPA by November 15, 1991, pending publication of guidance developed by EPA. The due date for this plan element eventually slipped to November 15, 1994. A draft plan for all nonattainment counties was presented to the UAQB as early as August of 1993. A second draft was presented in December of 1993. This draft plan included an enhanced I/M program for Salt Lake and Davis Counties which had previously adopted such a program in conjunction with their ozone plan. Since no such plan had been adopted for Utah County, its contingency plan was withdrawn at that time. The comments received during January of '94 shaped the final plan. It was adopted by the UAQB on July 1, 1994, and submitted to EPA Region VIII on September 6, 1994. EPA has determined the plan to be administratively and technically complete, but a decision has yet to be made regarding final approval.

2. Reasonable Further Progress (RFP) Analysis:

The CAA requires that plan revisions demonstrating attainment shall contain quantitative milestones which are to be achieved every three years until the area is redesignated attainment, and which demonstrate Reasonable Further Progress (RFP) toward attainment by the applicable date. As defined in Section 171(1), RFP means such annual incremental reductions in emissions of the relevant air pollutant for the purpose of ensuring attainment of the applicable NAAQS by the applicable date. The attainment date for the initial Moderate Areas for PM10 was December 31, 1994. PM10 SIPs for the initial Moderate Areas were to be submitted no later than November 15, 1991. As such RFP over the last three-year period

will mean such annual incremental reductions in emissions of PM10 and its precursors as were required to attain the national ambient air quality standards for PM10 since inception of the SIP.

In issuing the guidance to the states concerning what information was to be included in such a milestone report, the Administrator did not require an in-depth inventory for the purpose of the RFP assessment, but asked that the State provide significant and reliable estimates. This is most likely because the timing of the report makes it almost impossible to collect quality assured data for calendar year 1994. This becomes significant when recalling that the statutory deadline for the ultimate implementation of RACM was December 10, 1993. Thus, 1994 should represent the first year of full SIP implementation, but the data for that year is yet unavailable. As an editorial note, the reader should keep this fact in mind when evaluating the following assessment of SIP's progress made to date. In some instances, assumptions to that end were made by the State in compiling these numbers. Having said that, the following is a quantitative assessment of the RFP made as a result of the PM10 SIP for Salt Lake County.

RFP Emissions Summary (tons/yr) - Salt Lake County

Point Sources	1988	Post SIP	Change	Current	notes	Tons +/-
Amoco	6,554.7	2,814.0	-3,740.7	6,435.0	a	3,621.0
Asphalt Materials (asphalt)	6.4	5.7	-0.7	15.6	b	9.9
Asphalt Materials (crusher)	9.6	10.2	0.6	4.7	a	-5.5
Bountiful City Power	9.7	257.1	247.4	144.9	a	-112.2
Central Valley Water	201.2	208.3	7.1	204.4	a	-3.9
Centrex	23.9	1,073.0	1,049.1	0.0	c	-1,073.0
Chevron	3,249.5	3,774.8	525.3	2,916.8	a	-858.0
Concrete Products - Hobusch	31.8	42.6	10.8	23.9	a	-18.7
Concrete Products - # 3 Pit	17.9	17.7	-0.2	20.0	d	2.3
Concrete Products - Walker	191.6	53.4	-138.2	43.4	a	-10.0
Concrete Products - Whitehill	61.9	58.7	-3.2	28.3	a	-30.4
Crysen	194.1	364.7	170.6	88.0	a	-276.7
Engelhard	89.2	160.9	71.7	160.0	e	-0.9
Flying-J	361.3	1,165.3	804.0	504.3	a	-661.0
Geneva Rock - 39th South	11.7	10.3	-1.4	10.0	e	-0.3
Geneva Rock - Pt. of the Mtn.	154.3	112.0	-42.3	126.8	e	14.8
Geodyne Transport	12.4	43.2	30.8	45.0	e	1.8
Harper - Pit # 1	28.6	28.1	-0.5	30.0	d	1.9
Harper - Pit # 10	38.6	35.8	-2.8	35.0	d	-0.8
Hercules	244.7	560.5	315.8	231.9	a	-328.6
Interstate Brick	87.8	142.4	54.6	56.3	a	-86.1
Kennecott - Barney's Canyon	0.0	399.0	399.0	353.1	a	-46.0
KUC - Smelter & Refinery	78,128.9	20,395.5	-57,733.4	19,915.0	a	-480.5
KUC - Mine & Copp. Conc.	8,138.6	7,067.6	-1,071.0	4,095.4	a	-2,972.2
KUC - Magna Conc. & UPP	7,085.7	11,796.0	4,710.3	5,848.0	a	-5,948.0
LDS Hospital	217.8	237.3	19.5	8.5	a	-228.8
LDS Welfare Square	15.6	13.0	-2.6	13.0	e	0.0
Monroc - Beck St.	81.6	94.7	13.1	6.8	a	-87.9
Monroc - Kearns	23.0	29.7	6.7	18.9	a	-10.8
Morton Salt	45.6	68.3	22.7	0.0	c	-68.3
Mountain Bell	3.1	4.7	1.6	5.0	d	0.3
Mountain Fuel - 1st S. 180 W.	63.1	75.0	11.9	75.0	d	0.0
Mountain Fuel - 1st S. 1078 W.	33.9	32.7	-1.2	35.0	d	2.3
Murray City Power	10.7	254.0	243.3	255.0	d	1.0
Ostler Rocky Mountain	21.8	9.6	-12.2	10.0	d	0.4
Pacificorp - 40 N. 1st W.	13.2	57.0	43.8	33.0	a	-24.0
Pacificorp - Gadsby	0.0	3,112.0	3,112.0	458.0	a	-2,654.0
Parsons - Kearns	2.9	9.9	7.0	3.7	a	-6.2
Parsons - Woodscross	6.4	11.9	5.5	3.5	a	-8.5
Phillips	5,871.1	2,869.9	-3,001.2	2,785.0	a	-84.9
Pioneer Sand & Gravel	32.0	31.8	-0.2	30.0	d	-1.8
Salt Lake City Asphalt	8.5	11.1	2.6	10.0	e	-1.1
Salt Lake County Asphalt	46.1	42.7	-3.4	45.0	e	2.3
Salt Lake Valley Sand & Gravel	102.3	79.2	-23.1	80.0	e	0.8
Savage Rock	47.7	43.8	-3.9	0.0	c	-43.8
Staker - Beck St.	102.9	147.7	44.8	147.7	b	0.0
Staker - Draper	7.1	31.0	23.9	30.0	d	-1.0
Staker - West Pit	6.5	30.9	24.4	30.0	d	-0.9
Union Pacific Resources	40.3	44.9	4.6	31.0	f	-13.9
University of Utah	526.8	539.4	12.6	65.4	a	-474.0
Utah Metal Works	7.7	5.3	-2.4	5.0	e	-0.3
Veteran's Admin. Hospital	10.3	10.4	0.1	10.0	d	-0.4
Wolf Excavating	7.0	7.0	0.0	5.0	d	-2.0
Subtotal	112,289.1	58,501.7	-53,787.4	45,535.2		-12,966.5

Overall Tons Reduced:	66,753.9
% of Control Achieved:	124.1%

Notes:

All figures are in tons/year of SO2 + NOx + PM10.

a : Current emissions estimate is from the 1993 annual inventory.
b : Source inventoried for '93, but allowed emissions increase in subsequent A.O. (current total from A.O.)
c : Source did not operate in 1994.
d : Source neither inventoried nor inspected. Current emissions = "Post-SIP" to nearest 5 tons.
e : Source in compliance, but not included in 1993 inventory. Current emissions estimate is from SIP or A.O.
f : Source inspection revealed decrease in operation. Current estimate = allowables for Ballast Plant only.

Area and Mobile Sources:

	1988	Proj.'94	Change	Current	notes	Tons +/-
Vehicles	32,419.8	16,540.8	-15,879.0	38,914.3	A	22,373.5
Spaceheating	5,583.0	4,493.2	-1,089.8	5,090.1	B	596.9
Subtotal	38,002.8	21,034.0	-16,968.8	44,004.4		22,970.4

Overall Tons Reduced:	-6,001.6
% of Control Achieved:	-35.4%

Notes:

All figures are in tons/year of SO2 + NOx + PM10.

A: 1988 estimate, times average growth rate (3.09% per yr.), compounded for 6 years.
B: 1988 estimate less 60% of woodsmoke PM10, times average growth rate (2.27% per yr.), compounded for 6 years.

Grand Total:	1988	Proj.'94	Change	Current	notes	Tons +/-
	150,291.9	79,535.7	-70,756.2	89,539.6		10,003.9

Overall Tons Reduced:	60,752.3
% of Control Achieved:	85.9%

EPA's guidance memorandum to the states (November 14, 1994) also specifies that the report should provide an explanation of why 100% implementation was not achieved; why the projected emission reductions were not achieved; and what steps will be taken to achieve the emission reductions which were not met.

In responding directly to the preceding charge, some explanation is offered to shed some light on the numbers in the preceding chart.

Regarding Amoco - At first glance, this source appears to be 3,600 tons over its limit, but it must be remembered that compliance with this limit was not required until 1994. Amoco's primary RACT obligations were the sulfur recovery unit, which did not come on line until late '93, and low-SOx catalyst, which they were not using in 1993. The State believes that Amoco will show compliance with its SIP limit in 1994.

Regarding Interstate Brick - The allowable SIP limits do not take into consideration the amount of SO2 evolved during the kilning of sulfur rich clay. Interstate's emissions are undoubtedly higher than what is listed as their current total, but as yet there is no reliable estimate. Whatever this quantity of SO2 is, it does not represent a "real" increase over what the baseline emissions were in 1988 because the emissions were always there even if they were not identified in the baseline inventory. Nevertheless, Interstate is considered to be in non-compliance with the SIP for failure to apply RACT to these emissions in a timely fashion. The State has issued a notice of violation, and will continue to pursue a resolution to the situation such that there will be an actual reduction in the rate of SO2 emission.

All other outliers from the table represent cases where the current emissions estimate fell way short of the post-SIP emission limits.

Centrex and Morton Salt obviously did not operate, but their emissions have been banked so it is not really appropriate to consider these "underages" as permanent emissions reductions.

Pacificorp's Gadsby Plant also appears to be way under its SIP limit, but this was due to the fact that they were gradually bringing the whole facility back on line. The State anticipates operation closer to capacity in subsequent years, but with the installation of Low-NOx burners in units 2 and 3 that perform better than required by the SIP, the annual emissions from the plant will be roughly 475 tpy less than what was established in the SIP (although this reduction will be achieved in the summertime).

The State also expects to see higher totals from Chevron, Crysen, Flying-J, Hercules, and the University of Utah in subsequent inventories.

If one were to make the adjustments discussed above and to re-analyze the RFP assessment the results might be quite different. Adjusting the estimates for the sources discussed above (except for Interstate Brick), adjusting Monroc's totals upward, and accounting for LDS Hospital's banked emissions still shows a compliance rate of 120%.

In summary, the State is very pleased with the progress made to date, and feels that it will continue to be able to show that the industrial point source inventory is consistent with the projections made in the SIP. The RACT element of the SIP resulted in the construction of some very significant pollution control projects, primarily to reduce SO2. These projects have been completed, and the emissions reductions have become apparent. Kennecott has also reduced its emissions well below what had been required by the SIP, and the company's willingness to keep these emissions out of the airshed provides added confidence that the emissions reductions relied on by the SIP will be permanent.

Regarding Mobile Sources - The 1993 inventory tallies 24,915 tons of PM10 and 19,619 tons of NOx. Clearly the method of estimating the emissions from mobile sources has changed dramatically over the past six years. Of fundamental importance, though, to any estimate for mobile source emissions is the assumption concerning rate of vmt growth. The SIP had assumed a steady vmt growth rate of 3% per year from 1988 forward. A review of the 1993 inventory documentation shows a measured vmt growth rate of 3.09% per year from 1988 through 1993. Thus, regardless of the method used to calculate the emissions, one could safely say that the SIP has only slightly underpredicted the impacts associated with mobile sources. The accuracy of the SIP estimation would then be diminished by the direction taken by the revisions made to the Mobile model subsequent to its use in the PM10 SIP. The new version of the model assumes, with respect to the old version, that: a) NOx emissions are greater, and b) that the improvement in NOx performance due to newer/cleaner cars is much less than previously anticipated. The number which appears in the RFP table was obtained by simply applying the measured growth rate to the original estimate for 1988. This number does not assume any improvement in the fleetwide emission factor for NOx, or any improvement in the SO2 emissions from diesels due to the federal on-road rule.

There are two ways to reduce emissions from mobile sources; 1) reduce the number of vehicle miles traveled, and 2) reduce the amount of pollution per vmt per car. The State has no control over the amount of vmt that will occur, and most of the progress made in cleaning up the individual tailpipe will happen at the federal level. The State does, however, have some influence over the Inspection/Maintenance program. At this time, the State remains optimistic that Salt Lake and Davis Counties will adopt an enhanced I/M program in order to maintain acceptable air quality in terms of both PM10 and ozone.

Regarding emissions from spaceheating - Again, the refinement of the inventory process has come a long way since 1989, but by examining the most basic of assumptions; growth, one is able to see whether the projections made by the SIP were conservative or not. The inventory documents population growth rates relative to 1990. Averaging this growth rate between 1990 and 1994 shows 2.27% per year which is roughly 50% over the rate of 1.5% used in the SIP. Here too, there is nothing the DAQ can do to slow the growth of Salt Lake County, but a closer look at the projections made by the State Office of Planning and Budget shows that they do not expect the growth rate to continue at its present rate. DAQ is convinced that its woodburning program has been very effective, and is still improving as residents become more used to "checking to see if it's a red day" before lighting a fire. The State has also

revised its rule so as to lower the ambient thresholds at which red and yellow days are called in the event that a contingency plan is triggered in any nonattainment area. This is an element of the S.L. County contingency plan.

The foregoing is not to say that there is nothing left to be done in Salt Lake County. Rather, it is to reinforce the notion that the State and the affected sources have lived up to their respective obligations to apply RACM/RACT within the nonattainment area, and that the benefits of those measures are now becoming apparent. The State will continue to assume a proactive role through enforcement, new source review, and the planning process to ensure continued implementation of the PM10 SIP in Salt Lake and Davis Counties.

In summary, Utah feels that it has been successful in implementing the PM10 SIP for Salt Lake County, and has therefore achieved its first three-year milestone.

C. Request for 1-year Extension of Attainment Date

As discussed earlier, the attainment date for the initial Moderate PM10 Areas was December 31, 1994, as of which time the Administrator must make an attainment determination based entirely on the past three years of ambient data. Since RACM, as required by Section 189(a)(1) of the CAA, for initial Moderate Areas was to have been implemented no later than December 10, 1993, the ambient air quality data collected between then and the attainment date should be the first year's worth of data representing SIP controls. Thus, the three years of ambient data necessary for the attainment determination will include two years worth of data representing pre-SIP conditions. For this reason, the Act (Section 188(d)) has allowed states to apply for a one-year extension of the attainment date, provided that: 1) The State has complied with all requirements and commitments in the applicable implementation plan, and 2) no more than one exceedance of the 24-hour standard has occurred at any one monitor in the area in the year preceding the extension year, and the annual mean concentration of PM10 for such year is less than or equal to the standard at all monitors in the area. EPA, Office of Air Quality Planning and Standards, did issue a guidance memorandum concerning extension requests (November 14, 1994), and therein made clear that the authority delegated to the Administrator to extend attainment dates for moderate areas is discretionary. In exercising this discretionary authority, it says, EPA will examine the air quality planning progress made in the area, and in addition to the two criteria specified in Section 188(d), EPA will be disinclined to grant an attainment date extension unless a state has, in substantial part, addressed its moderate PM10 planning obligations for the area. The EPA will expect the State to have adopted and substantially implemented control measures submitted to address the requirement for implementing RACM/RACT in the moderate nonattainment area, the central control requirement that applies to such areas. Furthermore, EPA believes this request is appropriate, as it provides a reliable indication that any improvement in air quality evidenced by a low number of exceedances reflects the application of permanent steps to improve the air quality in the region, rather than temporary economic or meteorological changes. As part of this showing, EPA will expect the State to demonstrate that the PM10 nonattainment area has

made emission reductions amounting to reasonable further progress toward attainment of the NAAQS, as defined in Section 171(1) of the Act.

Each of the two requirements for obtaining an extension year will be discussed below.

1. Implementation of SIP Elements:

A detailed list of the requirements of and commitments made by the State, as well as a reasonable further progress demonstration, has already been included as a separate element of this report (See Sections III.B. 1 & 2), and will not be reiterated here. As stated before, Utah feels that it has been successful in implementing the PM10 SIP for Salt Lake County.

2. Ambient Air Quality Data:

Ambient data for PM10 is collected at six sites in Salt Lake County, three of which were evaluated in the PM10 SIP: Salt Lake City, the Air Monitoring Center (AMC), and North Salt Lake. Two of the additional monitors are sited in Magna, near Kennecott's tailings pond (one is located "up-wind"). The other monitor, at Cottonwood, is used to corroborate the rest of the data collected in the urban area. Although the data for calendar year 1994 has been compiled and submitted to EPA, via the AIRS system, within the time frame outlined in the State/EPA Agreement, it has been included as an attachment to this report. In addition, it will be briefly summarized below. With one notable exception (to be discussed at length), this summary indicates that the ambient data collected for calendar year 1994, the year preceding the extension year, is in agreement with the necessary criteria for obtaining an extension year as outlined in Section 188(d)(2) of the Act.

The State and Local Air Monitoring Station (SLAMS) report indicates the following:

At the AMC site:

> There was only 1 exceedance of the 24-hour standard in 1994. Four values were recorded between 101 and 125 $\mu g/m^3$, but only one other value between 126 and 150 $\mu g/m^3$.
>
> The annual arithmetic mean for 1994 was 38 $\mu g/m^3$.

At the North Salt Lake site:

> There were 8 exceedances of the 24-hour standard in 1994. The following outlines the distribution of values that were recorded:
>
> 24 values between 101 and 125 $\mu g/m^3$

7 values between 126 and 150 $\mu g/m^3$
3 values between 151 and 175 $\mu g/m^3$
1 value between 176 and 200 $\mu g/m^3$
4 values over 200 $\mu g/m^3$

The annual arithmetic mean for 1994 was 58 $\mu g/m^3$.

At the Salt Lake City site:

There were 0 exceedances of the 24-hour standard in 1994. In fact there were no values over 100 $\mu g/m^3$.

The annual arithmetic mean for 1994 was 28 $\mu g/m^3$.

At the Magna site:

There were 0 exceedances of the 24-hour standard in 1994, and only two values were recorded between 101 and 125 $\mu g/m^3$.

The annual arithmetic mean for 1994 was 23 $\mu g/m^3$.

At the Lakepoint (Beach) site (up-wind of Magna):

There were 0 exceedances of the 24-hour standard in 1994, and no value was recorded above 100 $\mu g/m^3$.

The annual arithmetic mean for 1994 was 23 $\mu g/m^3$.

At the Cottonwood site:

There were 0 exceedances of the 24-hour standard in 1994. Only one value was recorded between 101 and 125 $\mu g/m^3$.

The annual arithmetic mean for 1994 was 31 $\mu g/m^3$.

The "Quick Look Report" generated by AIRS reveals that the number of estimated exceedances for each of these six sites was 0.00 in 1994, with the following exceptions:

At the AMC site, an additional 0.03 exceedances was added to the one measured value, but this still rounds off to one exceedance overall.

At the North Salt Lake site, there is still some discussion as to the validity of the data collected (see discussion to follow).

Also included as an attachment to this report is the air monitoring data from Calendar years 1985 forward. Examination of this data indicates a good correlation between the trends of the annual average and the number of exceedances registered in a particular calendar year. There is also good correlation between these parameters as measured in Utah County and as measured in Salt Lake County. Although the trends of both the annual average and the number of exceedances are downward (in both counties) since 1991, the year the SIP was promulgated, one would hesitate to draw the conclusion that the SIP is solely responsible. A glance at the data prior to 1991 reveals large fluctuations in the values that are due, in large part, to variable meteorology. This variable still pervades the data compiled since the implementation of the SIP. Nevertheless, the annual averages recorded in 1994 at the AMC and SLC monitors are the lowest 10 years, and two-year data set since the implementation of some very significant RACT control contains only one exceedance between these two monitoring locations. Again, this is the lowest two year total over the 10-year record. Data from the North Salt Lake site also supports this trend if, as discussed below, exceptions are made for local construction activity. Regardless of any superimposed meteorological effect, one would have to believe that the RACT control implemented as a result of this SIP has manifested in improved air quality in Salt Lake and Davis Counties. This RACT control is permanent and enforceable, and will therefore continue to provide air quality benefits to the Wasatch Front for years to come.

Also of interest, when looking at the monitored date, is a comparison of the measured annual average with the values predicted by the SIP. SIP strategy was directed at the 24-hr. standard, which had been exceeded to a much greater degree than had the annual standard. It was assumed that by controlling for the 24-hr. standard, that the annual average would take care of itself. This is an interesting assumption considering that exceedances of the 24-hr. standard are characteristic of wintertime temperature inversions which encourage the formation of secondary particulate from gaseous precursors. For this reason, the control strategy, as it applied to industrial sources, primarily targeted SO2 as a means to control secondary PM10. Also interesting to note is the fact that low wind speeds and the high percentage of secondary PM10 precluded dispersion modeling as a means to evaluate either source apportionment or control strategies. Therefore, a county wide roll-back of emissions was used to predict ambient impacts at all of the monitoring locations in the valley. In this way, the annual average was expected to decline from a design value of 56 $\mu g/m^3$ to 33 $\mu g/m^3$. The annual averages monitored at Salt Lake City and the Air Monitoring Center are more or less consistent with this prediction, however the 47 $\mu g/m^3$ measured at North Salt Lake is quite a bit higher. One might be tempted to conclude that enforcement of the SIP near the North Salt Lake monitor was inadequate, but closer inspection casts more suspicion on the basic assumption of the SIP itself; that controlling SO2 emissions to address a wintertime problem with the 24-hr. standard would also correct a year-round problem with the annual standard. The North Salt Lake monitor is, in fact, located near two oil refineries which made substantial reductions in their SO2 emissions, and there is no doubt that this affected the wintertime values recorded at that station in a positive way. However, the monitor is also located near a large sand and gravel complex (shared by several businesses). A closer look at the county wide roll-back reveals a 20% increase in industrial (primary)

PM10 emissions. Although this PM10 increase is overcome by decreases elsewhere in the county wide emissions inventory, one would intuitively expect an adverse impact at a monitor located near such an industrial source of fugitive dust during periods other than the wintertime inversion season when construction activity is traditionally minimal. Thus, one would conclude that the SIP did not adequately address the issue of the annual standard, particularly with respect to the North Salt Lake monitor. Having recognized this, the State is taking a proactive roll to minimize primary PM10 emissions from sand and gravel contractors (see pp. 89 for details).

Of final note is the fact that there has been no data collected thus far in 1995 to suggest an exceedance of either standard.

North Salt Lake - In spite of the data record of the North Salt Lake (NSL) monitoring site, the State still believes that it is appropriate to request an extension year for the nonattainment area.

On December 19, 1994, the State made formal request to flag a block of data, collected at NSL, extending from June 8 through November 23. A construction project was cited as the reason for considering the data exceptional. The initial phase of construction involved a deep trench about 40 feet east of the site, but even after this trench was filled the road proceeding north from the site was trenched in the middle of the street for about 1/4 of a mile. This was accompanied by much dirt spilled on the paved portion of the road immediately east of the site. Dirt from the spill became airborne due to vehicular traffic, which is heavy during commuter hours. Attachments were provided showing that the measured exceedances coincided with the construction activities, and that historically, the 24-hr. standard is never exceeded at the North Salt Lake monitor during the summer months except for special events.

Exceedances of the 24-hr. standard have been measured in each of the last two years at this monitoring site, and an exceptional event status was in fact allowed by EPA for data collected in the summer of 1993. The reason for the exceptional event in 1993 was a construction project; the extension of a pipeline.

According to EPA's guidance on the "Identification and Use of Air Quality Data Affected by Exceptional Events", EPA-450/4-86-007 (the "Guideline"), events are considered exceptional when they are not expected to occur routinely at a given location or when they are uncontrollable or unrealistic to control through the SIP process. When the data for 1993 was declared an exceptional event, the State had explained that such an event was unlikely to occur again at the site. Construction again took place in 1994, but the State could not have foreseen the fact that another construction project (this time, the extension of a sewer line) would take place at the same location, or that the work would be held up by City/Contractor negotiations. It did not appear likely that the road would again be under construction in 1994. It now appears unlikely that construction will take place in 1995. The road has been paved, and the City has assured us that no other project is planned at this location for at least five years. In any event, construction on that particular piece of roadway should not be considered

routine.

As part of the State's request to flag the 1993 data, it did recognize that efforts by the construction crews to mitigate the effects of the construction related fugitive dust could have been better.

Dust control in the summer of '94 was accomplished primarily by watering the road surface and by erecting barricades with road closed signs to stop traffic through the disturbed area. The City included "dust mitigation" as part of the package that went out to bid, but when the contract went into re-negotiation, the contractor did not run the water truck as much as they did at the beginning of the project. Also during this time it was not uncommon for traffic, including dump trucks, to go around the barricades and entrain the dirt spilled on the paved portion of the road. Without the road closure, measured concentrations would surely have been much greater.

Twice, during the summer of '94, compliance teams were dispatched to the area surrounding the monitor, although these efforts were directed more at the gravel pits in the area and at the haul road for the new airport runway. In one such instance, the compliance team was able to have the haul road swept clean.

Although such measures to "minimize" fugitive dust are consistent with both Utah rule (R307-1-4.5) and the reasonableness provision of the Guidance, the point could again be made that more could have been done to mitigate the effect of the project. Although there were no opacity exceedances, the State could have asked the contractor to apply additional water to the disturbed area. Other additional measures to provide a more comprehensive dust control strategy at the site might have included: asking that the roadway be swept clean each day, or that the dirt removed from the trench be kept covered by tarps, or even asking for a more effective means of closing the road.

It must be pointed out that the control measures listed in the paragraph above all are of local significance, in that they are designed to address localized incidences of excessive dust. It is precisely this localized character of the episode that leads the State to believe that such conditions are not representative of the entire nonattainment area.

It would be different if the exceedances were of the "wintertime" variety, characterized by high concentrations of regionally distributed secondary particulate, but they are not. Chemical speciation of the filters suggests disproportionally high concentrations of crustal material, characteristic of disturbed ground at close proximity. Subsequent chemical mass balance analysis shows that the crustal material can in fact be attributed to road dust. Indeed, filters collected at the other monitors in the nonattainment area show no similarities with these filters on those particular days.

The fact that the Guideline lists such types of special events (e.g. Construction and Demolition, Highway Construction, etc.) acknowledges the fact that EPA recognizes that,

within any nonattainment area, there will be localized areas of high PM concentrations due to such sporadic "urban" activities. The Guideline allows for removal of data influenced by proximity to such localized disturbances because, on a regional scale, such conditions are not representative of the nonattainment area at large.

This implies that EPA also recognizes that SIP control, no matter how comprehensive, can by no means control fugitive dust from every localized disturbance. Thus, to say that a SIP either is not adequate or was not enforced simply because a construction project caused exceedances of the standard in a localized area ignores the very basis of the Guidance; that there will be, within any urban area, localized disturbances that are not representative of the larger area and which, if measured, should not be utilized in the regulatory process.

Nevertheless, the State realizes that it can do more to control fugitive dust at such localized disturbances, and is making an effort to implement such measures on a regional basis. Of particular note are the following:

1. Last fall the DAQ met with the Association of General Contractors to discuss what additional measures could be taken to minimize fugitive dust at gravel pits and construction projects.

2. Partly as a result of the preceding, the State is taking a more aggressive approach to the requirement for Dust Control Plans. Such plans will now be required of all relocating aggregate equipment, of all sources obtaining permits, and as part of all settlements resulting from notices of violation (see Appendix C.1).

3. The DAQ has developed a protocol for Special Event Ambient Monitoring Data and Exceedances of the NAAQS. This plan details the appropriate agency response to such occurrences. Of particular importance is the involvement of the compliance section, which shall visit the site, assess the problem, and develop a written report. Management will then take the appropriate steps to mitigate the situation (see Appendix C.2).

4. The State is also working more closely with Utah Department of Transportation, particularly as conformity becomes a priority within each organization. This will help the DAQ to anticipate where construction activities are likely to cause problems. The State is also exploring the possibility of requiring covered loads on major roadways.

The steps outlined above demonstrate that the State is taking a proactive role to deal with a problem that may not have been entirely characterized by the PM10 SIP and its control strategy. The State would ask that EPA bear this in mind when considering this request for postponement of the attainment date.

By contrast, the State could have taken a different approach to the North Salt Lake data as it was being collected. The State could have requested temporarily halting any data collection, or could have possibly relocated the monitor so as to avoid the impact of the road

construction. DAQ chose not to discontinue data collection or relocate the monitor because it was under the impression that the data it was collecting reflected a special event and would therefore be flagged at a later date. Consistent with the basis for the Guidance, the State believes that it is important to collect the exceptional event data to capture what may be of local importance, and to then remove such data from the regulatory process with the understanding that it does not represent the ambient data in the surrounding area. For this same reason, the State did not feel it was appropriate to take dust control measures that might otherwise be considered unreasonable simply because of its proximity to the monitor.

In summary, a declaration of exceptional event status for the block of data collected from June 8, 1994 through November 23, 1994 reduces the annual average to 47 $\mu g/m^3$ and reduces to zero the number of 24-hour exceedances measured in 1994. This then would be in keeping with the criteria outlined in CAA Section 188(d)(2) for requesting extension of the attainment date for the nonattainment area.

Of final note is the Chemical Mass Balance (receptor) modeling submitted with the State's request to flag the data. There seems to be some concern as to how the modeling was conducted. The State will re-run and submit the chemical mass balance analysis without assuming that all the unaccounted mass on the filters is silicon. However, it will reserve the right to re-visit this issue at a later date.

3. State's Request:

Having completed the exercise to demonstrate that Utah has in fact implemented the PM10 SIP for Salt Lake County, and having collected ambient data which supports the notion that such implementation is indeed having a positive effect on air quality in the area; the State of Utah feels that it does in fact qualify for an extension year, as provided for in Section 188(d) of the Act, and hereby requests that such extension year be granted by the Administrator.

SMOKE HANGS AROUND IN WINTER...

Cold nights with little wind--common conditions in winter months when we heat our homes--often cause smoke and other air pollution to accumulate close to the ground at night. These stagnant conditions can last for days.

As night falls, ground level air cools and cold air also slides down the valley walls, pooling on the valley floor. With little or no wind, temperature inversions can then occur--warm layers of air act as a lid over the cold air in the valleys, trapping smoke and other air pollution close to the ground. And, since home heating systems operate mainly in the evening, **the smoke from stoves and fireplaces remains at ground level and collects overnight in the air you and your neighbors must breathe. Yes, it does seep into your homes!**

DON'T SMOKE YOUR NEIGHBORS OUT!

Smoke from neighborhood stoves and fireplaces is a common source of both odor and reduced visibility, the air pollution problems that people complain about most. These, and the health-related problems caused by inhaling smoke pollutants, add up to significant health and welfare cost for individuals and the community. So be a good neighbor and limit your burning, and if you do burn, burn correctly. **But do not burn wood when the air quality is poor!**

COOPERATE WITH WOOD BURNING REGULATIONS

Air pollution from wood burning stoves and fireplaces has been recognized as a significant cause of visibility impairment. Wood burning also contributes particulate matter, carbon monoxide and toxic compounds to the air in many cities throughout Utah. Local and state laws are being enacted to reduce the effects of wood smoke pollution.

Which areas in Utah have wood burning control programs? In all areas of Utah, it is required that wood burning equipment be operated efficiently. The smoke from wood burning equipment is limited to a density/shade no greater than 20% opacity, except for 15 minutes in every three-hour period for start-up and refueling.

The areas in Utah that are participating in the wood burning program are:

- Areas of Utah County north of the southern-most border of Payson City
- All of Salt Lake County,
- Areas in Davis County, south of the southern border of Kaysville.

Weber and Summit counties are also participating voluntarily in the program this year.

What conditions cause red days? After September 1, whenever pollution levels, as measured by the monitoring stations in Salt Lake, Davis, Utah or Weber counties reach a specific high concentration and the forecasted weather for the specific area includes a temperature inversion that is predicted to continue for at least 24 hours, a red day will be called. The red days will only apply to those areas or counties experiencing high pollution concentrations.

What happens if I burn on a red day? A penalty of up to $299 may be assessed for persons who operate a residential solid fuel burning device or fireplace during the red days. (The fine may be waived by attending a one-hour training session on how to burn properly.)

What exemptions are there that allow me to burn on red days? During red days, residents in the affected areas are allowed to operate the following:

- All fireplaces and wood burning stoves that have been registered as a sole source of heat with the Executive Secretary of the Utah Air Quality Board or the local health district office, by September 1.

- Fireplaces and residential wood burning stoves that produce no visible smoke.

What can be done if a neighbor is creating an excessive amount of smoke? If you feel a neighbor is creating an excessive amount of smoke or is operating during a red wood burning period, notify the local health department or the Division of Air Quality at 536-4000.

USE A NEW TECHNOLOGY WOOD STOVE

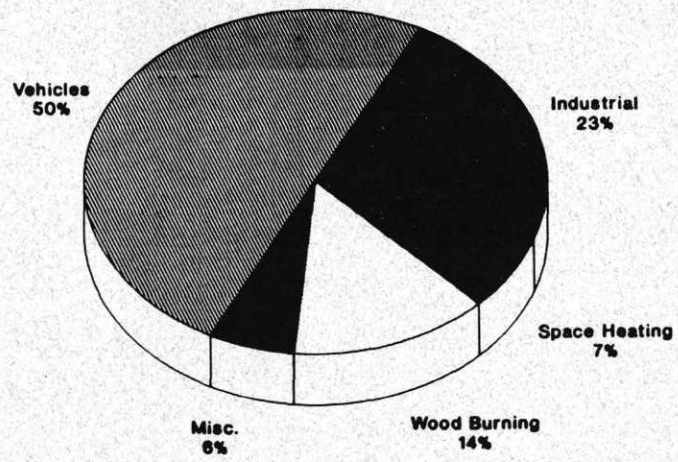
Motor vehicles, industry and homes are the major sources of air pollution challenging our environment and health today. While many people enjoy the warmth and beauty of a wood fire, air pollution resulting from burning wood in wood stoves needs to be taken seriously.

Old-technology, wood-burning stoves emit pollution in the form of particulate matter, carbon monoxide, hydrocarbons and other organic compounds. These pollutants can cause or worsen respiratory and cardiovascular diseases and contribute to visibility problems.

New technology wood stoves are up to 50 percent more efficient than old technology stoves and can reduce particulate matter emissions by 90 percent and carbon monoxide emission by 60 percent. The new technology stoves not only burn the wood, but also the smoke. This complete burning reduces emissions, producing a cleaner burn, and makes wood stoves a more efficient heat source.

Where do we have wood smoke pollution problems in Utah? Wood burning contributes up to 15 percent of the particulate matter and unseen carbon monoxide pollution in Utah County's air during the winter months. The air in Utah County has some of the highest carbon monoxide and particulate matter concentrations in the nation; both pollutants violate the National Ambient Air Quality Standards. Salt Lake, Davis and Weber counties also experience high levels of one or more of these pollutants. The EPA sets these standards at levels designed to protect the public health and welfare.

Wood smoke pollution is not just an urban problem. Our mountain communities, especially the ski resorts, also face problems because of, in part, the large concentration of wood burning stoves and fireplaces in those regions.



What is being done to reduce wood smoke pollution? Wood burning restrictions and a wood stove certification program are two major efforts designed to reduce pollution from wood burning sources. Education on how to burn properly is also under way.

month to monitor creosote buildup. Creosote is a highly flammable residue that accumulates on chimney walls and is the leading
cause of chimney fires. Heavy use of the stove may necessitate more frequent cleaning.

Check the amount of smoke coming out of your chimney. Visible smoke represents an incomplete burn, which wastes fuel and releases particulate matter into the air.

Read your owner's manual carefully and follow directions for clean, efficient use of your stove. Incorrect use of the stove can cancel out your other money-saving actions. When in doubt about the methods of operation, consult your professional wood-stove dealer or a certified sweep or installer.

Do not burn on high pollution days or when local restrictions are in effect. Follow local health and air pollution warnings by using your natural gas or oil furnace or electricity for heat until the air quality in your area improves. To find out if it is a high pollution day, call 536-4000.

WOOD SMOKE POLLUTES OUR ENVIRONMENT

What is in wood smoke that causes pollution? Of the more than 100 chemical compounds found in wood smoke, the two primary pollutants are carbon monoxide and particulate matter (PM10).

Particulate Matter are very small dust and soot particles which can be inhaled and trapped in the lungs. The most serious health concern centers around the "inhaleable" particles called polycyclic organic matter. All members of this class of pollutants are toxic, some have been linked to cancer, and some cause biological mutations.

Carbon monoxide is a gas that you cannot see or smell. It robs the body of oxygen, causing dizziness, headaches, breathing problems and difficulty with vision, hearing and judgement. Using your wood stove for about four hours emits as much carbon monoxide as driving a car 20 miles.

Although the initial expense of a new technology stove is higher, it will pay for itself in two to four years through reduced wood usage and chimney cleaning. The purchase price of a new technology stove will range between $800 to $1,800 plus installation.

New technology wood stoves produce significantly more heat with less fuel; negligible smoke for vastly less air pollution; and little or no creosote residue.

You can also receive a tax credit of up to $50 for the purchase of a new wood stove or fireplace insert. All stoves manufactured after July 1, 1988 must meet EPA emission standards for particulate matter, and are therefore EPA-certified stoves.

PROPER SELECTION/INSTALLATION

Buy only a certified stove. Choose a stove that has a certification label on it stating that the stove has been tested by an accredited laboratory that meets the federal particulate matter control requirements. All certified stoves will have both a temporary and permanent label. The temporary label states the grams of particulate matter emitted each hour, the measured efficiency rating and the amount of heat generated. If no label is visible, the appliance has not been certified and should not be purchased.

Consider safety when buying your stove. "Garage sale specials" and antiques may have even a small flaw that can lead to injury or property damage. Choose an appliance that has been safety tested. Look for the label from a recognized authority, such as a testing lab or a building code group.

Select a stove that will generate the proper amount of heat for your needs. A stove that is either too large or too small for the space to be heated may be inefficient, create more pollution, or cause discomfort. Consider the size of the space to be heated--number of rooms, size of rooms, ceiling height, and the climate in your region. Your local wood stove dealer will be able to assist you in determining the proper sized stove.

Hire a certified professional to perform the installation. A professional is familiar with model codes and other rules dictated by state and local governing bodies, and can ensure that all safety procedures and codes are satisfied. If you have any questions, check with your local building inspector.

Read your owner's manual carefully and follow the directions for clean, efficient use of the stove. When in doubt about the methods of operation, consult your professional wood stove dealer or a certified sweep or installer.

OPERATE YOUR WOOD STOVE EFFICIENTLY

The warm tradition of home wood burning appliances is deeply ingrained in America's lifestyle and history. Equally important is our responsibility for a healthy environment and clean air.

With the new technology stoves that are now available, wood smoke emissions are being drastically reduced. **However, the actual performance of the wood stove depends upon how it is installed, operated and maintained by the user.** The improper operation of wood burning stoves is one cause of excessive pollution. Slow, oxygen-starved burning causes the production of particulates, carbon monoxide and other pollutants. Even the most technologically advanced wood stoves cannot compensate for poor burning habits!

Purchase your wood early in the season. Stack the wood and cover it loosely, allowing air to circulate freely throughout the pile. Allow it to dry for nine to 18 months. This "seasoning" process rids the wood of excess water.

Burn only 100% untreated wood. Never burn green, wet, painted or treated wood, wood products that contain glue, binders or chemicals, trash or garbage, plastics, magazines, colored paper or gift wrap. These materials give off harmful chemicals, more smoke and pollution, and less heat. Do not burn coal in a wood stove.

NOTE: Wax wood logs are appropriate in masonry fireplaces, and can help reduce carbon monoxide and particulate matter emissions when burned instead of wood.

Burn small, hot fires instead of large, smoky ones. This is especially important in fireplaces and old, uncertified stoves. Feed the fire frequently with small loads of wood, 2 or 3 pieces at a time. Do not dampen the fire down too much--it will make a smoky fire that can release smoke into your home when the firebox door is opened. It will also increase creosote buildup.

Have a professional chimney sweep clean and inspect your stove or fireplace annually. Also, check the stove pipe and chimney at least once a

Using wood to heat homes in the winter may be associated with a high occurrence of respiratory illness, especially bronchitis, pneumonia and upper respiratory infections in pre-school age children.

The lungs and airways of young children are still developing; therefore, the pollutants are more likely to cause problems in young children than they are in teenagers and adults. Preschoolers spend most of their time indoors in the winter, thus maximizing their exposure to the wood smoke pollutants.

WHAT YOU CAN DO TO CLEAR THE AIR OF WOOD SMOKE

If you use a wood stove or fireplace:

- Do not burn on announced high pollution (yellow or red) days
- Have your chimney cleaned annually;
- Burn clean, dry, well-seasoned wood;
- Build small, hot fires;
- Read and follow manufacturer's guidelines for your stove;and
- Watch your chimney--a clean, efficient burn shows no smoke;
- Consider converting your wood-burning fireplace to a high-technology or alternative-fueled fireplace or wood stove.

Another way to clear the air is to burn less wood by:

- Reducing your heating needs by weatherizing your home.
- Replacing your old wood stove or fireplace with a new certified model.

Change the way you operate your wood stove or fireplace:

- Burn only clean, seasoned wood and non-glossy white paper.
- Build small, hot fires instead of large, smoldering ones.
- Burn seasoned cordwood, densified logs and firelogs.
- Watch your chimney for smoke.
- Follow your wood stove's operating instructions carefully.
- Inspect often, keep your wood stove and chimney in top condition.

FOR AIR QUALITY UPDATES:

Davis County: 533-7239
Salt Lake County: 533-7239
All Other Counties: 1-800-228-5434

For further information on air quality in Utah, call:

Project Environment, 1-800-458-0145

Department of Environmental Quality, Division of Air Quality, 536-4000

American Lung Association of Utah, 484-4456

Woodburning Alliance of Utah, 768-9775

Mountain Fuel Supply Company, 1-800-955-5GAS

HEALTH EFFECTS OF WOOD SMOKE

What are the health problems caused by wood smoke? Wood smoke is the result of incomplete combustion of wood. It contains some of the same chemicals as cigarettes, as well as other air pollutants. Some of the health problems that wood smoke can cause are:

- cancer;
- cardiovascular problems;
- respiratory diseases like asthma, emphysema and bronchitis;
- irritation of lungs and eyes; and
- headaches, impaired judgement and reflexes.

What is in wood smoke that is a health hazard? More than 100 chemical compounds and three classes of pollutants: carbon monoxide, organic gases and particulate matter (PM10) are found in wood smoke.

How does wood smoke pollute indoor air? Wood smoke can be released directly into the house through stoves and fireplaces that are improperly installed, maintained or operated. Indoor pollution may also happen when stove or fireplace doors are opened during burning. Backdrafts or changes in air pressure can also release pollution-filled smoke into the house.

Primary wood smoke pollutants that affect indoor air are: carbon dioxide; nitrogen dioxide; sulfur dioxide; and particulate matter.

How does wood smoke affect outdoor air? When burning wood in a stove or fireplace, smoke is released into the outdoor air through the chimney. During temperature inversions, wood smoke contributes to Utah's famous "valley smog."

Primary wood smoke pollutants that affect outdoor air are: carbon monoxide; particulate matter; hydrocarbons; and formaldehyde.

Who is at risk from wood smoke pollution? People with respiratory diseases such as asthma, emphysema or chronic bronchitis are particularly susceptible to the irritating effects of wood smoke pollutants. If wood is burned in your home, your family's exposure to the pollutants is even greater, especially if members of your family are cigarette smokers. Senior citizens, infants and children are also more likely to experience adverse health effects.

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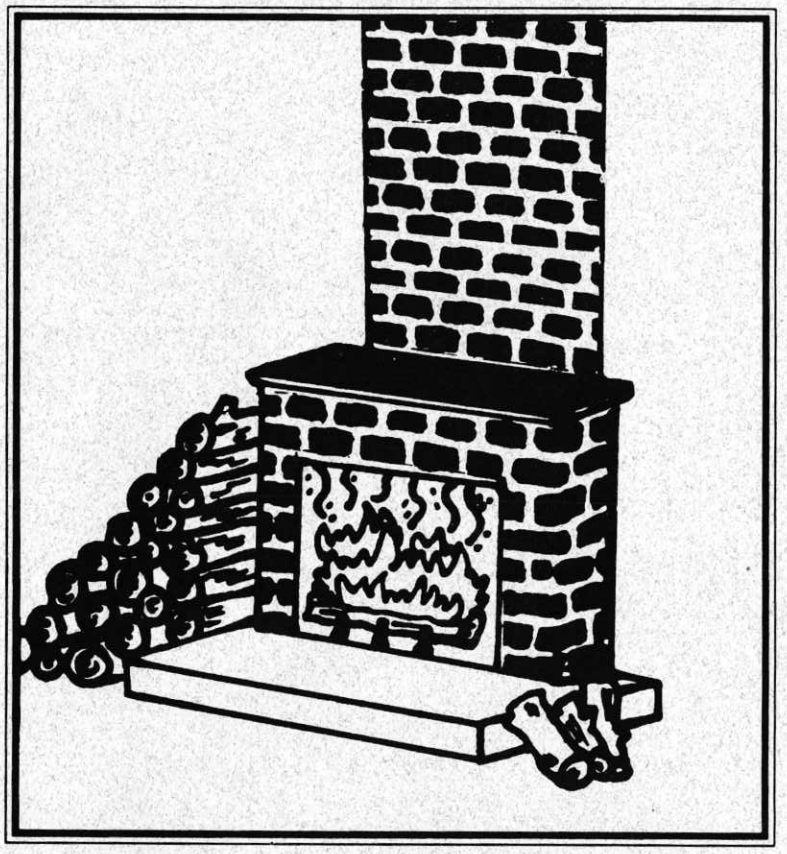
WOOD BURNING



CARE ABOUT CLEAN AIR!

UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY

HOW TO BURN...

Burn only dry, well-seasoned wood.

Buy or cut your wood early in the season, then stack it loosely so air can circulate freely to dry the wood.

Burn only 100% untreated wood.

Do not burn green, wet, painted or treated wood, trash, plastics, magazines, colored paper or gift wrap, trash or other debris.

Burn small, hot fires rather than large, smoky ones.

Feed the fire frequently with small loads of wood, 2 or 3 pieces at a time.

Have your wood stove, fireplace, and chimney inspected and cleaned at least once a year.

If you use your wood stove frequently, you may need to have it cleaned more often.

6.b.ii-104

FOR MORE INFORMATION...

Division of Air Quality, Utah Department of Environmental Quality, 1950 West North Temple, Salt Lake City, Utah 84116, (801) 536-4000

Salt Lake City-County Health Department, 610 South 200 East, Salt Lake City, Utah, (801) 534-4653

City-County Health Dept. of Utah County, 589 So. State, Provo, Utah 84606 (370-8700)

Weber-Morgan Health District, 2570 Grant Ave., Ogden, Utah 84401 (399-8433)

Davis County Environmental Health Division, Courthouse, Rm. 24
28 East State, P.O. Box 618, Farmington, Utah 84025 (451-3296)

FOR AIR QUALITY UPDATES:

DAVIS COUNTY: 533-7239

SALT LAKE COUNTY: 533-7239

ALL OTHER COUNTIES: 1-800-228-5434

Printed on recycled paper

WOOD BURNING

CARE ABOUT CLEAN AIR!

MANDATORY NO-BURN RULES...

WHY? Wood burning stoves and fireplaces are significant contributors to air pollution in Utah. Because of health problems caused by pollution, rules have been created which will require mandatory "no-burn" periods. Fines may be issued for burning wood/coal during a no-burn period.

WHEN? After September 1, 1992, whenever pollution levels reach a specific concentration and a temperature inversion is predicted, a mandatory no-burn period will go into effect.

WHERE? No-burn days may be declared for areas of Utah County north of the southern-most border of Payson City, and east of State Route 68; all of Salt Lake County, and areas in Davis County that are south of the southern-most border of Kaysville.

HOW WILL I KNOW? During the wood burning season,the wood burning status will be determined by the Division of Air Quality. The symbol of a traffic signal will be used to indicate the wood burning status (green=ok to burn; yellow=reduce burning; red=no burning). The status (color) will be reported on local news and in the local newspapers. If red is the wood burning status, no wood/coal burning is allowed unless you can burn without visible emissions from your chimney or if you have an exemption from the Air Quality Board.

RED means stop all residential [redacted] burning. Red is called only when pollution concentrations are high and those high levels are expected to persist. At that time, the Division of Air Quality will declare a no-burn period, banning all wood stove, fireplace and commercial burning. Warnings and fines may be levied against anyone ignoring a no-burn period. During the no-burn periods, reduce outdoor activities, especially if suffering from respiratory problems. The mandatory no-burn will be canceled when the clearing index increases significantly and/or a weather front reaches the area allowing the temperature inversion to dissipate.

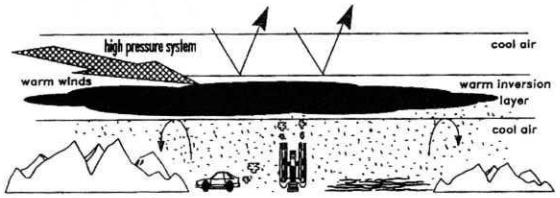
YELLOW means reduce all wood/coal burning. When high pollution levels and/or temperature inversions are predicted, try to cut back on the amount of wood/coal being burned. If possible, do not use the wood stove or fireplace at all.

GREEN means wood burning is allowed. When the clearing index is high, pollution levels are generally low, and it is ok to use your fireplace/wood stove. However, always burn correctly, allowing enough oxygen to reach the fire.

EXEMPTIONS: You may use your wood stove or fireplace during no-burn days ONLY if it is registered with the Utah Air Quality Board or local health departments as the only source of heat for your home, or if it produces no smoke [redacted].

PENALTY: A penalty of up to $299 may be assessed for burning during mandatory no-burn periods.

TEMPERATURE INVERSIONS: Temperature inversions severely restrict the vertical dispersion of pollutants. During the winter months, inversions may last several days before dissipating. It is during these prolonged inversions that higher than average concentrations of pollutants may occur.



A layer of cold air is contained in valleys surrounded by mountains. Above the cold, dense layer is warm air. An inversion effectively acts as a lid on the valley, trapping pollutants below in the ambient air. Temperature inversions can clear when strong winds or a storm front moves into the area, allowing the air to circulate and pollution to disperse.

6.b.ii-105

APPENDIX A

Woodburning

Utah State Tax Commission

Clean Fuel Alternative Tax Credit Stoves/Fireplaces

IT
TC-40F
Rev. 8/94

For tax years beginning January 1, 1992, and ending December 31, 1997, the Utah Legislature has authorized a nonrefundable credit for use against individual income tax or corporate franchise tax for the purchase and installation services of certain clean fuel alternatives.

Taxpayers claiming this nonrefundable credit must complete one form for each stove or fireplace claimed and attach it to their individual income or corporate franchise tax returns. See instructions on the reverse side.

Part A - This section must be completed by the taxpayer.

Taxpayer's name			Telephone number	Social security number or FIN
Address			City	State and ZIP code
Fireplace Dealer		Dealer's Address		
Make	Model	Serial Number	Purchase Price $	
Installer's Name			Installation Service Cost $	
Installer's Company Name				

Part B - This section must be completed by the Division of Air Quality, Department of Environmental Quality

The clean fuel alternative indicated below is certified by the Federal Environmental Protection Agency in accordance with test procedures described in 40 C.F.R. Section 60.534:

- ☐ pellet-burning stove
- ☐ high-mass wood stove
- ☐ solid-fuel burning device
- ☐ natural gas free-standing fireplace
- ☐ natural gas fireplace insert
- ☐ propane free-standing fireplace
- ☐ propane fireplace insert

Certification by the Division of Air Quality, Department of Environmental Quality

I certify to the best of my knowledge and belief that the information contained in Parts A and B above are true and complete.

Authorized signature	Date signed	Stamp
X		
Title		

Part C - This section must be completed by the taxpayer

Amount of Credit Claimed (Cannot exceed $50.00, see General Instructions on reverse side)

$

General Instructions

In order to qualify for this tax credit, taxpayers must purchase and install a pellet burning stove, a high mass wood stove, a solid fuel burning device, a natural gas or propane free standing fireplace or insert that is certified by the federal Environmental Protection Agency in accordance with test procedures prescribed in 40 C.F.R. Section 60.534.

Qualifying taxpayers may take a credit against their individual income tax or corporate franchise tax in an amount equal to 10 percent, up to a maximum of $50, of the total purchase cost and installation cost of each clean fuel alternative purchased and installed. The credit is allowed only against any Utah tax owed in the taxable year, and in the taxable year in which the item is purchased.

The cost of fireplace logs may not be included in the calculation of the purchase cost. The cost of equipment used to install a clean fuel alternative may not be included in the calculation of the installation cost.

This form must be signed by an authorized representative of the Division of Air Quality. This signature may be obtained by mailing forms to the Division of Air Quality; Department of Environmental Quality; 1950 West North Temple; P.O. Box 144820; Salt Lake City, Utah 84114-4820; (801) 536-4000.

Procedures

Taxpayers who purchase and install a clean fuel alternative shall submit the following documentation to the Division of Air Quality:

1. A copy of the sales receipt clearly stating the make, model, and price paid for the fireplace and installation; and
2. Form TC-40F, Clean Fuel Alternative Tax Credit Form, Part A identifying:
   a. owner's name and address;
   b. owner's social security number or federal identification number;
   c. dealer's name and address;
   d. fireplace make, model, and serial number;
   e. purchase price;
   f. installer's name and company name; and
   g. installation cost.

The installation cost information is needed only if the purchase credit calculated based on the price of the fireplace does not exceed the credit amount available.

The Division of Air Quality must complete Part B and sign this form.

Taxpayers must indicate the amount of credit claimed against their individual income tax or corporation franchise tax in Part C.

The original completed and signed form must be attached to your tax return. Taxpayers must keep copies of tax credit records for three years from the date the return is filed.

For Americans with Disabilities Act accommodations, please contact the Division of Human Resources, Department of Environmental Quality for certification information at (801) 538-6121; for tax information contact the Tax Commission at (801) 297-3811 (TDD 297-3819). Please allow three working days for a response if contacting the Tax Commission.

If you need further information, please contact the Utah State Tax Commission at (801) 297-2200 or 1-800-662-4335, if outside the Salt Lake City area.

1994-1995 WOODBURNING COMPLIANCE

COUNTY MICROSCALE	(Survey Year)	WOODBURNING APPLIANCES	CITATIONS ISSUED	COMPLIANCE RATE
UTAH COUNTY	(89)	57,500*	8	99%
LINDON	(93)	308	0	100%
SALT LAKE COUNTY	(**)	57,500**	10	99%
AMC	(90)	11	1***	91%
SALT LAKE CITY	(90)	165	0	100%
COTTONWOOD	(****)	200****	0	100%
N SALT LAKE	(90)	117	0	100%

* Governor's Clean Air Commission, Energy Utilization Work Group, Utah County Survey: 44,000 fireplaces, 13,500 wood burning stoves.

** Energy Utilization Work Group estimated woodburning appliances in Salt Lake County to be equal to, and probably greater than, Utah County numbers.

*** Location of violation was approximately 300 meters south of the AMC microscale.

**** No survey of wood burning appliances, primarily residential area, numbers estimated to be similar to, but greater than, Salt Lake City microscale.

1994-5 SMOKE PATROL

DAVIS COUNTY

City	ZIP	Patrol Hrs.	Violations	Microscale
North S.L.	84054	3		Yes
Totals		3	0	0

SALT LAKE COUNTY

City	ZIP	Patrol Hrs.	Violations	Microscale
Cottonwood	84121	4		Yes
Holladay	84109	1	1	
	84117	2	1	
	84124	1	1	
Midvale	84047	1	1	
Salt Lake	84101	2	1	Yes
	84102	1		
	84103	3		
	84105	1		
	84106	2		
	84115	1		
Sandy	84092	3		
	84093	1		
West Valley	84119	3	2	
	84120	3	3	
Totals		29	10	1

UTAH COUNTY

City	ZIP	Patrol Hrs.	Violations	Microscale
Lindon	84042	2		Yes
Orem	84057	2	1	
	84058	2	2	
Payson	84651	1	1	
Provo	84601	3	1	
	84606	2	3	
Totals		12	8	0

	Patrol Hrs.	Violations	Microscale
Season Totals	44	18	1

December

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	12/18/94	19	20	21	22	23	24
	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am
Salt Lake /	Lindy S.	Larry L.	Jim S.	Abbas S.	Sarah T.	Susan W.	
Davis	Joan T.	Abbas S.	Bo C.	Tom O.	Barb C.	Ben W.	
Utah	Harold B.	Susan W.	Anthony D.	Larry L.	Mike S.	Sarah T.	
County	Ben W.	Harold B.	Mike S.	Bob F.	Joseph R.	Melissa Y.	
		noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	
Complaint /		Joan T.	Joseph R.	Dolores S.	Bill R.	Anthony D.	
Sole Source		Jim S.	Larry L.	Ben W.	Marv M.	Bob F.	
	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm
Salt Lake /	Bo C.	Sarah T.	Nando M.	Andy H.	Joan T.	Bo C.	
Davis	Andy H.	Dolores S.	Jesse M.	Bill R.	Jim S.	Debbie O.	
Utah	Nando M.	Bill R.	Marv M.	Lindy S.	Susan W.	Tom O.	
County *	Debbie O.	Nando M.	Bob D.	Bob F.	Debbie O.	Andy H.	

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	12/25/94	26	27	28	29	30	31
	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am
Salt Lake /		Anthony D.	Jim S.	Bob F.	Dolores S.	Melissa Y.	
Davis		Lindy S.	Bo C.	CC Patel	Barb C.	Bob D.	
Utah		Bob F.	Harold B.	Anthony D.	Mike S.	Lindy S.	
County		Harold B.	Sarah T.	Tom O.	Sarah T.	Ben W.	
		noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	
Complaint /			Bill R.	Dolores S.	Barb C.	Joseph R.	
Sole Source			Bob D.	Ben W.	Marv M.	CC Patel	
	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm
Salt Lake /		Bill R.	Marv M.	Lindy S.	Susan W.	Rick S.	
Davis		Nando M.	Bob D.	Rick S.	Joseph R.	Andy H.	
Utah		Mike S.	Bob F.	Andy H.	Jim S.	Bo C.	
County *		Dolores S.	Anthony D.	Bill R.	Debbie O.	Debbie O.	

* Note: If Utah County is called "red" for CO in the afternoon, do not begin writing NOV's for two hours after the "red" condition is announced.

Return travel to the office from Utah County should begin at the end of the patrol time (at 11:00 or 8:00).

Wood Info. Numbers: Salt Lake 533-7239
Other Areas 1-800-228-5434

Potential Subs: Steve Parkin, Mike Edwards, Melissa Yazhe, Rick Sprott

Coordinator: Bryce Bird 536-4064 / 967-0549

January

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1/1/95	2	3	4	5	6	7
	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am
Salt Lake /		Larry L.	Joseph R.	Abbas S.	Sarah T.	Anthony D.	Bob F.
Davis		Abbas S.	Anthony D.	Tom O.	Barb C.	Ben W.	CC Patel
Utah		Susan W.	Harold B.	Larry L.	Joseph R.	Joseph R.	Sarah T.
County		Harold B.	Mike S.	CC Patel	Dolores S.	Bob D.	Mike S.
		noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	
Complaint /			Barb C.	Anthony D.	Bill R.	Abbas S.	
Sole Source			Larry L.	Ben W.	Marv M.	CC Patel	
	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm
Salt Lake /		Sarah T.	Nando M.	Andy H.	Melissa Y.	Bo C.	Bob D.
Davis		Dolores S.	Jesse M.	Bill R.	Jim S.	Debbie O.	Susan W.
Utah		Bill R.	Marv M.	Lindy S.	Susan W.	Tom O.	Tom O.
County *		Nando M.	Bob D.	Jesse M.	Debbie O.	Andy H.	Jesse M.

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1/8/95	9	10	11	12	13	14
	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am
Salt Lake /	Sarah T.	Abbas S.	Jim S.	Anthony D.	Dolores S.	Marv M.	Lindy S.
Davis	Barb C.	Susan W.	Bo C.	CC Patel	Barb C.	Bob D.	Ben W.
Utah	CC Patel	Larry L.	Harold B.	Abbas S.	Mike S.	Lindy S.	Harold B.
County	Mike S.	Harold B.	Mike S.	Joseph R.	Sarah T.	Ben W.	Bob F.
		noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	
Complaint /		Anthony D.	Barb C.	Dolores S.	Bill R.	Abbas S.	
Sole Source		Jim S.	Bob D.	Ben W.	Marv M.	CC Patel	
	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm
Salt Lake /	Tom O.	Bill R.	Marv M.	Lindy S.	Susan W.	Nando M.	Nando M.
Davis	Susan W.	Tom O.	Bob D.	Jesse M.	Joseph R.	Andy H.	Joseph R.
Utah	Larry L.	Sarah T.	Bob F.	Andy H.	Jim S.	Bo C.	Bo C.
County *	Anthony D.	Dolores S.	Jesse M.	Bill R.	Debbie O.	Debbie O.	Andy H.

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January

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1/15/95	16	17	18	19	20	21
	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am
Salt Lake /	Lindy S.	Larry L.	Jim S.	Abbas S.	Sarah T.	Lindy S.	Bob F.
Davis	Joan T.	Abbas S.	Bo C.	Tom O.	Barb C.	Ben W.	CC Patel
Utah	Harold B.	Susan W.	Harold B.	Larry L.	Mike S.	Sarah T.	Sarah T.
County	Ben W.	Bob F.	Mike S.	CC Patel	Dolores S.	Bob D.	Mike S.
		noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	
Complaint /			Joseph R.	Dolores S.	Bill R.	Abbas S.	
Sole Source			Larry L.	Anthony D.	Marv M.	CC Patel	
	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm
Salt Lake /	Joseph R.	Rick S.	Nando M.	Andy H.	Joseph R.	Bo C.	Bob D.
Davis	Andy H.	Dolores S.	Jesse M.	Bill R.	Jim S.	Debbie O.	Susan W.
Utah	Nando M.	Bill R.	Marv M.	Lindy S.	Susan W.	Tom O.	Tom O.
County *	Debbie O.	Nando M.	Bob F.	Jesse M.	Debbie O.	Andy H.	Jesse M.

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1/22/95	23	24	25	26	27	28
	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am
Salt Lake /	Sarah T.	Abbas S.	Jim S.	Joseph R.	Dolores S.	Bob F.	Lindy S.
Davis	Barb C.	Susan W.	Bo C.	CC Patel	Barb C.	Bob D.	Ben W.
Utah	CC Patel	Larry L.	Harold B.	Abbas S.	Mike S.	Lindy S.	Harold B.
County	Mike S.	Harold B.	Mike S.	Tom O.	Sarah T.	Ben W.	Anthony D.
		noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	
Complaint /		Anthony D.	Barb C.	Dolores S.	Bill R.	Abbas S.	
Sole Source		Jim S.	Bob D.	Ben W.	Marv M.	CC Patel	
	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm
Salt Lake /	Tom O.	Bill R.	Marv M.	Lindy S.	Susan W.	Nando M.	Nando M.
Davis	Susan W.	Tom O.	Bob D.	Jesse M.	Joseph R.	Andy H.	Debbie O.
Utah	Larry L.	Sarah T.	Joseph R.	Anthony D.	Jim S.	Bo C.	Bo C.
County *	Jesse M.	Dolores S.	Bob F.	Bill R.	Debbie O.	Debbie O.	Andy H.

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January February

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1/29/95	30	31	1	2	3	4
	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am
Salt Lake /	Lindy S.	Larry L.	Jim S.	Abbas S.	Sarah T.	Lindy S.	Mike E.
Davis	Joseph R.	Abbas S.	Bo C.	Anthony D.	Barb C.	Ben W.	CC Patel
Utah	Harold B.	Susan W.	Harold B.	Larry L.	Mike S.	Sarah T.	Sarah T.
County	Ben W.	Harold B.	Mike S.	Bob F.	Dolores S.	Bob D.	Mike S.
		noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	
Complaint /		Anthony D.	Barb C.	Joseph R.	Bill R.	Abbas S.	
Sole Source		Jim S.	Larry L.	Ben W.	Joseph R.	Bob F.	
	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm
Salt Lake /	Bo C.	Sarah T.	Nando M.	Andy H.	Joan T.	Bo C.	Bob D.
Davis	Andy H.	Dolores S.	Jesse M.	Bill R.	Jim S.	Debbie O.	Susan W.
Utah	Nando M.	Bob F.	Marv M.	Lindy S.	Susan W.	Tom O.	Tom O.
County *	Debbie O.	Nando M.	Bob D.	Jesse M.	Anthony D.	Andy H.	Jesse M.

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	2/5/95	6	7	8	9	10	11
	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am
Salt Lake /	Sarah T.	Abbas S.	Anthony D.	Larry L.	Dolores S.	Marv M.	Lindy S.
Davis	Barb C.	Joseph R.	Bo C.	CC Patel	Barb C.	Bob D.	Ben W.
Utah	CC Patel	Larry L.	Harold B.	Abbas S.	Bob F.	Lindy S.	Harold B.
County	Mike S.	Harold B.	Mike S.	Tom O.	Sarah T.	Joseph R.	Joan T.
		noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	
Complaint /		Joan T.	Barb C.	Dolores S.	Bill R.	Abbas S.	
Sole Source		Jim S.	Bob D.	Ben W.	Marv M.	CC Patel	
	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm
Salt Lake /	Tom O.	Bill R.	Marv M.	Anthony D.	Susan W.	Nando M.	Nando M.
Davis	Susan W.	Tom O.	Bob D.	Jesse M.	Joan T.	Andy H.	Debbie O.
Utah	Larry L.	Bob F.	Nando M.	Andy H.	Jim S.	Bo C.	Bo C.
County *	Jesse M.	Dolores S.	Jesse M.	Bill R.	Debbie O.	Debbie O.	Andy H.

* Note: If Utah County is called "red" for CO in the afternoon, do not begin writing NOV's for two hours after the "red" condition is announced.

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February

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	2/12/95	13	14	15	16	17	18
	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am
Salt Lake /	Lindy S.	Larry L.	Jim S.	Abbas S.	Sarah T.	Lindy S.	Mike E.
Davis	Joan T.	Abbas S.	Anthony D.	Tom O.	Anthony D.	Ben W.	CC Patel
Utah	Anthony D.	Susan W.	Harold B.	Larry L.	Mike S.	Sarah T.	Sarah T.
County	Ben W.	Harold B.	Mike S.	CC Patel	Dolores S.	Bob D.	Mike S.
		noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	
Complaint /		Joan T.	Barb C.	Dolores S.	Bill R.	Abbas S.	
Sole Source		Jim S.	Bob F.	Ben W.	Joseph R.	CC Patel	
	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm
Salt Lake /	Bo C.	Sarah T.	Nando M.	Bob F.	Joan T.	Bo C.	Bob F.
Davis	Andy H.	Dolores S.	Joseph R.	Bill R.	Jim S.	Debbie O.	Susan W.
Utah	Joseph R.	Bill R.	Marv M.	Lindy S.	Susan W.	Tom O.	Tom O.
County *	Debbie O.	Nando M.	Bob D.	Jesse M.	Debbie O.	Andy H.	Jesse M.

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	2/19/95	20	21	22	23	24	25
	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am
Salt Lake /	Sarah T.	Abbas S.	Jim S.	Larry L.	Dolores S.	Marv M.	Lindy S.
Davis	Bob F.	Susan W.	Bo C.	CC Patel	Bob F.	Joseph R.	Ben W.
Utah	CC Patel	Larry L.	Harold B.	Abbas S.	Mike S.	Lindy S.	Harold B.
County	Mike S.	Harold B.	Mike S.	Joseph R.	Rick S.	Ben W.	Joan T.
		noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	
Complaint /			Bob F.	Dolores S.	Bill R.	Abbas S.	
Sole Source			Bob D.	Ben W.	Marv M.	Anthony D.	
	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm
Salt Lake /	Tom O.	Joseph R.	Marv M.	Lindy S.	Susan W.	Nando M.	Nando M.
Davis	Susan W.	Tom O.	Bob D.	Jesse M.	Joan T.	Andy H.	Anthony D.
Utah	Larry L.	Sarah T.	Nando M.	Andy H.	Jim S.	Bo C.	Bo C.
County *	Jesse M.	Dolores S.	Jesse M.	Anthony D.	Debbie O.	Debbie O.	Andy H.

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February March

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	2/26/95	27	28	1	2	3	4
	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am
Salt Lake /	Anthony D.	Larry L.	Anthony D.	Abbas S.	Bob F.	Lindy S.	Barb C.
Davis	Joan T.	Abbas S.	Bo C.	Tom O.	Barb C.	Ben W.	CC Patel
Utah	Harold B.	Susan W.	Harold B.	Larry L.	Mike S.	Sarah T.	Sarah T.
County	Ben W.	Harold B.	Mike S.	CC Patel	Dolores S.	Bob D.	Bob F.
		noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	
Complaint /		Joseph R.	Barb C.	Dolores S.	Bill R.	Abbas S.	
Sole Source		Jim S.	Larry L.	Ben W.	Marv M.	CC Patel	
	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm
Salt Lake /	Bo C.	Rick S.	Nando M.	Andy H.	Joan T.	Bo C.	Bob D.
Davis	Andy H.	Dolores S.	Jesse M.	Bill R.	Jim S.	Debbie O.	Susan W.
Utah	Nando M.	Bill R.	Marv M.	Lindy S.	Joseph R.	Tom O.	Tom O.
County *	Debbie O.	Nando M.	Bob D.	Jesse M.	Debbie O.	Andy H.	Jesse M.

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	3/5/95	6	7	8	9	10	11
	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am
Salt Lake /	Sarah T.	Abbas S.	Jim S.	Joseph R.	Dolores S.	Marv M.	Lindy S.
Davis	Barb C.	Susan W.	Anthony D.	CC Patel	Bob F.	Bob D.	Anthony D.
Utah	CC Patel	Larry L.	Harold B.	Abbas S.	Mike S.	Lindy S.	Harold B.
County	Mike S.	Anthony D.	Mike S.	Tom O.	Sarah T.	Ben W.	Joan T.
		noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	
Complaint /		Joan T.	Barb C.	Dolores S.	Bill R.	Abbas S.	
Sole Source		Jim S.	Bob F.	Ben W.	Joseph R.	CC Patel	
	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm
Salt Lake /	Tom O.	Bill R.	Marv M.	Lindy S.	Susan W.	Nando M.	Nando M.
Davis	Susan W.	Tom O.	Bob D.	Jesse M.	Joan T.	Andy H.	Debbie O.
Utah	Larry L.	Sarah T.	Nando M.	Bob F.	Jim S.	Bo C.	Bo C.
County *	Joseph R.	Dolores S.	Jesse M.	Bill R.	Debbie O.	Debbie O.	Andy H.

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March

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	3/12/95	13	14	15	16	17	18
	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am
Salt Lake /	Lindy S.	Larry L.	Jim S.	Abbas S.	Sarah T.	Joseph R.	Barb C.
Davis	Joan T.	Abbas S.	Bo C.	Anthony D.	Barb C.	Ben W.	Bob F.
Utah	Harold B.	Susan W.	Harold B.	Larry L.	Mike S.	Sarah T.	Sarah T.
County	Ben W.	Harold B.	Mike S.	CC Patel	Dolores S.	Bob F.	Mike S.
		noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	
Complaint /		Joan T.	Barb C.	Dolores S.	Bill R.	Abbas S.	
Sole Source		Joseph R.	Larry L.	Ben W.	Marv M.	CC Patel	
	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm
Salt Lake /	Bo C.	Rick S.	Nando M.	Andy H.	Joan T.	Bo C.	Bob D.
Davis	Andy H.	Dolores S.	Jesse M.	Bob F.	Jim S.	Debbie O.	Susan W.
Utah	Nando M.	Bill R.	Marv M.	Lindy S.	Susan W.	Tom O.	Tom O.
County *	Anthony D.	Nando M.	Bob D.	Jesse M.	Joseph R.	Andy H.	Jesse M.

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	3/19/95	20	21	22	23	24	25
	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am
Salt Lake /	Sarah T.	Abbas S.	Jim S.	Larry L.	Dolores S.	Marv M.	Lindy S.
Davis	Barb C.	Bob F.	Bo C.	CC Patel	Barb C.	Bob D.	Joseph R.
Utah	CC Patel	Larry L.	Harold B.	Abbas S.	Mike S.	Lindy S.	Harold B.
County	Mike S.	Joseph R.	Anthony D.	Tom O.	Anthony D.	Ben W.	Joan T.
		noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	
Complaint /		Joan T.	Barb C.	Dolores S.	Bill R.	Abbas S.	
Sole Source		Jim S.	Bob D.	Ben W.	Marv M.	CC Patel	
	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm
Salt Lake /	Tom O.	Bill R.	Marv M.	Lindy S.	Susan W.	Nando M.	Nando M.
Davis	Susan W.	Tom O.	Bob D.	Jesse M.	Bob F.	Andy H.	Debbie O.
Utah	Larry L.	Sarah T.	Nando M.	Anthony D.	Jim S.	Bo C.	Bo C.
County *	Jesse M.	Dolores S.	Jesse M.	Bill R.	Debbie O.	Debbie O.	Andy H.

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March April

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	3/26/95	27	28	29	30	31	1
	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am
Salt Lake /	Lindy S.	Larry L.	Jim S.	Abbas S.	Sarah T.	Lindy S.	Barb C.
Davis	Joan T.	Abbas S.	Bo C.	Joseph R.	Barb C.	Ben W.	CC Patel
Utah	Harold B.	Susan W.	Harold B.	Larry L.	Mike S.	Sarah T.	Sarah T.
County	Ben W.	Harold B.	Mike S.	CC Patel	Anthony D.	Bob D.	Mike S.
		noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	
Complaint /		Joan T.	Anthony D.	Dolores S.	Bill R.	Abbas S.	
Sole Source		Jim S.	Larry L.	Ben W.	Marv M.	CC Patel	
	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm
Salt Lake /	Anthony D.	Sarah T.	Nando M.	Andy H.	Joan T.	Bo C.	Bob D.
Davis	Andy H.	Dolores S.	Jesse M.	Bill R.	Jim S.	Debbie O.	Susan W.
Utah	Nando M.	Bill R.	Marv M.	Lindy S.	Susan W.	Tom O.	Tom O.
County *	Debbie O.	Joseph R.	Bob D.	Joseph R.	Debbie O.	Andy H.	Jesse M.

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	4/2/95	3	4	5	6	7	8
	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am	7 am - 11 am
Salt Lake /							
Davis							
Utah							
County							
		noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	noon - 4 pm	
Complaint /							
Sole Source							
	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm	4 pm - 8 pm
Salt Lake /							
Davis							
Utah							
County *							

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25t

November · December

		Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		28	29	30	1	2	3	4
7:00 AM	SL / Davis	Bowen	Bryce	Jim	Sarah	Jim	Wes	Todd
to	SL / Davis	Joan	Larry	Steve	Bryce	Ken	Bowen	Wes
10:00 AM	Utah Co.	Andy	Bowen	Cindy	Andy	Todd	Ken	Susan
	Utah Co.	Sarah	Cindy	Todd	Susan	Bill	Nando	Bowen
12:00 to	Complaint	Lindy	Bob	Bob	Cindy	Larry	Joan	Joan
4:00 PM	Sole Src.	Arjun	Susan	Wes	Joan	Bob	Jim	Andy
4:00 PM	SL / Davis	Larry	Sonya	Bill	Jesse	Arjun	Debbie	Sarah
to	SL / Davis	Steve	Debbie	Kelli	Marv	Sarah	Bill	Ben
8:00 PM	Utah Co.	Nando	Kelli	Jesse	Sonya	Andy	Bryce	Arjun
	Utah Co.	Debbie	Lindy	Sonya	Nando	Nando	Steve	Larry

		5	6	7	8	9	10	11
7:00 AM	SL / Davis	Todd	Bryce	Jim	Sarah	Jim	Wes	Jesse
to	SL / Davis	Wes	Larry	Steve	Bryce	Ken	Bowen	Ken
10:00 AM	Utah Co.	Susan	Bowen	Cindy	Andy	Todd	Ken	Debbie
	Utah Co.	Bowen	Cindy	Todd	Susan	Bill	Nando	Todd
12:00 to	Complaint	Joan	Bob	Bob	Cindy	Larry	Joan	Wes
4:00 PM	Sole Src.	Andy	Susan	Dave	Joan	Bob	Jim	Susan
4:00 PM	SL / Davis	Sarah	Sonya	Bill	Jesse	Arjun	Debbie	Bowen
to	SL / Davis	Marv	Debbie	Kelli	Steve	Sarah	Bill	Joan
8:00 PM	Utah Co.	Arjun	Kelli	Jesse	Sonya	Andy	Bryce	Andy
	Utah Co.	Larry	Lindy	Sonya	Nando	Nando	Steve	Dave

December

		Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		12	13	14	15	16	17	18
7:00 AM	SL / Davis	Steve	Bryce	Jim	Sarah	Jim	Wes	Lindy
to	SL / Davis	Nando	Larry	Steve	Bryce	Ken	Bowen	Arjun
10:00 AM	Utah Co.	Debbie	Bowen	Cindy	Andy	Todd	Ken	Larry
	Utah Co.	Todd	Cindy	Todd	Susan	Bill	Nando	Jesse
12:00 to	Complaint	Wes	Bob	Bob	Cindy	Larry	Joan	Ken
4:00 PM	Sole Src.	Susan	Susan	Wes	Joan	Bob	Jim	Debbie
4:00 PM	SL / Davis	Bowen	Sonya	Bill	Jesse	Arjun	Debbie	Todd
to	SL / Davis	Joan	Debbie	Kelli	Steve	Sarah	Bill	Wes
8:00 PM	Utah Co.	Andy	Kelli	Jesse	Sonya	Andy	Bryce	Susan
	Utah Co.	Sarah	Lindy	Sonya	Nando	Nando	Steve	Bowen

		19	20	21	22	23	24	25
7:00 AM	SL / Davis	Lindy	Bryce	Jim	Sarah	Jim	M	C
to	SL / Davis	Arjun	Larry	Steve	Bryce	Ken	E	H
10:00 AM	Utah Co.	Larry	Bowen	Cindy	Andy	Todd	R	R
	Utah Co.	Steve	Cindy	Todd	Susan	Bill	R	I
12:00 to	Complaint	Nando	Bob	Bob	Cindy	Ben	Y	S
4:00 PM	Sole Src.	Debbie	Susan	Wes	Joan	Bob		T
4:00 PM	SL / Davis	Todd	Sonya	Bill	Jesse	Arjun		M
to	SL / Davis	Wes	Debbie	Kelli	Steve	Sarah		A
8:00 PM	Utah Co.	Susan	Kelli	Jesse	Sonya	Andy		S
	Utah Co.	Bowen	Lindy	Sonya	Nando	Nando		

December January

		Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		26	27	28	29	30	31	1
7:00 AM	SL / Davis	Joan	Bryce	Jim	Sarah	Jim	H	N
to	SL / Davis	Andy	SIP A	Steve	Bryce	Ken	A	E
10:00 AM	Utah Co.	Sarah	Bowen	Cindy	Andy	Todd	P	W
	Utah Co.	Lindy	Cindy	Todd	Susan	Bill	P	
12:00 to	Complaint	Arjun	Bob	Bob	Cindy	SIP B	Y	Y
4:00 PM	Sole Src.	SIP A	Susan	SIP B	Joan	Bob		E
4:00 PM	SL / Davis	Steve	Sonya	Bill	Jesse	Arjun		A
to	SL / Davis	Nando	Debbie	Kelli	Steve	Sarah		R
8:00 PM	Utah Co.	Debbie	Kelli	Jesse	Sonya	Andy		
	Utah Co.	Todd	Lindy	Sonya	Nando	Nando		

		2	3	4	5	6	7	8
7:00 AM	SL / Davis	Wes	Bryce	Jim	Sarah	Jim	Wes	Ken
to	SL / Davis	Susan	Larry	Steve	Bryce	Ken	Bowen	Debbie
10:00 AM	Utah Co.	Bowen	Bowen	Cindy	Andy	Todd	Ken	Todd
	Utah Co.	Joan	Cindy	Todd	Susan	Bill	Nando	Wes
12:00 to	Complaint	Andy	Bob	Bob	Cindy	Larry	Joan	Susan
4:00 PM	Sole Src.	Sarah	Susan	Wes	Joan	Bob	Jim	Bowen
4:00 PM	SL / Davis	Lindy	Sonya	Bill	Jesse	Arjun	Debbie	Joan
to	SL / Davis	Arjun	Debbie	Kelli	Steve	Sarah	Bill	Andy
8:00 PM	Utah Co.	SIP B	Kelli	Jesse	Sonya	Andy	Bryce	SIP A
	Utah Co.	Steve	Lindy	Sonya	Nando	Nando	Steve	Lindy

January

		Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		9	10	11	12	13	14	15
7:00 AM	SL / Davis	Nando	Bryce	Jim	Sarah	Jim	Wes	Arjun
to	SL / Davis	Debbie	Larry	Steve	Bryce	Ken	Bowen	Larry
10:00 AM	Utah Co.	Todd	Bowen	Cindy	Andy	Todd	Ken	Jesse
	Utah Co.	Wes	Cindy	Todd	Susan	Bill	Nando	Ken
12:00 to	Complaint	Susan	Bob	Bob	Cindy	Larry	Joan	Debbie
4:00 PM	Sole Src.	Bowen	Susan	Wes	Joan	Bob	Jim	Todd
4:00 PM	SL / Davis	Joan	Sonya	Bill	Jesse	Arjun	Debbie	Wes
to	SL / Davis	Andy	Debbie	Kelli	Steve	Sarah	Bill	Susan
8:00 PM	Utah Co.	Sarah	Kelli	Jesse	Sonya	Andy	Bryce	Bowen
	Utah Co.	Lindy	Lindy	Sonya	Nando	Nando	Steve	Joan

		16	17	18	19	20	21	22
7:00 AM	SL / Davis	Arjun	Bryce	Jim	Sarah	Jim	Wes	Andy
to	SL / Davis	Larry	Larry	Steve	Bryce	Ken	Ben	Dave
10:00 AM	Utah Co.	Steve	Marv	Cindy	Andy	Todd	Ken	Lindy
	Utah Co.	Nando	Cindy	Todd	Dave	Bill	Nando	Arjun
12:00 to	Complaint	Debbie	Bob	Bob	Cindy	Larry	Joan	Larry
4:00 PM	Sole Src.	Todd	Susan	Wes	Joan	Bob	Jim	Jesse
4:00 PM	SL / Davis	Wes	Sonya	Bill	Jesse	Arjun	Debbie	Ken
to	SL / Davis	Susan	Debbie	Kelli	Steve	Sarah	Bill	Debbie
8:00 PM	Utah Co.	SIP B	Kelli	Jesse	Sonya	Andy	Bryce	Todd
	Utah Co.	Joan	Lindy	Sonya	Nando	Nando	Steve	Wes

January

		Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		23	24	25	26	27	28	29
7:00 AM	SL / Davis	Andy	Bryce	Jim	Sarah	Jim	Wes	Susan
to	SL / Davis	Sarah	Larry	Steve	Bryce	Ken	SIP B	Ben
10:00 AM	Utah Co.	Lindy	SIP A	Cindy	Andy	Todd	Ken	Joan
	Utah Co.	Arjun	Cindy	Todd	Susan	Bill	Nando	Andy
12:00 to	Complaint	Larry	Bob	Bob	Cindy	Larry	Joan	Sarah
4:00 PM	Sole Src.	Steve	Susan	Wes	Joan	Bob	Jim	Lindy
4:00 PM	SL / Davis	Nando	Sonya	Bill	Jesse	Arjun	Debbie	Arjun
to	SL / Davis	Debbie	Debbie	Kelli	Steve	Sarah	Bill	Larry
8:00 PM	Utah Co.	Todd	Kelli	Jesse	Sonya	Andy	Bryce	Jesse
	Utah Co.	Wes	Lindy	Sonya	Nando	Nando	Steve	Ken

February

		30	31	1	2	3	4	5
7:00 AM	SL / Davis	Susan	Bryce	Jim	Sarah	Jim	Wes	Debbie
to	SL / Davis	Bowen	Larry	Steve	Bryce	Ken	Bowen	Todd
10:00 AM	Utah Co.	Joan	Bowen	Cindy	Andy	Todd	Ken	Wes
	Utah Co.	Andy	Cindy	Todd	Susan	Bill	Nando	Susan
12:00 to	Complaint	Sarah	Bob	Bob	Cindy	Larry	Joan	Bowen
4:00 PM	Sole Src.	Lindy	Susan	Wes	Joan	Bob	Jim	Joan
4:00 PM	SL / Davis	Arjun	Sonya	Bill	Jesse	Arjun	Debbie	Andy
to	SL / Davis	Larry	Debbie	Kelli	Steve	Sarah	Bill	Marv
8:00 PM	Utah Co.	Steve	Kelli	Jesse	Sonya	Andy	Bryce	Lindy
	Utah Co.	Nando	Lindy	Sonya	Nando	Nando	Steve	Arjun

February

		Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		6	7	8	9	10	11	12
7:00 AM	SL / Davis	Debbie	Bryce	Jim	Sarah	Jim	Wes	Larry
to	SL / Davis	Todd	Larry	Steve	Bryce	Ken	Bowen	Jesse
10:00 AM	Utah Co.	Wes	Bowen	Cindy	Andy	Todd	Ken	Ken
	Utah Co.	Susan	Cindy	Todd	Susan	Bill	Nando	Debbie
12:00 to	Complaint	Bowen	Bob	Bob	Cindy	Larry	Joan	Todd
4:00 PM	Sole Src.	Joan	Susan	Wes	Joan	Bob	Jim	Wes
4:00 PM	SL / Davis	Andy	Sonya	Bill	Jesse	Arjun	Debbie	Susan
to	SL / Davis	Sarah	Debbie	Kelli	Steve	Sarah	Bill	Bowen
8:00 PM	Utah Co.	Lindy	Kelli	Jesse	Sonya	Andy	Bryce	Joan
	Utah Co.	Arjun	Lindy	Sonya	Nando	Nando	Steve	Andy

		13	14	15	16	17	18	19
7:00 AM	SL / Davis	Larry	Bryce	Jim	Sarah	Jim	Wes	SIP A
to	SL / Davis	Steve	Larry	Steve	Bryce	Ken	Bowen	Lindy
10:00 AM	Utah Co.	Nando	Bowen	Marv	Andy	Todd	Ken	Arjun
	Utah Co.	Debbie	Marv	Todd	Susan	Bill	Nando	Larry
12:00 to	Complaint	Todd	Bob	Bob	Dave	Larry	Joan	Jesse
4:00 PM	Sole Src.	Wes	Susan	Wes	Joan	Bob	Jim	Ken
4:00 PM	SL / Davis	Susan	Sonya	Bill	Jesse	Arjun	Debbie	Debbie
to	SL / Davis	Bowen	Debbie	Kelli	Steve	Sarah	Bill	Todd
8:00 PM	Utah Co.	Joan	Kelli	Jesse	Sonya	Andy	Bryce	Wes
	Utah Co.	Andy	Lindy	Sonya	Nando	Nando	Steve	Susan

February

		Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		20	21	22	23	24	25	26
7:00 AM	SL / Davis	Sarah	Bryce	Jim	Sarah	Jim	Wes	SIP B
to	SL / Davis	Lindy	Larry	Steve	Bryce	Ken	SIP A	Joan
10:00 AM	Utah Co.	Arjun	Ben	Cindy	Andy	Todd	Ken	Andy
	Utah Co.	Larry	Cindy	Todd	Susan	Bill	Nando	Sarah
12:00 to	Complaint	Steve	Bob	Bob	Cindy	Larry	Joan	Lindy
4:00 PM	Sole Src.	Nando	Susan	Wes	Joan	Bob	Jim	Arjun
4:00 PM	SL / Davis	Debbie	Sonya	Bill	Jesse	Arjun	Debbie	Larry
to	SL / Davis	Todd	Debbie	Kelli	Steve	Sarah	Bill	Jesse
8:00 PM	Utah Co.	Wes	Kelli	Jesse	Sonya	Andy	Bryce	Ken
	Utah Co.	Susan	Lindy	Sonya	Nando	Nando	Steve	Debbie

March

		27	28	1	2	3	4	5
7:00 AM	SL / Davis	Ben	Bryce	Jim	Sarah	Jim	Wes	Todd
to	SL / Davis	Joan	Larry	Steve	Bryce	Ken	Marv	Wes
10:00 AM	Utah Co.	Andy	SIP B	Cindy	Andy	Todd	Ken	Susan
	Utah Co.	Sarah	Cindy	Todd	Susan	Bill	Nando	Dave
12:00 to	Complaint	Lindy	Bob	Bob	Cindy	Larry	Joan	Joan
4:00 PM	Sole Src.	Arjun	Susan	Wes	Joan	Bob	Jim	Andy
4:00 PM	SL / Davis	Larry	Sonya	Bill	Jesse	Arjun	Debbie	Marv
to	SL / Davis	Steve	Debbie	Kelli	Steve	Sarah	Bill	Lindy
8:00 PM	Utah Co.	Nando	Kelli	Jesse	Sonya	Andy	Bryce	Arjun
	Utah Co.	Debbie	Lindy	Sonya	Nando	Nando	Steve	Larry

March

		Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		6	7	8	9	10	11	12
7:00 AM	SL / Davis	Todd	Bryce	Jim	Sarah	Jim	Wes	Jesse
to	SL / Davis	Wes	Larry	Steve	Bryce	Ken	Ben	Ken
10:00 AM	Utah Co.	Susan	Dave	Cindy	Andy	Todd	Ken	Debbie
	Utah Co.	SIP A	Cindy	Todd	Susan	Bill	Nando	Todd
12:00 to	Complaint	Joan	Bob	Bob	Cindy	Larry	Joan	Wes
4:00 PM	Sole Src.	Andy	Susan	Wes	Joan	Bob	Jim	Susan
4:00 PM	SL / Davis	Sarah	Sonya	Bill	Jesse	Arjun	Debbie	Bowen
to	SL / Davis	Lindy	Debbie	Kelli	Steve	Sarah	Bill	Joan
8:00 PM	Utah Co.	Arjun	Kelli	Jesse	Sonya	Andy	Bryce	Andy
	Utah Co.	Larry	Lindy	Sonya	Nando	Nando	Steve	Sarah

		13	14	15	16	17	18	19
7:00 AM	SL / Davis	Steve	Bryce	Jim	Sarah	Jim	Wes	Joan
to	SL / Davis	Nando	Larry	Steve	Bryce	Ken	Bowen	Andy
10:00 AM	Utah Co.	Debbie	Bowen	Cindy	Andy	Todd	Ken	Sarah
	Utah Co.	Todd	Cindy	Todd	Susan	Bill	Nando	Lindy
12:00 to	Complaint	Wes	Bob	Bob	Cindy	Larry	Joan	Arjun
4:00 PM	Sole Src.	Susan	Susan	Wes	Joan	Bob	Jim	Larry
4:00 PM	SL / Davis	Bowen	Sonya	Bill	Jesse	Arjun	Debbie	Jesse
to	SL / Davis	Joan	Debbie	Kelli	Steve	Sarah	Bill	Ken
8:00 PM	Utah Co.	Andy	Kelli	Jesse	Sonya	Andy	Bryce	Debbie
	Utah Co.	Sarah	Lindy	Sonya	Nando	Nando	Steve	Todd

Schedule as of
12/2/92

36

SMOKE PATROL SCHEDULE

6.b.ii-127

NOVEMBER/DECEMBER

AM 29 **Sunday**	AM 30 **Monday**	AM 1 **Tuesday**	AM 2 **Wednesday**	AM 3 **Thursday**	AM 4 **Friday**	AM 5 **Saturday**
KERI	BARBARA	BECKY	KERI	BARBARA	BECKY	KERI
MELISSA	MARIE	SARAH	MELISSA	MARIE	SARAH	MELISSA
BRYCE	BURNELL	SUSAN	BRYCE	BURNELL	SUSAN	BRYCE
CYNTHIA	MONTIE	DOLORES	CYNTHIA	MONTIE	DOLORES	~~CYNTHIA~~ Sarah
PATTI	NANDO	CHERYL	PATTI	NANDO	CHERYL	PATTI
STEVE P	DUTCH	TODD	STEVE P	DUTCH	TODD	STEVE P

PM 29 **Sunday**	PM 30 **Monday**	PM 1 **Tuesday**	PM 2 **Wednesday**	PM 3 **Thursday**	PM 4 **Friday**	PM 5 **Saturday**
KENT	DIANE	CARL	KENT	DIANE	CARL	KENT
CHERI	HANNIE	CAROL H	CHERI	HANNIE	CAROL H	CHERI
JOAN	MARV	STEVE A	JOAN	MARV	STEVE A	JOAN
BRYON J	DAN K	SANDY	BRYON J	DAN K	SANDY	BRYON J
BOB	STEVE M	JESSE	BOB	STEVE M	JESSE	BOB
CAROL L	ANDY	LINDY	CAROL L	ANDY	LINDY	CAROL L

SMOKE PATROL SCHEDULE

6.b.ii-128

DECEMBER

AM 6 Sunday	AM 7 Monday	AM 8 Tuesday	AM 9 Wednesday	AM 10 Thursday	AM 11 Friday	AM 12 Saturday
BARBARA	BECKY	KERI	BARBARA	BECKY	KERI	BARBARA
MARIE	SARAH	MELISSA	MARIE	SARAH	MELISSA	MARIE
BURNELL	SUSAN	BRYCE	BURNELL	SUSAN	BRYCE	BURNELL
MONTIE	DOLORES	CYNTHIA	MONTIE	DOLORES	CYNTHIA	MONTIE
NANDO	CHERYL	PATTI	NANDO	CHERYL	PATTI	NANDO
DUTCH	TODD	STEVE P	DUTCH	TODD	STEVE P	DUTCH

PM 6 Sunday	PM 7 Monday	PM 8 Tuesday	PM 9 Wednesday	PM 10 Thursday	PM 11 Friday	PM 12 Saturday
DIANE	CARL	CHERI	DIANE	CARL	CHERI	DIANE
HANNIE	CAROL H	KENT	HANNIE	CAROL H	KENT	HANNIE
MARV	STEVE A	JOAN	MARV	STEVE A	JOAN	MARV
DAN K	SANDY	BRYON J	DAN K	SANDY	BRYON J	DAN K
STEVE M	JESSE	BOB	STEVE M	JESSE	BOB	STEVE M
ANDY	LINDY	CAROL L	ANDY	LINDY	CAROL L	ANDY

SMOKE PATROL SCHEDULE

6.b.ii-129

DECEMBER

AM 13 **Sunday**	AM 14 **Monday**	AM 15 **Tuesday**	AM 16 **Wednesday**	AM 17 **Thursday**	AM 18 **Friday**	AM 19 **Saturday**
BECKY	KERI	BARBARA	BECKY	KERI	BARBARA	BECKY
SARAH	MELISSA	MARIE	SARAH	MELISSA	MARIE	SARAH
SUSAN	BRYCE	BURNELL	SUSAN	BRYCE	BURNELL	SUSAN
DOLORES	CYNTHIA	MONTIE	DOLORES	CYNTHIA	MONTIE	DOLORES
CHERYL	PATTI	NANDO	CHERYL	PATTI	NANDO	CHERYL
TODD	STEVE P	DUTCH	TODD	STEVE P	DUTCH	TODD

PM 13 **Sunday**	PM 14 **Monday**	PM 15 **Tuesday**	PM 16 **Wednesday**	PM 17 **Thursday**	PM 18 **Friday**	PM 19 **Saturday**
CARL	CHERI	DIANE	CARL	CHERI	DIANE	CARL
CAROL H	KENT	HANNIE	CAROL H	KENT	HANNIE	CAROL H
STEVE A	JOAN	MARV	STEVE A	JOAN	MARV	STEVE A
SANDY	BRYON J	DAN K	SANDY	BRYON J	DAN K	SANDY
JESSE	BOB	STEVE M	JESSE	BOB	STEVE M	JESSE
LINDY	CAROL L	ANDY	LINDY	CAROL L	ANDY	LINDY

SMOKE PATROL SCHEDULE

6.b.ii-130

DECEMBER

AM 20 **Sunday**	AM 21 **Monday**	AM 22 **Tuesday**	AM 23 **Wednesday**	AM 24 **Thursday**	AM 25 **Friday**	AM 26 **Saturday**
KERI	BARBARA	BECKY	KERI	BARBARA	BECKY	KERI
MELISSA	MARIE	SARAH	MELISSA	MARIE	SARAH	MELISSA
BRYCE	BURNELL	SUSAN	BRYCE	BURNELL	SUSAN	BRYCE
CYNTHIA	MONTIE	DOLORES	CYNTHIA	MONTIE	DOLORES	~~CYNTHIA~~ Sarah
PATTI	NANDO	CHERYL	PATTI	NANDO	CHERYL	PATTI
STEVE P	DUTCH	TODD	STEVE P	DUTCH	TODD	STEVE P

PM 20 **Sunday**	PM 21 **Monday**	PM 22 **Tuesday**	PM 23 **Wednesday**	PM 24 **Thursday**	PM 25 **Friday**	PM 26 **Saturday**
KENT	DIANE	CARL	KENT	DIANE	CARL	KENT
CHERI	HANNIE	CAROL H	CHERI	HANNIE	CAROL H	CHERI
JOAN	MARV	STEVE A	JOAN	MARV	STEVE A	JOAN
BRYON J	DAN K	SANDY	BRYON J	DAN K	SANDY	BRYON J
BOB	STEVE M	JESSE	BOB	STEVE M	JESSE	BOB
CAROL L	ANDY	LINDY	CAROL L	ANDY	LINDY	CAROL L

SMOKE PATROL SCHEDULE

6.b.ii-131

DECEMBER/JANUARY

AM	AM	AM	AM	AM	AM	AM
27	28	29	30	31	1	2
Sunday	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Saturday**
BARBARA	BECKY	KERI	BARBARA	BECKY	KERI	BARBARA
MARIE	SARAH	MELISSA	MARIE	SARAH	MELISSA	MARIE
BURNELL	SUSAN	BRYCE	BURNELL	SUSAN	BRYCE	BURNELL
MONTIE	DOLORES	CYNTHIA	MONTIE	DOLORES	CYNTHIA	MONTIE
NANDO	CHERYL	PATTI	NANDO	CHERYL	PATTI	NANDO
DUTCH	TODD	STEVE P	DUTCH	TODD	STEVE P	DUTCH

PM	PM	PM	PM	PM	PM	PM
27	28	29	30	31	1	2
Sunday	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Saturday**
DIANE	CARL	CHERI	DIANE	CARL	CHERI	DIANE
HANNIE	CAROL H	KENT	HANNIE	CAROL H	KENT	HANNIE
MARV	STEVE A	JOAN	MARV	STEVE A	JOAN	MARV
DAN K	SANDY	BRYON J	DAN K	SANDY	BRYON J	DAN K
STEVE M	JESSE	BOB	STEVE M	JESSE	BOB	STEVE M
ANDY	LINDY	CAROL L	ANDY	LINDY	CAROL L	ANDY

SMOKE PATROL SCHEDULE

6.b.ii-132

JANUARY

AM 3 **Sunday**	AM 4 **Monday**	AM 5 **Tuesday**	AM 6 **Wednesday**	AM 7 **Thursday**	AM 8 **Friday**	AM 9 **Saturday**
BECKY	KERI	BARBARA	BECKY	KERI	BARBARA	BECKY
SARAH	MELISSA	MARIE	SARAH	MELISSA	MARIE	SARAH
SUSAN	BRYCE	BURNELL	SUSAN	BRYCE	BURNELL	SUSAN
DOLORES	CYNTHIA	MONTIE	DOLORES	CYNTHIA	MONTIE	DOLORES
CHERYL	PATTI	NANDO	CHERYL	PATTI	NANDO	CHERYL
TODD	STEVE P	DUTCH	TODD	STEVE P	DUTCH	TODD

PM 3 **Sunday**	PM 4 **Monday**	PM 5 **Tuesday**	PM 6 **Wednesday**	PM 7 **Thursday**	PM 8 **Friday**	PM 9 **Saturday**
CARL	CHERI	DIANE	CARL	CHERI	DIANE	CARL
CAROL H	KENT	HANNIE	CAROL H	KENT	HANNIE	CAROL H
STEVE A	JOAN	MARV	STEVE A	JOAN	MARV	STEVE A
SANDY	BRYON J	DAN K	SANDY	BRYON J	DAN K	SANDY
JESSE	BOB	STEVE M	JESSE	BOB	STEVE M	JESSE
LINDY	CAROL L	ANDY	LINDY	CAROL L	ANDY	LINDY

SMOKE PATROL SCHEDULE

6.b.ii-133

JANUARY

AM 10 **Sunday**	AM 11 **Monday**	AM 12 **Tuesday**	AM 13 **Wednesday**	AM 14 **Thursday**	AM 15 **Friday**	AM 16 **Saturday**
KERI	BARBARA	BECKY	KERI	BARBARA	BECKY	KERI
MELISSA	MARIE	SARAH	MELISSA	MARIE	SARAH	MELISSA
BRYCE	BURNELL	SUSAN	BRYCE	BURNELL	SUSAN	BRYCE
CYNTHIA	MONTIE	DOLORES	CYNTHIA	MONTIE	DOLORES	CYNTHIA
PATTI	NANDO	CHERYL	PATTI	NANDO	CHERYL	PATTI
STEVE P	DUTCH	TODD	STEVE P	DUTCH	TODD	STEVE P

PM 10 **Sunday**	PM 11 **Monday**	PM 12 **Tuesday**	PM 13 **Wednesday**	PM 14 **Thursday**	PM 15 **Friday**	PM 16 **Saturday**
KENT	DIANE	CARL	KENT	DIANE	CARL	KENT
CHERI	HANNIE	CAROL H	CHERI	HANNIE	CAROL H	CHERI
JOAN	MARV	STEVE A	JOAN	MARV	STEVE A	JOAN
BRYON J	DAN K	SANDY	BRYON J	DAN K	SANDY	BRYON J
BOB	STEVE M	JESSE	BOB	STEVE M	JESSE	BOB
CAROL L	ANDY	LINDY	CAROL L	ANDY	LINDY	CAROL L

SMOKE PATROL SCHEDULE

6.b.ii-134

JANUARY

AM 17 **Sunday**	AM 18 **Monday**	AM 19 **Tuesday**	AM 20 **Wednesday**	AM 21 **Thursday**	AM 22 **Friday**	AM 23 **Saturday**
BARBARA	BECKY	KERI	BARBARA	BECKY	KERI	BARBARA
MARIE	SARAH	MELISSA	MARIE	SARAH	MELISSA	MARIE
BURNELL	SUSAN	BRYCE	BURNELL	SUSAN	BRYCE	BURNELL
MONTIE	DOLORES	CYNTHIA	MONTIE	DOLORES	CYNTHIA	MONTIE
NANDO	CHERYL	PATTI	NANDO	CHERYL	PATTI	NANDO
DUTCH	TODD	STEVE P	DUTCH	TODD	STEVE P	DUTCH

PM 17 **Sunday**	PM 18 **Monday**	PM 19 **Tuesday**	PM 20 **Wednesday**	PM 21 **Thursday**	PM 22 **Friday**	PM 23 **Saturday**
DIANE	CARL	CHERI	DIANE	CARL	CHERI	DIANE
HANNIE	CAROL H	KENT	HANNIE	CAROL H	KENT	HANNIE
MARV	STEVE A	JOAN	MARV	STEVE A	JOAN	MARV
DAN K	SANDY	BRYON J	DAN K	SANDY	BRYON J	DAN K
STEVE M	JESSE	BOB	STEVE M	JESSE	BOB	STEVE M
ANDY	LINDY	CAROL L	ANDY	LINDY	CAROL L	ANDY

SMOKE PATROL SCHEDULE

6.b.ii-135

JANUARY

AM 24 **Sunday**	AM 25 **Monday**	AM 26 **Tuesday**	AM 27 **Wednesday**	AM 28 **Thursday**	AM 29 **Friday**	AM 30 **Saturday**
BECKY	KERI	BARBARA	BECKY	KERI	BARBARA	BECKY
SARAH	MELISSA	MARIE	SARAH	MELISSA	MARIE	SARAH
SUSAN	BRYCE	BURNELL	SUSAN	BRYCE	BURNELL	SUSAN
DOLORES	CYNTHIA	MONTIE	DOLORES	CYNTHIA	MONTIE	DOLORES
CHERYL	PATTI	NANDO	CHERYL	PATTI	NANDO	CHERYL
TODD	STEVE P	DUTCH	TODD	STEVE P	DUTCH	TODD

PM 24 **Sunday**	PM 25 **Monday**	PM 26 **Tuesday**	PM 27 **Wednesday**	PM 28 **Thursday**	PM 29 **Friday**	PM 30 **Saturday**
CARL	CHERI	DIANE	CARL	CHERI	DIANE	CARL
CAROL H	KENT	HANNIE	CAROL H	KENT	HANNIE	CAROL H
STEVE A	JOAN	MARV	STEVE A	JOAN	MARV	STEVE A
SANDY	BRYON J	DAN K	SANDY	BRYON J	DAN K	SANDY
JESSE	BOB	STEVE M	JESSE	BOB	STEVE M	JESSE
LINDY	CAROL L	ANDY	LINDY	CAROL L	ANDY	LINDY

SMOKE PATROL SCHEDULE

6.b.ii-136

JANUARY/FEBRUARY

AM	AM	AM	AM	AM	AM	AM
31	1	2	3	4	5	6
Sunday	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Saturday**
KERI	BARBARA	BECKY	KERI	BARBARA	BECKY	KERI
MELISSA	MARIE	SARAH	MELISSA	MARIE	SARAH	MELISSA
BRYCE	BURNELL	SUSAN	BRYCE	BURNELL	SUSAN	BRYCE
CYNTHIA	MONTIE	DOLORES	CYNTHIA	MONTIE	DOLORES	CYNTHIA
PATTI	NANDO	CHERYL	PATTI	NANDO	CHERYL	PATTI
STEVE P	DUTCH	TODD	STEVE P	DUTCH	TODD	STEVE P

PM	PM	PM	PM	PM	PM	PM
31	1	2	3	4	5	6
Sunday	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Saturday**
KENT	DIANE	CARL	KENT	DIANE	CARL	KENT
CHERI	HANNIE	CAROL H	CHERI	HANNIE	CAROL H	CHERI
JOAN	MARV	STEVE A	JOAN	MARV	STEVE A	JOAN
BRYON J	DAN K	SANDY	BRYON J	DAN K	SANDY	BRYON J
BOB	STEVE M	JESSE	BOB	STEVE M	JESSE	BOB
CAROL L	ANDY	LINDY	CAROL L	ANDY	LINDY	CAROL L

SMOKE PATROL SCHEDULE

6.b.ii-137

FEBRUARY

AM 7 **Sunday**	AM 8 **Monday**	AM 9 **Tuesday**	AM 10 **Wednesday**	AM 11 **Thursday**	AM 12 **Friday**	AM 13 **Saturday**
BARBARA	BECKY	KERI	BARBARA	BECKY	KERI	BARBARA
MARIE	SARAH	MELISSA	MARIE	SARAH	MELISSA	MARIE
BURNELL	SUSAN	BRYCE	BURNELL	SUSAN	BRYCE	BURNELL
MONTIE	DOLORES	CYNTHIA	MONTIE	DOLORES	CYNTHIA	MONTIE
NANDO	CHERYL	PATTI	NANDO	CHERYL	PATTI	NANDO
DUTCH	TODD	STEVE P	DUTCH	TODD	STEVE P	DUTCH

PM 7 **Sunday**	PM 8 **Monday**	PM 9 **Tuesday**	PM 10 **Wednesday**	PM 11 **Thursday**	PM 12 **Friday**	PM 13 **Saturday**
DIANE	CARL	CHERI	DIANE	CARL	CHERI	DIANE
HANNIE	CAROL H	KENT	HANNIE	CAROL H	KENT	HANNIE
MARV	STEVE A	JOAN	MARV	STEVE A	JOAN	MARV
DAN K	SANDY	BRYON J	DAN K	SANDY	BRYON J	DAN K
STEVE M	JESSE	BOB	STEVE M	JESSE	BOB	STEVE M
ANDY	LINDY	CAROL L	ANDY	LINDY	CAROL L	ANDY

SMOKE PATROL SCHEDULE

6.b.ii-138

FEBRUARY

AM 14 **Sunday**	AM 15 **Monday**	AM 16 **Tuesday**	AM 17 **Wednesday**	AM 18 **Thursday**	AM 19 **Friday**	AM 20 **Saturday**
BECKY	KERI	BARBARA	BECKY	KERI	BARBARA	BECKY
SARAH	MELISSA	MARIE	SARAH	MELISSA	MARIE	SARAH
SUSAN	BRYCE	BURNELL	SUSAN	BRYCE	BURNELL	SUSAN
DOLORES	CYNTHIA	MONTIE	DOLORES	CYNTHIA	MONTIE	DOLORES
CHERYL	PATTI	NANDO	CHERYL	PATTI	NANDO	CHERYL
TODD	STEVE P	DUTCH	TODD	STEVE P	DUTCH	TODD

PM 14 **Sunday**	PM 15 **Monday**	PM 16 **Tuesday**	PM 17 **Wednesday**	PM 18 **Thursday**	PM 19 **Friday**	PM 20 **Saturday**
CARL	CHERI	DIANE	CARL	CHERI	DIANE	CARL
CAROL H	KENT	HANNIE	CAROL H	KENT	HANNIE	CAROL H
STEVE A	JOAN	MARV	STEVE A	JOAN	MARV	STEVE A
SANDY	BRYON J	DAN K	SANDY	BRYON J	DAN K	SANDY
JESSE	BOB	STEVE M	JESSE	BOB	STEVE M	JESSE
LINDY	CAROL L	ANDY	LINDY	CAROL L	ANDY	LINDY

SMOKE PATROL SCHEDULE

6.b.ii-139

FEBRUARY

AM 21 **Sunday**	AM 22 **Monday**	AM 23 **Tuesday**	AM 24 **Wednesday**	AM 25 **Thursday**	AM 26 **Friday**	AM 27 **Saturday**
KERI	BARBARA	BECKY	KERI	BARBARA	BECKY	KERI
MELISSA	MARIE	SARAH	MELISSA	MARIE	SARAH	MELISSA
BRYCE	BURNELL	SUSAN	BRYCE	BURNELL	SUSAN	BRYCE
CYNTHIA	MONTIE	DOLORES	CYNTHIA	MONTIE	DOLORES	CYNTHIA
PATTI	NANDO	CHERYL	PATTI	NANDO	CHERYL	PATTI
STEVE P	DUTCH	TODD	STEVE P	DUTCH	TODD	STEVE P

PM 21 **Sunday**	PM 22 **Monday**	PM 23 **Tuesday**	PM 24 **Wednesday**	PM 25 **Thursday**	PM 26 **Friday**	PM 27 **Saturday**
KENT	DIANE	CARL	KENT	DIANE	CARL	KENT
CHERI	HANNIE	CAROL H	CHERI	HANNIE	CAROL H	CHERI
JOAN	MARV	STEVE A	JOAN	MARV	STEVE A	JOAN
BRYON J	DAN K	SANDY	BRYON J	DAN K	SANDY	BRYON J
BOB	STEVE M	JESSE	BOB	STEVE M	JESSE	BOB
CAROL L	ANDY	LINDY	CAROL L	ANDY	LINDY	CAROL L

SMOKE PATROL SCHEDULE

6.b.ii-140

FEBRUARY/MARCH

AM 28 **Sunday**	AM 1 **Monday**	AM 2 **Tuesday**	AM 3 **Wednesday**	AM 4 **Thursday**	AM 5 **Friday**	AM 6 **Saturday**
BARBARA	BECKY	KERI	BARBARA	BECKY	KERI	BARBARA
MARIE	SARAH	MELISSA	MARIE	SARAH	MELISSA	MARIE
BURNELL	SUSAN	BRYCE	BURNELL	SUSAN	BRYCE	BURNELL
MONTIE	DOLORES	CYNTHIA	MONTIE	DOLORES	CYNTHIA	MONTIE
NANDO	CHERYL	PATTI	NANDO	CHERYL	PATTI	NANDO
DUTCH	TODD	STEVE P	DUTCH	TODD	STEVE P	DUTCH

PM 28 **Sunday**	PM 1 **Monday**	PM 2 **Tuesday**	PM 3 **Wednesday**	PM 4 **Thursday**	PM 5 **Friday**	PM 6 **Saturday**
DIANE	CARL	CHERI	DIANE	CARL	CHERI	DIANE
HANNIE	CAROL H	KENT	HANNIE	CAROL H	KENT	HANNIE
MARV	STEVE A	JOAN	MARV	STEVE A	JOAN	MARV
DAN K	SANDY	BRYON J	DAN K	SANDY	BRYON J	DAN K
STEVE M	JESSE	BOB	STEVE M	JESSE	BOB	STEVE M
ANDY	LINDY	CAROL L	ANDY	LINDY	CAROL L	ANDY

SOLID FUEL BURNING DEVICE
WARNINGS

94 Total

92/93

Name?
565 South 925 West
Layton, UT 84041
Date: 2/7/93

Name?
1380 South 1100 West
Woods Cross, UT 84087
Date: 2/7/93

Name?
3680 West 5460 South
Kearns, UT 84118
Date: 2/5/93

Name?
5700 South 4084 West
Kearns, UT 84118
Date: 2/6/93

Name?
5655 South 4301 West
Kearns, UT 84118
Date: 2/6/93

Name?
4887 South Townsend Way
Kearns, UT 84118
Date: 2/6/93

Name?
3005 South Dalesend Drive
Magna, UT 84044
Date: 2/6/93

Name?
1223 North 1065 West
American Beauty Drive
Rose Park, UT
Date: 2/7/93

Name?
1911 West 13035 South
Riverton, UT 84065
Date: 12/26/92

9

Name ?
300 North 67 East
Lehi, UT 84043
Date: ?

Name ?
440 Valley Circle
West Valley City, UT 84119
Date: 1/28/93

Brad Anderson
5537 South 4270 West
Kearns, UT 84118
Date: 2/6/93

Bruce Anderson
1230 Serpentine Way
Sandy, UT 84092
Date: 1/28/93

Lyn Anderton
13250 South 1830 West
Riverton, UT 84065
Date: 12/26/92

Mike Antry
6082 Don Jose Drive
Bennion, UT
Date: 2/5/93

Andrew Baggs
900 West 860 North
Provo, UT
Date: 1/30/93

Lee Bande
3865 Sumter Drive
West Jordan, UT 84088
Date: 11/17/92

Blaine Beck
2006 West 13035 South
Riverton, UT 84065
Date: 12/26/92

James Bolen/Renatte Grunwald
12070 South 700 East
Draper, UT 84020
Date: 2/6/93

Larry Boyer
132 Green
Layton, UT 84041
Date: 2/8/93

Lyle Brereton
1108 West 1240 North
Orem, UT
Date: 1/28/93

? Brewer
1610 South 800 West
Woods Cross, UT 84087
Date: 2/6/93

Ren Brown
3563 South 7200 West
Magna, UT 84044
Date: 2/5/93

Will Buff
4134 Timpview Drive
Provo, UT
Date: 1/29/93

Ed Bunker
50 West Center
Lindon, UT 84042
Date: 1/28/93

Emerson Burkett
3391 South 7540 West
Magna, UT 84044
Date: 2/5/93

Clay Butterfield
12260 South 4000 West
Riverton, UT 84065
Date: 2/6/93

Robert Casper
9255 South 689 West
Woods Cross, UT 84087
Date: 2/6/93

? Christensen
3469 ?
Magna, UT 84044
Date: 11/18/92

Cloyd Christiansen
575 East 500 North
Pleasant Grove, UT 84062
Date: 2/8/93

Kathy Colledge
114 North Main
Lindon, UT 84042
Date: 1/30/93

Bruce Cook
86 Flint
Layton, UT 84041
Date: 2/7/93

Verl W. Cook
4264 North Canyon Road
Provo, UT
Date: 1/29/93

Ernest Max Dejore
4157 Bannock Drive
West Valley City, UT 84120
Date: 1/28/93

James E. Digman
12846 South 2140 West
Riverton, UT 84065
Date: 12/26/92

Ronald K. Dimmick
1561 Almond Lane
West Jordan, UT
Date: 1/28/93

Paul Fage
566 East 400 North
Lindon, UT 84042
Date: 1/30/93

Faulkner
2021 West Golden Valley Drive
Riverton, UT 84065
Date: 12/26/92

Shirl D. Ferre
6710 Georgia
West Jordan, UT
Date: 11/17/92

Ted Fraughton
13562 South 2320 West
Riverton, UT 84065
Date: 12/26/92

no warning mailed - incomplete address

Frank E. Godin, Jr.
735 South 300 East
Layton, UT 84041
Date: 2/7/93

? Griffis
580 South 925 West
Layton, UT 84041
Date: 2/7/93

Leland G. Harper
1122 North 800 East
Orem, UT
Date: 1/29/93

Angelo Herrera
546 West 500 North
Salt Lake City, UT
Date: 2/7/93

Norm Higginson
764 Paxton Avenue
Salt Lake City, UT
Date: 2/5/93

Mark Holmquist
3486 West 12350 South
Riverton, UT 84065
Date: 2/6/93

Daryl Horne
322 South State Street
Pleasant Grove, UT 84062
Date: 1/30/93

Justin Horrocks
2181 West 13180 South
Riverton, UT 84065
Date: 12/26/92

Don Hunter
2059 West 13220 South
Riverton, UT 84065
Date: 12/26/92

9

Hazel B. Johnson
143 West Harcliff Circle
Lindon, UT 84042

David W. Killey
3778 Lewisport
West Jordan, UT
Date: 11/17/92

Clair Knight
796 Lakeview Drive
Lindon, UT 84042
Date: ?

R. Larson
Geneva Road (2050 W) 506 North
Provo, UT
Date: 1/30/93

Albert J. Leyba
1301 North 800 West
West Bountiful, UT 84087
Date: 2/7/93

Rulon Liddell
900 North 891 West
Provo, UT
Date: 1/30/93

Robert Malloy
7315 West 3100 South
Magna, UT 84044
Date: 2/6/93

Lee Marshall
1600 West Russet Avenue
West Valley City, UT
Date: 2/7/93

Wes Monroe
5254 South Westside Drive
Kearns, UT 84118
Date: 2/6/93

Robert L. Morgan
1280 Serpentine Way
Sandy, UT 84092
Date: 1/28/93

10

David Mower
Address 3336 West 7675 South
West Jordan, UT
Date: 11/17/92

Jerry Murdock
3639 Alabama
West Jordan, UT
Date: 11/17/92

James Neilson
665 West State Street
Lehi, UT 84043
Date: ?

Donald Osness
3390 South 7540 West
Magna, UT 84044
Date: 2/5/93

J. Pasillas/K. Romero
8188 West Westbury Drive
Magna, UT 84044
Date: 2/6/93

P. Patterson
1001 North Main
North Salt Lake, UT 84054
Date: 1/28/93

? Patterson
868 North 75 East
Orem, UT
Date: 1/28/93

Finai Paula
1751 South West Temple
Salt Lake City, UT 84101
Date: 1/27/92

not enough info to process

Ralph L. Pollei
1424 East 3150 South
Salt Lake City, UT
Date: 2/6/93

Dan Prescott
12687 South 2230 West
Riverton, UT 84065
Date: 12/26/92

J.S. Price
329 North 400 East
Lindon, UT 84042
Date: 2/8/93
(garage)

Warren Raines
4925 West Niagra Way
Kearns, UT 84118
Date: 2/6/93

Lyle Robinson
9870 South Segolily Drive
Sandy, UT
Date: 2/5/93

David J. Rose
13289 South 1830 West
Riverton, UT 84065
Date: 12/26/92

Gene Rowe
790 Gentile
Layton, UT 84041
Date: 2/7/93

Winford Rowley
30 North 200 East
Springville, UT 84663
Date: 1/28/93

Don Rozema
13533 South 2290 West
Riverton, UT 84065
Date: 12/26/92

E.G. Shackelford
165 East 100 North
Bountiful, UT 84010
Date: 1/28/93

Arthur R. Shepherd
447 East 400 North
Lindon, UT 84042
Date: 2/8/93

Nico Snel
177 South 350 East
Orem, UT
Date: 1/27/93

not enough info to process

9

J. Stevenson
3508 West 12350 South
Riverton, UT 84065
Date: 2/6/93

Danny Still
12797 South 2230 West
Riverton, UT 84065
Date: 12/26/92

Randy Strong
776 East 800 South
Orem, UT
Date: 1/27/93

warning? not enough info to process

Bruce F. Syme
4881 Valley View Drive
West Valley City, UT 84120
Date: 1/28/93

Floyd Taylor
600 West 940 North
Pleasant Grove, UT 84062
Date: 2/8/93

Jed Titmus
800 West 1300 South
Woods Cross, UT 84087
Date: 2/6/93

Eric Tolman
363 East 550 North
Bountiful, UT 84010
Date: 1/29/93

Larry E. Turlve
3635 Alverson Drive
Bennion, UT
Date: 11/17/92

R.W. Tuttle
1802 West 13235 South
Riverton, UT 84065
Date: 1/28/93

? Wager
1312 West 1500 South
Woods Cross, UT 84087
Date: 2/7/93

Clinton E. Walke
2125 West 13520 South
Riverton, UT 84065
Date: 12/26/92

Gary S. Walker
4625 North Canyon Road
Provo, UT
Date: 1/29/93

David Warnock
1379 Celia Way
Layton, UT 84041
Date: 2/8/93

Scott Webb
7833 West 3100 South
Magna, UT 84044
Date: 2/5/93

Ronald B. Whiteley
45 West 1600 North
Orem, UT
Date: 1/29/93

Walter Windsor
8987 South 1030 West
West Jordan, UT
Date: 2/5/93

Guy Withers
6599 South 3710 West
West Jordan, UT 84088
Date: 12/26/92

J.D. Workman
982 South 700 West
Woods Cross, UT 84087
Date: 2/6/93

Jose Jesus Zanala
555 West 200 North
(no address on house, guessing)
Salt Lake City, UT
Date: 2/7/93

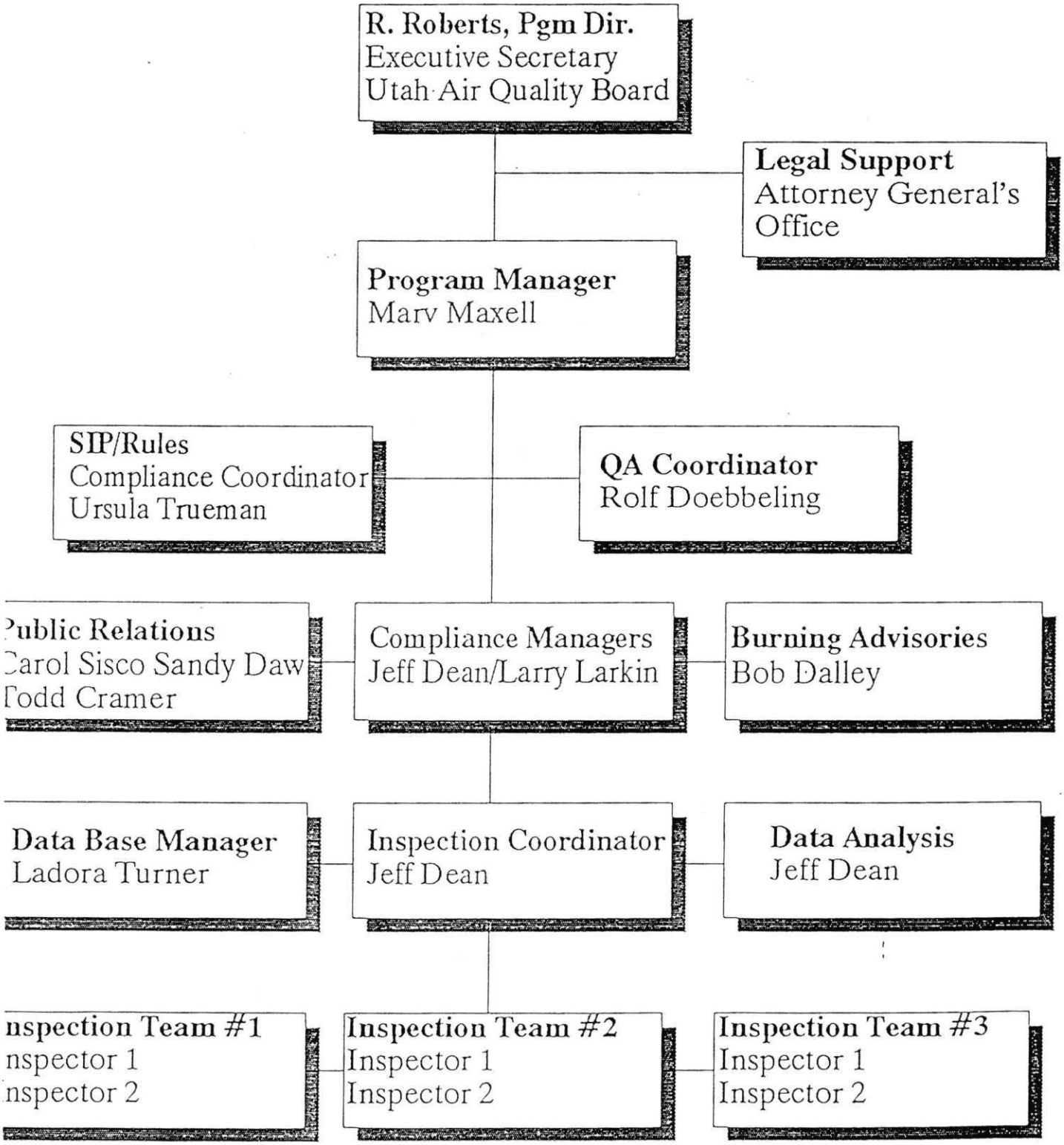
UTAH DIVISION OF AIR QUALITY

RESIDENTIAL SOLID FUEL BURNING COMPLIANCE STANDARD

OPERATING PROCEDURES

November 18, 1994

SOLID FUEL BURNING COMPLIANCE PROGRAM ORGANIZATIONAL CHART



INDEX

Page

Applicable Regulations 1

Program Organization 1

Exemption Policy 2

Exemption Processing 2

Ambient Monitoring Conditions And Issuing Burning Status for PM_{10} 3

PM_{10} Wood/Coal Burning Status Report 3

PM_{10} Wood/Coal Burning Criteria 4

Ambient Monitoring Conditions And Issuing Burning Status for CO 7

CO Wood/Coal Burning Status Report 7

CO Wood/Coal Burning Criteria 8

Procedure for Scheduling and Training of Patrol Personnel 10

Field Inspection Procedures for No-Smoke Patrols 11

After Inspections 14

Citation Follow Up 15

List of Attachments 15

Attachments 16

RESIDENTIAL SOLID FUEL BURNING COMPLIANCE STANDARD
OPERATING PROCEDURES

Applicable Regulations:

Section 4.12.3, 4.12.4, UACR
PM_{10} SIP for Utah and Salt Lake Counties
CO SIP for Provo and Orem City

Program Organization: (See Organizational Chart)

Program Director (Executive Secretary) or Designee: Declares beginning and end of advisory and no-burn conditions. Notifies DAQ staff and cooperating agencies. Issue citations and determine fines.

Attorney Generals Office: Provides legal counsel and represents DAQ in compliance action.

Program Manager: Manages and Coordinates all aspects of the solid fuel burning compliance program.

QA Coordinator: Writes and reviews procedures to assure compliance with rules and regulations. Evaluates the program for accuracy, completeness and consistency. Advises the program manager of program deficiencies.

SIP/Rules Compliance Coordinator: Assures that the compliance program is operated according to conditions specified in the Utah PM_{10}, CO SIP and Utah Air Conservation Rules.

Public Relations: Inform and educate the public and media. Issue press releases and initiate media contacts.

Compliance Managers: Initiate and resolve compliance action. Take complaints and information calls. Review sole source heating exemption requests and issue exemption letters.

PM_{10} Burning Advisories (AMC): Monitor Real time particulate monitor and clearing index. Recommend solid fuel burning advisory; burning allowed (green condition), voluntary no-burn (yellow condition), and mandatory no-burn (red condition). Recommend end of advisory/no-burn condition. Fax notice of advisory and no-burn beginning and send to the weather service and the media. Update phone message.

CO Burning Advisory (AMC): Continuous CO analyzers, clearing index, wind speed and frontal passage. Recommended solid fuel burning advisory; burning allowed (green condition), voluntary no-burn (yellow condition), and mandatory no-burn (red condition). Recommend end of advisory/no-burn condition. Fax notice of advisory and no-burn beginning to the weather service and the media. Update phone message.

Field Inspection Coordinator or Designee: Organizes and schedules field patrols. Collects inspection reports, assures the supply of materials needed in the field and provides guidance on how to conduct the inspections. Provides updated inspection information before each scheduled patrol.

Data Base Manager: Compiles tracks and updates all information received from the field patrols in DataEase. Provides updated inspection information to the inspection coordinator on a continuous basis.

Data Analysis: Perform compliance analysis based on inspection data to determine rule effectiveness.

Inspection Teams: Patrol areas assigned by the inspection coordinator. Patrol according to established field procedures. Investigate complaints and issue warnings. Record all pertinent information on inspection forms provided. Submit inspection reports to the inspection coordinator. Attend training and information sessions.

Local Health Departments, Other Cooperating Agencies: With MOU, other agencies perform inspections/patrol. Take complaint and information calls. Refer matters to DAQ for resolution, or promulgate own rules/regulations to enforce solid fuel burning requirements.

Note: Agencies cooperating on a voluntary basis are not included in the organizational chart.

Exemption Policy: Exemptions are allowed only if the solid fuel burning device is the sole source of heat in the home. Exemptions will not be allowed if an alternative heating system is installed but is not used for reasons such as its expense or its state of disrepair. Wood stoves fired during business hours in outbuildings where a business is operated are not subject to the rule. Temporary exemptions may be allowed for furnace repairs.

Exemption Processing: Persons applying for exemption should use the attached "solid fuel residential sole source heating certification" form. If the solid-fuel burning device is the sole source of heat in the residence, the Executive Secretary will approve an exemption. Exemptions must be renewed annually, by September 1.

OPERATIONAL PROCEDURES

Ambient Monitoring Conditions and Issuing Burning Status for PM_{10}:

Advisory period from November 1, through March 1.

The AMC will monitor the clearing index issued by the National Weather Service, and the 24-hour running PM_{10} concentrations reported from the AMC and Lindon stations by the Real-Time particulate monitor. AMC Real-Time particulate monitor readings will be the basis for announcing green, yellow, or red conditions in Salt Lake and Davis counties. Lindon Real-Time particulate monitor readings will be used for Utah County.

The initial wood/coal burning status report and updates will be made as follows:

1. On weekdays by 6:10 am and updated no later than 4:30 pm.

2. On weekends and holidays by 7:30 am and updated no later than 4:00 pm.

PM_{10} Wood/Coal Burning Status Report

Mornings:

1. Issue the morning wood/coal burning condition at 6:10 AM on weekdays and 7:30 AM on weekends and holidays so it can be included in the TV morning weather forecast. Those forecasts air around 6:17 AM on weekdays and weekday holidays and at 7:40 AM on weekends. The 7:30 weekend and holiday time is to accommodate the AMC staff who work those days and must issue morning and afternoon wood burning conditions during an eight hour shift.

2. Provide the information to the TV stations about 7 to 10 minutes early, since they require this amount of time to prepare graphics to indicate the wood burning conditions.

3. Evaluate the criteria listed below to determine if the wood/coal burning conditions are green, yellow or red.

4. After you determine the proper conditions, fax the information to the appropriate agencies and media.

5. State on the Air Pollution Index Hotline that the wood/coal burning conditions will remain in effect until the next scheduled update.

6. For proper transmittal, use the media key on the AMC fax machine to transmit the information.

7. Evaluate conditions during the day to determine if an update is needed earlier than 4:30 PM. The procedure for an earlier update is identical to the morning procedure.

8. All Department management and staff that requested notification should be sent an E-mail stating currently issued burn condition.

Afternoons:

1. Issue the weekday afternoon wood/coal burning conditions no later than 4:30 PM and holiday and weekends no later than 4:00 PM, so it can be included into the afternoon weather forecast.

2. Call the NWS at 3:50 PM to inquire if any change in the clearing index has occurred during the day which may require a change in the afternoon wood/coal burning forecast.

3. Evaluate the criteria listed below to determine if the wood/coal burning conditions are green, yellow or red.

4. Based on the evaluation, fax the afternoon wood burning conditions immediately to the TV stations and the news papers. (Use media key on the AMC fax machine.)

5. State that the wood/coal burning conditions will remain in effect until the next scheduled update the following morning.

PM_{10} Wood/Coal Burning Criteria:

" GREEN "

1. When none of the following conditions apply, the wood and coal burning conditions are "GREEN". From November 1st through March 1 the words; "The wood and coal burning condition for today is green. You may use wood and coal burning stoves and fireplaces. Please use them in a proper manner to reduce their smoke emissions.", should be included in the API.

" YELLOW "

2. When the Clearing Index is 300 or lower and the trend is little change or decreasing and the running 24 hour average PM_{10} concentration measured by the Real-Time particulate monitor in Salt Lake County or Utah County is between 100 $\mu g/m^3$ and 120 $\mu g/m^3$, issue a "YELLOW" condition for wood burning for that county. The "yellow" statement on the API form should be read. Yellow means that people should voluntarily not use their wood and coal burning stoves or fireplaces.

If the Real-Time particulate monitor number is not available for Salt Lake County use the AMC filter. If the Lindon Real-Time particulate monitor number is not available for Utah County during the weekdays we will have to get the filter. We may need to pick up the Lindon filter during critical periods. If the Real-Time particulate monitor number is not available on the weekends, compare the last 3 days trends for the AMC and Lindon Real-Time particulate monitor (this will work only if weather conditions have been the same). Also look at the clearing index trend to see if conditions have changed. If there is any question at all, go get the filter. If you cannot get the Lindon filter, base your decision on the comparison of AMC Real-Time particulate monitor and Lindon Real-Time particulate monitor and use the AMC Real-Time particulate monitor or filter to determine the wood burning status for Utah County.

When a "YELLOW" condition is issued it should be included as part of the API report to the National Weather Service. Russell Roberts, Ursula Trueman, Marv Maxell and all other Department management and staff that requested notification should be E-mailed the "YELLOW" condition. (On weekends or holidays call Russell Roberts. If you cannot contact him call Bob Dalley.) The news release issuing the "YELLOW" condition should be faxed to the media and the local health departments. (See attached fax sheet for list of media contacts.)

Cancel a "YELLOW" condition after it has been issued when the clearing index rises above 400 and the trend is little change or increasing and the running 24 hour average on the Real-Time particulate monitor drops below 100 $\mu g/m^3$.

When a "YELLOW" condition is canceled the API and the Hotline recording should be updated and the API should be faxed to the National Weather Service. Russell Roberts, Ursula Trueman, Marv Maxell and all other Department management and staff that requested notification should be E-mailed the "YELLOW" condition has been canceled. (On weekends or holidays call Russell Roberts. If you cannot contact him call Bob Dalley.) The news release canceling the "YELLOW" condition should be faxed to the media and the local health departments. (See attached fax sheet for list of media contacts.)

" RED "

3. When the Clearing Index is 300 or lower and the trend is little change or decreasing and the running 24 hour average PM_{10} concentration measured by the Real-Time particulate monitor in Salt Lake County or Utah County is 120 $\mu g/m^3$ or greater, issue a "RED" condition for wood and coal burning for that county. The "RED" statement on the API form should be read. Red means that restricted burning is in effect for that county. Wood and coal burning stoves or fireplaces must not be used unless they produce absolutely no smoke or they are registered with the county health department or the Division of Air Quality as the sole source of heat for the residence. Vehicle use should be reduced by consolidating trips and industry should optimize operating conditions to minimize air pollution emissions.

If the Real-Time particulate monitor number is not available for Salt Lake County use the AMC filter. If the Lindon Real-Time particulate monitor number is not available for Utah County during the weekdays we will have to get the filter. We may need to pick up the Lindon filter during critical periods. If the Real-Time particulate monitor number is not available on the weekends, compare the last 3 days trends for AMC and Lindon Real-Time particulate monitor (this will work only if the weather conditions have been the same). Also look at the clearing index trend to determine if conditions have changed. If there is any question at all, go get the filter. If you cannot get the Lindon filter, base your decision on the comparison of AMC Real-Time particulate monitor and Lindon Real-Time particulate monitor and use the AMC Real-Time particulate monitor or filter to determine the wood burning status for Utah County.

When a "RED" condition is issued it should be included as part of the API report to the National Weather Service. Russell Roberts, Ursula Trueman, Marv Maxell and all other Department management and staff that requested notification should be E-mailed the "RED" condition. (On weekends or holidays call Russell Roberts and Carol Sisco. If you cannot contact them call Bob Dalley.) The news release issuing the "RED" condition should be faxed to the media and the local health departments. (See attached fax sheet for list of media contacts)

Cancel a "RED" condition after it has been issued when the clearing index rises above 400 and the trend is increasing and the running 24 hour average on the Real-Time particulate monitor drops below 120 $\mu g/m^3$.

When a "RED" condition is canceled the API and the Hotline recording should be updated and the API should be faxed to the National Weather Service. Russell Roberts, Ursula Trueman, Marv Maxell and all other Department management and staff that requested notification should be E-mailed the "RED" condition has been canceled. (On weekends and holidays call Russell Roberts and Carol Sisco. If you cannot contact them call Bob Dalley.) The news release canceling the "RED" condition should be faxed to the media and the local health departments. (See attached fax sheet for list of media contacts)

Ambient Monitoring Conditions and Issuing Burning Status for CO:

Advisory Period from November 1, through March 1.

The AMC will monitor the clearing index and frontal passage information issued by the National Weather Service, the 8-hour running average CO concentrations reported by continuous CO analyzers from the University Ave., North Provo, and South Orem stations, and wind speed from the North Provo station. The information received will be the basis for deciding if a green, yellow, or red condition for Provo-Orem City will be issued.

The initial solid fuel burning status report and updates will be made during the following times:

1. On weekdays, weekends and holidays the initial status report no later than 3:30 pm and updated no later than 3:30 pm the following day. However, if an inversion is in progress, an advisory must be issued any time during working hours if the running 8 hour CO averages and the meteorological conditions indicate a yellow or red condition, and updated no later than 3:30 pm that day and 3:30 pm each day thereafter.

2. More frequent updates will be made if drastic changes in meteorological conditions do occur.

CO Wood/Coal Burning Status Report

Initiating an advisory during working hours:

1. Review the current 8-Hour running CO average from the University Avenue, North Provo and South Orem Stations at least 4 times during working hours each day: 6:00 am auto poll (7:30 am on weekends and holidays), 11:00 am auto poll, 1:00 pm auto poll and 3:00 pm auto poll.

2. Evaluate the mornings meteorological conditions based on National Weather Service and North Provo meteorological information.

3. Issue an advisory for Provo-Orem city if the criteria for yellow or red listed below are met. If the condition are not met the condition remains green.

4. To inform the interested parties of a green, yellow or red condition use the PM10 notification and API procedure, however, they must be tailored for CO and Provo-Orem City.

5. Do not update the no burn conditions until the following afternoon at 3:30 pm unless a storm has occurred the previous night and is predicted to continue during the day which will warrant the lifting of a previous day advisory. Normally,

however, restate in the morning API the previous afternoons condition.

Afternoons:

1. Issue the weekday, weekend, and holiday solid fuel burning conditions no later than 3:30 pm, so it can be included in the afternoon weather forecast.

2. Evaluate the criteria for CO listed below to determine if the solid fuel burning conditions are green, yellow, or red.

3. To inform the interested parties of a green, yellow or red condition use the PM10 notification and API procedure, however, they must be tailored for CO and Provo-Orem City.

4. State that the solid fuel burning conditions will remain in effect until the next scheduled update the following afternoon or meteorological conditions change significantly.

CO Wood/Coal Burning Criteria:

" GREEN "

1. When none of the conditions listed for yellow or red apply the solid fuel burning conditions are "GREEN". During "Green" periods you may use the following language for the API statement: "The wood and coal burning condition for today is green. You may use wood and coal burning stoves and fireplaces. Please use them in a proper manner to reduce their smoke emissions.".

"YELLOW"

2. A "YELLOW" condition must be issued if the running 8-hour average CO concentration at either University Ave., North Provo, or South Orem station reaches at 3:00 pm a value of 5 ppm or more, the clearing index is 250 or less, the forecasted wind speeds at the North Provo station are 3 miles per hour or less, and no change in meteorological conditions are expected.

   Cancel a "YELLOW" condition if at 3:00 pm the following day the CO concentrations for the running 8-hour average are below 5 ppm and the clearing index is above 250 or at any time a storm front is in the area.

" RED "

3. A "RED" condition must be issued if the running 8-hour average CO concentration at the University Ave., North Provo, or South Orem station reaches at 3:00 pm a value of 6 ppm or more. In addition a "RED" condition may be issued under the following conditions:

a. The National Weather Service clearing index value is 250 or less in the afternoon.

b. Forecasted wind speeds at the North Provo station are 3 miles per hour or less.

c. Arrival of a strong high pressure system after the passage of a vigorous cold front.

If CO concentrations are not available from either of the three monitoring sites use the meteorological conditions in a, b, and c to determine the need for issuing a no-burn advisory.

Cancel a "RED" condition if at 3:00 pm the following day the CO concentrations are below 6 ppm and none of the meteorological conditions in a, b or c are predicted to occur for the next 24 hours.

Procedures for Scheduling and Training of Patrol Personnel

A. No-Smoke Patrol Training and Meetings:

All personnel participating in enforcement patrols must attend initial training, which will cover inspection procedures, scheduling of patrols, differentiating between wood smoke and steam, and emergency procedures. Enforcement personnel must also attend periodic information and training sessions during the smoke patrol season.

B. **Scheduling and Notifying No-Smoke Patrol Personnel:**

The inspection coordinator will coordinate scheduling and dispatching patrols.

A schedule will be available for inspectors, listing assignments for **AM** and **PM** hours. Each inspector will have a copy of the schedule, covering the period from November 1 to March 1 for PM_{10}, and CO. Anyone unable to patrol on the assigned day is responsible for finding a replacement and for informing the coordinator of the change. The coordinator will only find a replacement in case of an emergency. A computer program will allow the inspection coordinator to send each team to a specified patrol area, without duplication.

The patrol personnel will be notified of a **RED DAY** in the following manner:

1. On Week Days

   a. **AM shift** personnel required to go on the morning patrol will be notified the night before.

   b. **PM shift** personnel required to go on the afternoon or evening PM_{10} patrol will be notified on the morning of that day. PM shifts for CO patrols will be on call.

   c. Personnel assigned to the **AM shift** will meet at the office 1/2 hour before going out on patrol to make sure that all needed equipment is available and in good working order. The inspection coordinator will not be at the office before the AM shift goes out on patrol.

   d. Personnel assigned to the **PM shift** will meet at the inspection coordinators office 1/2 hour before their shift begins for a briefing on what happened on the previous shift, an equipment check, and for any special instructions that may be needed.

2. On Weekends and Holidays

a. The coordinator will call the inspectors at home or any other place prior agreed upon to let them know that they will be required to go out on patrol.

b. Inspectors will meet at the Office of the Division of Air Quality 1/2 hour before going out on patrol to make sure that all needed equipment is available and in good working order. The inspection coordinator will not be at the office on weekends or holidays.

Field Inspection Procedures for No-Burn Smoke Patrols:

The purpose of this procedure is to inform the smoke patrol staff on how to conduct safe, effective and legally defensible field inspections during no-burn (red) periods.

Equipment Needed:

Inspection procedure

Inspection report form

State motor pool vehicle

Utah Department of Environmental Quality Inspectors identification card

Phone number of nearest relatives in case of an emergency

Local law enforcement phone numbers

Cellular phone

Cole and phone directory for the area

List of residences exempted from no-burn because of sole source of heat

List of residences that have been issued warnings

Citation forms

Packets for violators containing the following:

1. Wood burning booklet
2. Wood burning fact sheet
3. Pollution prevention fact sheet

Spotlight and flashlight, including spare batteries

Map of city streets for the area

The coordinator will have the above equipment available for the enforcement personnel.

Field Inspection:

1. Inspectors will be on patrol during no-burn periods according to a schedule coordinated by the inspection coordinator.

2. Inspections will be done in three shifts and focus on the time from 7:00 to 11:00 am, 12:00 to 4:00 PM, and 4:00 to 8:00 pm. Complaints and sole source investigations will be done mostly by the 12:00 to 4:00 PM shift and otherwise during normal working hours.

3. Two inspectors will travel in each car on patrol. If you desire to be paired with the same sex, please inform the inspection coordinator.

4. Prior to entering the assigned patrol area, the inspector will call the local law enforcement agency providing the following information:

   a. Name of inspectors
   b. Purpose for being in the area
   c. General area to be inspected
   d. Vehicle make and color
   e. License plate number
   f. Mobile phone number

5. The inspectors will look for visible smoke emissions from chimneys and flues. At night, a spotlight will be used to spot smoke only if necessary. Please be aware that often you can smell wood and coal smoke before you can see it.

6. The inspector must be able to distinguish solid fuel smoke from natural gas water vapor.

7. If solid fuel smoke is seen, the inspector, must check the list of registered sole source (exempt) residences and the list of residences where warnings or citations have already been issued to and proceed as follows:

If the residence is not exempt ~~and no warning has previously been issued,~~

a. Try to call the residence with the mobile phone.

b. If at home, require the occupants to let the fire burn out and ask for permission to leave ~~a warning form and~~ a wood/coal burning information packet on the door knob. If permission is denied, make sure the material is mailed to the resident the following day. **If you decide to make face-to- face contact with the resident, base your decision on a common sense approach. Avoid conflict at any cost.**

c. If the occupants are not at home, leave the material on the door knob or any other conspicuous place if access to the door is prevented by a fence, dog or other circumstances. **Never take any unnecessary risks,** if necessary mail the packet the following day.

If the records show that the residence is not exempt and a warning or NOV (citation) **has previously been issued,**

a. Attempt to call the residence with the mobile phone to inform the occupants of the violation and ask them to let the fire burn out. **Try to avoid face-to-face contact with a second time offender unless invited to do so.**

b. If possible leave a note on property, notifying the occupants that a citation will be issued and mailed to them within the next few days.

<u>CAUTION:</u>
After dark, the inspector should never enter private property or try to contact the resident face-to-face. Place the information packet and warning form as close to the building entrance as possible or leave it at the property line. If necessary, mail packet the next day.

8. While in the field, the inspector must shade in the inspected area on the street map attached to the inspection summary report form.

9. During the week, while in the field, the inspector should periodically phone the main office to inquire if any complaints have been received from his/her assigned area. If a complaint has been received, the inspector should address the problem while in the area.

Field Inspection Form:

Record on the field inspection form the following information:

- Inspectors name.
- Date and time of the violation.
- The resident's name, (if known by contact or from the Cole or phone directory).
- Residents address, including city or town, zip code and phone number.
- If prior violations or warnings were issued.
- If and where a packet ~~and warning form~~ or a citation notice was left on property.
- If and how the resident was contacted and informed that a citation ~~or warning~~ was issued.
- Residents response during contact.
- Other pertinent information.

Note: Do not issue a citation to the occupant while in the field.

After Inspection:

1. On returning to the office, the inspector will fill out a **Inspection Summery Report Form** including the following information:

   - Date of inspection.
   - Time spend in the field.
   - Name of inspectors.
   - Areas to be inspected.
   - Areas actually inspected.
   - Street maps with areas that have been inspected, shaded in.
   - Number of violations observed.
   - Number of sole source exemptions for the area inspected.
   - Number of repeat offenders in the area inspected.
   - Number of wood burning information packets, warning forms and citation notices left for violators.
   - Unpleasant encounters with the public.

2. The inspector will ensure that all completed inspection and inspection summary forms are given to the inspection coordinator for entry into the tracking system. The inspection coordinator or his/her designee must verify the next day with a phone call that each packet, warning form or citation notice left on property without notifying the resident was received. If the resident did not receive the packet, the inspection coordinator will arrange that one will be send by mail the following day.

Citation Follow Up:

1. All citations must be submitted to the inspection coordinator for processing and a copy to the Compliance Section manager.

2. The inspection coordinator will check for the number of previous violations at the residence. The name of the owner of the residence if the occupants name is unknown may be obtained from the county recorder. The inspection coordinator with the approval of the compliance manager will send the citation, with the appropriate fine (first, second, third violation, or more) indicated, to the owner or resident. Copies will be sent to the local health department, AGO, and EPA.

3. After the resident has received a warning or citation, the residence will be re-inspected during the next day when a red/no-burn condition is in effect.

4. Response to compliance actions will be tracked. If the resident has not responded within 30 days, a second citation will be issued. If the resident does not respond to the second citation, the case will be considered for referral to the attorney general's office. Cooperating agencies will only fill out complaint forms, since they do not have the authority to sign and issue DA's citation letter.

Attachments:

- Section 4.12.3, and 4.12.4, UACR
- PM_{10} SIP section IX.A.6.d
- CO SIP section IX, part C
- Citation Form
- Solid Fuel Residential Sole Source Heating Certification
- Solid Fuel Burning Information Packet
- Inspection Report Form
- Inspection Summary Report Form
- Example Street Map
- Fax List

ATTACHMENTS

IX.A.6.d. Solid Fuel Burning Devices:

Solid Fuel Burning Devices contribute a significant proportion to the PM_{10} concentrations in Davis, Salt Lake, and Utah Counties.

In 1987 the UACC adopted Subsection r307-1-4.13, UACR, Emissions Standards for Residential Solid Fuel Burners and Fireplaces, which established a limitation on the sulfur and volatile ash content of coal sold for direct space heating for residential solid fuel burners and fireplaces, and limited the emissions from these devices to 40% opacity as measured by EPA Method 9. As part of the development process of this SIP, the maximum opacity was changed to 20%. Although no credit will be claimed for these control strategies, its enforcement can help insure the proper operation of solid fuel burning devices.

The Bureau of Air Quality is proposing the initiation of a program beginning September 1, 1992, to control emissions from residential solid fuel burning devices which is detailed below. The BAQ will collect the data necessary to verify the effectivness of the program, and begin its information, public awareness, and public education programs before the program takes effect in 1992. The period from the promulgation of the program until the winter of 1992/1993 will also allow the BAQ the opportunity to implement and verify the proper functioning of the notification system that will be established and examine the potential of using a voluntary no-burn period to achieve the reductions in woodburning emissions required to meet the goals of this SIP. This interim period will also allow citizens who will be affected by the mandatory no-burn periods time to adjust their home heating requirements. Also, residents with sole source devices will be requested to certify these as such with the Executive Secretary or the appropriate local district health office.

(1) Emissions from wood burning devices account for 35.7 $\mu g/m^3$, which is equivalent to 13.5% of the PM_{10} concentrations at West Orem in Utah County. The following control strategies will be used to reduce emissions from wood burning devices in Utah County:

(a) Subsection R307-1-4.13.3, UACR establishes mandatory no burn periods (beginning September 1, 1992) for areas in Utah County which are north of the southernmost border of Payson City and east of State Route 68. The regulation establishes a mandatory no burn period when the ambient concentration of PM_{10} reaches 120 $\mu g/m^3$ as measured by the real-time monitor located at the Lindon monitoring site. During the mandatory no-burn period, citizens may not use any solid fuel burning devices or fireplaces except those which are registered with the Bureau of Air Quality or the local health district office as being the sole source of heat for the entire residence or which have no visible emissions. The no-burn period will be in effect until the Executive Secretary issues a statement declaring an end to the no-burn period.

(b) The City County Health Department of Utah County has committed itself to adopt local regulations which mirror those which are promulgated with this plan. The Board of County Commissioners of Utah County has adopted a resolution which supports the implementation of a woodburning control program in Utah County, and a copy of that resolution is contained in the technical support document. The regulations adopted by the City-County Health Department of Utah County will be formally adopted into this SIP after they have been formally submitted to the UACC.

(c) The Utah County Commission on Clean Air has submitted a plan which is incorportated by reference into this SIP and is contained in the Technical Support Document, and which proposes the following programs be established by appropriate local government agencies in Utah County:

(i) Banning of Coal Burning.

The county proposes a ban on all forms of residential coal burning within the County. This could result in a further decrease of 30%, or an additional 0.4 $\mu g/m^3$.

(ii) Installer and operator training programs for residential solid fuel burning devices.

A 5% reduction credit for this program is included in the "no-burn" period program.

(iii) Solid fuel burner inspection program.

A 5% reduction credit for this program is included in the "no-burn" period program.

(iv) Weatherization Requirements for Homes.

Allowable EPA credits for the implementation of requirements regarding the proper weatherization of homes has a maximum reduction of 5 percent. The state is claiming a 2% reduction in space heating emissions.

(v) All of the above strategies (a)-(d) are used as support for the adoption of the solid fuel burning device control strategy, and are used to justify the 60% emission reduction credit claimed in this SIP.

(2) Primary particulate emissions from solid fuel burning devices in the Salt Lake/Davis County area account for up to 27.0$\mu g/m^3$, which is equivalent to 16.03% of the PM_{10} concentrations in this area. The following control strategies will be used to reduce emissions from wood burning devices in the Salt Lake nonattainment area:

(a) Subsection R307-1-4.13.3, UACR, establishes mandatory no burn periods for all of Salt Lake County and for areas in Davis County which are south of the southern-most border of Kaysville when the ambient concentration of PM_{10} reaches 120 $\mu g/m^3$ and the forecasted weather includes a temperature inversion which is predicted to continue for at least 24 hours. During these mandatory no burn periods, it will be unlawful for individuals to use any solid fuel burning device or fireplaces except those which are registered with the Bureau of Air Quality or the local health district office as being the sole source of heat for the entire residence or devices and fireplaces having no visible emissions.

(b) Rules adopted by the Salt Lake City-County Board of Health and Davis County Board of Health which incorporate the regulations adopted by the State will be included into this SIP when they have been received from the county.

(3) The following control strategies will be implemented to reduce emissions from residential solid fuel burning devices in all PM_{10} nonattainment areas:

(a) Enforcement of the mandatory no burn period will involve an intensive effort from both the Bureau of Air Quality and the local health departments. During the mandatory no burn periods, 8 inspectors from the BAQ will conduct round-the-clock inspections. When a device or fireplace is observed burning, the inspectors may at reasonable times contact the individuals and inform them of the potential violation. The individuals using the fireplace or device may also be informed at that time of the BAQ penalty policy. The inspector will note the address of the observed burning devices or fireplaces. The following day the inspector will determine if the individuals who were burning the previous night are first time or repeat offenders and as soon as possible (within 24 hours), the inspector will implement the provisions of the penalty policy.

(b) The enforcement will also include the investigation of calls received at either the BAQ or the local health department. After a call is received, an inspector will visit the address of the suspected offender and verify if there is actually a violation of the mandatory no burn period. The individual will be contacted and notified of the possibility of penalties. The inspector will return to the office and determine if the individual is a first time or repeat offender and the inspector will implement the provisions of the penalty policy.

(c) Because the Bureau of Air Quality will have the primary responsibility to notify the public of the existence of a mandatory no burn period, the Bureau will reach an agreement by July 1, 1992 with the various news media to ensure that the public is informed of the mandatory no burn periods. A discussion of the media cooperation effort will be included in the technical support document when it is completed.

(d) To provide for a coordinated enforcement mechanism for the provisions of the mandatory no burn period, the Bureau will negotiate enforcement agreements by May 15, 1992, with the offices of the respective county sheriffs, the county fire marshals, the local fire departments, the local law enforcement agencies of each incorporated municipality, and the local city, county or district health departments.

(e) To strengthen the enforcement capabilities of the local health officers and alleviate any additional burden which penalization of those found in violation of the local county ordinances may have on the court system, the BAQ will work in cooperation with the local health officials to seek a statutory change to allow the assessment and collection of administrative penalties by the local health departments for woodburning violations.

(f) The implementation of the mandatory no burn period in Salt Lake County and the affected areas of Davis and Utah Counties by the BAQ and the local health department will result in a 60% decrease in emissions from wood burning devices.

(g) Beginning in the spring of 1992, the BAQ will concentrate on the development of a public awareness (PA) program. The program will be geared towards informing the public of the wood burning regulations, the proper installation and operation of solid fuel burning devices, the use of clean fuels, the health effects of wood burning, and the advantages of using a EPA Phase II certified stoves or natural gas. This PA program will be accomplished by using pamphlets, seminars, a booth at the State Fair, and having public discussions on the television and in the newspapers.

(h) The penalty policy which was adopted by the UACC in R446-4 of the Utah Air Conservation Regulations is used by the Executive Secretary to determine penalty amounts to be placed on air pollution sources for violations of the UACR. Category D. of this policy allows for up to $299 to be assessed against private citizens for non-compliance to the UACR, including the wood burning regulations.

The following guidelines will be followed for violations and penalty amounts:

Violation	Penalty/Violation
(i) First Violation	Assess Penalty $0 -$25 Issue a NOV
(ii) Second Violation	Assess Penalty $50 - $150 Issue a NOV
(iii) Third Violation	Assess Penalty $150 - $299 Issue NOV

Sites found with solid fuel burning devices and fireplaces operating illegally during a mandatory no-burn period will be reinspected within 24 hours and issued another notice of violation (NOV), if still not in compliance.

(4) Emissions from coal burning stoves can be significant. For example, they account for 0.6% or 1.4 $\mu g/m^3$ of the PM_{10} impact at the Lindon monitoring station. The mandatory no burn period will also preclude the use of coal burning stoves unless they are the sole source of heat, and after 1993, the use of coal stoves will be precluded unless they are able to operate with no visible emissions. The mandatory no burn will result in a 50% reduction of the emissions from coal burning stoves, or 0.7 $\mu g/m^3$.

IX.A.6.e. PROVO CANYON CLOSURE TO TRUCK TRAFFIC

The Utah Department of Transportation (UDOT) is in the process of upgrading the Provo Canyon road into a four lane highway. The Provo Canyon Coalition is advocating that all non-destinational heavy duty truck traffic be banned from Provo Canyon. The coalition hired TRC Consultants to do a study of the situation. A copy of that study is contained in the Technical Support Document. Review of the study indicates that it is necessary to evaluate and consider this issue further before any action is taken by the UACC to recommend to the appropriate agency that they limit the use of the canyon by heavy duty diesel trucks. However, based on information currently available to the Committee, the Committee recommends that all non-destinational heavy duty truck which are on the interstate system should remain on the interstate system. The Committee also recommends at this time that the Utah Department of Transportation work with the Bureau of Air Quality to perform the necessary studies to determine the impact which heavy duty diesel truck traffic in Provo Canyon has on the air quality in Utah County and the impact which it would have were it moved to Salt Lake County.

IX.A.6.f. DIESEL INSPECTION AND MAINTENANCE PROGRAM

(1) BACKGROUND

(a) Davis, Salt Lake, and Utah counties for purposes of PM10 attainment are required to implement a Diesel Inspection and maintenance (I/M) Program consistent with the provisions of the PM10 SIP. The Davis, Salt Lake, and Utah county Diesel I/M ordinances will be included as appendices and will be part of the PM10-SIP. Utah county's draft I/M Program Ordinance is included now. The Salt Lake and Davis county

(c)Mandatory No-Burn Days (Woodstoves, Heaters, and Fireplaces)

The state performed an analysis of meteorological and monitoring data from past exceedances of the CO NAAQS to determine a basis on which to call no-burn days to control CO emissions from wood stoves. A discussion of that study is contained in the Technical Support Document. Based on the conclusions of that study, the following criteria will be followed to initiate a no-burn period to control CO emissions from woodburning beginning with the winter of 1994/1995.

If the running eight-hour average CO concentrations as monitored by the state reaches 5.0 or more a "YELLOW" (voluntary) condition for wood and coal burning will be called.

A "RED" (mandatory) no-burn condition will be called if during the woodburning period from November 1 through March 1 the running eight-hour average CO concentrations as monitored by the state at 4:00 PM reaches a value of 6.0 ppm or more.

A "RED" (mandatory) no-burn condition may be called when meterological conditions warrant. These conditions are as follows:

1) forecasted clearing index value of 250 or less;
2) forecasted wind speeds of 3 mph or less;
3) passage of a vigorous cold front through the Wasatch Front; or
4) arrival of a strong high pressure system into the area.

In addition to the conditions contained in (1) through (4) above, more reliance on forecasted meteorological conditions will be used which will require greater flexibility in initiating the no-burn period.

The no-burn requirement based on CO concentrations will be restricted to the actual area of non-attainment (i.e., Provo and Orem Cities). This is because CO is a very localized pollutant, and homes outside the non-attainment area probably will not have a significant impact on emissions at the hot spots. It will also be much easier to enforce a rule which is restricted to a smaller and much more populated area.

It is expected that this program would create as many as 25 to 30 "RED" periods during the winter season in Provo and Orem. Also, it is expected that as the state gains experience with implementation of the above listed criteria and further scientific study, further refinements to the process will be recommended for implementation. Also, because there is a possibility that having a no-burn period to control CO emissions may present new problems which the staff responsible for enforcing the rules have not encountered previously, the state may subsequently, through the SIP process, change this SIP and the implementing rules to reflect the experience gained during the first enforcement season.

The rules of the Air Quality Board have been changed to reflect the above program.

(d) Summary of Emissions Reductions

Figure IX.C.15 demonstrates the amount of control each of the above strategies will achieve on the control day at the control intersection as discussed in Section IX.C.6.k on page 57. This figure graphically demonstrates that, of the additional 5.1 ppm reduction required after application of all controls which were in place in 1990, or which the federal government will implement, the oxy-fuels program will result in the majority of the reduction (3.8 ppm), implementation of automotive

E. Subsequent emissions testing shall be conducted in accordance with subsection 3.4 of R307-1-3.

4.12 Emission Standards for Residential Solid Fuel Burning Devices and Fireplaces.

4.12.1 Limitation on the Sulfur and Volatile Ash Content of Coal Sold for Direct Space Heating for Residential Solid Fuel Burning Devices and Fireplaces.

A. After July 1, 1987, no person shall sell, distribute, use or make available for use any coal or coal containing fuel for direct space heating in residential solid fuel burning devices and fireplaces which exceeds the following limitations as measured by the American Society for Testing Materials Methods:

(1) 1.0 pound sulfur per million BTU's, and

(2) 12% volatile ash content.

B. Any person selling coal or coal containing fuel used for direct residential space heating within the State of Utah shall provide written documentation to the coal consumer of the sulfur and volatile ash content of the coal being purchased.

4.12.2 Limitation on the Opacity of Emissions from Residential Solid Fuel Burning Devices and Fireplaces.

A. Visible emissions from residential solid fuel burning devices and fireplaces shall be limited to a shade or density no darker than 20% opacity as measured by EPA Method 9, except for the following:

(1) An initial fifteen minute start up period, and

(2) A period of fifteen minutes in any three hour period in which emissions may exceed the 20% opacity limitation for refueling, and

(3) during the no-burn periods required by Section 4.12.3.C below.

4.12.3 No-Burn Periods

A. This Subsection 4.12.3 shall apply only in areas in Utah County which are north of the southernmost border of Payson City, and east of State Route 68, all of Salt Lake County, and areas in Davis County which are south of the southern-most border of Kaysville.

B. By September 1, 1992, all sole source residential solid fuel burning devices must be registered with the Executive Secretary or local health district office in order to be exempt during mandatory no-burn periods as detailed below.

C. After September 1, 1992, whenever the ambient concentration of PM10, as measured by the monitoring sites in Salt Lake, Davis, or Utah Counties reaches the level of 120 ug/cubic meter and the forecasted weather for the specific area includes a temperature inversion which is predicted to continue for at least 24 hours, the Executive Secretary will issue a public announcement and will distribute such announcement to the local media notifying the public that a mandatory no-burn period for residential solid fuel burning devices and fireplaces is in effect. The mandatory no-burn periods will only apply to those areas or counties impacting the real-time monitoring site registering the 120 ug/cubic meter concentration. Residents of Salt Lake County or the affected areas of Davis and Utah Counties shall not use residential solid fuel burning devices or fireplaces except those which are the sole source of heat for the entire residence and registered with the Executive Secretary or the local health district office or those having no visible emissions.

D. PM10 Contingency Plan. If the PM10 Contingency Plan described in Section IX, Part A, of the State Implementation Plan has been implemented, the following actions will be implemented immediately:

(1) The trigger level for no-burn periods as specified in R307-1-4.12.2.C will be 110 micrograms per cubic meter for that area where the PM10 Contingency Plan has been implemented; and

(2) In Salt Lake, Davis and Utah County nonattainment areas and in any other nonattainment area, it shall be unlawful to sell or install for use as a solid fuel burning device any used solid fuel burning device that is not approved by the Environmental Protection Agency.

4.12.4 No-Burn Periods (Carbon Monoxide)

A. This Subsection R307-1-4.12.4 shall apply only within the city limits of Provo and Orem in Utah County.

B. Beginning on November 1 and through March 1 in any years after 1993, the executive secretary will issue a public announcement and will distribute such announcement to the local media notifying the public that a mandatory no-burn period for residential solid fuel burning devices and fireplaces is in effect when the running eight-hour average carbon monoxide concentration as monitored by the state at 4:00 PM reaches a value of 6.0 ppm or more.

C. In addition to the conditions contained in R307-1-4.12.4.B, the executive secretary may use meteorological conditions to initiate a no-burn period. These conditions are:

(1) a national weather service forecasted clearing index value of 250 or less;

(2) forecasted wind speeds of three miles per hour or less; (3) passage of a vigorous cold front through the Wasatch Front; or

(4) arrival of a strong high pressure system into the area.

D. During the no-burn periods specified in R307-1-4.12.4.B and C, residents of Provo and Orem Cities shall not use residential solid fuel burning devices or fireplaces except those which are the sole source of heat for the entire residence and are registered with the executive secretary or the local health district office, or those having no visible emissions.

4.12.5 It shall be a violation of these rules for any person to operate a residential solid fuel burning device or fireplace during the mandatory no-burn periods except as stated in Subsections 4.12.3 or 4.12.4.

NO BURN VIOLATION REPORT FORM

Inspectors Names: _____ / _____	Todays Date: _____ Time: _____
Residents Name: (if known by contact or from the Cole or phone directory) _____	**Residents Address:** _____ Street _____ City Zip Code Phone #
Prior Warnings issued: (if any) No_____ Yes_____How Many_____	**Prior Citations issued:** No_____ Yes_____How many_____
How did you contact the resident to inform him that a warning or citation will be issued? Phone____Personal Contact____Mail___ Other____ If other, explain_____	**What was left on the property?** Packet / warning / citation notice (Circle all that applies) Where was it left?_____
Residents response during contact Positive/Negative/Neutral/Other If other, explain _____	Violation area: Microscale/complaint/problem area/sole source/other Red Day_____ 20% Opacity_____ Other Pertinent information: _____

NOTE: DO NOT ISSUE A CITATION TO THE OCCUPANT WHILE IN THE FIELD.

Violatio.Rpt

SOLE SOURCE EXEMPTIONS

You may use you wood stove or fireplace during no-burn days ONLY if it is registered with state or local health departments as the sole source of heat for your residence, or if it produces no visible emissions when in use.

What qualifies as a sole source of heat?
Any wood stove or fireplace that is used to heat your **entire** residence.

How do I register a sole source?
Obtain a sole source registration form from your state or local health department or the Division of Air Quality. Fill in the applicable information and mail (see attached example form).

Why do I need to register a sole source?
If you are burning during a mandatory no burn period and your wood stove has not been registered as a sole source, you may be penalized.

Can fireplaces be registered as sole sources?
Fireplace inserts which act as wood stoves may be registered as sole sources if they meet the criteria.

Does it cost anything to register a sole source?
No. The registration is cost free.

Will I need to register each year?
Yes. You must register with the Division of Air Quality or your state or local health department each year.

After registration, will someone come to my home?
Yes. An inspector from the Division of Air Quality will come to your home to ensure that the wood stove you are registering is the sole source of heat for the residence.

How do I make certain that my wood stove is the sole source of heat?
Sole source means that this is the only means of heating your entire residence. If you have questions, you may refer them to the Division of Air Quality or your state or local health department.

What else should I know?
Remember to use your wood stove or fireplace wisely. Burn small, hot fires. Burn only dry, well seasoned wood. Never burn green, wet or painted wood, trash or plastics. Watch for the RED, YELLOW, GREEN indicators on burning.

DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF AIR QUALITY

Norman H. Bangerter
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Director

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(801) 536-4000
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Reply to: State of Utah
Division of Air Quality
Department of Environmental Quality
Salt Lake City, Utah 84114-4820

DAQC-1137-92

SOLID FUEL RESIDENTIAL
SOLE SOURCE HEATING CERTIFICATION
4.13.3C UACR

Section 4.13.3C (UACR) Utah Air Conservation Rules allows the burning of solid fuel burning devices during no burn periods provided this is the sole source of heat for the entire residence and registered with the Executive Secretary or the local health office.

Please complete the following if you believe you qualify for this certification.

Print or type requested information.

NAME:

ADDRESS:

PHONE:

TYPE OF DWELLING: ☐ RESIDENTIAL ☐ MULTIPLE DWELLING

DO YOU HAVE NATURAL GAS SERVICE TO YOUR RESIDENCE? ☐ YES ☐ NO

DO YOU HAVE ANY TYPE OF ELECTRICAL HEATING APPLIANCES? ☐ YES ☐ NO

The information provided may be verified by an onsite inspection of my premises from the Division of Air Quality or local health office. I hereby certify that I use this solid fuel burning device as my sole source of heat for the entire residential dwelling.

YOUR SIGNATURE:_____ DATE _____

In order to process this exemption application, this form must be returned to the address on the letterhead. Any questions regarding this form may be directed to the Division of Air Quality at 536-4000.

NOTE: You must reapply for this certification each year, no later than September 1.

APPROVED	AGENCY	DATE

NO BURN INSPECTION SUMMARY REPORT FORM

Todays Date:_____

Time spent in the field. From:_____ To:_____

Inspectors Names:

_____/_____

Area assigned to be inspected:_____
(Only one area per form)

Area actually inspected:_____
(Only one area per form)

Was the area map shaded to show what was inspected?

Yes _____ No _____ If no, explain _____

Number of residential wood burning chimneys counted?_____
(Day time only)

Number of violations observed:_____

Number of sole source exemptions for the area: _____

Number of repeat offenders in the area:_____

Number of: woodburning information packets left _____
warning forms _____ citation notices _____

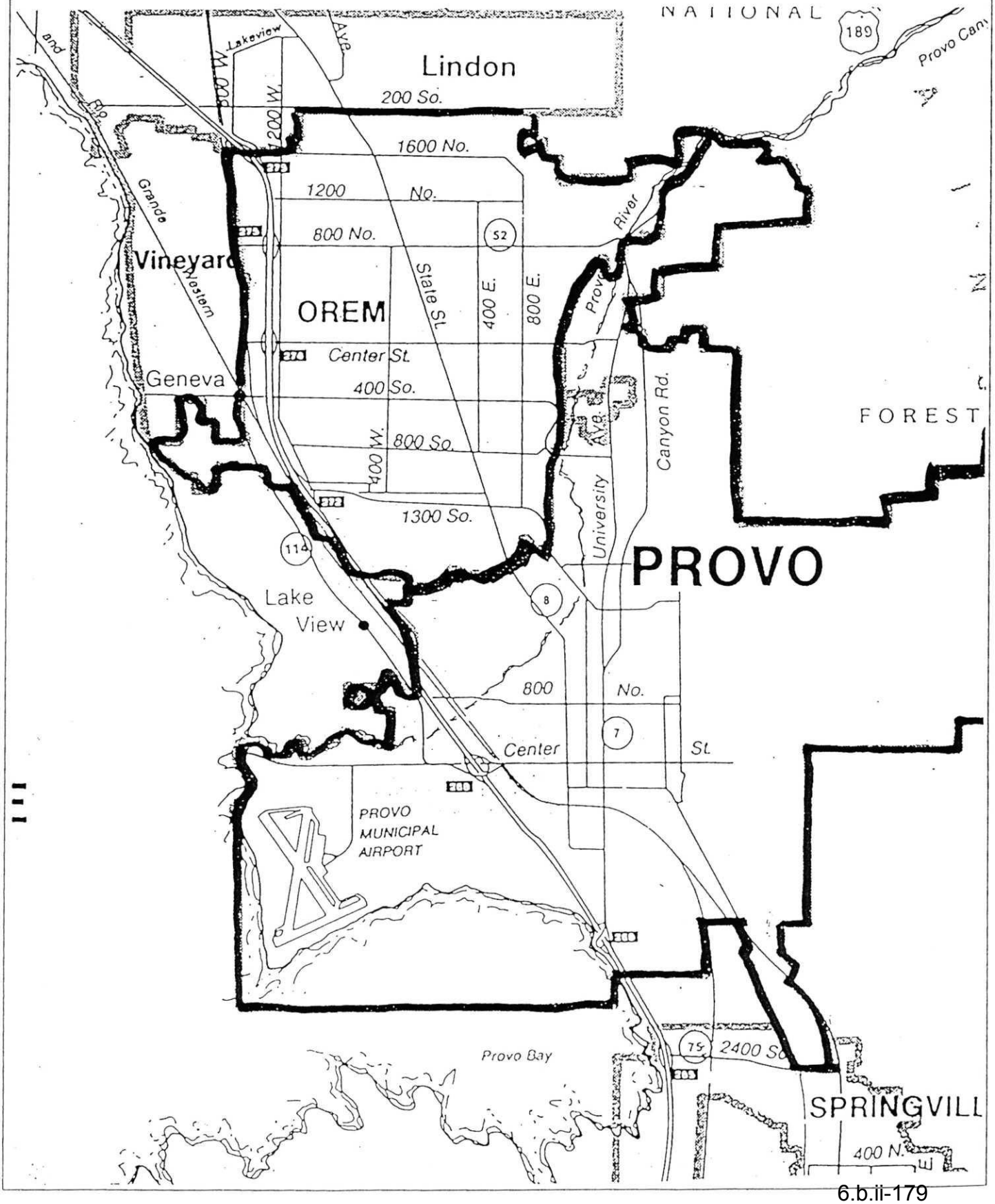
Was there any unpleasant encounters with the public?
Yes _____ No _____ If yes, explain _____

_____

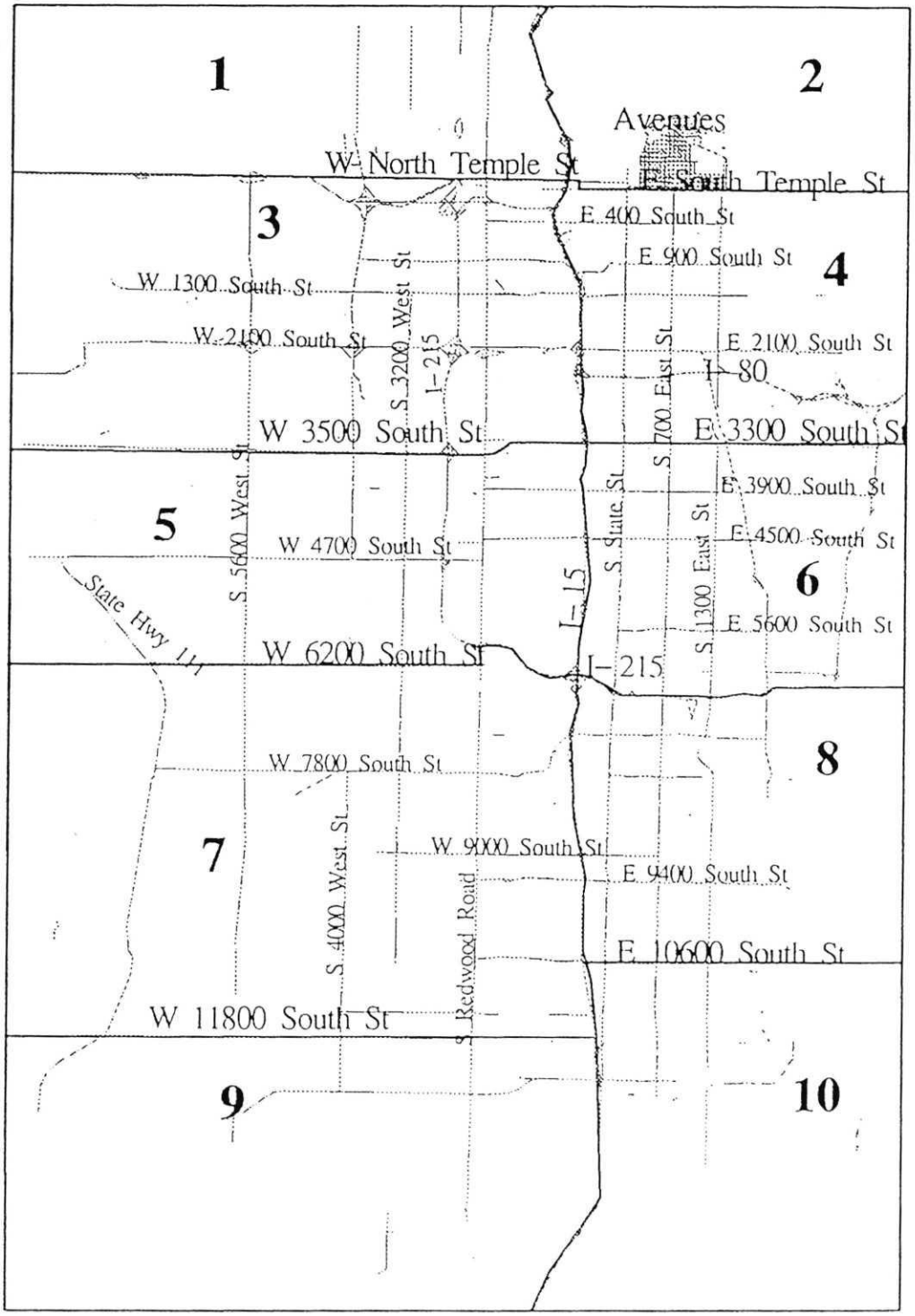
_____

Violatio.Rpt

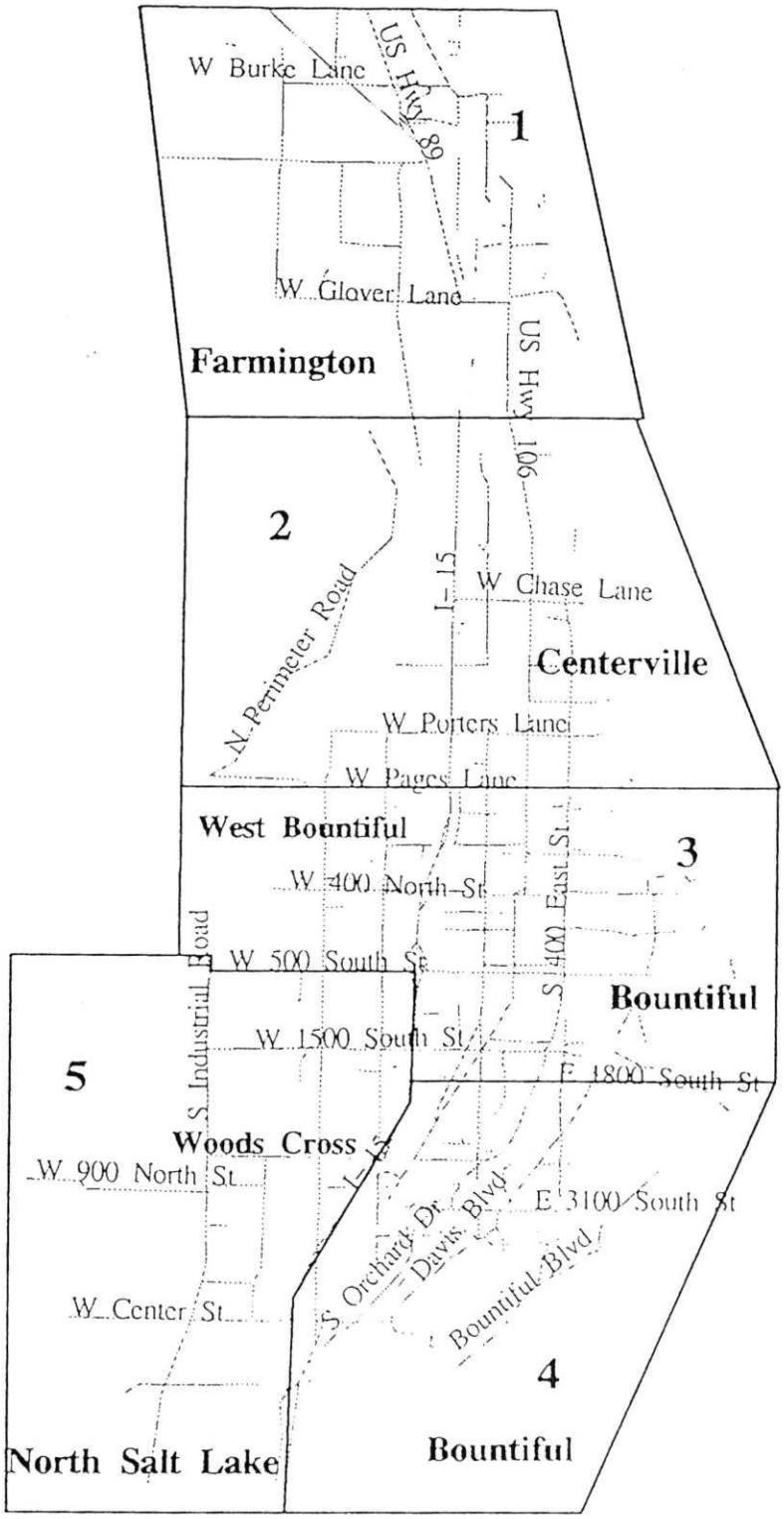
Provo - Orem CO Non Attainment Area
Smoke Patrol Zones



Salt Lake County PM 10 Non Attainment Area
Smoke Patrol Zones

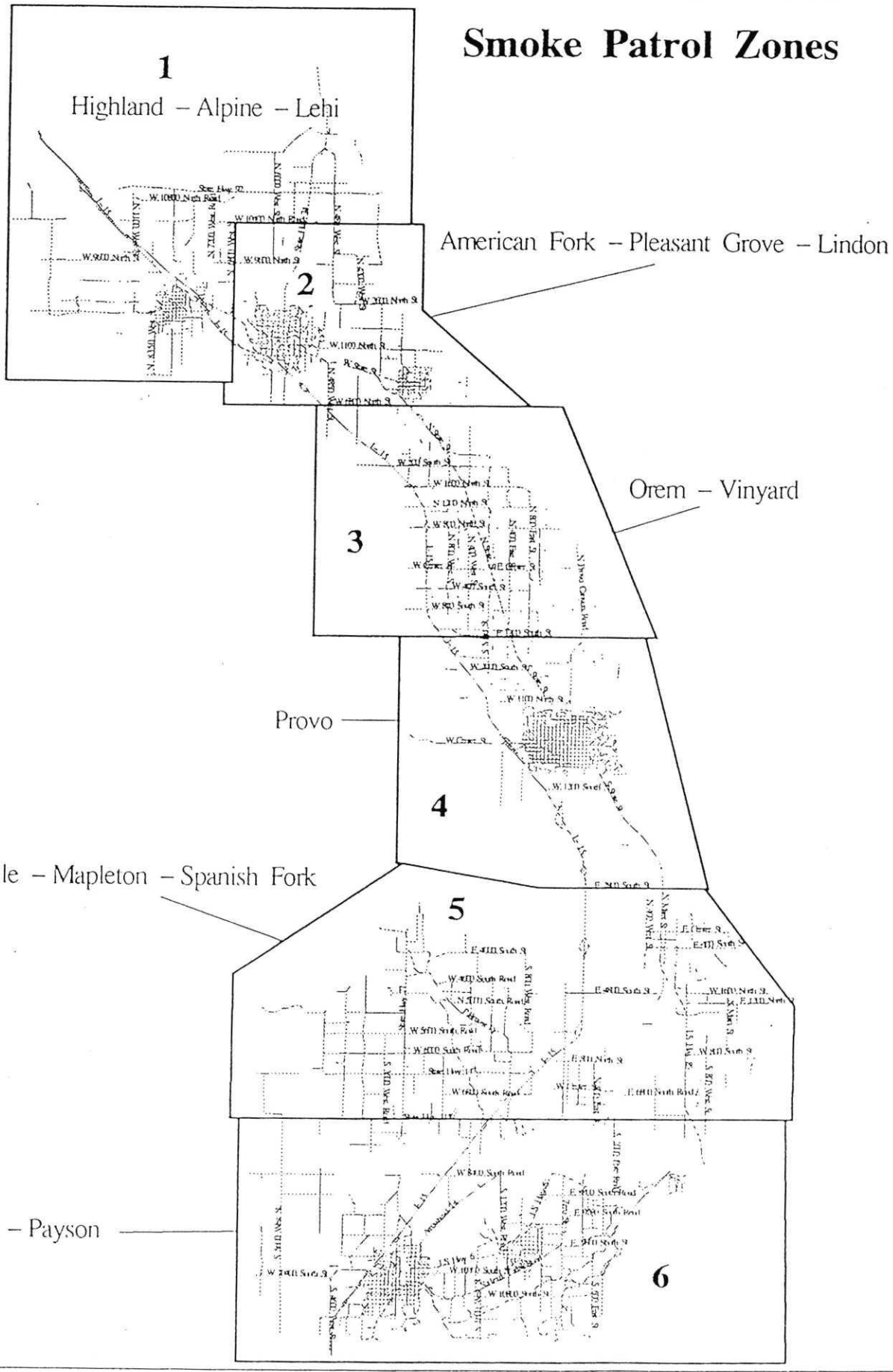


Davis County PM 10 Non Attainment Area
Smoke Patrol Zones



Utah County PM 10 Non Attainment Area

Smoke Patrol Zones



URGENT URGENT URGENT URGENT URGENT URGENT

TELECOPIER REQUEST

UTAH DIVISION OF AIR QUALITY
AIR MONITORING CENTER
STATE OF UTAH
SALT LAKE CITY, UTAH 84114-4821

TO:	DEQ	ATTN:	Carol Sisco
TO:	DAQ	ATTN:	Russell Roberts/Marv Maxell
TO:	KUTV 2	ATTN:	Craig Jenkins
TO:	KTVX 4	ATTN:	Weather Dept.
TO:	KSL 5	ATTN:	Weather Dept.
TO:	KBYU 11	ATTN:	Duane Roberts
TO:	KSTU 13	ATTN:	Weather Dept.
TO:	PROVO DAILY HERALD	ATTN:	Lyraine Jones
TO:	TRIBUNE	ATTN:	Terri Ellefsen/Randy Peterson
TO:	DESERET NEWS	ATTN:	Brent Israelson/Karen Greenwood
TO:	STANDARD EXAMINER	ATTN:	Michael Goodwin
TO:	KEYY	ATTN:	Weather Dept.
TO:	KVRI	ATTN:	Weather Dept.

SUBJECT: Air Pollution Index Report

AIR MONITORING CENTER (location)
261 West 500 South
Salt Lake City, Utah

FROM: Air Monitoring Center PHONE #: (801) 322-9900

FAX #: (801) 533-5509

Air is a vital part of man's daily struggle for survival. Man can live several days without food, a few days without water, but only precious minutes without air. By monitoring his environment, man has the knowledge to protect the air and his destiny.

Bryce 967-0549

Smoke Central

533-7239

→ our recording

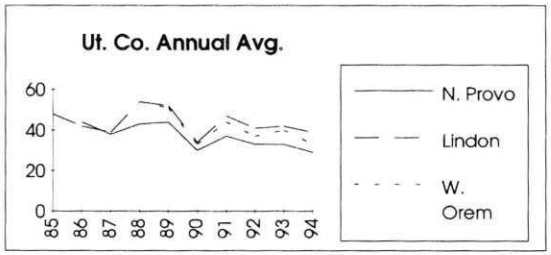
1081 N. Buccaneer Dr.
1160 W.

APPENDIX B

Monitoring Data

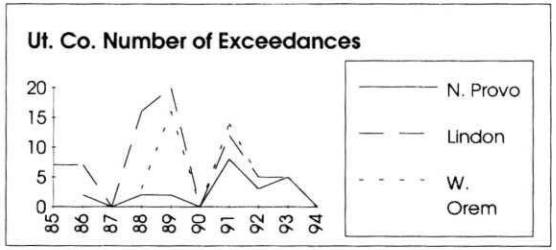
Annual Average (ug/m3)

	85	86	87	88	89	90	91	92	93	94
N. Provo		44	38	43	44	30	37	33	33	29
Lindon	48	42	39	54	52	34	47	41	42	39
W. Orem				54	51	33	44	37	40	33



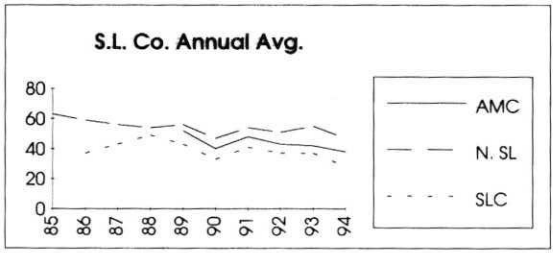
Number of Exceedances (>150 ug/m3)

	85	86	87	88	89	90	91	92	93	94
N. Provo		2	0	2	2	0	8	3	5	0
Lindon	7	7	0	16	20	0	12	5	5	0
W. Orem				3	16	0	14	5	5	0



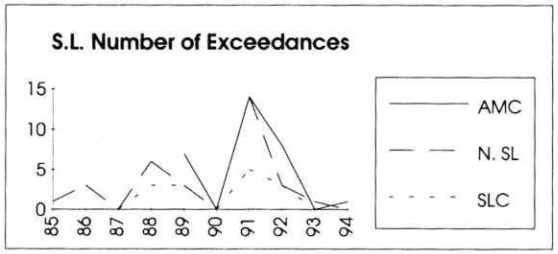
Annual Average (ug/m3)

	85	86	87	88	89	90	91	92	93	94
AMC					52	40	48	43	42	38
N. SL	63	59	56	54	56	47	54	51	55	47
SLC		37	43	49	43	33	41	37	37	28



Number of Exceedances (>150 ug/m3)

	85	86	87	88	89	90	91	92	93	94
AMC					7	0	14	8	0	1
N. SL	1	3	0	6	3	0	14	3	1	0
SLC		0	0	3	3	0	5	3	0	0



NOTE: 1994 data for North Salt Lake assumes exceptional event status for data collected from June 8 through November 23

Monitored Exceedances of the 24-hr Standard (155 ug/m3)

Salt Lake County:

Air Monitoring Center:

1989	171	164	159	165	177	176	X							
	18-Jan	19-Jan	20-Jan	30-Jan	31-Jan	17-Feb								
1990	No Exceedances													
1991	168	221	228	165	186	176	181	156	202	168	174	179	179	156
	1-Jan	2-Jan	3-Jan	5-Jan	1-Feb	2-Feb	4-Feb	7-Feb	8-Feb	9-Feb	10-Feb	11-Feb	12-Feb	6-Dec
1992	156	158	169	174	163	169	199	170						
	10-Jan	20-Jan	22-Jan	23-Jan	24-Jan	27-Jan	28-Jan	29-Jan						
1993	No Exceedances													
1994	161													
	23-Dec													

North Salt Lake:

1985	X													
1986	169	194	184											
	10-Jan	20-May	27-Jun											
1987	No Exceedances													
1988	159	162	155	181	168	X								
	26-Jan	8-Feb	7-Apr	3-Dec	4-Dec									
1989	169	167	171											
	18-Jan	30-Jan	17-Feb											
1990	No Exceedances													
1991	171	175	181	162	158	173	170	156	161	162	168	173	160	X
	1-Jan	2-Jan	3-Jan	1-Feb	2-Feb	3-Feb	4-Feb	5-Feb	7-Feb	8-Feb	9-Feb	11-Feb	12-Feb	
1992	155	171	172											
	23-Jan	28-Jan	12-Jun											
1993	172													
	30-Sep													
1994	No Exceedances													

Salt Lake City:

1986	No Exceedances				
1987	No Exceedances				
1988	155	205	160		
	26-Jan	10-Sep	3-Dec		
1989	167	165	170		
	18-Jan	20-Jan	17-Feb		
1990	No Exceedances				
1991	185	171	165	159	158
	2-Jan	1-Feb	3-Feb	9-Feb	11-Feb
1992	167	163	157		
	23-Jan	27-Jan	29-Jan		
1993	No Exceedances				
1994	No Exceedances				

Utah County:

North Provo:

1986	186	353						
	14-Jan	7-Jun						
1987	No Exceedances							
1988	191	X						
	28-Jan							
1989	184	166						
	4-Jan	28-Dec						
1990	No Exceedances							
1991	165	182	234	173	167	167	162	X
	3-Jan	4-Jan	5-Jan	11-Jan	7-Feb	8-Feb	9-Feb	
1992	155	173	227					
	20-Jan	21-Jan	22-Jan					
1993	168	155	194	178	X			
	31-Jan	1-Feb	6-Feb	7-Feb				
1994	No Exceedances							

Lindon:

1985	175	193	221	163	203	275	207													
	16-Dec	17-Dec	18-Dec	23-Dec	24-Dec	25-Dec	28-Dec													
1986	204	321	365	194	173	177	268													
	9-Jan	10-Jan	11-Jan	12-Jan	14-Jan	28-Jan	6-Jun													
1987	No Exceedances																			
1988	172	164	188	219	223	172	211	195	194	177	159	188	221	204	158	X				
	3-Jan	25-Jan	26-Jan	27-Jan	28-Jan	4-Feb	5-Feb	6-Feb	7-Feb	8-Feb	2-Dec	3-Dec	4-Dec	5-Dec	18-Dec					
1989	168	158	185	198	260	213	194	188	195	192	215	167	163	165	241	254	158	158	186	X
	3-Jan	17-Jan	18-Jan	19-Jan	20-Jan	21-Jan	27-Jan	28-Jan	29-Jan	30-Jan	10-Feb	11-Feb	15-Feb	16-Feb	17-Feb	18-Feb	19-Feb	27-Dec	28-Dec	
1990	No Exceedances																			
1991	212	238	225	243	174	198	192	228	196	198	197	X								
	2-Jan	3-Jan	4-Jan	5-Jan	10-Jan	11-Jan	6-Feb	7-Feb	8-Feb	9-Feb	10-Feb									
1992	159	192	209	267	185															
	19-Jan	20-Jan	21-Jan	22-Jan	23-Jan															
1993	174	205	171	240	209															
	28-Jan	29-Jan	5-Feb	6-Feb	7-Feb															
1994	No Exceedances																			

West Orem:

1988	178	178	235																	
	3-Dec	4-Dec	5-Dec																	
1989	189	191	246	171	160	172	178	177	157	200	263	215	195	195	183	X				
	4-Jan	19-Jan	21-Jan	27-Jan	28-Jan	29-Jan	30-Jan	10-Feb	15-Feb	16-Feb	17-Feb	18-Feb	19-Feb	27-Dec	28-Dec					
1990	No Exceedances																			
1991	161	168	222	241	251	186	157	157	192	184	196	173	164	X						
	1-Jan	2-Jan	3-Jan	4-Jan	5-Jan	11-Jan	31-Jan	1-Feb	6-Feb	7-Feb	8-Feb	9-Feb	10-Feb							
1992	224	180	249	184	156															
	20-Jan	21-Jan	22-Jan	23-Jan	31-Jan															
1993	194	205	196	165	X															
	29-Jan	6-Feb	7-Feb	2-Jul																
1994	No Exceedances																			

Note: "X" indicates a monitored value between 150 ug/m3 and 155.

EPA AEROMETRIC INFORMATION RETRIEVAL SYSTEM (AIRS)
AIR QUALITY SUBSYSTEM
SLAMS DATA GENERATION REPORT

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** PM10 UG/CU.METER 1985 UTAH **
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SITE-ID / STREET ADDRESS / CITY	PARAMETER	POC	EXCEPTIONAL EVENTS DATA	ANNUAL ARITH. MEAN	SAMPLING FREQS. 1 2 3 4	NUMBER OBSERVATIONS 1	2	3	4	# ADDITIONAL SAMP. DAYS 1	2	3	4	DATE SAMPLE FREQUENCY VALID 1	2	3	4	FREQUENCY OF 24-HOUR CONCENTRATIONS VALUE RANGE	NUMBER VALUES
********** SALT LAKE CO **********																			
49-035-0012	81102	1	NO	63?	6	40				25				10/08				0-25	8
1795 NORTH 1000 WEST SALT LAKE CITY UT																		26-50	12
SALT LAKE CITY																		51-75	6
				REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY														76-100	7
				METHOD(S): 052 - HI-VOL-SA321A GRAVIMETRIC														101-125	4
																		126-150	2
																		151-175	1
																		176-200	0
																		> 200	0
********** UTAH CO **********																			
49-049-4001	81102	1	NO	48?	6	150				108				04/07				0-25	23
30 NORTH MAIN STREET, LINDON, UTAH																		26-50	83
LINDON																		51-75	24
				REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY														76-100	7
				METHOD(S): 052 - HI-VOL-SA321A GRAVIMETRIC														101-125	1
																		126-150	5
																		151-175	2
																		176-200	1
																		> 200	4
				EXCEEDANCES	275	221	207	203	193	175	163								
				DATES	12/25	12/18	12/28	12/24	12/17	12/16	12/23								

NOTE: A MEAN VALUE FOLLOWED BY '?' WAS COMPUTED FROM OBSERVATIONS THAT DID NOT MEET SUMMARY CRITERIA

EPA AEROMETRIC INFORMATION RETRIEVAL SYSTEM (AIRS)
AIR QUALITY SUBSYSTEM
SLAMS DATA GENERATION REPORT

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** PM10 UG/CU.METER 1986 UTAH **
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SITE-ID / STREET ADDRESS / CITY	PARAMETER	POC	EXCEPTIONAL EVENTS DATA	ANNUAL ARITH. MEAN	SAMPLING FREQS. 1 2 3 4	NUMBER OBSERVATIONS 1	2	3	4	# ADDITIONAL SAMP. DAYS 1	2	3	4	DATE SAMPLE FREQUENCY VALID 1	2	3	4	FREQUENCY OF 24-HOUR CONCENTRATIONS VALUE RANGE	NUMBER VALUES
********** UTAH CO **********																			
49-049-0002	81102	1	NO	44?	6	55				1				01/14				0-25	17
1355 NORTH 200 WEST PROVO UT																		26-50	28
PROVO																		51-75	6
																		76-100	1
																		101-125	0
																		126-150	1
																		151-175	0
																		176-200	1
																		> 200	1
49-049-4001	81102	1	NO	42?	6	308				245				01/02				0-25	99
30 NORTH MAIN STREET, LINDON, UTAH																		26-50	154
LINDON																		51-75	32
																		76-100	11
																		101-125	4
																		126-150	1
																		151-175	1
																		176-200	2
																		> 200	4

REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
METHOD(S): 052 - HI-VOL-SA321A GRAVIMETRIC

EXCEEDANCES 353 186
DATES 06/07 01/14

REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
METHOD(S): 052 - HI-VOL-SA321A GRAVIMETRIC

EXCEEDANCES 365 321 268 204 194 177 173
DATES 01/11 01/10 06/06 01/09 01/12 01/28 01/14

NOTE: A MEAN VALUE FOLLOWED BY '?' WAS COMPUTED FROM OBSERVATIONS THAT DID NOT MEET SUMMARY CRITERIA

EPA AEROMETRIC INFORMATION RETRIEVAL SYSTEM (AIRS)
AIR QUALITY SUBSYSTEM
SLAMS DATA GENERATION REPORT

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** PM10 UG/CU.METER 1986 UTAH **
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SITE-ID / STREET ADDRESS / CITY	PARAMETER	POC	EXCEPTIONAL EVENTS DATA	ANNUAL ARITH. MEAN	SAMPLING FREQS. 1 2 3 4	NUMBER OBSERVATIONS 1	2	3	4	# ADDITIONAL SAMP. DAYS 1	2	3	4	DATE SAMPLE FREQUENCY VALID 1	2	3	4	FREQUENCY OF 24-HOUR CONCENTRATIONS VALUE RANGE	NUMBER VALUES
********** SALT LAKE CO **********																			
49-035-0003	81102	1	NO	33?	6	54								02/07				0-25	18
5715 S. 1400 E., SALT LAKE CITY																		26-50	32
NOT IN A CITY																		51-75	2
																		76-100	2
																		101-125	0
																		126-150	0
																		151-175	0
																		176-200	0
																		> 200	0
49-035-0012	81102	1	NO	59?	2 6	119	43			1	27			01/02	10/01			0-25	23
1795 NORTH 1000 WEST SALT LAKE CITY UT																		26-50	54
SALT LAKE CITY																		51-75	38
																		76-100	31
																		101-125	6
																		126-150	7
																		151-175	1
																		176-200	2
																		> 200	0
49-035-3001	81102	1	NO	37?	6	53				1				02/01				0-25	18
HEALTH DEPT BLDG 610 SOUTH 2ND EAST																		26-50	23
SALT LAKE CITY																		51-75	9
																		76-100	3
																		101-125	0
																		126-150	0
																		151-175	0
																		176-200	0
																		> 200	0

REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
METHOD(S): 073 - LO-VOL-DICHOTOMOUS-SA246B-INLT GRAVIMETRIC

EXCEEDANCES
DATES

REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
METHOD(S): 052 - HI-VOL-SA321A GRAVIMETRIC

EXCEEDANCES 194 184 169
DATES 05/20 06/27 01/10

REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
METHOD(S): 073 - LO-VOL-DICHOTOMOUS-SA246B-INLT GRAVIMETRIC

EXCEEDANCES
DATES

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** PM10 UG/CU.METER 1987 UTAH **
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SITE-ID / STREET ADDRESS / CITY	PARAMETER	POC	EXCEPTIONAL EVENTS DATA	ANNUAL ARITH. MEAN	SAMPLING FREQS. 1 2 3 4	NUMBER OBSERVATIONS 1 2 3 4	# ADDITIONAL SAMP. DAYS 1 2 3 4	DATE SAMPLE FREQUENCY VALID 1 2 3 4	FREQUENCY OF 24-HOUR CONCENTRATIONS VALUE RANGE	NUMBER VALUES
********** UTAH CO **********										
49-049-4001	81102	1	NO	39?	6	83	68	01/01	0-25	27
30 NORTH MAIN STREET, LINDON, UTAH									26-50	36
LINDON									51-75	14
									76-100	4
									101-125	2
									126-150	0
									151-175	0
									176-200	0
									> 200	0
REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY										
METHOD(S): 052 - HI-VOL-SA321A GRAVIMETRIC										
EXCEEDANCES										
DATES										
49-049-4001	81102	2	NO	38?	1	231		04/01	0-25	67
30 NORTH MAIN STREET, LINDON, UTAH									26-50	117
LINDON									51-75	34
									76-100	12
									101-125	0
									126-150	1
									151-175	0
									176-200	0
									> 200	0
REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY										
METHOD(S): 064 - HI-VOL-SA/GMW-321-B GRAVIMETRIC										
********** UTAH CO **********										
49-049-0002	81102	1	NO	38?	6	14		01/03	0-25	5
1355 NORTH 200 WEST PROVO UT									26-50	5
PROVO									51-75	3
									76-100	1
									101-125	0
									126-150	0
									151-175	0
									176-200	0
									> 200	0
REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY										
METHOD(S): 052 - HI-VOL-SA321A GRAVIMETRIC										
EXCEEDANCES										
DATES										
49-049-0002	81102	2	NO	33?	6	44		04/03	0-25	15
1355 NORTH 200 WEST PROVO UT									26-50	24
PROVO									51-75	4
									76-100	0
									101-125	1
									126-150	0
									151-175	0
									176-200	0
									> 200	0
REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY										
METHOD(S): 064 - HI-VOL-SA/GMW-321-B GRAVIMETRIC										
EXCEEDANCES										
DATES										

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** PM10 UG/CU.METER 1987 UTAH **
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SITE-ID / STREET ADDRESS / CITY	PARAMETER	POC	EXCEPTIONAL EVENTS DATA	ANNUAL ARITH. MEAN	SAMPLING FREQS. 1 2 3 4	NUMBER OBSERVATIONS 1 2 3 4	# ADDITIONAL SAMP. DAYS 1 2 3 4	DATE SAMPLE FREQUENCY VALID 1 2 3 4	FREQUENCY OF 24-HOUR CONCENTRATIONS VALUE RANGE	NUMBER VALUES
********** SALT LAKE CO **********										
49-035-0012	81102	2	NO	50?	1	188		04/01	0-25	21
1795 NORTH 1000 WEST SALT LAKE CITY UT									26-50	82
SALT LAKE CITY									51-75	53
									76-100	26
									101-125	6
									126-150	0
									151-175	0
									176-200	0
									> 200	0
49-035-3001	81102	1	NO	36?	6	29		01/03	0-25	11
HEALTH DEPT BLDG 610 SOUTH 2ND EAST									26-50	12
SALT LAKE CITY									51-75	3
									76-100	3
									101-125	0
									126-150	0
									151-175	0
									176-200	0
									> 200	0
49-035-3001	81102	2	NO	43?	2	85	1	07/02	0-25	15
HEALTH DEPT BLDG 610 SOUTH 2ND EAST									26-50	48
SALT LAKE CITY									51-75	19
									76-100	2
									101-125	1
									126-150	0
									151-175	0
									176-200	0
									> 200	0

REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
METHOD(S): 064 - HI-VOL-SA/GMW-321-B GRAVIMETRIC

REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
METHOD(S): 073 - LO-VOL-DICHOTOMOUS-SA246B-INLT GRAVIMETRIC

EXCEEDANCES
DATES

EXCEEDANCES
DATES

NOTE: A MEAN VALUE FOLLOWED BY '?' WAS COMPUTED FROM OBSERVATIONS THAT DID NOT MEET SUMMARY CRITERIA

EPA AEROMETRIC INFORMATION RETRIEVAL SYSTEM (AIRS)
AIR QUALITY SUBSYSTEM
SLAMS DATA GENERATION REPORT

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** PM10 UG/CU.METER 1987 UTAH **
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SITE-ID / STREET ADDRESS / CITY	PARAMETER	POC	EXCEPTIONAL EVENTS DATA	ANNUAL ARITH. MEAN	SAMPLING FREQS. 1 2 3 4	NUMBER OBSERVATIONS 1 2 3 4	# ADDITIONAL SAMP. DAYS 1 2 3 4	DATE SAMPLE FREQUENCY VALID 1 2 3 4	FREQUENCY OF 24-HOUR CONCENTRATIONS VALUE RANGE	NUMBER VALUES
********** SALT LAKE CO **********										
49-035-0003	81102	1	NO	36	6	56		01/02	0-25	19
5715 S. 1400 E., SALT LAKE CITY									26-50	27
NOT IN A CITY									51-75	7
									76-100	2
									101-125	1
									126-150	0
									151-175	0
									176-200	0
									> 200	0
49-035-0012	81102	1	NO	56?	6	39	25	01/01	0-25	9
1795 NORTH 1000 WEST SALT LAKE CITY UT									26-50	11
SALT LAKE CITY									51-75	8
									76-100	7
									101-125	3
									126-150	1
									151-175	0
									176-200	0
									> 200	0

REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
METHOD(S): 073 - LO-VOL-DICHOTOMOUS-SA246B-INLT GRAVIMETRIC

EXCEEDANCES
DATES

REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
METHOD(S): 052 - HI-VOL-SA321A GRAVIMETRIC

EXCEEDANCES
DATES

NOTE: A MEAN VALUE FOLLOWED BY '?' WAS COMPUTED FROM OBSERVATIONS THAT DID NOT MEET SUMMARY CRITERIA

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**      PM10          UG/CU.METER          1988        UTAH                 **
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SITE-ID / STREET ADDRESS / CITY	PARAMETER	POC	EXCEPTIONAL EVENTS DATA	ANNUAL ARITH. MEAN	SAMPLING FREQS. 1 2 3 4	NUMBER OBSERVATIONS 1 2 3 4	# ADDITIONAL SAMP. DAYS 1 2 3 4	DATE SAMPLE FREQUENCY VALID 1 2 3 4	FREQUENCY OF 24-HOUR CONCENTRATIONS VALUE RANGE	NUMBER VALUES
********** UTAH CO **********										
49-049-4001	81102	2	NO	54	1	344		01/01	0-25	59
30 NORTH MAIN STREET, LINDON, UTAH									26-50	165
LINDON									51-75	58
									76-100	24
									101-125	17
									126-150	5
									151-175	6
									176-200	5
									> 200	5
49-049-5001	81102	1	NO	54?	1	63		10/07	0-25	15
300 NORTH 1200 WEST OREM UTAH									26-50	27
OREM									51-75	8
									76-100	5
									101-125	3
									126-150	2
									151-175	0
									176-200	2
									> 200	1
********** UTAH CO **********										
49-049-0002	81102	2	NO	43?	6	67	13	01/04	0-25	16
1355 NORTH 200 WEST PROVO UT									26-50	29
PROVO									51-75	11
									76-100	4
									101-125	3
									126-150	2
									151-175	1
									176-200	1
									> 200	0

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REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
METHOD(S):  064 - HI-VOL-SA/GMW-321-B   GRAVIMETRIC
            063 - HI-VOL-SA/GMW-1200   GRAVIMETRIC

EXCEEDANCES   223   221   219   211   204   195   194   188   188   177
DATES        01/28 12/04 01/27 02/05 12/05 02/06 02/07 01/26 12/03 02/08

              172   172   164   159   158
             01/03 02/04 01/25 12/02 12/18

REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
METHOD(S):  063 - HI-VOL-SA/GMW-1200   GRAVIMETRIC

EXCEEDANCES   235   178   178
DATES        12/05 12/03 12/04

REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
METHOD(S):  064 - HI-VOL-SA/GMW-321-B   GRAVIMETRIC

EXCEEDANCES   191
DATES        01/28
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** PM10 UG/CU.METER 1988 UTAH **
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SITE-ID / STREET ADDRESS / CITY	PARAMETER	POC	EXCEPTIONAL EVENTS DATA	ANNUAL ARITH. MEAN	24-HOUR OBSERVATIONS: SAMPLING FREQS. 1 2 3 4	NUMBER OBSERVATIONS 1 2 3 4	# ADDITIONAL SAMP. DAYS 1 2 3 4	DATE SAMPLE FREQUENCY VALID 1 2 3 4	FREQUENCY OF 24-HOUR CONCENTRATIONS: VALUE RANGE	NUMBER VALUES
********** SALT LAKE CO **********										
49-035-0003	81102	1	NO	44?	6	50		01/04	0-25	17
5715 S. 1400 E., SALT LAKE CITY									26-50	22
NOT IN A CITY									51-75	3
				REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY					76-100	5
				METHOD(S): 073 - LO-VOL-DICHOTOMOUS-SA246B-INLT GRAVIMETRIC					101-125	2
				004 - LO-VOL-SA246B-DICHOT GRAVIMETRIC					126-150	1
				064 - HI-VOL-SA/GMW-321-B GRAVIMETRIC					151-175	0
									176-200	0
									> 200	0
				EXCEEDANCES						
				DATES						
49-035-0012	81102	2	NO	54	1	326		01/01	0-25	34
1795 NORTH 1000 WEST SALT LAKE CITY UT									26-50	145
SALT LAKE CITY									51-75	88
				REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY					76-100	35
				METHOD(S): 064 - HI-VOL-SA/GMW-321-B GRAVIMETRIC					101-125	16
				063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC					126-150	2
									151-175	5
									176-200	1
									> 200	0
				EXCEEDANCES 181 168 162 159 155						
				DATES 12/03 12/04 02/08 01/26 04/07						
49-035-3001	81102	2	YES	49?	2	155		01/02	0-25	26
HEALTH DEPT BLDG 610 SOUTH 2ND EAST									26-50	85
SALT LAKE CITY									51-75	20
				REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY					76-100	13
				METHOD(S): 064 - HI-VOL-SA/GMW-321-B GRAVIMETRIC					101-125	5
				063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC					126-150	3
									151-175	2
									176-200	0
									> 200	1
				EXCEEDANCES 205 160 155						
				DATES 09/10 12/03 01/26						

NOTE: A MEAN VALUE FOLLOWED BY '?' WAS COMPUTED FROM OBSERVATIONS THAT DID NOT MEET SUMMARY CRITERIA

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** PM10 UG/CU.METER 1989 UTAH **
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SITE-ID / STREET ADDRESS / CITY	PARAMETER	POC	EXCEPTIONAL EVENTS DATA	ANNUAL ARITH. MEAN	SAMPLING FREQS. 1 2 3 4	NUMBER OBSERVATIONS 1	2	3	4	# ADDITIONAL SAMP. DAYS 1	2	3	4	DATE SAMPLE FREQUENCY VALID 1	2	3	4	FREQUENCY OF 24-HOUR CONCENTRATIONS VALUE RANGE	NUMBER VALUES
********** UTAH CO **********																			
49-049-4001	81102	2	NO	52	1	322								01/01				0-25	76
30 NORTH MAIN STREET, LINDON, UTAH																		26-50	146
LINDON																		51-75	44
																		76-100	20
																		101-125	13
																		126-150	3
																		151-175	8
																		176-200	7
																		> 200	5
49-049-5001	81102	1	NO	51	1	338								01/01				0-25	85
300 NORTH 1200 WEST OREM UTAH																		26-50	159
OREM																		51-75	39
																		76-100	24
																		101-125	12
																		126-150	3
																		151-175	5
																		176-200	8
																		> 200	3
********** UTAH CO **********																			
49-049-0002	81102	2	NO	44	6 1	41	85							01/04	10/05			0-25	30
1355 NORTH 200 WEST PROVO UT																		26-50	63
PROVO																		51-75	19
																		76-100	9
																		101-125	2
																		126-150	1
																		151-175	1
																		176-200	1
																		> 200	0

REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC

EXCEEDANCES 260 254 241 215 213 198 195 194 192 188
DATES 01/20 02/18 02/17 02/10 01/21 01/19 01/29 01/27 01/30 01/28

186 185 168 167 165 163 158 158 158
12/28 01/18 01/03 02/11 02/16 02/15 01/17 02/19 12/27

REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC

EXCEEDANCES 263 246 215 200 195 195 191 189 183 178
DATES 02/17 01/21 02/18 02/16 02/19 12/27 01/19 01/04 12/28 01/30

177 172 171 160 157
02/10 01/29 01/27 01/28 02/15

REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
METHOD(S): 064 - HI-VOL-SA/GMW-321-B GRAVIMETRIC
063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC

EXCEEDANCES 184 166
DATES 01/04 12/28

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** PM10 UG/CU.METER 1989 UTAH **
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SITE-ID / STREET ADDRESS / CITY	PARAMETER	POC	EXCEPTIONAL EVENTS DATA	ANNUAL ARITH. MEAN	SAMPLING FREQS. 1 2 3 4	NUMBER OBSERVATIONS 1	2	3	4	# ADDITIONAL SAMP. DAYS 1	2	3	4	DATE SAMPLE FREQUENCY VALID 1	2	3	4	FREQUENCY OF 24-HOUR CONCENTRATIONS VALUE RANGE	NUMBER VALUES
********** SALT LAKE CO **********																			
49-035-3001	81102	2	NO	43	2	161								01/02				0-25	55
HEALTH DEPT BLDG 610 SOUTH 2ND EAST																		26-50	66
SALT LAKE CITY																		51-75	17
				REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY														76-100	8
				METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC														101-125	7
																		126-150	5
				EXCEEDANCES 170 167 165														151-175	3
				DATES 02/17 01/18 01/20														176-200	0
																		> 200	0
********** SALT LAKE CO **********																			
49-035-0003	81102	1	NO	57?	6 2	31	9							01/04	12/02			0-25	11
5715 S. 1400 E., SALT LAKE CITY																		26-50	12
NOT IN A CITY																		51-75	7
				REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY														76-100	3
				METHOD(S): 064 - HI-VOL-SA/GMW-321-B GRAVIMETRIC														101-125	5
				063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC														126-150	2
49-035-0010	81102	1	NO	52?	1	299								01/02				0-25	77
500 SOUTH 261 WEST SALT LAKE CITY																		26-50	122
SALT LAKE CITY																		51-75	47
				REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY														76-100	19
				METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC														101-125	10
																		126-150	17
																		151-175	5
																		176-200	2
																		> 200	0
				EXCEEDANCES 177 176 171 165 164 159															
				DATES 01/31 02/17 01/18 01/30 01/19 01/20															
********** SALT LAKE CO **********																			
49-035-0012	81102	2	NO	56	1	327								01/01				0-25	42
1795 NORTH 1000 WEST SALT LAKE CITY UT																		26-50	127
SALT LAKE CITY																		51-75	91
				REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY														76-100	33
				METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC														101-125	22
																		126-150	9
																		151-175	3
																		176-200	0
																		> 200	0
				EXCEEDANCES 171 169 167															
				DATES 02/17 01/18 01/30															

EXCEEDANCES
DATES

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** PM10 UG/CU.METER 1990 UTAH **
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SITE-ID / STREET ADDRESS / CITY	PARAMETER	POC	EXCEPTIONAL EVENTS DATA	ANNUAL ARITH. MEAN	SAMPLING FREQS. 1 2 3 4	NUMBER OBSERVATIONS 1 2 3 4	# ADDITIONAL SAMP. DAYS 1 2 3 4	DATE SAMPLE FREQUENCY VALID 1 2 3 4	FREQUENCY OF 24-HOUR CONCENTRATIONS VALUE RANGE	NUMBER VALUES
********** UTAH CO **********										
49-049-5001	81102	1	NO	33	1	321		01/01	0-25	133
300 NORTH 1200 WEST OREM UTAH									26-50	140
OREM									51-75	32
				REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY					76-100	13
				METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC					101-125	3
									126-150	0
									151-175	0
									176-200	0
									> 200	0
********** UTAH CO **********										
49-049-0002	81102	2	NO	30	1	343		01/01	0-25	167
1355 NORTH 200 WEST PROVO UT									26-50	142
PROVO									51-75	21
				REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY					76-100	11
				METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC					101-125	2
									126-150	0
									151-175	0
									176-200	0
									> 200	0
				EXCEEDANCES						
				DATES						
49-049-4001	81102	2	NO	34?	1	308		01/01	0-25	115
30 NORTH MAIN STREET, LINDON, UTAH									26-50	151
LINDON									51-75	21
				REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY					76-100	11
				METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC					101-125	7
									126-150	3
									151-175	0
									176-200	0
									> 200	0
				EXCEEDANCES						
				DATES						

NOTE: A MEAN VALUE FOLLOWED BY '?' WAS COMPUTED FROM OBSERVATIONS THAT DID NOT MEET SUMMARY CRITERIA

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** PM10 UG/CU.METER 1990 UTAH **
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SITE-ID / STREET ADDRESS / CITY	PARAMETER	POC	EXCEPTIONAL EVENTS DATA	ANNUAL ARITH. MEAN	SAMPLING FREQS. 1 2 3 4	NUMBER OBSERVATIONS 1 2 3 4	# ADDITIONAL SAMP. DAYS 1 2 3 4	DATE SAMPLE FREQUENCY VALID 1 2 3 4	FREQUENCY OF 24-HOUR CONCENTRATIONS: VALUE RANGE	NUMBER VALUES
********** SALT LAKE CO **********										
49-035-3001	81102	2	NO	33	2	168		01/01	0-25	79
HEALTH DEPT BLDG 610 SOUTH 2ND EAST									26-50	68
SALT LAKE CITY									51-75	11
				REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY					76-100	7
				METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC					101-125	3
									126-150	0
									151-175	0
									176-200	0
									> 200	0
				EXCEEDANCES						
				DATES						
********** SALT LAKE CO **********										
49-035-0003	81102	1	NO	32?	2 6	27 44	8	01/09 04/01	0-25	35
5715 S. 1400 E., SALT LAKE CITY									26-50	26
NOT IN A CITY									51-75	7
				REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY					76-100	2
				METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC					101-125	1
									126-150	0
									151-175	0
									176-200	0
									> 200	0
				EXCEEDANCES						
				DATES						
49-035-0010	81102	1	NO	40?	1	299		01/01	0-25	74
500 SOUTH 261 WEST SALT LAKE CITY									26-50	173
SALT LAKE CITY									51-75	27
				REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY					76-100	19
				METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC					101-125	6
********** SALT LAKE CO **********									126-150	0
49-035-0012	81102	2	NO	47?	1	298		01/01	0-25	48
1795 NORTH 1000 WEST SALT LAKE CITY UT									26-50	150
SALT LAKE CITY									51-75	67
				REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY					76-100	28
				METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC					101-125	4
									126-150	1
									151-175	0
									176-200	0
									> 200	0
				EXCEEDANCES						
				DATES						

6-6-200

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** PM10 UG/CU.METER 1991 UTAH **
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SITE-ID / STREET ADDRESS / CITY	PARAMETER	POC	EXCEPTIONAL EVENTS DATA	ANNUAL ARITH. MEAN	24-HOUR OBSERVATIONS: SAMPLING FREQS. 1 2 3 4	NUMBER OBSERVATIONS 1 2 3 4	# ADDITIONAL SAMP. DAYS 1 2 3 4	DATE SAMPLE FREQUENCY VALID 1 2 3 4	FREQUENCY OF 24-HOUR CONCENTRATIONS: VALUE RANGE	NUMBER VALUES
********** UTAH CO **********										
49-049-0002	81102	2	NO	37	1	331		01/01	0-25	145
1355 NORTH 200 WEST PROVO UT									26-50	126
PROVO									51-75	28
									76-100	14
									101-125	6
									126-150	4
									151-175	6
									176-200	1
									> 200	1
49-049-4001	81102	2	NO	47	1	337		01/01	0-25	112
30 NORTH MAIN STREET, LINDON, UTAH									26-50	141
LINDON									51-75	28
									76-100	21
									101-125	10
									126-150	13
									151-175	2
									176-200	5
									> 200	5
********** UTAH CO **********										
49-049-5001	81102	1	NO	44	1	338		01/01	0-25	130
300 NORTH 1200 WEST OREM UTAH									26-50	135
OREM									51-75	28
									76-100	16
									101-125	7
									126-150	8
									151-175	7
									176-200	4
									> 200	3

REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC

EXCEEDANCES 234 182 173 167 167 165 162
DATES 01/05 01/04 01/11 02/07 02/08 01/03 02/09

REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC

EXCEEDANCES 243 238 228 225 212 198 198 197 196 192
DATES 01/05 01/03 02/07 01/04 01/02 01/11 02/09 02/10 02/08 02/06

174
01/10

REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC

EXCEEDANCES 251 241 222 196 192 186 184 173 168 164
DATES 01/05 01/04 01/03 02/08 02/06 01/11 02/07 02/09 01/02 02/10

161 157 157
01/01 01/31 02/01

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** PM10 UG/CU.METER 1991 UTAH **
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SITE-ID / STREET ADDRESS / CITY	PARAMETER	POC	EXCEPTIONAL EVENTS DATA	ANNUAL ARITH. MEAN	SAMPLING FREQS. 1 2 3 4	NUMBER OBSERVATIONS 1	2	3	4	# ADDITIONAL SAMP. DAYS 1	2	3	4	DATE SAMPLE FREQUENCY VALID 1	2	3	4	FREQUENCY OF 24-HOUR CONCENTRATIONS VALUE RANGE	NUMBER VALUES
********** SALT LAKE CO **********																			
49-035-0010	81102	1	NO	48	1	327								01/01				0-25	87
500 SOUTH 261 WEST SALT LAKE CITY																		26-50	149
SALT LAKE CITY																		51-75	49
																		76-100	13
																		101-125	9
																		126-150	6
																		151-175	6
																		176-200	5
																		> 200	3
49-035-0012	81102	2	NO	54	1	338								01/01				0-25	66
1795 NORTH 1000 WEST SALT LAKE CITY UT																		26-50	141
SALT LAKE CITY																		51-75	68
																		76-100	30
																		101-125	12
																		126-150	7
																		151-175	13
																		176-200	1
																		> 200	0
49-035-3001	81102	2	NO	41	2	167								01/02				0-25	67
HEALTH DEPT BLDG 610 SOUTH 2ND EAST																		26-50	66
SALT LAKE CITY																		51-75	17
																		76-100	5
																		101-125	2
																		126-150	5
																		151-175	4
																		176-200	1
																		> 200	0

REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC

EXCEEDANCES 228 221 202 186 181 179 179 176 174 168
DATES 01/03 01/02 02/08 02/01 02/04 02/11 02/12 02/02 02/10 01/01

168 165 156 156
02/09 01/05 02/07 12/06

REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC

EXCEEDANCES 181 175 173 173 171 170 168 162 162 161
DATES 01/03 01/02 02/03 02/11 01/01 02/04 02/09 02/01 02/08 02/07

160 158 156
02/12 02/02 02/05

REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC

EXCEEDANCES 185 171 165 159 158
DATES 01/02 02/01 02/03 02/09 02/11

EPA AEROMETRIC INFORMATION RETRIEVAL SYSTEM (AIRS)
AIR QUALITY SUBSYSTEM
SLAMS DATA GENERATION REPORT

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** PM10 UG/CU.METER 1991 UTAH **
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SITE-ID / STREET ADDRESS / CITY	PARAMETER	POC	EXCEPTIONAL EVENTS DATA	ANNUAL ARITH. MEAN	SAMPLING FREQS. 1 2 3 4	NUMBER OBSERVATIONS 1 2 3 4	# ADDITIONAL SAMP. DAYS 1 2 3 4	DATE SAMPLE FREQUENCY VALID 1 2 3 4	FREQUENCY OF 24-HOUR CONCENTRATIONS VALUE RANGE	NUMBER VALUES
********** SALT LAKE CO **********										
49-035-0003	81102	1	NO	43?	2 6	32 39	5	01/04 04/13	0-25	21
5715 S. 1400 E., SALT LAKE CITY									26-50	28
NOT IN A CITY									51-75	6
									76-100	7
									101-125	1
									126-150	4
									151-175	4
									176-200	0
									> 200	0

REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC

EXCEEDANCES	163	159	157
DATES	01/12	02/11	02/09

NOTE: A MEAN VALUE FOLLOWED BY '?' WAS COMPUTED FROM OBSERVATIONS THAT DID NOT MEET SUMMARY CRITERIA

Bill Reis

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**      PM10          UG/CU.METER          1992        UTAH                 **
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SITE-ID / STREET ADDRESS / CITY	PARAMETER	POC	EXCEPTIONAL EVENTS DATA	ANNUAL ARITH. MEAN	SAMPLING FREQS. 1 2 3 4	NUMBER OBSERVATIONS 1	2	3	4	# ADDITIONAL SAMP. DAYS 1	2	3	4	DATE SAMPLE FREQUENCY VALID 1	2	3	4	FREQUENCY OF 24-HOUR CONCENTRATIONS VALUE RANGE	NUMBER VALUES
********** UTAH CO **********																			
49-049-4001	81102	2	NO	41	1	317								01/01				0-25	108
30 NORTH MAIN STREET, LINDON, UTAH																		26-50	135
LINDON																		51-75	41
					REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY													76-100	11
					METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC													101-125	11
																		126-150	6
																		151-175	1
																		176-200	2
																		> 200	2
					EXCEEDANCES	267	209	192	185	159									
					DATES	01/22	01/21	01/20	01/23	01/19									
49-049-5001	81102	1	NO	37	1	338								01/01				0-25	151
300 NORTH 1200 WEST OREM UTAH																		26-50	129
OREM																		51-75	31
					REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY													76-100	11
					METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC													101-125	7
																		126-150	4
																		151-175	1
																		176-200	2
																		> 200	2
					EXCEEDANCES	249	224	184	180	156									
					DATES	01/22	01/20	01/23	01/21	01/31									
********** UTAH CO **********																			
49-049-0002	81102	2	NO	33	1	346								01/01				0-25	162
1355 NORTH 200 WEST PROVO UT																		26-50	139
PROVO																		51-75	21
					REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY													76-100	10
					METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC													101-125	9
																		126-150	2
																		151-175	2
																		176-200	0
																		> 200	1
					EXCEEDANCES	227	173	155											
					DATES	01/22	01/21	01/20											

NOTE: A MEAN VALUE FOLLOWED BY '?' WAS COMPUTED FROM OBSERVATIONS THAT DID NOT MEET SUMMARY CRITERIA

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** PM10 UG/CU.METER 1992 UTAH **
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SITE-ID / STREET ADDRESS / CITY	PARAMETER	POC	EXCEPTIONAL EVENTS DATA	ANNUAL ARITH. MEAN	SAMPLING FREQS. 1 2 3 4	NUMBER OBSERVATIONS 1 2 3 4	# ADDITIONAL SAMP. DAYS 1 2 3 4	DATE SAMPLE FREQUENCY VALID 1 2 3 4	FREQUENCY OF 24-HOUR CONCENTRATIONS VALUE RANGE	NUMBER VALUES
********** SALT LAKE CO **********										
49-035-0012	81102	2	NO	51	1	329		01/01	0-25	56
1795 NORTH 1000 WEST SALT LAKE CITY UT									26-50	129
SALT LAKE CITY									51-75	98
									76-100	23
									101-125	14
									126-150	6
									151-175	3
									176-200	0
									> 200	0
			EXCEEDANCES	172	171	155				
			DATES	06/12	01/28	01/23				
********** SALT LAKE CO **********										
49-035-0003	81102	1	NO	32	2 6 2	28 40 13	1	01/01 03/01 12/05	0-25	34
5715 S. 1400 E., SALT LAKE CITY									26-50	29
NOT IN A CITY									51-75	6
									76-100	4
									101-125	6
									126-150	2
									151-175	0
									176-200	0
									> 200	0
			EXCEEDANCES							
			DATES							
49-035-0010	81102	1	NO	43	1	335		01/01	0-25	94
500 SOUTH 261 WEST SALT LAKE CITY									26-50	175
SALT LAKE CITY									51-75	31
									76-100	12
									101-125	9
									126-150	6
									151-175	7
									176-200	1
									> 200	0
			EXCEEDANCES	199	174	170	169	169 163 158 156		
			DATES	01/28	01/23	01/29	01/22	01/27 01/24 01/20 01/10		

REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC

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**      PM10          UG/CU.METER          1992       UTAH                  **
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SITE-ID / STREET ADDRESS / CITY	PARAMETER	POC	EXCEPTIONAL EVENTS DATA	ANNUAL ARITH. MEAN	SAMPLING FREQS. 1 2 3 4	NUMBER OBSERVATIONS 1 2 3 4	# ADDITIONAL SAMP. DAYS 1 2 3 4	DATE SAMPLE FREQUENCY VALID 1 2 3 4	FREQUENCY OF 24-HOUR CONCENTRATIONS VALUE RANGE	NUMBER VALUES
********** SALT LAKE CO **********										
49-035-2004	81102	1	NO	36?	2	18		11/13	0-25	9
12100 W 1200 S, LAKEPOINT, UTAH									26-50	5
NOT IN A CITY									51-75	2
									76-100	2
									101-125	0
									126-150	0
									151-175	0
									176-200	0
									> 200	0
49-035-3001	81102	2	NO	37	2	169		01/01	0-25	69
HEALTH DEPT BLDG 610 SOUTH 2ND EAST									26-50	73
SALT LAKE CITY									51-75	11
									76-100	9
									101-125	3
									126-150	1
									151-175	3
									176-200	0
									> 200	0
********** UTAH CO **********										
49-049-0002	81102	2	NO	33	1	346		01/01	0-25	162
1355 NORTH 200 WEST PROVO UT									26-50	139
PROVO									51-75	21
									76-100	10
									101-125	9
									126-150	2
									151-175	2
									176-200	0
									> 200	1

REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC

EXCEEDANCES
DATES

EXCEEDANCES 167 163 157
DATES 01/23 01/27 01/29

REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC

EXCEEDANCES 227 173 155
DATES 01/22 01/21 01/20

NOTE: A MEAN VALUE FOLLOWED BY '?' WAS COMPUTED FROM OBSERVATIONS THAT DID NOT MEET SUMMARY CRITERIA

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** PM10 UG/CU.METER 1993 UTAH **
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SITE-ID / STREET ADDRESS / CITY	PARAMETER	POC	EXCEPTIONAL EVENTS DATA	ANNUAL ARITH. MEAN	SAMPLING FREQS. 1 2 3 4	NUMBER OBSERVATIONS 1 2 3 4	# ADDITIONAL SAMP. DAYS 1 2 3 4	DATE SAMPLE FREQUENCY VALID 1 2 3 4	FREQUENCY OF 24-HOUR CONCENTRATIONS VALUE RANGE	NUMBER VALUES
********** UTAH CO **********										
49-049-0002	81102	2	NO	33	1	344		01/01	0-25	160
1355 NORTH 200 WEST PROVO UT									26-50	141
PROVO									51-75	21
									76-100	11
									101-125	4
									126-150	2
									151-175	3
									176-200	2
									> 200	0
49-049-4001	81102	2	NO	42?	1	317		01/02	0-25	109
30 NORTH MAIN STREET, LINDON, UTAH									26-50	137
LINDON									51-75	34
									76-100	12
									101-125	11
									126-150	9
									151-175	2
									176-200	0
									> 200	3
49-049-5001	81102	1	YES	40	1	351		01/01	0-25	120
300 NORTH 1200 WEST OREM UTAH									26-50	156
OREM									51-75	42
									76-100	15
									101-125	9
									126-150	4
									151-175	2
									176-200	2
									> 200	1

REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC

EXCEEDANCES 194 178 168 155
DATES 02/06 02/07 01/31 02/01

REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC

EXCEEDANCES 240 209 205 174 171
DATES 02/06 02/07 01/29 01/28 02/05

REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC

EXCEEDANCES 205 196 194 165
DATES 02/06 02/07 01/29 07/02

NOTE: A MEAN VALUE FOLLOWED BY '?' WAS COMPUTED FROM OBSERVATIONS THAT DID NOT MEET SUMMARY CRITERIA

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*****************************************************************************
**      PM10          UG/CU.METER          1993        UTAH                 **
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SITE-ID / STREET ADDRESS / CITY	PARAMETER	POC	EXCEPTIONAL EVENTS DATA	ANNUAL ARITH. MEAN	SAMPLING FREQS. 1 2 3 4	NUMBER OBSERVATIONS 1 2 3 4	# ADDITIONAL SAMP. DAYS 1 2 3 4	DATE SAMPLE FREQUENCY VALID 1 2 3 4	FREQUENCY OF 24-HOUR CONCENTRATIONS VALUE RANGE	NUMBER VALUES
********** SALT LAKE CO **********										
49-035-3001	81102	2	NO	37	2	178		01/01	0-25	68
HEALTH DEPT BLDG 610 SOUTH 2ND EAST									26-50	78
SALT LAKE CITY									51-75	17
				REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY					76-100	9
				METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC					101-125	6
********** SALT LAKE CO **********										
49-035-0003	81102	1	NO	38	2 6 2	28 39 16		01/01 03/02 12/01	0-25	21
5715 S. 1400 E., SALT LAKE CITY									26-50	37
NOT IN A CITY									51-75	17
				REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY					76-100	4
				METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC					101-125	4
									126-150	0
									151-175	0
									176-200	0
									> 200	0
				EXCEEDANCES						
				DATES						
49-035-0010	81102	1	NO	42	1	345		01/01	0-25	97
500 SOUTH 261 WEST SALT LAKE CITY									26-50	162
SALT LAKE CITY									51-75	52
				REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY					76-100	18
				METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC					101-125	11
									126-150	5
									151-175	0
									176-200	0
									> 200	0
				EXCEEDANCES						
				DATES						

SITE-ID / STREET ADDRESS / CITY	PARAMETER	POC	EXCEPTIONAL EVENTS DATA	ANNUAL ARITH. MEAN	SAMPLING FREQS. 1 2 3 4	NUMBER OBSERVATIONS 1 2 3 4	# ADDITIONAL SAMP. DAYS 1 2 3 4	DATE SAMPLE FREQUENCY VALID 1 2 3 4	VALUE RANGE	NUMBER VALUES
********** SALT LAKE CO **********										
49-035-0012	81102	2	YES	55	1	329		01/01	0-25	60
1795 NORTH 1000 WEST SALT LAKE CITY UT									26-50	112
SALT LAKE CITY									51-75	85
				REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY					76-100	40
				METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC					101-125	24
									126-150	7
									151-175	1
									176-200	0
									> 200	0
				EXCEEDANCES 172						
				DATES 09/30						

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** PM10 UG/CU.METER 1994 UTAH **
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SITE-ID / STREET ADDRESS / CITY	PARAMETER	POC	EXCEPTIONAL EVENTS DATA	ANNUAL ARITH. MEAN	SAMPLING FREQS. 1 2 3 4	NUMBER OBSERVATIONS 1	2	3	4	# ADDITIONAL SAMP. DAYS 1	2	3	4	DATE SAMPLE FREQUENCY VALID 1	2	3	4	FREQUENCY OF 24-HOUR CONCENTRATIONS VALUE RANGE	NUMBER VALUES
********** UTAH CO **********																			
49-049-0002	81102	2	NO	29	1	345								01/01				0-25	150
1355 NORTH 200 WEST PROVO UT																		26-50	172
PROVO																		51-75	17
				REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY														76-100	5
				METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC														101-125	1
																		126-150	0
																		151-175	0
																		176-200	0
																		> 200	0
				EXCEEDANCES															
				DATES															
49-049-4001	81102	2	NO	39?	1	293								01/01				0-25	90
30 NORTH MAIN STREET, LINDON, UTAH																		26-50	124
LINDON																		51-75	66
				REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY														76-100	10
				METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC														101-125	2
																		126-150	1
																		151-175	0
																		176-200	0
																		> 200	0
				EXCEEDANCES															
				DATES															
49-049-5001	81102	1	NO	33	1	359								01/01				0-25	145
300 NORTH 1200 WEST OREM UTAH																		26-50	166
OREM																		51-75	35
				REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY														76-100	9
				METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC														101-125	3
																		126-150	1
																		151-175	0
																		176-200	0
																		> 200	0
				EXCEEDANCES															
				DATES															

NOTE: A MEAN VALUE FOLLOWED BY '?' WAS COMPUTED FROM OBSERVATIONS THAT DID NOT MEET SUMMARY CRITERIA

** PM10 UG/CU.METER 1994 UTAH **

SITE-ID / STREET ADDRESS / CITY	PARAMETER	POC	EXCEPTIONAL EVENTS DATA	ANNUAL ARITH. MEAN	SAMPLING FREQS. 1 2 3 4	NUMBER OBSERVATIONS 1 2 3 4	# ADDITIONAL SAMP. DAYS 1 2 3 4	DATE SAMPLE FREQUENCY VALID 1 2 3 4	FREQUENCY OF 24-HOUR CONCENTRATIONS VALUE RANGE	NUMBER VALUES
********** SALT LAKE CO **********										
49-035-3001	81102	2	NO	28?	2	138		01/02	0-25	54
HEALTH DEPT BLDG 610 SOUTH 2ND EAST									26-50	75
SALT LAKE CITY									51-75	7
				REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY					76-100	2
				METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC					101-125	0
********** SALT LAKE CO **********										
49-035-0003	81102	1	NO	31	2 6 2	29 44 11	1	01/02 03/03 12/06	0-25	38
5715 S. 1400 E., SALT LAKE CITY									26-50	37
NOT IN A CITY									51-75	6
				REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY					76-100	2
				METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC					101-125	1
									126-150	0
									151-175	0
									176-200	0
									> 200	0
				EXCEEDANCES						
				DATES						
49-035-0010	81102	1	NO	38	1	348		01/01	0-25	100
500 SOUTH 261 WEST SALT LAKE CITY									26-50	182
SALT LAKE CITY									51-75	50
				REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY					76-100	10
				METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC					101-125	4
									126-150	1
									151-175	1
									176-200	0
									> 200	0
				EXCEEDANCES 161						
				DATES 12/23						

SITE-ID / STREET ADDRESS / CITY	PARAMETER	POC	EXCEPTIONAL EVENTS DATA	ANNUAL ARITH. MEAN	SAMPLING FREQS. 1 2 3 4	NUMBER OBSERVATIONS 1 2 3 4	# ADDITIONAL SAMP. DAYS 1 2 3 4	DATE SAMPLE FREQUENCY VALID 1 2 3 4	FREQUENCY OF 24-HOUR CONCENTRATIONS VALUE RANGE	NUMBER VALUES
********** SALT LAKE CO **********										
49-035-0012	81102	2	YES	58	1	338		01/01	0-25	70
1795 NORTH 1000 WEST SALT LAKE CITY UT									26-50	100
SALT LAKE CITY									51-75	83
				REPORT ORG: 001 - UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY					76-100	46
				METHOD(S): 063 - HI-VOL-SA/GMW-1200 GRAVIMETRIC					101-125	24
									126-150	7
									151-175	3
									176-200	1
									> 200	4
				EXCEEDANCES 283 218 206 201 199 164 162 156						
				DATES 06/23 06/30 07/05 06/29 06/28 08/24 06/24 07/01						

APPENDIX C

Fugitive Dust

DIVISION OF AIR QUALITY
FUGITIVE EMISSIONS IMPACT
FUGITIVE DUST CONTROL INITIATIVE

The Division of Air Quality, under authority of the "Fugitive Emissions/Fugitive Dust Rule" (R307-1-4.5), has initiated a program to reduce airborne dust (PM10) and fugitive emissions along the Wasatch Front, as well as statewide where appropriate. The Fugitive Dust Rule generically addresses storage and handling of aggregate materials, construction/demolition activities, road ways, mining activities, and tailings piles and ponds. Fugitive Dust Control Plans, tailored to specific operations and sites of operation, will be required for:

1. all sources which have the potential to produce fugitive dust and are required to have an Approval Order under R307-1-3.1, including new or modified sources. Approval Orders issued to these sources will contain necessary air pollution controls and operational procedures to minimize fugitive dust from permitted equipment operations. In addition, dust control plans may be required to minimize fugitive dust from pits, yards, storage areas, and areas of operation. Applicants for temporary relocation, under R307-1-3.1.9, will be required to develop site specific fugitive dust control plans for each temporary relocation of permitted equipment.
2. all operations with material storage, handling and/or hauling operations and areas of source operations, pits and yards, which are fugitive dust sources in nonattainment areas;
3. all sources and areas of source operations, pits and yards, statewide, which have been issued a Notice of Violation for excess fugitive dust.

Operations, areas of operation and sources that must be addressed in Dust Control Plans are:

* material storage
* material handling/transfer
* material processing
* road ways and yard areas
* loading and dumping materials
* hauling materials
* drilling, blasting, and pushing operations
* clearing and leveling
* earth moving and excavation
* tailing piles and ponds
* exposed surfaces
* surface mining operations

Fugitive dust control strategies include, but are not limited to:

- wetting/watering
- chemical stabilization
- enclosing/Covering operations
- planting vegetative cover
- providing synthetic cover
- wind breaks
- reducing vehicular traffic
- reducing vehicular speed
- cleaning haul trucks before leaving loading area
- limiting pushing operations to wet seasons
- paving/cleaning road ways
- covering loads
- conveyor systems
- boots on drop points
- reduction in height of drop points
- dust collectors
- reducing production
- mulching
- limiting number of blasts
- limiting blasts to wet seasons
- hydro drilling
- wetting materials before processing

4.5 Fugitive Emissions and Fugitive Dust. The provisions of this subsection 4.5 shall not apply to any sources for which limitations for fugitive dust or fugitive emissions are assigned pursuant to subsection 3.1 or subsection 3.2 of R307-1-3 nor shall they apply to agricultural or horticultural activities.

4.5.1 Fugitive Emissions

A. In actual areas of nonattainment for particulates, fugitive emissions from any source shall not exceed 20% opacity.

B. Fugitive emissions from sources in other areas of the State which were constructed before April 25, 1971, shall not exceed 40% opacity. Fugitive emissions from sources constructed after April 25, 1971, shall not exceed 20% opacity.

4.5.2 Fugitive Dust - The following control and/or operating procedures are applicable to minimize fugitive dust:

A. Storage and Handling of Aggregate Materials.

(1) Any person owning, operating or maintaining a new or existing material storage, handling and/or hauling operation shall minimize fugitive dust from such an operation. Such control may include the use of enclosures, covers, stabilization and/or other equivalent methods or techniques as approved by the Executive Secretary.

(2) Any person owning and/or operating an existing material storage, handling and/or hauling operation in an actual area of nonattainment for particulate shall submit plans for control of fugitive dust from such operations to the Executive Secretary for approval no later than 180 days after the effective date of this regulation.

B. Construction/Demolition Activities.

(1) Any person engaging in clearing or leveling of land over 1/4 acre in size, earthmoving, excavation, or movement of trucks or construction equipment over cleared land over 1/4 acre in size or access haul roads shall take steps to minimize fugitive dust from such activities. Such control may include but is not limited to watering and/or chemical stabilization of potential fugitive dust sources or other equivalent methods or techniques approved by the Executive Secretary.

(2) The owner or operator of land areas over 1/4 acre in size that have been cleared or excavated shall take measures to prevent fugitive particulate matter from becoming airborne. Such measures may include, but are not limited to:

(a) planting vegetative cover,

(b) providing synthetic cover,

(c) watering and/or chemical stabilization,

(d) wind breaks, and/or

(e) other equivalent methods or techniques approved by the Executive Secretary.

(3) Any person engaging in demolition activities including razing of homes, buildings, or other structures; or removing of paving material from roads and/or parking areas shall take steps to minimize fugitive dust from such activities. Such control may include watering and/or chemical stabilization or other equivalent methods or techniques approved by the Executive Secretary.

4.5.3 Road Ways

A. Any person responsible for construction or maintenance of any existing road or having right-of-way easement or possessing the right to use the same in an actual area of nonattainment for particulate whose activities result in fugitive dust from such road shall be required to minimize fugitive dust.

(1) When such roads have an average daily traffic volume of less than 150 vehicle trips per day, averaged over a consecutive 5 day period, fugitive dust shall be minimized by appropriate control techniques. Such control may include but not be limited to watering, chemical stabilization and/or other equivalent methods or techniques approved by the Executive Secretary.

(2) When such roads have an average daily traffic volume of 150 vehicle trips per day or greater, averaged over a consecutive 5 day period, control techniques must be used which are equal to or better than 2" bituminous surface.

B. Any person planning to construct or operate a new unpaved road which is anticipated to have an average daily traffic volume of 150 vehicle trips per day or greater, averaged over a consecutive 5 day period, shall submit a notice of intent to construct/operate such a road to the Executive Secretary pursuant to subsection 3.1 of R307-1-3. Such notice shall include proposed action to minimize fugitive dust emissions from the road.

C. The Executive Secretary may require persons owning, operating or maintaining any new or existing road, or having right-of-way easement or possessory right to use the same to supply traffic count information as determined necessary to ascertain whether or not control techniques are adequate or additional controls are necessary.

D. Any person who through his/her operations deposits materials which may create fugitive dust on a public or private road is required to clean the road such that fugitive dust as a result of his/her operations is minimized.

4.5.4 Mining Activities

A. Fugitive dust, construction activities, and roadways associated with mining activities are regulated under the provisions of this paragraph 4.5.4 and not by paragraphs 4.5.2 and 4.5.3.

B. Any person who owns or operates a mining operation shall minimize fugitive dust as an integral part of site preparation, mining activities, and reclamation operations.

C. The fugitive dust control measures to be used may include, but are not limited to:

(1) periodic watering of unpaved roads,

(2) chemical stabilization of unpaved roads,

(3) paving of roads,

(4) prompt removal of coal, rock minerals, soil, and other dust-forming debris from roads and frequent scraping and compaction of unpaved roads to stabilize the road surface,

(5) restricting the speed of vehicles in and around the mining operation,

(6) revegetating, mulching, or otherwise stabilizing the surface of all areas adjoining roads that are a source of fugitive dust,

(7) restricting the travel of vehicles on other than established roads,

(8) enclosing, covering, watering, or otherwise treating loaded haul trucks and/or railroad cars, to minimize loss of material to wind and spillage,

(9) substitution of conveyor systems for haul trucks and covering of conveyor systems when conveyed loads are subject to wind erosion,

(10) minimizing the area of disturbed land,

(11) prompt revegetation of regraded lands,

(12) planting of special windbreak vegetation at critical points in the permit area,

(13) control of dust from drilling, using water sprays, hoods, dust collectors or other controls approved by the Executive Secretary.

(14) restricting the areas to be blasted at any one time,

(15) reducing the period of time between initially disturbing the soil and revegetating or other surface stabilization,

(16) restricting fugitive dust at spoil and coal transfer and loading points,

(17) control of dust from storage piles through use of enclosures, covers, or stabilization and/or other equivalent methods or techniques as approved by the Executive Secretary, and/or

(18) other techniques as determined necessary by the Executive Secretary.

D. Any person owning and/or operating an existing mining operation in an actual area of nonattainment for particulate or an existing mining operation outside an actual area of nonattainment from which fugitive dust impacts an actual area of nonattainment for particulate shall submit plans for control of fugitive dust from such operations to the Executive Secretary for approval no later than 180 days after the effective date of this regulation.

4.5.5 Tailings Piles and Ponds

A. Fugitive dust, construction activities, and roadways associated with tailings piles and ponds are regulated under the provisions of this paragraph 4.5.5 and not by paragraphs 4.5.2 and 4.5.3.

B. Any person owning and/or operating an existing tailings operation where fugitive dust results from grading, excavating, depositing, or natural erosion or other causes in association with such operation shall take steps to minimize fugitive dust from such activities. Such controls may include but are not limited to:

(1) watering and/or chemical stabilization,

(2) synthetic and/or vegetative covers,

(3) wind breaks,

(4) minimizing the area of disturbed tailings,

(5) restricting the speed of vehicles in and around the tailings operation, and/or

(6) other equivalent methods or techniques which may be approvable by the Executive Secretary.

C. Any person owning and/or operating an existing tailings operation in a nonattainment area for particulate or an existing mining operation outside an actual area of nonattainment from which fugitive dust impact an actual area of nonattainment for particulate shall submit plans for control of fugitive dust from such operations to the Executive Secretary for approval no later than 180 days after the effective date of this regulation.

April 11, 1995

UTAH DIVISION OF AIR QUALITY

INFORMATION A FUGITIVE DUST CONTROL PLAN SHOULD CONTAIN

This outline may be applicable to fugitive dust sources if:

1. The source is required by an approval order to submit a dust control plan.
2. The source is not covered by an approval order.
3. The source has violated the fugitive dust control conditions of their approval order.
4. The source has been grandfathered.
5. The existing approval order has inadequate fugitive dust control provisions.
6. The source is a construction project.

As a minimum the fugitive dust control plan should contain the following information as applicable unless already contained in an existing approval:

Source Information:

1. Name of your operation (source). Also provide a name if the source is a construction site.

2. Address or location description of your operation or construction site.

3. Lengths of the project, if temporary.

4. Process description (rock crushing, batch plant, gravel pit, mining, etc.)

5. Type of material processed or disturbed.

6. Amount of material processed (tpy, tons per month, lbs/hr), whatever unit is applicable.

7. Destination of product (Airport runway construction, widening of I-15 between 33rd and 45th South, housing development in Kearns, etc).

8. UTM coordinates or Longitude/Latitude of stationary emission points at your operation.

Description of Fugitive Dust Emission Activities:

1. Type of activities (drilling and blasting, road construction, earth moving and excavation, hauling materials, clearing and leveling, etc).

2. Location of each activity on site. Also include location of activities if the site is a

construction site.

3. Provide pictures of each activity. Include a drawing of the unpaved road network used to move loads "on" and "off" property.

4. Type of dust emitted at each source (Coal, cement, sand/ gravel, clay, etc).

5. Estimated the size of the release area at which the activity occurs (square miles). For haul or dirt roads include total miles of road in use during the activity.

6. List type of equipment generating the fugitive dust.

7. Vehicle miles traveled on unpaved roads associated with the activity.

8. Identify the individual who will oversee the implementation and maintenance of fugitive dust control measures. List name, position and telephone number.

Description of Fugitive Dust Emission Controls:

1. Types of emission controls proposed if none in place.

2. Types of emission controls initiated by your operation that are in place "on" and "off" property. Example: Application of water, covered loads, sweeping roads, etc.

3. Types of additional emission controls proposed. Example: Chemical stabilization, synthetic cover, wind breaks, vegetative cover, etc).

4. Method of application of dust suppressant

5. Frequency of application of dust suppressant.

6. Explain what triggers the use of a special control measure other than routine measures already in place, such as covered loads or measures covered by a permit condition. Example: Increase in opacity, high winds, citizen complaints, dry conditions, etc.

Description of Fugitive Dust Control Report:

1. Submit a fugitive dust control report 30 days after each calendar quarter or 30 days after the end of a project at a temporary site if project time is less than a calendar quarter. The report must include the following information if applicable:

   a. Total number and type of fugitive dust activities within each operation boundary. If no change has occurred from the previous report state so.

   b. Fugitive dust control measures used "on" and "off" property. For construction projects report control measures only "from", "to" and "at" the construction

site.

c. Type and amount of dust suppressant used to minimize emissions.

d. Estimate percent reduction of fugitive dust after controls are applied. For details check with the Division of Air Quality.

e. Reasons for not controlling emissions from a fugitive dust activity.

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Draft 01-19-95

Division of Air Quality

NOTICE OF TEMPORARY RELOCATION FORM FOR PORTABLE EQUIPMENT

FORM 15A

1. CONTACT NAME _____

2. COMPANY NAME _____

MAILING ADDRESS _____

CITY, STATE ZIP _____

PHONE _____

Proposed New Relocation Site:

3. Site address and brief directions to get to the site:

4. Closest City: _____ 5. County: _____

6. Approximate distances from center of plant location:
Closest house/business _____
National Park (with name) _____
Other air pollution sources (with name) within 1.5 miles from the plant as of today:
_____ _____
_____ _____
Distance to nearest property boundary _____

7. Attach a site diagram to this form showing the dimensions, general pit location and the equipment location on site to scale (include locations of items filled out in 4. and 6.).

8.a. Expected Startup Date:	8.b. Expected Completion Date:

9. Existing Approval Order(s) under which the equipment will operate at the proposed site (attach a copy of the AO(s) to this form): (e.g.,BAQE-XXXX-XX/DAQE-XXXX-XX)

Form Continued on Back

NOTICE OF TEMPORARY RELOCATION FORM
FOR PORTABLE EQUIPMENT
FORM 15A (continued)

10. All equipment to be operated at the proposed site:

Equipment Type: _____ Make/Model _____ Serial or ID # _____ Manufactured Date _____ Design Capacity _____	Equipment Type: _____ Make/Model _____ Serial or ID # _____ Manufactured Date _____ Design Capacity _____
Equipment Type: _____ Make/Model _____ Serial or ID # _____ Manufactured Date _____ Design Capacity _____	Equipment Type: _____ Make/Model _____ Serial or ID # _____ Manufactured Date _____ Design Capacity _____
Equipment Type: _____ Make/Model _____ Serial or ID # _____ Manufactured Date _____ Design Capacity _____	Equipment Type: _____ Make/Model _____ Serial or ID # _____ Manufactured Date _____ Design Capacity _____
Equipment Type: _____ Make/Model _____ Serial or ID # _____ Manufactured Date _____ Design Capacity _____	Equipment Type: _____ Make/Model _____ Serial or ID # _____ Manufactured Date _____ Design Capacity _____
Equipment Type: _____ Make/Model _____ Serial or ID # _____ Manufactured Date _____ Design Capacity _____	Equipment Type: _____ Make/Model _____ Serial or ID # _____ Manufactured Date _____ Design Capacity _____

Equipment list will be used by Compliance Inspectors on site visits.

Equipment Types to list: Crushers, Screens, Generators, Asphalt batch plants, and Concrete batch plants, incinerators, etc. (Include any grandfathered equipment).

Various associated support equipment such as conveyors, loaders, dozers, water pumps, water trucks, haul trucks, and service trucks do not need to be listed individually.

11. **Previous Site Location for this Equipment:**

_____

Operation dates at prior location: Startup: __/__/__ Completion: __/__/__

13. **Previous (within the past 12 months from the proposed date of relocation) relocations to the same site for any equipment (including equipment listed in this form) owned by the same company: (A complete list is required: Attach additional sheets if necessary)**

Equipment _____ Startup: __/__/__Completion: __/__/__

_____

_____

_____

Equipment _____ Startup: __/__/__Completion: __/__/__

_____

_____

_____

14. **Fugitive Dust Control Plan (FDCP)**

Instructions: All sources are required to control fugitive dust from the processes listed below. For processes covered in an Approval Order (AO), the source may be required to adopt additional control measures beyond that stated in the AO based on site-specific conditions. Fill in "N/A" if the process is not applicable to your temporary relocation. For proposal to operate the process under the controls stated in the AO, fill in the applicable "AO condition number". For proposal to operate the process under additional controls beyond that stated in the AO, fill in the applicable "AO condition number" and state additional fugitive dust control measures that are proposed. If the process listed is applicable but is not covered in the AO, state the proposed fugitive dust control measures (attach additional sheets as necessary). The Division of Air Quality (DAQ) may require the sources to modify the proposed FDCP prior to issuing the Temporary Relocation Approval (TRA) letter. The FDCP for each location must address the following, if applicable:

1. Material storage_____
2. Material handling_____
3. Material Processing_____
4. Road ways and yard areas_____
5. Loading and dumping materials_____
6. Hauling materials_____
7. Drilling, blasting, and pushing operations_____
8. Clearing and leveling_____
9. Earth moving and excavation_____
10. Tailing piles and ponds_____
11. Exposed surfaces_____
12. Surface mining operations_____

12. Owner/Operator Representative

_____	_____
Signature	**Date**

Instructions

Notices of temporary relocations should be submitted at least two weeks in advance of the relocation of equipment. All temporary relocations will be restricted to a consecutive 180-day period of operation. All equipment that the source plans to relocate must be listed in a valid Approval Order from the Division of Air Quality (DAQ) prior to submitting this form. Please attach a copy of the relevant Approval Order(s), which approves the equipment in item 10. of this form. Call the DAQ at (801) 536-4000 if you have problems or questions when completing this form. We will be glad to help.

For Sources that have Consolidated Generic Approval Order

(To obtain a Consolidated Generic Approval Order, Contact the NSR Section at (801) 536-4000

Enhanced Emissions Control Measures (EECMs): Enhanced control measures are those emission control measures that the source may be required to adopt during temporary relocation to a site. DAQ may require the source to adopt EECMs while operating in certain locations where particulate emissions are of more concern (e.g., Salt Lake, Utah, and Weber Counties, which are non-attainment areas for PM_{10}). The source may volunteer to adopt EECMs in order to operate at capacities higher than the maximum capacity that would be allowed under the "base" emissions controls required in the Approval Order and the generic modeling performed by DAQ. Some options for EECMs are provided below. The source is welcome to contact an engineer at the New Source Review Section, DAQ, to discuss further options (attach additional sheets for other EECMs if necessary).

Haul Roads (circle options 1 or 2 and/or 3)

(The minimum control required in the Approval Order as BACT is 80%, which requires application of water sprays to ensure damp/moist condition and 15 mph posted speed limit)

1. 85% efficiency by application of water sprays to ensure damp/moist condition and 10 mph posted speed limit
2. 90% by application of water sprays on coarse aggregate spread on the haul road to ensure damp/moist condition, and 10 mph posted speed limit
3. Reducing the length unpaved haul road from a maximum of 0.25 miles (each way); Proposed unpaved haul road length (less than 0.25 miles): _____ miles

Open Areas (check if this option is proposed)

____ 50 % reduction in particulate emissions from open areas for coat of aggregate

Pre-wetting of aggregates at least 12 hours prior to hauling to the plant (check if this option is proposed)

____ 20% reduction in total particulate emissions from the plant

Other Innovative Emission Reduction Strategies

1. Berming of at least 180 degrees of the area surrounding the pit for a height atleast equal to the height of the highest transfer point shall be considered as 15% reduction in total particulate emissions from the plant
2. Trees surrounding the pit: Particulate emissions credit given on a case-by-case basis
3. Other options (describe control strategy and anticipated reduction in emissions)

12. Owner/Operator Representative	
Signature	Date

UTAH DIVISION OF AIR QUALITY
SPECIAL EVENT AMBIENT MONITORING DATA AND EXCEEDANCES OF THE NAAQS

This outline has been prepared to identify action items and communication links needed to eliminate special event data from the SIP process and prevent the recurrence of avoidable exceedances of the NAAQS whenever possible. Sections directly involved in the process such as monitoring and compliance may write some more detailed operational procedures based on the content of this outline. Marv Maxell has volunteered to be the project coordinator and will answer any concerns and questions you may have.

SPECIAL EVENT AMBIENT MONITORING DATA

Special Event Ambient Monitoring Data Issues:

1. Potential Consequences of Special Event Ambient Monitoring Data if not Eliminated from the Representative Data Base.

2. Tracking, Documentation and Notification.

3. Compliance Actions for Prevention.

4. Follow Up.

Potential Consequences of Special Event Ambient Monitoring Data if not Eliminated from the Representative Data Base:

a. Result in re-designation of an area to non-attainment status.

b. Trigger contingency measures contained in a SIP.

c. Eliminate the possibility to apply for an extension year.

d. Increase the concentration of the design value.

e. Increase the number of expected exceedances (PM10 and O3 only).

f. Move an area into the next higher classification.

Tracking, Documentation and Notification

a. The AMC must identify data affected by special events prior to, during, or after the event has occurred .

b. If the event can be identified during data collection it must be tracked and documented as specified in the special event guideline.

c. If the event is discovered after the fact based on unusually high pollutant concentrations, it must be documented by going back in time collecting as much information as possible.

d. The special event data must be quality assured according to existing data validation procedures.

e. A chemical analysis must be performed on all special event particulate exceedance filters.

f. Under certain conditions (negotiated with EPA) chemical mass balance modeling will be required.

g. The AMC must notify the planning branch if a unusual event is in progress or has been identified after the fact even if the data does not show an exceedance.

h. The AMC must notify all branch managers of a special event if it is known to occur and if the potential exists to control the emissions resulting from the event even if the standard is not likely to be exceeded.

Compliance Action/Intervention:

a. If the special event is caused by a construction or demolition project or other identifiable sources, the compliance section must visit the area impacting the monitoring site, assess the problem and develop written report (Complaint Response Protocol will be followed, see Compliance Action on page 4).

b. Branch managers will make the final decision on appropriate compliance actions. Compliance action may be taken with a source, in conjunction with the Permitting Branch, to negotiate emission control measures if appropriate.

c. Compliance must notify the AMC, the planning branch and the engineering branch if emission control measures have been implemented and provide technical support documentation upon request.

Follow Up:

To eliminate the data from the regulatory process , the following time table applies:

- The AMC must notified EPA of a special event and flag the data in AIRS no later than 120 days after the calendar quarter.

- The AMC must submit the special event support documentation no later than 180 days after the calendar quarter.

- EPA must respond within 30 days after receiving the special event documentation and either ask for more information or attach a concurrence or non-concurrence flag to the data in AIRS.

- If requested, the AMC must provide more information to EPA within 30 days of the date of the request.

- EPA must respond to the additional information within 30 days of receiving it, by either attaching a concurrence or non-concurrence flag to the data in AIRS.

- The AMC must verify the status of the special event data in AIRS within 15 days after final notification by EPA.

- The AMC must notify the division director, planning branch, and compliance section of EPA's final decision on the status of the data as soon as it is received.

EXCEEDANCES OF THE NAAQS

Exceedance Issues:

1. Special Event Exceedance

2. Normal Exceedance

   a. AMC Actions

   b. Compliance Actions

   c. Planning Branch Actions

Special Event Exceedance

If the exceedance was a special event, all criteria listed above under special event ambient monitoring data must be addressed.

Normal Event Exceedance

AMC Actions:

a. The AMC must check for the absence of special event conditions before the exceedance can be attributed to normal emission patterns in an area.

b. The exceedance must be quality assured according to existing data validation criteria.

c. A chemical analysis must be performed on all exceedance filters.

d. Meteorological conditions must be recorded for each exceedance day.

e. The AMC must notify the division director, branch managers and local government agencies no later than 24 hours after an exceedance has occurred (no later than 48 hours for PM10). The time frame for notification may be extended if the exceedance occurs on a weekend or holiday.

f. The AMC must provide on a monthly basis a running and a year to date average of the annual standards to the planning branch and an exceedance of an annual standard no later than 60 days after the calendar year.

g. All validated exceedance data must be put in the AIRS data base.

Compliance Action:

a. Compliance activities will follow the complaint response protocol

b. Upon receiving a request to evaluate the cause and possible mitigation of an exceedance of the NAAQS, or elevated pollution levels, the compliance section will:

   1. Obtain all available data related to the exceedance or elevated pollution levels (time, location, pollutant, observations by AMC personnel, chemical mass balance or other analysis if available)

   2. Using knowledge of the sources in the area, including inspection experience, inventory data, etc., determine potential sources of the

pollutant that may impact on the monitor site.

3. Take appropriate actions to investigate possible causes, such as: Check for excessive emission reports or other emission data from stationary sources that may impact the monitor; call or visit the source to verify; investigate on-site at the monitor location to identify localized sources.

4. If applicable, initiate compliance action to correct emission violations. If a source impacting the monitor is in compliance, report this with the findings.

5. Report findings and recommendations to branch managers, quality assurance coordinator, and AMC.

c. If emissions from a specific source or sources can be identified actions should be taken to prevent future exceedances consistent with air quality rules.

d. Branch managers will make the final decision on appropriate compliance actions.

e. The compliance section must notify the AMC , the planning branch and the engineering branch of any control strategy implemented or lack thereof, to prevent future exceedances.

f. All compliance actions must be documented and available upon request.

Planning Branch Actions:

a. Must assess the impact of each measured exceedance on SIP issues.

b. Must notify the AMC and the compliance section of the consequences of a measured exceedance.

c. Need to identify with the compliance section and the engineering branch if a source specific control strategy will be adequate to prevent future exceedances.

AIR MONITORING SECTION

PROCEDURE FOR AVOIDING EXCEEDANCES, EXCEPTIONAL OR UNUSUAL EVENTS AND ELEVATED POLLUTION LEVELS

INTRODUCTION: It is very important to identify any localized or unusual activity or actions or exceptional events that may affect the air pollution measurements at the air monitoring stations. Many of the programs or the progress of plans or control measures can be altered by such localized or unusual events that may occur. There are provisions in the federal guidelines to "flag" the results of unusual or exceptional events or activities so regulatory actions are not initiated by those events.

NOTICE OF AN EXCEPTIONAL EVENT OR ELEVATED POLLUTION LEVELS: Whenever an exceptional event or unusually high pollution levels are noticed, the Manager of the Monitoring Section should be notified. The Manager of the Monitoring Section shall cause notification of the event to be made to the Director and management staff of the Division of Air Quality, local health agencies and appropriate designated parties. During the winter season, the Manager of the Monitoring Section shall cause implementation of the "Residential Solid Fuel Burning Compliance Standard Operating Procedures" (see attached copy).

INITIAL ACTION: The person that notices the exceptional event or unusually high pollution levels should prepare a data flag to assure the data are evaluated during the Quality Assurance review of the data. That person is responsible to notify the Manager of the Monitoring Section that an exceptional event has occurred.

PM10 DATA: Any PM10 filter which results in a PM10 concentration of 120 ug/M3 associated with an exceptional event must be noted and special handling is necessary. Filters collected during periods when exceptional events occur must be sealed in a plastic envelope, have the yellow portion of the data card attached and refrigerated at 4 degrees Celsius to await chemical analysis. Final QA must be expedited on those filters. Filters associated with exceptional or unusual events and those which have PM10 concentration greater than 120 ug/M3 must be prepared for chemical analysis. Those filters which have PM10 concentrations greater than 150 ug/M3 must undergo further evaluation. The evaluation is to determine if an unusual or exceptional event has occurred that has caused or impacted the high concentration. The evaluation consists of the following:

1. The person responsible for PM10 QA and final processing is to review the data card to see if operator notations indicate unusual events or conditions at the monitoring site. Unusual events or conditions must be noted on the data card.

2. The person responsible for the monitoring site is to review wind speed information representative of the site to see if wind speeds near or in excess of EPA's criteria for an exceptional event apply.

3. The person responsible for the monitoring site is to obtain precipitation information representative of the site to determine if mitigating impacts may have occurred.

4. The person responsible for the monitoring site is to verify that the person responsible for the filter room operation has or will submit the filter for chemical analysis.

5. The person responsible for the monitoring site is to evaluate the area for 1/4 mile around the site to determine if any unusual construction, excavating, burning or demolition has occurred. Documentation of those events are to be obtained from those individuals or agencies that are responsible for the event. If activities are noted that appear to be ongoing or that place in question industrial source compliance, he will notify the Manager of the Monitoring Section who will notify the Manager of Compliance Section.

6. The person responsible for the monitoring site is to collect all appropriate documentation of the event and submit the information along with a memo of evaluation to the Manager of the Monitoring Section.

7. The Manager of the Monitoring Section, in coordination with the Quality Assurance Coordinator, will prepare a letter to EPA Region VIII requesting a determination that the data resulted from an exceptional event, if such is the case, and approval to flag the data in the AIRS data base.

8. The Manager of the Monitoring Section will be responsible to see the letter of approval from EPA is properly filed and to see that the data are properly flagged in the AIRS data base.

GASEOUS DATA:

1. The person responsible for the monitoring site is to evaluate instrument operation, zero and span to assure the instrument was operating properly. He should review strip chart records to see if operator notations indicate unusual events or conditions at the monitoring site. Charts should have notations about unusual events or conditions that may affect the site or the data.

2. The person responsible for the monitoring site is to obtain precipitation information representative of the site to determine if mitigating impacts may have occurred.

3. The person responsible for the monitoring site is to evaluate the area for 1/4 mile around the site to determine if any unusual construction, excavating, burning or demolition has occurred. Documentation of those events are to be obtained from those individuals or agencies that are responsible for the event. If activates are noted that appear to be ongoing or that place in question industrial source compliance, he will notify the Manager of the Monitoring Section who will notify the Manager of the Compliance Section.

4. The person responsible for the monitoring site is to collect all appropriate documentation of the event and submit the information along with a memo of evaluation to the Manager of the Monitoring Section.

5. The Manager of the Monitoring Section, in coordination with the Quality Assurance Coordinator, will prepare a letter to EPA Region VIII requesting a determination that the data resulted from an exceptional event, if such is the case, and approval to flag the data in the AIRS data base.

6. The Manager of the Monitoring Section will be responsible to see the letter of approval from EPA is properly filed and to see that the data are properly flagged in the AIRS data base.

PROCEDURE FOR NAAQS EXCEEDANCES

INTRODUCTION: It is very important to notify a number of individuals when any of the National Ambient Air Quality Standards are exceeded. Many of the programs or progress of plans or control measures can be altered by additional exceedances of the NAAQS.

NOTICE OF EXCEEDANCE: The Division Director and the Branch Managers must be notified of any exceedance. Normally the Manager of the Monitoring Section will notify these individuals.

NOTIFY: The Directors of the Air Quality Programs in the county where the exceedance occurred must be notified. This will usually be done.

INITIAL ACTION: The person preparing the Air Pollution Index report will usually be the one that notices the exceedance of the standard. That person is responsible to notify the Manager of the Monitoring Section that the exceedance has occurred.

PM10 DATA: Any PM10 filter which results in a PM10 exceedance (concentration of 155 ug/M3 or greater must be noted and special handling is necessary. Filters during periods when PM10 standard is likely to be exceeded must be weighed promptly after the mandatory 24 hour equilibration period has ended. If the net weight increase is equal to or greater than 180 milligrams or an exceedance is calculated at weighing time the filters must be immediately sealed in a plastic envelope, have the yellow portion of the data card attached and refrigerated at 4 degrees Celsius to await chemical analysis. Final QA must be expedited to shorten the time between collection of the sample and shipment to a certified laboratory. The AMC must further evaluate those filters which have PM10 concentrations greater than 150 ug/M3. The evaluation is designed to determine if an unusual or exceptional event has occurred that has caused or impacted the high concentration and consists of the following:

1. The person responsible for PM10 QA and final processing is to review the data card to see if operator notations indicate unusual events or conditions at the monitoring site.

2. The person responsible for the monitoring site is to review wind speed information representative of the site to see if wind speeds near or in excess of EPA's criteria for an exceptional event apply.

3. The person responsible for the monitoring site is to obtain precipitation information representative of the site to determine if mitigating impacts may have occurred.

4. The person responsible for the monitoring site is to verify that the person responsible for the filter room operation has or will submit the filter for chemical analysis.

5. The person responsible for the monitoring site is to evaluate the area for 1/4 mile around the site to determine if any unusual construction, excavating, burning or demolition has occurred. Documentation of those events are to be obtained from those individuals or agencies that are responsible for the event. If activities are noted that appear to be ongoing or that place in question industrial source compliance, he will notify the Manager of the Monitoring Section who will notify the Manager of the Compliance Section.

6. The person responsible for the monitoring site is to collect all appropriate documentation of the event and submit the information along with a memo of evaluation to the Manager of the Monitoring Section.

7. The Manager of the Monitoring Section, in coordination with the Quality Assurance Coordinator, will prepare a letter to EPA Region VIII requesting a determination that the data resulted from an exceptional event, if such is the case, and

approval to flag the data in the AIRS data base.

8. The Manager of the Monitoring Section will be responsible to see the letter of approval from EPA is properly filed and to see that the data are properly flagged in the AIRS data base.

GASEOUS DATA:

1. The person responsible for the monitoring site is to evaluate instrument operation, zero and span to assure the instrument was operating properly. He should review strip chart records to see if operator notations indicate unusual events or conditions at the monitoring site.

2. The person responsible for the monitoring site is to obtain precipitation information representative of the site to determine if mitigating impacts may have occurred.

3. The person responsible for the monitoring site is to evaluate the area for 1/4 mile around the site to determine if any unusual construction, excavating, burning or demolition has occurred. Documentation of those events are to be obtained from those individuals or agencies that are responsible for the event. If activities are noted that appear to be ongoing or that place in question industrial source compliance, he will notify the Manager of the Monitoring Section who will notify the Manager of the Compliance Section.

4. The person responsible for the monitoring site is to collect all appropriate documentation of the event and submit the information along with a memo of evaluation to the Manager of the Monitoring Section.

5. The Manager of the Monitoring Section, in coordination with the Quality Assurance Coordinator, will prepare a letter to EPA Region VIII requesting a determination that the data resulted from an exceptional event, if such is the case, and approval to flag the data in the AIRS data base.

6. The Manager of the Monitoring Section will be responsible to see the letter of approval from EPA is properly filed and to see that the data are properly flagged in the AIRS data base.