SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Draft Staff Report
Proposed Rule 1480 – Ambient Monitoring and Sampling of Metal Toxic Air Contaminants

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TABLE OF CONTENTS

CHAPTER 1: BACKGROUND

INTRODUCTION

Ambient air monitoring samples the air to measure concentrations of criteria pollutants, and gaseous and particulate toxic air contaminants (TACs). Over the past decade, ambient air monitoring near certain facilities with metal TACs such as lead, nickel, arsenic, and hexavalent chromium has identified air quality issues that were not previously known or revealed compliance issues with existing air quality requirements. In some situations, air quality issues have resulted in elevated health risks that have impacted residents, students, and other sensitive receptors surrounding these facilities. When the South Coast Air Quality Management District (South Coast AQMD) initiates ambient air monitoring and identifies a specific air quality issue, action is taken to implement interim measures to reduce the health risk to the community. However, it can take many months to several years until a facility has fully implemented permanent pollution controls to reduce the health risk to the surrounding community. To ensure public health is protected, the South Coast AQMD continues ambient air monitoring until permanent pollution controls have been fully implemented and TAC emissions are stabilized.

Proposed Rule 1480 – Ambient Monitoring and Sampling of Metal Toxic Air Contaminants (PR 1480) is designed to transfer the responsibility of conducting ambient air monitoring and sampling to the facility that is posing the health risk. PR 1480 establishes the process to notify and designate a facility to conduct ambient air monitoring. PR 1480 complements Rule 1402 – Control of Toxic Air Contaminants from Existing Sources which requires implementation of a risk reduction plan for facilities with health risks above a specified threshold. Under PR 1480 a facility can cease monitoring and sampling after implementation of measures in a Rule 1402 Risk Reduction Plan. PR 1480 will provide additional vigilance, over those facilities that have elevated health risks, to alert the South Coast AQMD to address emissions that may occur before permanent pollution controls are implemented.

PR 1480 focuses on metal TACs which include arsenic, cadmium, hexavalent chromium, lead, manganese, nickel, and selenium. Based on approved Health Risk Assessments conducted through the AB 2588 program, three facilities had estimated cancer risk that were in excess of 1,000 in a million, which is 10 times the Significant Risk Level threshold of 100 in a million. When these types of situations are identified, additional monitoring is needed to allow the South Coast AQMD to become aware of health risks and take appropriate action to protect public health until permanent pollution controls are fully implemented and emissions from toxic air contaminants from the facility are stable.

SOUTH COAST AQMD AMBIENT AIR MONITORING

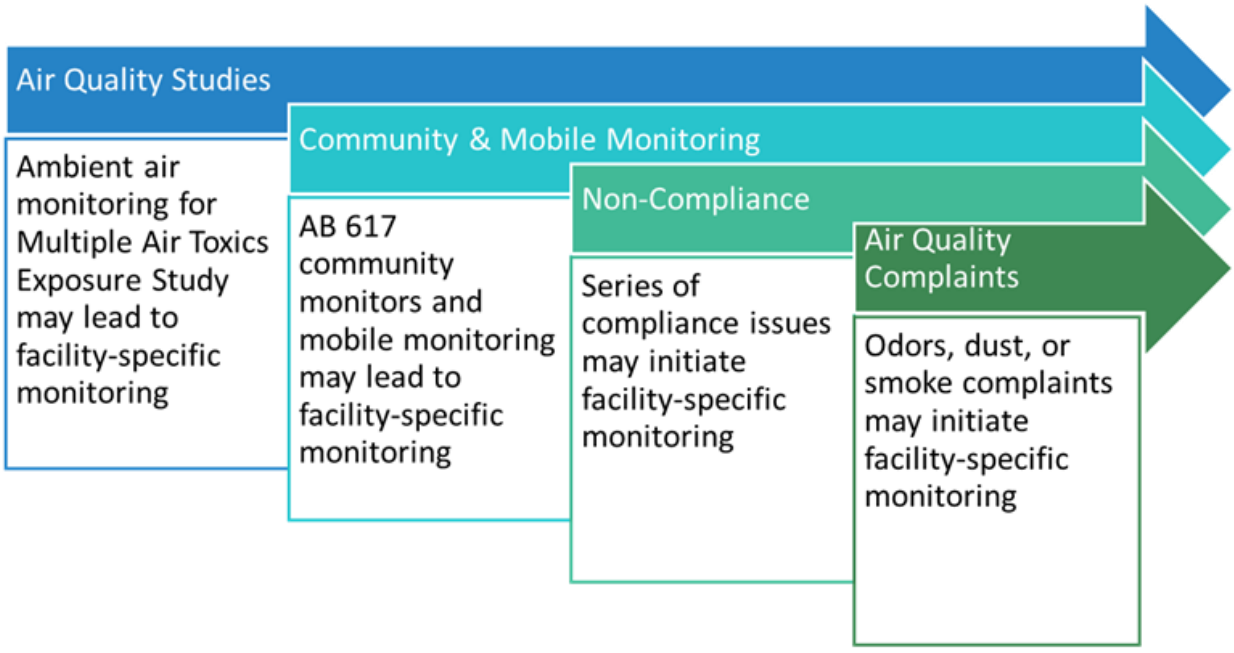
The South Coast AQMD conducts ambient air monitoring and sampling to measure criteria pollutants for state and federal air quality requirements. In addition, through the Multiple Air Toxics Exposure Study[1] (MATES) ambient monitors are placed throughout the South Coast Air Basin to monitor and sample over 30 gaseous and particulate TACs. Criteria pollutant air monitoring and the MATES monitoring programs are generally used to monitor regional levels of specific pollutants, so monitors are not placed near a specific facility. Regional ambient air

[1] More information on MATES can be found at https://www.aqmd.gov/home/air-quality/air-quality-studies/health-studies

monitoring of TACs through the MATES program has led to the identification of facilities with elevated metal TAC emissions.

In addition to regional monitoring, the South Coast AQMD also conducts source-oriented ambient air monitoring, where mobile measurements are made nearby facilities and/or ambient air monitors are placed near or at a specific facility or near a group of facilities. The South Coast AQMD has initiated ambient air monitoring near facilities based on MATES monitoring, public complaints about a specific air quality issue, concerns for non-compliance issues, and community monitoring efforts. Figure 1-1 shows various possible reasons why the South Coast AQMD may initiate facility-specific ambient air monitoring.

Figure 1-1
Various Pathways to Initiate Facility-Specific Ambient Air Monitoring



Although PR 1480 does not prioritize facilities or various pathways to initiate facility-specific ambient air monitoring, certain South Coast AQMD monitoring efforts have general timeframes and prioritizations. The MATES program provides periodic ambient air monitoring. MATES I was conducted in 1987 and staff has initiated work for MATES V. AB617 was authored by Assembly Member Cristina Garcia to address the disproportionate impacts of air pollution in environmental justice communities. The AB617 program requires local air districts to take specific actions to reduce air pollution and toxic air contaminants from commercial and industrial sources through the identification of communities each year that are targeted for Community Emissions Reduction Plans and/or Community Air Monitoring Plans. The locations and types of pollutants being monitored is unique to each AB617 community and is determined with input from community representatives and other stakeholders. Non-compliance and community complaints that lead to air monitoring efforts can become high priority projects for the South Coast AQMD if elevated levels of toxic air contaminants are identified. Initial odor complaints in the city of Paramount led to ambient monitoring near a forging facility. In addition, the South Coast AQMD expanded

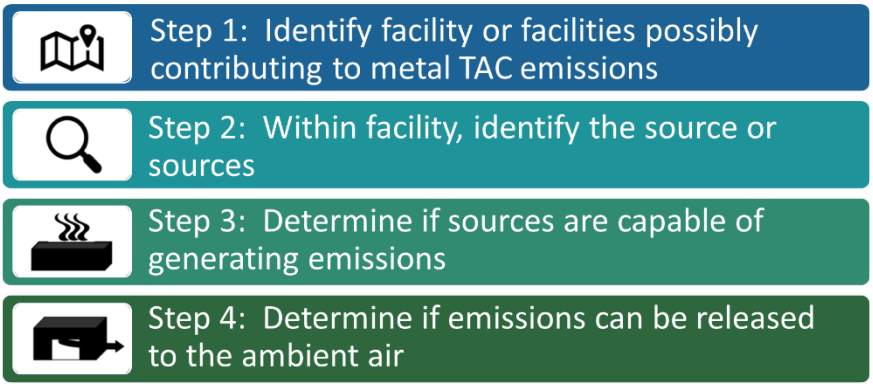
monitoring in the industrial portion of Paramount in 2016, which led to facility-specific monitoring near a metal heat treating facility and chromic acid anodizing and plating facility.

PROCESS TO IDENTIFY SOURCES

Metal TACs are particulates, and unlike VOCs and other gaseous TACs, can be deposited and repeatedly entrained into the air as fugitive emissions, increasing the risk of exposure. The particulates may be created through various industrial processes, such as cement production, metal melting operations, anodizing and plating operations, and different types of metal working. Multiple incidents have occurred in the last several years where metal TACs were detected from existing sources, where some of these sources were not known to have metal TAC emissions that could substantially impact ambient levels.

The South Coast AQMD staff has used a Four-Step Process to identify a facility or facilities that are contributing to elevated levels of metal TAC emissions in the ambient air. The Four-Step Process includes: 1) identifying the facility or facilities possibly contributing to metal TAC emissions; 2) identifying the possible source or sources of emissions such as the equipment or process within the facility; 3) determining if the particular source is capable of generating emissions; and 4) determining if emissions can be released to the ambient air (see Figure 1-2).

Figure 1-2
Four-Step Process Identification Process



Step 1: Identify the Facility or Facilities Possibly Contributing to Metal TAC Emissions

When elevated levels of ambient metal TACs are identified through MATES, community monitoring, mobile monitoring, or air quality complaints, the South Coast AQMD works to locate the facility or facilities that are possibly contributing to metal TAC emissions. There are a variety of tools used to identify the facility or facilities that could potentially contribute to the air quality issue such as using ambient monitors to better pinpoint the location of a facility or facilities, facility inspections and site visits of facilities in surrounding areas to identify any facilities that can potentially contribute to the air quality issue and eliminate facilities that are not conducting operations related to the air quality issue, and glass plate samples near a facility or facilities as part of the process to assess if there are airborne contaminants localized near a facility or its operation.

Step 2: Within the Facility, Identify the Source or Sources

After a facility or facilities are identified, the source or sources such as equipment, processes, and/or operations within the facility that could potentially contribute to the air quality issue are identified. There are a variety of tools that South Coast AQMD staff uses to identify the source or sources that could potentially contribute to the air quality issue such as a more detailed facility inspection, and analysis of bulk samples, such as liquid or solid samples. A more detailed facility inspection than described in Step 1 includes, but is not limited to, inspection of permitted and unpermitted equipment or processes, inspection of pollution control equipment, observations of housekeeping practices, review of processes, review of operating and purchasing records, review of previous inspection reports, etc. During the facility inspection, staff is assessing the location of equipment and processes such as: is the equipment or process inside or outside a building, and if the equipment or process is located in a building, is the equipment or process in close proximity to a building opening such as a door or window where there can be a cross-draft, vents, fans, etc. where emissions from the equipment or process can escape the building. Bulk samples such as dust samples on surfaces in and around the facility, ducting, and roof tops and liquid samples of tanks can be taken to identify if there is the presence of specific metal TAC.

Step 3: Determine if Sources are Capable of Generating Emissions

The next step is to determine whether the source or sources at the facility are capable of generating emissions. Emissions testing such as a screening or source testing quantifies emissions. Assessment of specific parameters of pollution controls such as collection efficiency, differential pressure monitors across a filter, and visual inspection of pollution controls are also conducted to check whether pollution controls are properly operating. Improper operation or poor maintenance of pollution controls, or lack of pollution controls can lead to elevated ambient levels of metal TAC emissions. The collection efficiency of pollution control equipment can be measured using a hot-wired anemometer to measure the air velocities from the source to the pollution controls. A smoke test or visual observations can also be used to qualitatively determine that emissions from the source are directed toward the pollution control and are not escaping outside of the collection zone of the control device, as well as verify that uncontrolled emissions are not being influenced by air flow cross-drafts from building openings, fans, or other sources. Pressure monitors that measure the differential pressure across a filter in the pollution control system are also used to identify a breach or clog in filter media. Static pressure gauges may also be used to ensure that there is sufficient negative pressure in the duct of the control device to collect the emissions. Lastly, additional inspections steps on the control device may include a visual test or inspection of the pollution controls checks to determine that filters are properly situated, verification that there are no leaks or breaches in filter media, and that the proper filter media is being utilized; slots or make-up air openings for collection devices are not clogged or blocked; and there are no gaps or openings in the ducting.

Step 4: Determine if Emissions Can be Released to the Ambient Air

The purpose of this step is to determine if emissions identified in Step 3 have the ability to be released to the ambient air. Although a source may use a metal TAC in their operations, it is possible that there is no mechanism for that metal TAC to be released because the material is contained in a closed container and proper housekeeping provisions are practiced. This step combines information collected in Steps 2 and 3 with visual observations about the operations.

The location of the operation can be critical. Equipment or a process that is being conducted outdoors with no pollution controls allows the emissions to be directly emitted in the open air. If a source is located within a building, openings such as vents, doors, and other openings can create cross-drafts where emissions can escape and be released to the ambient air. Poor housekeeping where metal particulate is generated can be tracked in and around the facility and re-entrained into the ambient air from dry sweeping, compressed air, or other mechanisms. Placement of upwind and downwind ambient air monitors near the facility can be used to confirm the source of ambient air monitoring results.

Ambient Air Monitoring Efforts that Used the Four-Step Process

The South Coast AQMD has utilized a variety of approaches and methods, including this Four-Step Process, to identify facilities and their sources during ambient air monitoring efforts. Table 1-1 summarizes ambient air monitoring near a cement manufacturing facility, three plating and anodizing facilities, a metal heat treating facility, and a metal forging facility that was conducting metal grinding. A variety of different tools were used, such as glass plate samples, ambient air monitoring near the facility, liquid and solid samples, site inspections, and emissions screening and source testing. All of the facilities listed in Table 1-1 have implemented additional measures and pollution controls to reduce emissions.

Table 1-1
Summary of Applications of the Four-Step Process

Facility (Metal TAC)	Results of Four-Step Process	How Emissions Addressed
Cement manufacturing facility in Riverside (Hexavalent Chromium)	• Samples of gray clinker storage piles—a loose, dry material consisting of various calcium silicates used in Portland cement manufacturing showed high levels of hexavalent chromium • Observed periodic fugitive dust emissions from the large unprotected storage piles • Dust from the clinker storage piles were a main contributor to elevated hexavalent chromium levels	• Rule 1156 was amended to require ambient air monitoring and controls
Metal plating and anodizing facilities in Newport Beach, Paramount, and Long Beach (Hexavalent Chromium)	• Large door openings, vents, and fans allowed hexavalent chromium emissions from anodizing and other tanks to leave the building • Uncontrolled heated sodium dichromate seal tank were a source of previously unknown high ambient levels of hexavalent chromium • Cross-drafts near chromic acid anodizing process allowed emissions to leave the building and interfered with collection efficiency of pollution controls • Poor housekeeping; contaminated spray booth stacks and roofs	• Order for Abatement • Risk Reduction Plan under Rule 1402 • Amendments to Rule 1469
Metal heat treating facility in Paramount (Hexavalent Chromium)	• Hexavalent chromium emitted from furnaces with chromium workpieces or from other sources within the furnaces converted to hexavalent chromium • Hexavalent chromium was dispersed during fan cooling • Some cooling operations were conducted outside • Samples showed hexavalent chromium in quench tank – water from quench tank circulated through cooling tower • Mist from cooling tower contained hexavalent chromium • Large openings and vents in building allowed emissions to escape into the ambient air • Poor housekeeping	• Order for Abatement • Risk Reduction Plan under Rule 1402 • Proposed Rule 1435
Grinding operation at metal forging facility in Paramount (Nickel)	• Sampling found metal grinding operations emitted high levels of metal particulate emissions • Large openings, modest housekeeping led to fugitive dust emissions • Pollution controls did not provide sufficient collection efficiency	• Implemented voluntary measures • Development of Rule 1430

MECHANISMS TO ADDRESS HIGH CONCENTRATIONS OF METAL TACS

Once the source or sources that are contributing to high concentrations of metal TACs at a facility are identified, corrective actions are needed to reduce metal TACs and reduce the health risk to the surrounding community. There are various mechanisms available to South Coast AQMD to address the source of the elevated concentrations and health risks, and achieve emissions reductions. The specific mechanisms used depend on the magnitude of the estimated health risk and whether the air quality issue is unique to the facility such as non-compliance with existing rules or is universal to other facilities with similar sources or operations. Another consideration is after the adoption of a new or amended rule, if a facility is in the process of complying with a new rule requirement within the allowable deadlines, but air pollution controls are not yet installed. Generally the South Coast AQMD staff will work directly with a facility to discuss the air quality issue. The South Coast AQMD may issue Notices to Comply or Notices of Violation, pursue Orders for Abatement, develop new rules or amendments to existing rules to address the air quality issue, and utilize Rule 1402.

In extreme cases where facilities are found to be causing imminent and substantial endangerment to public health or welfare, California Assembly Bill 1132 - passed by the state legislature and signed by the governor in 2017 - gives Air Pollution Control Officers the authority to issue interim orders for abatement that would take effect immediately, pending abatement hearings before the hearing board of the air district. To date, the South Coast AQMD has not issued such an order. In most cases when staff identifies compliance issues with permit conditions or rule requirements, a notice for corrective action is issued to the facility which if followed will bring an immediate reduction in associated metal TAC emissions, sometimes without any need for long-term changes to control other sources of the metal TAC emissions.

ESTIMATED HEALTH RISKS

Under Rule 1402, the South Coast AQMD can require facilities to prepare a health risk assessment (HRA) to estimate their facility-wide health risk. Facilities where the South Coast AQMD had conducted ambient air monitoring have had some of the highest health risks since the implementation of Rule 1402. Under Rule 1402, a significant health risk level is when the Maximum Individual Cancer Risk is greater than one hundred in one million (100 x 10^-6) or a total acute or chronic Hazard Index (HI) of five (5.0) for any target organ system at any receptor location. The estimated health risk depends on a variety of factors such as the specific metal TAC, the level of emission controls of the metal TACs, building and stack parameters, meteorology conditions, and the proximity to off-site workers or residential and sensitive receptors. At facilities where ambient air monitoring has been conducted, cancer risks have been found to be well over the significant health risk level, with some facilities having a health risk more than 10 times the significant health risk level.

Under Rule 1402, facilities with health risks above the action risk level which is a Maximum Individual Cancer Risk of twenty-five in one million (25 x 10^-6), cancer burden of one half (0.5), a total acute or chronic HI of three (3.0) for any target organ system at any receptor location, or the National Ambient Air Quality Standard (NAAQS) for lead are required to implement risk reduction measures through an approved Risk Reduction Plan. Facilities with high health risk have implemented risk reduction measures to reduce their health risk, generally well below the Action

Risk Level under Rule 1402. Table 1-2 shows the decreases in health risk to sensitive receptors after facilities implement their risk reduction measures.

Table 1-2
Health Risks to Sensitive Receptors from Facilities Identified Using Ambient Air Monitoring Data

Facility (Primary Metal TAC)	Initial Cancer Risk*[2]	Cancer Risk* After Risk Reduction Measures
Lead battery recycling facility in Vernon (Arsenic)	• 22 in one million (based on a 2012 HRA)	• Not Available – Facility closed down
Cement manufacturing facility in Riverside (Hexavalent Chromium)	• 400-500 in one million based on 2.65 ng/m3 adjacent to the facility in late 2007	• Not Available – Facility voluntarily shut down equipment and then closed down
Metal plating and anodizing facility in Newport Beach (Hexavalent Chromium)	• 1,502 in one million (based on 2013 HRA, recalculated using 2015 OEHHA guidelines)	• 15-20 in one million in approved HRA; adjusted by Executive Officer from initial value of 0.8 in one million
Metal plating and anodizing facility in Paramount (Hexavalent Chromium)**	• 931 in one million (based on 2016 HRA)	• First Risk Reduction Plan rejected; revised Risk Reduction Plan under review
Metal plating and anodizing facility in North Long Beach (Hexavalent Chromium)**	• 441 in one million (based on air dispersion modeling)	• 129 in one million on approved HRA
Metal heat treating facility in Paramount (Hexavalent Chromium)**	• 1,900 in one million (based on 2016 HRA)	• < 1.0 in one million in approved Risk Reduction Plan
Grinding operation at metal forging facility in Paramount (Nickel)	• 15.4 in one million (based on 2012 HRA)	• Risk reduction measures not required; Risk < 25 in one million

* Health Risks from HRAs include all Toxic Air Contaminants
** Facility designated Potentially High Risk Level Facility under Rule 1402

[2] More information regarding the approved Health Risk Assessments for these facilities can be found on South Coast AQMD's AB 2588 website located here: http://www.aqmd.gov/home/rules-compliance/compliance/toxic-hot-spots-ab-2588/health-risk-assessment.

2015 OFFICE OF ENVIRONMENTAL HEALTH HAZARD ASSESSMENT (OEHHA) RISK ASSESSMENT METHODOLOGY

Health risk assessments under Rule 1402 are conducted pursuant to the "Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments" prepared by the Office of Environmental Health Hazard Assessment (OEHHA) and approved on March 6, 2015 referred to herein as the "2015 OEHHA Guidelines"[3]. The 2015 OEHHA Guidelines incorporates age sensitivity factors which increases cancer risk estimates to residential and sensitive receptors by approximately three times, and more than three times in some cases depending on whether the TAC has multiple pathways of exposure in addition to inhalation. Many metal TACs have multiple pathways of exposure. The estimated health risk for hexavalent chromium for a residential and sensitive receptor increased by a factor of approximately three. Under the 2015 OEHHA Guidelines, even though the toxic emissions from a facility have not increased, the estimated cancer risk to a residential receptor will increase. Cancer risks for offsite worker receptors are similar between the existing and revised methodology because the methodology for adulthood exposures remains relatively unchanged. Unless noted on Table 1-2, health risk assessments conducted prior to 2015 used the 2003 OEHHA Guidelines which did not include the age sensitivity factors. Estimated health risks for residential and sensitive receptors would be substantially higher if the 2015 OEHHA Guidelines were applied.

RULE 1402 POTENTIALLY HIGH RISK LEVEL FACILITY

In October 2016, the South Coast AQMD amended Rule 1402 to include provisions for Potentially High Risk Level Facilities. Under Rule 1402, a Potentially High Risk Level Facility is a facility that has a likely potential to either exceed or has exceeded the Significant Risk Level under Rule 1402. A facility designated as a Potentially High Risk Level Facility must submit an Early Action Reduction Plan within 90 days of being designated. The purpose of the Early Action Reduction Plan is to identify interim risk reduction measures that can be implemented quickly to address the high health risk. Potentially High Risk Level Facilities must also submit their Health Risk Assessment and Risk Reduction Plan, concurrently, and within 180 days of being designated to expedite the process. Under Rule 1402, Potentially High Risk Level Facilities must implement risk reduction measures as quickly as feasible and no longer than two years from the date the Risk Reduction Plan is approved. Risk reduction measures are the permanent and enforceable pollution controls and measures that are needed to ensure the facility maintains a health risk below the Action Risk Level. Beginning with the designation of a facility as a Potentially High Risk Level Facility, implementation of measures in the Risk Reduction Plan can take two to three years, depending on the length of time needed to approve or modify the Health Risk Assessment and Risk Reduction Plan. Table 1-3 summarizes the key components in PR 1480 and Rule 1402.

[3] The 2015 OEHHA Guidelines can be found here: https://oehha.ca.gov/air/crnr/notice-adoption-air-toxics-hot-spots-program-guidance-manual-preparation-health-risk-0.

Table 1-3
Summary of Key Components of PR 1480 Metal TAC Monitoring Facility and Rule 1402 Potentially High Risk Level Facility

	PR 1480	Rule 1402
Designation Process For	Metal TAC Monitoring Facility	Potentially High Risk Level Facility
Types of TACs	Metal TACs	All TACS
Health Risks Analyzed	Cancer Risk and Non-cancer Chronic Hazard Index	Cancer Risk, Non-cancer Chronic Hazard Index, and Non-cancer Acute Hazard Index
Receptor Types	Sensitive Receptors	All receptor types - Sensitive Receptors and Worker Receptors
Risk Threshold	**Significant Risk Level** Cancer Risk = 100 in one million Chronic Hazard Index = 5.0	**Significant Risk Level** Cancer Risk = 100 in one million Chronic Hazard Index = 5.0 Acute Hazard Index = 5.0
When can a Facility be Designated?	Based on Metal TAC emissions from the facility, the Executive Officer finds that the Significant Risk Level has been exceeded using air dispersion modeling and Risk Assessment Procedures referenced in Rule 1401	Executive Officer makes the determination that emissions data, ambient data, or data from previously approved HRA indicates that facility has a likely potential to either exceed or has exceeded the Significant Risk Level

EXISTING RULES WITH METAL TAC MONITORING REQUIREMENTS

South Coast AQMD has existing rules that include ambient air monitoring requirements for cement manufacturing (Rule 1156 – Further Reductions of Particulate Emissions from Cement Manufacturing Facilities), lead from metal melting and battery recycling (Rule 1420 series), and soil handling (Rule 1466 – Control of Particulate Emissions from Soils with Toxic Air Contaminants). However there are many rules with emission requirements for Metal TACs that do not have ambient air monitoring requirements, such as chrome plating and anodizing (Rule 1469 – Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations), chromium spraying operations (Rule 1469.1 – Spraying Operations Using Coatings Containing Chromium), non-chromium metal melting (Rule 1407 – Control of Emissions of Arsenic, Cadmium, and Nickel from Non-Ferrous Metal Melting Operations), and metal forging (Rule 1430 – Control of Emissions from Metal Grinding Operations at Metal Forging Facilities). PR 1480 is designed to be a comprehensive Metal TAC monitoring rule for facilities that are not yet covered.

Rule 1156 – Further Reductions of Particulate Emissions from Cement Manufacturing Facilities

Particulate matter emissions, including hexavalent chromium, are created during the cement manufacturing process. Rule 1156 requires ambient air monitoring that follows a Compliance Monitoring Plan. Plans have a minimum of three fence-line monitors for hexavalent chromium with a 24-hour sample taken at a 1-in-3 day frequency with a 30-day rolling average threshold

limit of 0.20 ng/m^3. If there is no exceedance of the threshold limit, which is based on a 90-day rolling average, the sampling frequency may be reduced to 1-in-6 days. If there is an exceedance of the threshold limit, the frequency reverts back to 1-in-3 days. Rule 1156 includes provisions to control and minimize metal TAC emissions.

Rules 1420, 1420.1, and 1420.2 – Emissions Standards for Lead

Rule 1420.1 - Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities, requires lead emissions, as well as arsenic emissions from large battery recycling facilities to be monitored. In addition, Rule 1420.2 - Emission Standards for Lead from Metal Melting Facilities, requires large lead facilities to monitor ambient levels of lead. Rule 1420 - Emission Standards for Lead, requires facilities to monitor if they are designated by the Executive Officer. Ambient air monitoring is conducted to ensure attainment and maintenance of the NAAQS for lead. Rule 1420 requires metal melting or lead processing facilities to meet a 30-day rolling average lead ambient air concentration of 0.150 μg/m^3 until December 31, 2020, and the limit will be lowered to 0.100 μg/m^3 starting on January 1, 2021. The ambient air concentration limit for lead for large lead-acid battery recyclers under Rule 1420.1 is currently 0.100 μg/m^3. Rule 1420.1 also has a 24-hr average limit of 10 ng/m^3 for arsenic. These rules also include provisions to control and minimize fugitive lead-dust emissions. Rule 1420 requires ambient air monitoring once every six calendar days, while Rule 1420.1 requires both lead and arsenic samples be collected daily. The sampling frequency for Rule 1420.2 begins with a daily commission period for the first 30 days and transitions to a sampling frequency of once every six days. The sampling frequency increases to once every three days if the ambient air concentration over 30 consecutive days is between 0.100 and 0.150 μg/m3 and to daily if it exceeds 0.150 μg/m^3.

Rule 1466 – Control of Particulate Emissions from Soils with Toxic Air Contaminants

As a surrogate for the TACs within the soils, dust emissions from earth-moving activities that contain TACs are required for some operations to be monitored using PM10 monitors. These emissions are generated during excavation, grading, handling, treating, stockpiling, transferring, and removal of soils from a site. Rule 1466 includes provisions to control and minimize TAC emissions.

AMBIENT AIR MONITORING TECHNOLOGY

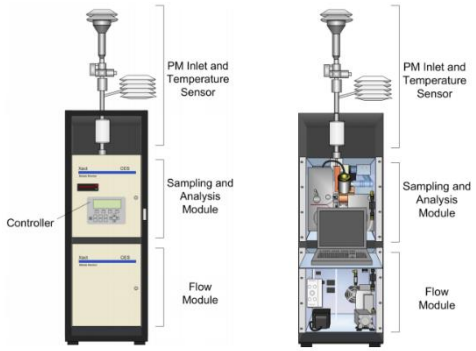
In prior investigations and existing rules, as discussed earlier, South Coast AQMD either utilized or required the use of source-oriented monitoring that identified concentrations of a metal toxic air contaminant. The monitor used depended on the pollutant measured, location of the facility, area available to site a monitor, and other variables. For example, during the Paramount investigation, BGI OMNIs were used as they are portable battery operated samplers that could be deployed on power poles when the only metal toxic air contaminant to be measured was hexavalent chromium. The monitors used to satisfy monitoring requirements in existing rules and for investigations have been mostly stationary and provide a daily integrated sample. Table 1-4 summarizes the stationary monitors that have been used to satisfy rule requirements or for investigations that provide a daily integrated sample.

Table 1-4
Types of Air Monitors Used by South Coast AQMD

Type	BGI OMNI	BGI PQ100	Xonteck 924	Tisch HiVol
Cost	~$4,800	~$6,700	~$24,000	~$7,000
Filter Media	•Cellulose •Teflon	•Cellulose •Teflon	•Quartz •Cellulose	•Glass Fiber •Quartz
Mount Option	•Pole •Stand	•Tripod •Stand	•Stands	•Stand
Pollutant Analyzed	•Multi-metal •Cr^{+6}	•Multi-metal •Cr^{+6}	•Multi-metal •Cr^{+6}	•Multi-metal
Power Source	•AC, DC and solar •Recharge if pole mounted	•AC, DC and solar	•AC	•AC
Flow Rate	•Set at 5 L/minute (Not Adjustable)	•2 L/minute - 25 L/minute •Typically set at 12 L/minute	•0 – 30 L/minute •Typically set at 12 L/minute	•1100-1700 L/minute
Key Characteristics	•Portable •Suitable for fence-line monitoring •1 Filter •Retrieve entire unit for analysis •Used in Paramount and Compton	•Portable •1 filter •Used in Compton and at Newport Beach	•Permanent •4 filters (sequential or parallel) •Monitor multiple compounds simultaneously •Used at Rule 1156 cement facilities and for MATES[1] and NATTS[2]	•Permanent •Hi-Volume •1 filter •Used for Rules 1420, 1420.1 and 1420.2

[1] Multiple Air Toxics Exposure Study
[2] National Air Toxics Trends Stations

In addition to the stationary monitors that take an integrated daily sample, South Coast AQMD has utilized continuous emission monitoring and mobile surveys to identify or measure concentrations of metal toxic air contaminants. This approach to monitoring has not previously been used to satisfy existing rule requirements; however, it has been used in other applications, such as identifying facilities or areas with elevated ambient concentrations that may require further investigations.



Schematic of the Cooper Environmental Services Xact 625

Cooper Environmental Services, LLC (Cooper) is a vendor of multi-metals monitoring technology with monitors that utilize x-ray fluorescence (XRF) to determine concentrations of a specific list of metal compounds. After satisfactory evaluation tests, the South Coast AQMD purchased two Cooper Environmental Services Xact 625 units for continuous multi-metals monitoring. These monitors have been used to determine compliance with a Rule 1402 Risk Reduction Plan for a facility and has assisted in source identification by correlating metals concentrations to wind speed and direction.

One challenge in operating the Xact monitor in remote locations is that it requires to be operated in a temperature controlled environment such as an air conditioned shed. While the Xact monitor can measure multiple metal toxic air contaminants, it cannot measure hexavalent chromium. This continuous ambient air monitoring system has been reviewed by U.S. EPA through its Environmental Technology Verification Program[4]. The report concluded that that the daily average Xact 625 results were highly correlated and in close quantitative agreement with the reference inductively coupled plasma mass spectrometry (ICP-MS) analysis results for most of the six metals analyzed (calcium, copper, manganese, lead, selenium, and zinc), and that the Xact 625 achieved data completeness of over 95%. As part of additional evaluation tests to determine the suitability of the Xact monitor in mobile applications an Xact 625 monitor was temporarily installed in a specialized vehicle and used to identify hotspots and pinpoint areas for further investigation or placement of fixed monitoring sites.

NEED FOR PROPOSED RULE 1480

Under PR 1480, the responsibility of ambient air monitoring would be transferred to the facility that is posing the health risk. PR 1480 is needed to ensure that ambient levels near facilities with significant risk levels are being monitored. Operations with metal TAC emissions can have significant fugitive emissions and monitoring near facilities has shown high levels of metal TACs. As previously discussed, some facilities have had cancer risks that were well above 1,000 in a million, more than 10 times the Rule 1402 Significant Risk Level threshold. When a Potentially High Risk Level Facility is identified through Rule 1402, it can take two to three years to install permanent pollution controls and measures required by the Risk Reduction Plan. During this interim period, ambient air monitoring can monitor emissions from the facility to ensure metal TAC emissions are not increasing. In addition, the ambient air monitoring data is a tool that can be used to verify reductions of metal TAC emissions during the implementation of the Early Action Reduction Plan as well as the Risk Reduction Plan. Additionally, the elevated levels alert the South Coast AQMD of certain activities that may generate emissions.

PR 1480 does not require measures to reduce emissions, but instead would provide information regarding emissions. The primary means in which metal TAC emissions would be reduced is through the requirements of Rule 1402 under the provisions for a Potentially High Risk Level Facility. The facility would be designated pursuant to Rule 1402 and PR 1480 if health risks exceed

[4] Cooper Environmental Services LLC. Xact 625 Particulate Metals Monitor. Kelly, T., Dindal, A., & McKernan, J., Columbus, OH: U.S. Environmental Protection Agency. September 2012.

the Significant Risk Level for metal TACs. Since metal TACs are a subgroup of all TACs evaluated under Rule 1402, the criteria set forth in PR 1480 will affect a subset of sources potentially designated as Potentially Significant Risk Level Facilities under Rule 1402. PR 1480 focuses on residential and sensitive receptors and only metal TACs while Rule 1402 focuses on residential, sensitive and worker receptors and all TACs listed under Rule 1401 – New Source Review of Toxic Air Contaminants. In other words, PR 1480 has a narrower focus.

PR 1480 will provide a consistent approach, implementation, and uniformity for required metal TAC Monitoring across several universes of metal working or processing industries. PR 1480 would require the facility to conduct metal TAC monitoring and sampling until the Risk Reduction Plan under Rule 1402 is implemented or it is determined that a Risk Reduction Plan is not needed, whichever is sooner.

AFFECTED INDUSTRIES

PR 1480 will affect facilities that emit metal TACs and contribute to a high health risk at a sensitive receptor. It is unknown the type or the number of facilities that will be affected by this proposed rule. Types of operations with potential metal TAC emissions include:

- Chromic acid anodizing and chromium plating facilities;
- Metal grinding and buffing operations;
- Metal melting facilities
- Forges and other hot metal working facilities
- Welding and hot cutting operations (not using a lubricant)
- Metal heat treaters
- Cement manufacturers
- Concrete batch plants
- Scrapyards and recyclers that process metal and/or concrete
- Chromium-containing coating operations
- Leather tanneries

PUBLIC PROCESS

Development of PR 1480 is being conducted through a public process. A PR 1480 Working Group has been formed to provide the public and stakeholders an opportunity to discuss important details about the proposed rule and provide South Coast AQMD staff with input during the rule development process. The PR 1480 Working Group is composed of representatives from businesses, environmental groups, public agencies, and consultants. South Coast AQMD has held 11 working group meetings at the South Coast AQMD Headquarters in Diamond Bar. The meetings were held on May 2, 2018, June 13, 2018, November 28, 2018, February 5, 2019, April 10, 2019, May 23, 2019, August 6, 2019, August 29, 2019, October 8, 2019, October 23, 2019, and October 29, 2019. In addition, a Public Workshop was held on October 2, 2019 to present the proposed rule and receive public comment.

CHAPTER 2: SUMMARY OF PROPOSED RULE 1480

OVERALL APPROACH

PROPOSED RULE 1480

- Purpose – Subdivision (a)
- Applicability – Subdivision (b)
- Definitions – Subdivision (c)
- Designation of a Metal TAC Monitoring Facility – Subdivision (d)
- Monitoring and Sampling Plan – Subdivision (e)
- Monitoring and Sampling Requirements – Subdivision (f)
- Alternative Monitoring and Sampling – Subdivision (g)
- Proposed Rule 1480 Fees
- Reduced Monitoring and Sampling Frequency and/or Monitors – Subdivision (h)
- Monitoring, Recordkeeping, and Reporting Requirements – Subdivision (i)
- Discontinuation of Monitoring and Sampling – Subdivision (j)
- Exemptions – Subdivision (k)
- South Coast AQMD Monitoring and Sampling Fees – Appendix 1
- Methodology for Calculating Benchmark Concentration – Appendix 2

OVERALL APPROACH

PR 1480 establishes the process to designate a facility as a Metal TAC Monitoring Facility, and after a facility is designated, requirements to conduct ambient air monitoring for Metal TACs. The requirements include submittal of a Monitoring and Sampling Plan, conducting Metal TAC Monitoring, and reporting of the monitoring data to the Executive Officer.

Both PR1480 and Rule 1402 include provisions for the designation of facilities as a Metal TAC Monitoring Facility and a Potentially High Risk Level Facility, respectively. The criteria set forth in PR 1480 will affect a subset of sources designated as Potentially High Risk Level Facilities under Rule 1402. Both designations are based on when the cancer risk is equal to or greater than one hundred in one million (100 x 10^-6) or the hazard index is equal to or greater than five (5.0) for any target organ system. Where they differ is that PR 1480 focuses on sensitive receptors and only metal TACs and Rule 1402 focuses on residential, sensitive, and worker receptors and all TACs listed in Rule 1401.

Since the universe of affected facilities under PR 1480 is a subset of Rule 1402, a facility subject to the Metal TAC Monitoring requirements of PR 1480 would also be required to reduce the TAC emissions as part of an Early Action Reduction Plan and Risk Reduction Plan under Rule 1402. Additionally a facility can implement voluntary measures to reduce TAC emissions. A facility would cease Metal TAC Monitoring after the facility has fully implemented the required Rule 1402 Risk Reduction Plan, or the date of the approved Health Risk Assessment if it is determined that a Risk Reduction Plan was not required. Implementation of the Risk Reduction Plan would take into account implementation of all measures in the Plan as well as other requirements that may be specified in a rule or permit condition that are needed to ensure the facility meets the risk reduction requirements under Rule 1402.

Only three facilities have been designated Potentially High Risk Level Facilities since this provision was added to Rule 1402 in 2016. All three facilities had cancer risks well over the Significant Risk Level due to metal TAC emissions. The South Coast AQMD has been conducting ambient air monitoring for metal TACs for several years during the implementation of Rule 1402 to ensure that metal TAC emissions do not increase and to alert the Executive Officer of elevated emissions that may be caused by certain equipment, processes, or activities at these facilities. PR 1480 would transfer the responsibility of the Monitoring and Sampling to the facility responsible for the emissions until the facility fully implements its Rule 1402 Risk Reduction Plan or their Rule 1402 Health Risk Assessment is approved, if a Risk Reduction Plan was not required. PR 1480 will complement Rule 1402 by providing the required Monitoring and Sampling for the relatively small number of facilities that pose the greatest health risks to the surrounding Sensitive Receptors due to Metal TACs.

The following provides a general description of the requirements of PR 1480. For specific rule language, please refer to PR 1480.

PROPOSED RULE 1480

Purpose – Subdivision (a)

The purpose of the proposed rule is to require facilities that have been designated by the Executive Officer as a Metal TAC Monitoring Facility to conduct Monitoring and Sampling. A Metal TAC Monitoring Facility is a facility that meets the designation criteria discussed in paragraph (d)(7).

Applicability – Subdivision (b)

PR 1480 applies to facilities that have Metal TAC emissions where a Metal TAC is a metal air pollutant as defined in paragraph (c)(8).This rule applies to the owner or operator of any facility that receives an Initial Notice pursuant to paragraph (d)(1). The Executive Officer will issue the Initial Notice to inform the facility that Monitoring and Sampling is being conducted.

Definitions – Subdivision (c)

PR 1480 includes definitions for specific terms. Several of the definitions are based on definitions from existing South Coast AQMD rules with slight modifications, while other definitions are unique to PR 1480. For certain definitions, additional clarification is provided in this chapter where the definition is used within a specific provision. Please refer to PR 1480 subdivision (c) for definitions used in the proposed rule.

Designation of a Metal TAC Monitoring Facility – Subdivision (d)

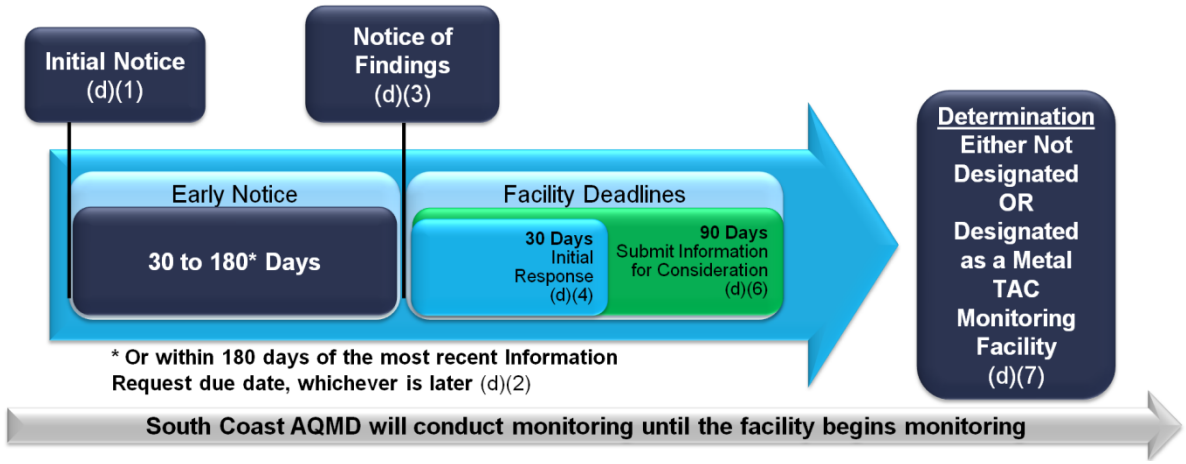
Subdivision (d) establishes the process to designate a facility as a Metal TAC Monitoring Facility. A Metal TAC Monitoring Facility that meets the criteria specified in paragraph (d)(7) will be required to conduct monitoring and sampling of specific Metal TACs.

The designation process begins when, in the course of its investigations, the Executive Officer has reason to believe that a facility may be emitting elevated levels of Metal TACs. The Executive Officer will issue an Initial Notice, which alerts the owner or operator of a facility that the South Coast AQMD is conducting metal TAC monitoring in the area. After receiving the Initial Notice, an owner or operator of a facility may receive an Information Request from the Executive Officer, which may require the owner or operator to provide access to the Executive Officer to conduct emissions testing or Monitoring and Sampling of metal TACs within the facility or provide records in relation to the use or emissions of Metal TACs. The Executive Officer may then issue a Notice of Findings that will inform the facility that it may be designated a Metal TAC Monitoring Facility. The owner or operator of the facility can respond to and/or submit information to the Executive Officer for consideration. The Executive Officer will, using all information available, make a determination to either not designate a facility or designate a facility as a Metal TAC Monitoring Facility. An owner or operator of a facility may contact the Executive Officer at any time to request one or more meetings.

It is important to note that South Coast AQMD first starts monitoring for the Metal TAC in the vicinity of the facility and will continue Metal TAC monitoring and sampling as the designation process under PR 1480 proceeds. Even if the facility is not designated under PR 1480, South Coast AQMD will likely continue monitoring, as seen in the monitoring efforts in Paramount and Compton.

Figure 2-1 provides an overview of the process of designating a facility as a Metal TAC Monitoring Facility.

Figure 2-1
Overview of Designation of Metal TAC Monitoring Facility



Initial Notice (d)(1) and Information Request (d)(2)

During the development of PR 1480, stakeholders requested advance notice of monitoring that may lead to a facility being designated as Metal TAC Monitoring Facility and a pathway for an owner or operator of a facility to identify and correct issues that were associated with Metal TAC emissions detected by ambient monitors. Staff added the Initial Notice in paragraph (d)(1) to provide an early notice to the facility that the South Coast AQMD is conducting Monitoring and Sampling. The Executive Officer may issue future Initial Notices to the same facilities that were previously not designated or are no longer designated as a Metal TAC Monitoring Facility. This could occur if new information is obtained or if there are changes at the facility. Additionally, the owner or operator would be informed that PR 1480 includes an exemption for facilities meeting the criteria in paragraph (k)(3) and information specified in subparagraphs (k)(3)(A) through (k)(3)(C) would need to be submitted within 60 days of the Initial Notice for the Executive Officer to verify the facility's eligibility.

In order to gather the additional information needed to determine if a facility should be designated a Metal TAC Monitoring Facility, the Executive Officer may issue one or more Information Requests pursuant to paragraph (d)(2) to an owner or operator of a facility. The Information Request would be issued following the Initial Notice if the Executive Officer needs additional information to determine if a facility meets the criteria specified in paragraph (d)(7) to designate a facility as a Metal TAC Monitoring Facility. Separate from the Information Request, the Executive Officer may request information outside of this process to implement and enforce other South Coast AQMD rules and for other projects and programs such as permitting, compliance plans, etc. Emission testing of sources verifies that Metal TAC emissions are being generated from an operation or activity at a facility. For example, a facility may process a Metal TAC, but there may not be a method for emissions to be generated. Sample analyses can determine the contents of an operation and/or if there is Metal TAC material being deposited. The Information Request may include requiring the owner or operator to conduct source tests and/or sample analyses. An owner

or operator of a facility has a choice to either conduct this testing or provide the Executive Officer access to the facility to conduct the testing. If the owner or operator chooses to conduct their own testing, the owner or operator will submit a test protocol to South Coast AQMD within the time specified in the written request by the Executive Officer, and the facility subsequently will conduct the test in accordance with the South Coast AQMD-approved protocol within the required timelines, and provide the complete report to the Executive Officer. While the Executive Officer may have initially placed Metal TAC monitors as part of a preliminary investigation, the Metal TAC monitors may not have been sited to quantify Metal TAC emissions from the facility and it may be necessary for Metal TAC monitors to be sited on the property, near the fenceline to more accurately measure emissions from the facility. The Information Request may require placement of the Metal TAC monitors near the fenceline within the facility, or at the fenceline of the facility.

Notice of Findings (d)(3)

After evaluating the information collected regarding the facility, the Executive Officer may issue a Notice of Findings pursuant to paragraph (d)(3). A Notice of Findings is a formal notice from the Executive Officer that a facility may be designated a Metal TAC Monitoring Facility. As discussed in Chapter 1, the Executive Officer utilizes the Four-Step Process to determine if a facility is a source of emissions. The Notice of Findings would include the information that the facility has equipment or processes with Metal TAC emissions and those Metal TAC emissions are capable of being released into the ambient air. In addition, the Notice of Findings will include the highest health risk value at a Sensitive Receptor that exceeds the Significant Risk Level based on the Metal TAC emissions from the facility, location of the Sensitive Receptor with the highest health risk value, and the percent that each Metal TAC contributes to the highest health risk value, based on air dispersion modeling.

Information collected either prior to or following the Initial Notice would be used to determine that Metal TAC emissions are being emitted from processes or operations at the facility. The Executive Officer would use source or screening test results with an emission rate or other known emission factors to model the health risks to a Sensitive Receptor. This approach where only facility-specific information is used to estimate the health risk at the Sensitive Receptor ensures that only the emissions from the facility are used to designate a Metal TAC Monitoring Facility. Cancer Risk and Chronic Hazard Index would be estimated using air dispersion modeling with AERMOD, or the most recent U.S. EPA approved dispersion modeling software, and the Tier 4 detailed risk assessment procedures in Rule 1401[5].

Stakeholders requested that the Notice of Findings include key deadlines of when the owner or operator of the facility would need to comply with specific PR 1480 requirements and the data collected by the South Coast AQMD. A Notice of Findings issued under PR 1480 would include the information and data that the South Coast AQMD is considering to use to designate the facility, the next steps in the process for the facility, along with the appropriate deadlines, and a link to the rule language.

If a Notice of Findings is not issued 180 days after an Initial Notice or 180 days after the due date in the most recent Information Request, the Executive Officer may issue a subsequent Initial Notice that could lead to a Notice of Findings.

[5] The Risk Assessment Procedures referenced in Rule 1401 can be found here: http://www.aqmd.gov/home/permits/risk-assessment.

Facility Response After Notice of Findings (d)(4), (d)(5), and (d)(6)

Throughout the development of PR 1480, stakeholders requested that the facility have the opportunity to respond to the information included in the Notice of Findings and have the necessary time to respond. In paragraph (d)(4), owner or operators that need additional time, beyond 30 days, to prepare information must submit a written notice to the Executive Officer that additional information will be submitted no later than 90 days from the date of the Notice of Findings. Initial drafts of PR 1480 allowed 60 days from the Notice of Findings, which was later increased to 90 days from the Notice of Findings based on stakeholder input.

Paragraph (d)(5) clarifies the type of additional information that can be provided. An owner or operator of a facility may provide any additional data to substantiate that the equipment or processes are not contributing to some or all of the Metal TAC emissions, a list of Enforceable Measures (explained below), a list of future Enforceable Measures, Regulation XIV rules with future effective compliance dates, or information to substantiate that the Metal TAC emissions are not attributed to the facility. Examples of data that a facility may provide include source tests or screening tests, operating records, or information from data recorders.

Enforceable Measures for subparagraph (d)(5)(B) are those measures that reduce or eliminate Metal TAC emissions that are real, permanent, quantifiable, and enforceable by the Executive Officer, and must be implemented at the time of the submittal of the additional information. Examples of Enforceable Measures include installation of emissions control equipment, emissions or throughput limits in permit conditions, and permanent removal of equipment that were sources of Metals of Concern. This provision is intended for those facilities that have already gone through the permitting process and have installed pollution controls or new equipment to permanently reduce emissions or have removed equipment and inactivated their South Coast AQMD permit to operate or canceled their permit to construct.

In addition to Enforceable Measures that have been implemented, the owner or operator may provide information regarding Enforceable Measures that will be implemented within 90 days of a Notice of Findings under subparagraph (d)(5)(C). Pollution controls or equipment still undergoing permit evaluation would not be considered Enforceable Measures unless the Permit(s) to Construct have been issued, the equipment is installed within 60 days of the Notice of Findings, and in operation within 90 days of the Notice of Findings to reduce Metal TAC emissions.

Based on stakeholder comments, provisions were added to recognize implementation of adopted or amended rules that will reduce Metal TAC emissions. Subparagraph (d)(5)(D) allows an owner or operator to submit information regarding Regulation XIV rule with provisions with a final compliance date that would result in Metal TAC emission reductions. The owner or operator may provide a list of equipment or processes and specify the Regulation XIV rule(s) with the final compliance date(s), that will occur after the Notice of Findings is issued. The owner or operator must provide information that the owner or operator has met all interim compliance date(s) and all actions taken if the interim compliance date(s) will occur after the owner or operator is required to submit this information as specified in paragraph (d)(6). The reduction of Metal TAC emissions from equipment or sources meeting these criteria would be considered by the Executive Officer when determining whether or not to designate the facility a Metal TAC Monitoring Facility. If the equipment specified in subparagraph (d)(5)(C) is not in operation within 90 days of the Notice of Findings, it would not be a violation of this rule, but the Executive Officer would disregard the emission reductions from this equipment when considering designation of the facility. Future

Enforceable Measures were added based on stakeholder feedback to recognize efforts made by facilities to reduce Metal TACs. Examples of additional information an owner or operator would provide to demonstrate that the Metal TAC emissions are not attributed to the facility include identifying other sources of Metal TAC emissions in the immediate vicinity of the facility and information that elevated Monitoring and Sampling results were due to exceptional events such as fireworks on the Fourth of July or construction activities involving cement, or welding activities.

Criteria to Designate a Metal TAC Monitoring Facility (d)(7)

Paragraph (d)(7) includes the criteria to designate a facility as a Metal TAC Monitoring Facility. The criteria includes:

- The facility has equipment or processes with Metal TAC(s) emissions;
- The Metal TAC(s) emissions are capable of being released into the ambient air;
- The facility has been designated as a Potentially High Risk Level Facility under Rule 1402; and
- Based on the Metal TAC emissions from the facility, the Executive Officer finds that the Significant Risk Level has been exceeded for any Sensitive Receptor using air dispersion modeling and the Risk Assessment Procedures referenced in Rule 1401, taking into account the following to the extent available:
    - Results of Metal TAC emissions testing and sampling analyses;
    - Results of Monitoring and Sampling;
    - Records of Metal TAC material usages, manifests, and other records;
    - Information provided pursuant to paragraphs (d)(3), (d)(4), (d)(5), and (d)(6);
    - Verification of the reduction or elimination of Metal TACs associated with implementation of enforceable measures provided in subparagraph (d)(5)(B), enforceable measures that will be implemented within 90 days of the Notice of findings provided in subparagraph (d)(5)(C); and provisions in a Regulation XIV rule with a future effective final compliance date provided in subparagraph (d)(5)(D), provided all interim compliance dates have been met; and
    - Other information available to the Executive Officer.

The Executive Officer would consider the information and data collected by, and available to, the South Coast AQMD and the information and data provided by the owner or operator of the facility. For example, default emission factors or source tests from other equivalent sources may be used to estimate Metal TAC emissions from a facility. The Executive Officer would use the information collected to estimate the health risks at the Sensitive Receptors (the definition of Sensitive Receptor which is defined in paragraph (c)(13), includes schools which is defined in paragraph (c)(12)) by using air dispersion modeling such as AERMOD, or the most recent U.S. EPA approved dispersion modeling software, and the Tier 4 detailed risk assessment procedures in Rule 1401[5]. The health risk at a Sensitive Receptor is an estimation based on only the Metal TAC emissions from a facility and it is possible that the approved Rule 1402 health risk assessment may report health risks which are higher than those estimated during the designation process in PR 1480, since Rule 1402 considers all TACs and all sources of TACs. Furthermore, the Executive Officer does not need to have data on all the Metal TAC emissions from all sources to designate a Metal TAC Monitoring Facility. The Executive Officer only needs to demonstrate that Metal TAC emissions, which may be from some sources at the facility cause an exceedance of the Significant Risk Level at a Sensitive Receptor.

Notification of Designation as a Metal TAC Monitoring Facility (d)(8)

Paragraph (d)(8) specifies the information that the Executive Officer would provide if the facility was designated a Metal TAC Monitoring Facility. A facility designated as a Metal TAC Monitoring Facility would be provided:

- Information that demonstrates that the facility met the designation criteria;
- Location of Sensitive Receptors that exceed the Significant Risk Level and the estimated values;
- Metals of Concern, which are those Metal TACs that are contributing to the Significant Risk Level at a Sensitive Receptor; and
- Equipment and processes at the facility that are contributing to exceeding the Significant Risk Level at a Sensitive Receptor;
- Initial number, type, and approximate locations of Metal TAC monitors and wind monitors required to conduct Monitoring and Sampling; and
- The Benchmark Concentration(s) for each Metal of Concern and the identification of the corresponding monitor.

The Benchmark Concentration calculation is specific to each Metal TAC Monitoring Facility and would be used as criteria for approval of a Reduced Basic or Reduced Alternative Monitoring Sampling Plan, reverting from a Reduced Basic or Reduced Alternative Monitoring and Sampling Plan to a Basic or Alternative Monitoring and Sampling Plan, and notifying the Executive Officer for high sampling data. Appendix 2 of PR 1480 provides the methodology on how the Benchmark Concentration is calculated. By providing the Benchmark Concentration(s) upfront during the designation process, the facilities will know the Metal TAC concentration(s) they need to stay under to qualify for a reduction in the Monitoring and Sampling frequency and/or the number of monitors. The Benchmark Concentration would be specified for each Metal of Concern at each monitor performing Monitoring and Sampling.

Based on stakeholder input, the Executive Officer may use an alternative methodology to calculate the Benchmark Concentration if there are multiple facilities within 1,000 feet of the facility of the owner or operator with the same Metal TACs. The purpose of this alternative methodology is to better isolate the Metals of Concern from those sources at the facility of the owner or operator. This provision is allowed when there are one or more facilities that have been issued an Initial Notice with the same Metals of Concern that are within 1,000 feet of each other, as measured from each facility's fenceline. Staff felt that 1,000 feet was an appropriate distance for addressing other sources that are near the Metal TAC Monitoring facility as this is the recommended distance for siting chrome plating and anodizing facilities near sensitive receptors in CARB's Air Quality and Land Use Handbook: A Community Health Perspective[6] and is the approximate distance where the health risk is reduced by 90 percent.

Requirements for a Metal TAC Monitoring Facility (d)(9)

After a facility is designated as a Metal TAC Monitoring Facility, the owner or operator would be required to submit a draft Basic Monitoring and Sampling Plan pursuant to subdivision (e) for review and approval by the Executive Officer. The approval letter for a Monitoring and Sampling

[6] California Air Resource Board. April 2005. Retrieved October 29, 2019, from https://ww3.arb.ca.gov/ch/handbook.pdf.

Plan will specify when ambient air monitoring is to begin to comply with the Monitoring and Sampling requirements pursuant to subdivision (f). If the approval letter does not specify a date, then ambient air monitoring must begin within 30 days of the date of the approval letter. Should the Metal TAC Monitoring Facility elect to have the Executive Officer conduct the Monitoring and Sampling, the owner or operator may submit an Alternative Monitoring and Sampling Plan pursuant to subdivision (g) and would be responsible for the Monitoring and Sampling fees. The information required to be submitted in a Basic or Reduced Basic or Reduced Alternative Monitoring and Sampling Plan is specified in paragraph (e)(1) and the information required to be submitted in an Alternative Monitoring and Sampling Plan is specified in paragraph (e)(2).

Monitoring and Sampling Plan – Subdivision (e)

The Monitoring and Sampling Plan establishes procedures that the owner or operator of a Metal TAC Monitoring Facility must follow when conducting Monitoring and Sampling. The Executive Officer would need to approve the Monitoring and Sampling Plan prior to the start of monitoring and sampling. Paragraph (e)(1) specifies the information that must be included in a Monitoring and Sampling Plan, such as information about the potential sources of Metals of Concern within the facility, a detailed map of the facility, and the Monitoring and Sampling equipment and procedures to be used. Please refer to the Rule 1480 Monitoring and Sampling Plan Guidance for details on what to include in a Monitoring and Sampling Plan.

In order to reduce costs associated with PR 1480, staff has modified provisions for wind speed and direction data collection. In the event that there is an existing wind monitor location representative of the conditions at the facility, taking into account site topography, and the location records wind speed and direction continuously, that wind monitor could be used to satisfy the wind monitoring requirement in paragraph (f)(8). It should be noted, however, the benefit of having a wind monitor is that in the event of an exceedance of four times the Benchmark Concentration, the wind monitor could provide information and evidence that the exceedance is not attributed to the facility. Additionally, an owner or operator of a Metal TAC Monitoring Facility with only one monitor could elect not to collect wind speed and direction data if the owner or operator does not intend to use the wind monitoring data as evidence that exceedances at the one downwind monitor are not attributed to the facility. Wind monitoring data is not necessarily needed to identify other activities that contributed to elevated levels. Records regarding certain activities outside the facility that occurred can be used to substantiate that an exceedance is not attributed to the facility such as road work, construction activities, or welding activities. An owner or operator electing to use the South Coast AQMD to conduct Monitoring and Sampling pursuant to subdivision (g) could also elect to use another third party contractor to conduct wind monitoring which is expected to be less costly option.

Clause (e)(1)(H)(v) allows the use of a surrogate of a Metal of Concern for Monitoring and Sampling instead of the Metal of Concern itself. The use of a surrogate will be evaluated on a case by case basis during evaluation of the Monitoring and Sampling Plan. Although South Coast AQMD staff is not currently aware of any appropriate use of surrogates for Metal TACs, it is possible that as future technologies emerge, this could be a less expensive option for Monitoring and Sampling. An owner or operator wanting to use a surrogate for Monitoring and Sampling must provide this information in the draft Monitoring and Sampling Plan and can use this approach if it is included in an approved Monitoring and Sampling Plan.

Overview of the Monitoring and Sampling Plans

Once designated as a Metal TAC Monitoring Facility, the owner or operator must submit either a Basic Monitoring and Sampling Plan is or an Alternative Monitoring and Sampling Plan for review and approval.

- *Basic Monitoring and Sampling Plan* – a facility that submits a Basic Monitoring and Sampling Plan is required to conduct Monitoring and Sampling, or have a contractor conduct Monitoring and Sampling
- *Alternative Monitoring and Sampling Plan* – a facility that elects to have the Executive Officer conduct Monitoring and Sampling for the owner and operator must submit an Alternative Monitoring and Sampling Plan
- *Reduced Basic or Reduced Alternative Monitoring and Sampling Plans* – facilities that have approved Basic or Alternative Monitoring and Sampling Plans may reduce their Monitoring and Sampling frequency and/or reduce the number of required ambient monitors, if they meet certain criteria, as listed in subparagraphs (e)(5)(A) through (e)(5)(C) (discussed further below)

Subdivision (e) specifies requirements for the Basic Monitoring and Sampling Plan, Alternative Monitoring and Sampling Plan, and Reduced Monitoring and Sampling Plan. A general description of each of these Monitoring and Sampling Plans and the information required is described in Table 2-1.

Table 2-1
Comparison of Monitoring and Sampling Plans

	Basic Monitoring and Sampling Plan	Alternative Monitoring and Sampling Plan	Reduced Monitoring and Sampling Plan
Purpose	For facilities that will have a contractor conduct Monitoring and Sampling for the owner or operator	The Executive officer or its contractor conducts Monitoring and Sampling for the owner or operator	Facility operating under a Basic or Alternative Monitoring and Sampling Plan that meets criteria in subparagraphs (e)(5)(A) through (e)(5)(C) may elect to reduce Monitoring and Sampling frequency and/or number of monitors
Information Required Pursuant to Paragraph (e)(1)	All information in paragraph (e)(1)	Information in subparagraphs (e)(1)(A) through (e)(1)(E), but not in clause (e)(1)(E)(i) if electing to have South Coast AQMD conduct wind monitoring	All information in paragraph (e)(1)
Sampling Frequency	1 in 3 days	1 in 3 days	1 in 6 days
Denial of Revised Draft Monitoring and Sampling Plan	Revised Draft Basic Monitoring and Sampling Plan will be modified and approved as an Alternative Monitoring and Sampling Plan, unless the facility ceases operation of equipment responsible for metal TAC emissions	Revised Draft Alternative Monitoring and Sampling Plan will be modified and approved as an Alternative Monitoring and Sampling Plan	No reduction in the Monitoring and Sampling frequency and/or number of monitors and existing approved Basic or Alternative Monitoring and Sampling Plan is still in effect

Basic Monitoring and Sampling Plan

Once a facility is designated as a Metal TAC Monitoring Facility, it must submit either a Basic or Alternative Monitoring and Sampling Plan. A Metal TAC Monitoring electing to conduct Monitoring and Sampling or hire a contractor to conduct Monitoring and Sampling is required to submit a Basic Monitoring and Sampling Plan.

For a Basic Monitoring and Sampling Plan all of the information specified in paragraph (e)(1) is required, which includes the facility details, such as a map of the facility, the equipment and processes that are sources of Metal TACs, the operating conditions of the equipment, and any source tests or emission tests. A Basic Monitoring and Sampling Plan would also include information regarding how the Monitoring and Sampling will be conducted to meet the requirements in subdivision (f), such as the monitoring equipment and methodology used to obtain ambient air samples (i.e., sample collection), the procedures that samples are removed from the monitors and brought back for analysis (i.e. sample retrieval), sample analysis, quality assurance and quality control procedures; the proposed locations of the monitors; and the information for each company that will conduct monitoring and sampling, including the name of the laboratory that will be used. If wind monitoring is not being proposed, the Basic Monitoring and Sampling Plan should provide the reasons why wind data need not be collected.

Alternative Monitoring and Sampling Plan

An Alternative Monitoring and Sampling Plan is required if the owner or operator of a Metal TAC Monitoring Facility, rather than hiring a contractor to conduct Monitoring and Sampling, elects to have the South Coast AQMD conduct Monitoring and Sampling pursuant to subdivision (g). In an Alternative Monitoring and Sampling Plan, the owner or operator would provide the relevant facility details required under subparagraphs (e)(1)(A) through (e)(1)(E). If wind monitoring is not being proposed, the Alternative Monitoring and Sampling Plan should provide the reasons why wind data need not be collected. However, information pertaining to the Monitoring and Sampling specified in subparagraphs (e)(1)(F) through (e)(1)(I) is not required because South Coast AQMD staff will prepare the Monitoring and Sampling information and include the specifics of how Monitoring and Sampling will be conducted. The South Coast AQMD may hire a third-party contractor to conduct the Monitoring and Sampling.

Reduced Basic or Reduced Alternative Monitoring and Sampling Plan

An owner or operator of a Metal TAC Monitoring Facility that elects to reduce the sampling frequency from 1 in 3 days to 1 in 6 days and/or to reduce the number of monitors (if the facility's approved Monitoring and Sampling Plan required more than one monitor), is required to submit a Reduced Basic or Reduced Alternative Monitoring and Sampling Plan pursuant to subdivision (h). In addition to the criteria for approval for the Basic or Alternative Monitoring Plan, a draft Reduced Monitoring and Sampling Plan must meet additional criteria in subparagraphs (e)(5)(A) through (e)(5)(D):

- If only one Metal of Concern is specified in the notification that the facility has been designated as a Metal TAC Monitoring Facility, the owner or operator of a Metal TAC Monitoring Facility shall demonstrate that the average concentration of the Metal of Concern did not exceed the Benchmark Concentration for the 30 consecutive calendar days preceding the submittal of the Reduced Basic or Reduced Alternative Monitoring and Sampling Plan;
- If more than one Metal of Concern is specified in the notification that the facility has been designated as a Metal TAC Monitoring Facility, the owner or operator of a Metal TAC Monitoring Facility shall demonstrate that either:
    - The average concentration of each Metal of Concern did not exceed its respective Benchmark Concentration for the 30 consecutive calendar days preceding the

submittal of the Reduced Basic or Reduced Alternative Monitoring and Sampling Plan; or

- The estimated health risk associated with all Metals of Concern from the facility are below the Reduced Risk Level for any Sensitive Receptor using air dispersion modeling and Risk Assessment Procedures referenced in Rule 1401 or an alternative approach approved by the Executive Officer.

- The approved Early Action Reduction Plan risk reduction measures required under Rule 1402 have been implemented; and
- The facility did not previously have more than one approved Reduced Monitoring and Sampling Plan.

Earlier versions of PR 1480 did not allow a facility that was on a Reduced Basic or Reduced Alternative Monitoring and Sampling Plan that was required to revert back to a Basic or Alternative Monitoring and Sampling Plan to go back to a Reduced Basic or Reduces Alternative Monitoring and Sampling Plan. The current version of PR 1480 allows facilities one opportunity to go back to a Reduced Basic or Reduced Alternative Monitoring and Sampling Plan if they meet the above criteria.

The Benchmark Concentration(s) are provided with the designation letter along with the other information pursuant to (d)(8). These concentration(s) represent the Reduced Risk Level for the Sensitive Receptor with the highest health risk value for the corresponding Metal of Concern. The average of Monitoring and Sampling data for the 30 consecutive calendar days preceding the submittal of the Reduced Basic or Reduced Alternative Monitoring and Sampling Plan would need to be below the Benchmark Concentration(s) for all Metals of Concern in order to be eligible. In cases where there is more than one Metal of Concern and not all Metals of Concern are below the corresponding Benchmark Concentrations, the owner or operator of a Metal TAC Monitoring Facility may demonstrate that the estimated health risks associated with all Metals of Concern are below the Reduced Risk Level using air dispersion modeling and Risk Assessment Procedures referenced in Rule 1401 or using another approach that is approved by the Executive Officer.

An owner or operator that submits a draft Reduced Basic or Reduced Alternative Monitoring and Sampling Plan can base that plan on their approved corresponding Basic or Alternative Monitoring and Sampling Plan with revisions to the monitoring frequency and/or remove a monitor.

Approval of Basic and Alternative Monitoring and Sampling Plans

Paragraphs (e)(3), (e)(4), and (e)(6) establish the process for approving or not approving the draft Basic and Alternative Monitoring and Sampling Plans. A draft Basic or Alternative Monitoring and Sampling Plan will be approved if it contains the information required in paragraph (e)(1) or (e)(2). Upon approval of a Basic Monitoring and Sampling Plan, the owner or operator would be required to begin Monitoring and Sampling by the date listed in the approval letter. Upon approval of an Alternative Monitoring and Sampling Plan, the owner or operator would be required meet the requirements of paragraph (g)(1) which includes providing access for the South Coast AQMD or its third-party contractor to conduct monitoring and sampling and paying the specified fees. If the approval letter does not specify a date, then ambient air monitoring must begin within 30 days of the date of the approval letter.

Approval of Reduced Basic and Reduced Alternative Monitoring and Sampling Plans

A facility that has an approved Basic or Alternative Monitoring and Sampling Plan may elect to submit a Reduced Basic or Reduced Alternative Monitoring and Sampling Plan to reduce the monitoring and sampling frequency and/or the number of monitors. The Executive Officer may approve the Reduced Basic or Reduced Alternative Monitoring and Sampling Plan if the facility meets the requirements of (e)(5)(A), (e)(5)(B), and (e)(5)(C). Additional information on Reduced Basic or Reduced Alternative Monitoring and Sampling Plans is included in the discussion of subdivision (h) below.

Basic, Alternative, and Reduced Monitoring and Sampling Plans that are Not Approved

Under paragraphs (e)(4) and (e)(6), if the Executive Officer determines that a draft Basic, Alternative, Reduced Basic, or Reduced Alternative Monitoring and Sampling Plan does not meet the approval criteria, the Executive Officer will notify the owner or operator that the draft Basic, Alternative, Reduced Basic, or Reduced Alternative Monitoring and Sampling Plan was not approved and provide the specific deficiencies. The owner or operator must submit a revised draft Basic, Alternative, Reduced Basic, or Reduced Alternative Monitoring and Sampling Plan within 30 days that addresses the deficiencies identified in the letter.

If a revised draft Basic Monitoring and Sampling Plan does not address the deficiencies, the Executive Officer will issue a denial letter. Within 7 days of the date of the denial letter, the owner or operator must either cease operations that contribute emissions of the Metals of Concern (as specified in subparagraph (d)(8)(D)) or notify the Executive Officer that the owner or operator elects to have the Executive Officer conduct Monitoring and Sampling pursuant to subdivision (g) and the revised draft Basic Monitoring and Sampling Plan will be modified by the Executive Officer and approved as an Alternative Sampling and Monitoring Plan.

A revised draft Alternative Sampling and Monitoring Plan that fails to meet the necessary requirements will be modified by the Executive Officer and approved. If a revised draft Reduced Basic Sampling and Monitoring Plan is not approved, the owner or operator must continue to implement the most recently approved Basic Sampling and Monitoring Plan. If a revised draft Reduced Alternative Monitoring and Sampling Plan is not approved, the South Coast AQMD will continue conducting monitoring and sampling based on the most recently approved Alternative Monitoring and Sampling Plan, without a reduction in the Monitoring and Sampling frequency and/or number of monitors. The owner or operator shall continue paying fees for Monitoring and Sampling based on the most recently approved Alternative Monitoring and Sampling Plan.

An owner or operator of a Metal TAC Monitoring Facility may appeal the Executive Officer's denial of a Monitoring and Sampling Plan by appealing to the Hearing Board pursuant to Rule 216 – Appeals.

Modifications to an Approved Monitoring and Sampling Plan (e)(7) and (e)(8)

Before an owner or operator makes any changes at the facility that would result in changes to an approved Monitoring and Sampling Plan, the owner or operator would need to submit a draft Basic, Alternative, Reduced Basic, or Reduced Alternative Monitoring and Sampling Plan. Some examples of changes which would necessitate a modification to an approved Monitoring and Sampling Plan include, but are not limited to, if the owner or operator changes equipment or processes at the facility which would cause a change to the location of the maximum predicted ground level concentration, if the owner or operator wanted to change third party contractors, or if

an update to a specific method was required. The modified Basic, Alternative, Reduced Basic, or Reduced Alternative Monitoring and Sampling Plan would follow the same process to approve or not approve the Basic, Alternative, Reduced Basic, or Reduced Alternative Monitoring and Sampling Plan. However, if the revised draft Reduced Basic or Reduced Alternative Monitoring and Sampling Plan is not approved, the revised draft will be modified by the Executive Officer to correct the identified deficiencies and approved as a Reduced Basic or Reduced Alternative Monitoring and Sampling Plan.

Should an owner or operator be notified by the Executive Office that the Metal TAC Monitoring Facility's approved Monitoring and Sampling Plan is required to be modified, the Executive Officer will provide the reason(s) why the modification is required and what the deficienc(ies) are in the current approved Monitoring and Sampling Plan in order to meet the requirements of subdivision (f). The Executive Officer will identify the reasons and deficiencies in a letter provided to the owner or operator of a Metal TAC Monitoring Facility. Examples of why the Executive Officer may require a modification to an approved Monitoring and Sampling Plan include changes at the facility which would result in changes to the maximum expected ground level concentration and changes to approved Monitoring and Sampling methods.

Monitoring and Sampling Plan Fees (e)(9) and (e)(10)

Evaluation of a Monitoring and Sampling Plan shall be subject to Rule 306 - Plan Fees. If Rule 301 – Permitting and Associated Fees, does not list the fee, the fees for the preparation of an Alternative Monitoring and Sampling Plan are listed in Appendix 1.

Further discussion of fees associated with subdivision (e) is in the Rule 1480 Fees section of this report.

Monitoring and Sampling Requirements – Subdivision (f)

In order for a Monitoring and Sampling Plan to be approved by the Executive Officer, it must meet the requirements in subdivision (f). The subdivision states that the owner or operator of a Metal TAC Monitoring Facility with an approved Monitoring and Sampling Plan is required to:

- Maintain the most recently approved Monitoring and Sampling Plan to include all processes and equipment that emit Metals of Concern and represents current processes and operating conditions;
- Install Metal TAC Monitor(s) and conduct Monitoring and Sampling at a minimum of one site, based on the location of the Maximum Expected Ground Level Concentration of the Metals of Concern, while taking into consideration logistical constraints
- Collect one sample, with a continuous sampling time of at least 23 hours to no more than 25 hours from midnight to midnight, unless a different collection schedule (e.g. 8:00 am to 8:00 am) is specified in an approved Monitoring and Sampling Plan.
- For hexavalent chromium monitoring: if the owner or operator requires an alternate collection schedule for the 24-hour sample collection (e.g. 8:00 am to 8:00 am), to accommodate timely submission of hexavalent chromium samples for analysis, the owner or operator would need to specify the alternate schedule in the draft Monitoring and Sampling Plan for approval by the Executive Officer;
- Monitor and sample on a schedule that will either be one in three days or one in six days, when on a reduced sampling schedule pursuant to subdivision (h), unless receiving written

notification from the Executive Officer to sample on another date in lieu of an atypical sampling day such as the Fourth of July or New Year's Eve;

- Operate and maintain all Monitoring and Sampling equipment in accordance with U.S. EPA approved methods or other methods approved by the Executive Officer in the approved Monitoring and Sampling Plan;
- Collect and analyze each sample in accordance with U.S. EPA approved methods or other methods in the approved Monitoring and Sampling Plan.
    - A chain of custody record must be maintained for discrete samples, those samples that are retrieved and brought to a laboratory for analysis.
    - The laboratory used to analyze the samples must be able to analyze low ambient levels of metal TACs, have previous experience in analyzing for hexavalent chromium and/or metals in the nanograms per cubic meter range, and follow a QA/QC program;
- Retain sample media or sample extracts for six months, or other period in an approved Monitoring and Sampling Plan, unless the entire sample media is consumed, in which case, there is no sample media left to retain. The solution rendered from the acid extraction and digestion of a filter must also be retained and properly stored for six months, unless the entire sample extract is consumed for analysis. The sample media or sample extract should be made available to the Executive Officer, upon request;
- Record wind speed and direction continuously if required in an approved Monitoring and Sampling Plan; and
- Do not miss more than one sample within a 30 consecutive calendar day period, unless the sample was missed due to mechanical failure (including loss of electricity due to local power failures) of the Monitoring and Sampling equipment. A notification and written report to the Executive Officer are still required pursuant to (i)(4) and (i)(5)

Additionally, the owner or operator of a Metal TAC Monitoring Facility must not conduct activities that may damage or bias the samples, including but not limited to tampering with or obstructing the Monitoring and Sampling equipment.

Please refer to PR 1480 for the specific monitoring and sampling requirements.

Although the minimum number of ambient air monitors is one, the Executive Officer may require more than one monitor if the Metal TAC Monitoring facility is large and there are many sources of Metal TAC emissions. A Metal TAC Monitoring facility with only one ambient monitor may have difficulty demonstrating that the Monitoring and Sampling results at the single downwind monitor are not attributed to the facility. For Metal TAC Monitoring Facilities with an additional monitor location which represents upwind conditions, the data from the upwind monitor may be submitted along with wind monitoring data in the follow up reports pursuant to paragraphs (h)(2), (h)(5), and (i)(3) to demonstrate why the elevated monitor concentrations are not attributed to the Metal TAC Monitoring Facility. Similarly, an owner or operator electing not to conduct wind monitoring would not have the wind speed and direction data available to demonstrate that an exceedance of four times the Benchmark Concentration is not attributed to the facility. This does not preclude the facility, however, to provide information regarding activities outside of the facility that may have contributed to elevated levels of Metal TACs such as construction activities.

Alternative Monitoring and Sampling – Subdivision (g)

Paragraph (g)(1) allows the owner or operator of a Metal TAC Monitoring Facility to elect to have the Executive Officer conduct Metal TAC Monitoring in lieu of meeting the requirements of subparagraph (d)(9)(B) or pursuant to clause (e)(4)(B)(ii). The owner or operator of a Metal TAC Monitoring Facility shall provide access for the South Coast AQMD or its third-party contractor to conduct Metal TAC Monitoring. This can include, but is not limited to, providing electricity to power equipment, space for Monitoring and Sampling equipment near the fenceline or at the fenceline within the facility, a suitable location for deployment of a wind monitor, and access to Monitoring and Sampling equipment.

The owner or operator of a Metal TAC Monitoring Facility is required to be pay fees for the Monitoring and Sampling services on a monthly basis. The fee structure would initially be established in Appendix 1 of PR 1480, however, the fees for Metal TAC Monitoring would eventually be incorporated into Rule 301 and periodically updated to reflect changes to the consumer price index or other situations. Appendix 1 of this rule would only be used for the Monitoring and Sampling fees until the fees are incorporated into Rule 301.

If the owner or operator elects to no longer have the Executive Officer conduct Monitoring and Sampling, the owner or operator must notify the Executive Officer and submit a draft Basic Monitoring and Sampling Plan. The owner or operator would be able to use the approved Alternative Monitoring and Sampling Plan and update the contractor information and resubmit that as a draft Basic Monitoring and Sampling Plan and follow the approval process in subdivision (e). The Executive Officer would continue Monitoring and Sampling under the Alternative Monitoring and Sampling Plan until the Basic Monitoring and Sampling Plan is approved.

Further discussion of fees associated with subdivision (e) is in the Rule 1480 Fees section of this report.

Proposed Rule 1480 Fees

PR 1480 provides for payment of various fees for an owner or operator that includes:

- Evaluation of a Monitoring and Sampling Plan
- Electing to have the Executive Officer conduct Monitoring and Sampling pursuant to subdivision (g) that includes;
    - Preparation of an Alternative Monitoring and Sampling Plan
    - Work to conduct Monitoring and Sampling.

Evaluation of a Monitoring and Sampling Plan

Pursuant to paragraph (e)(9), an owner or operator would pay a fee for the evaluation of a Basic, Alternative, Reduced Basic, or Reduced Alternative Monitoring and Sampling Plan. When required, these plans are prepared by a facility and must be approved by the Executive Officer.

The evaluation fee, which is set for in Rule 306(d), is the current hourly fee of $161.17 for non-Title V facilities and $202.06 for Title V facilities. South Coast AQMD staff estimates that the evaluation of a Basic Monitoring and Sampling Plan would require between 20 to 50 hours of South Coast AQMD staff review time, based on staff's previous experience of reviewing similar monitoring plans for Rule 1420.2. One hour of filing a Monitoring and Sampling Plan, that is processing and entering the Monitoring and Sampling Plan into the review system is included in

the 20-50 hours. Review of a Basic Monitoring and Sampling Plan involves verifying the facility information and monitoring information provided in the plan. Staff would need to verify the facility information, review the air dispersion modeling output to confirm the predicted maximum ground level concentration, evaluate the siting of the monitor, conduct a site visit to ensure the proper placement of the monitor, and review the proposed methodology for Monitoring and Sampling. Review of an Alternative Monitoring and Sampling Plan involves verifying the facility information provided in the plan. South Coast AQMD staff's completion of the monitoring information is included in the Alternative Monitoring and Sampling Plan preparation fee.

Currently, Rule 306 lists the fees which would apply to the Monitoring and Sampling Plan. The Plan evaluation fee would be appropriate for South Coast AQMD to recover the reasonable costs associated with review of the Monitoring and Sampling Plans, as described previously. The average amount of time spent reviewing the Monitoring and Sampling Plans would vary based on the complexity of the facility and the corresponding emission sources, as well as the completeness of information submitted. The Monitoring and Sampling Plan would be reviewed by a Meteorological Technician, Principal AQ Chemist, Air Quality Engineer II/Air Quality Specialist, Program Supervisor, Supervising Engineer, Monitoring Operations Manager, and Planning and Rules Manager/Senior Engineering Manager. A senior member of the Special Monitoring group would verify the location of monitoring equipment and the type of equipment to be used. A Principal AQ Chemist would determine the appropriate methods for analysis, an Air Quality Engineer II/Air Quality Specialist would evaluate data collected by the South Coast AQMD and provided by the Metal TAC Monitoring Facility, such as source tests or other emission tests, to determine the location of the monitors by using air dispersion modeling. Additional review would be performed by the Advanced Monitoring Technologies Manager, Senior Engineer, Program Supervisor/Supervising Engineer, and Planning and Rules Manager/Senior Engineering Manager. There are multiple departments involved in the review and approval of a Monitoring and Sampling Plan. Prior to the approval each department must have a first level supervisor review followed by a managerial review prior to the issuance of the Alternative Monitoring and Sampling Plan. There is also time allocated for a senior office assistant to perform administrative support to the evaluation staff. Note that the billing will be based solely on the evaluation hours spent by the evaluating engineer or air quality specialist. To take into account the unbilled hours for review by the supervisor and managers of the various departments, Table 2-2 shows how the hourly staff cost is derived per hour of evaluation at the Air Quality Specialist/Air Quality Engineer II level. This cost is consistent with the current hourly fee of $161.17 for non-Title V facilities and $202.06 for Title V facilities.

Table 2-2
Hourly Staff Cost for Monitoring and Sampling Plan Evaluation

	FY 2018-2019 Burdened Rate	Staff Time per Hour of Evaluation	Staff Cost
Air Quality Specialist/Air Quality Engineer II	$107.20	100%	$107.20
Monitoring Operations Manager	$110.90	20%	$22.18
Advanced Monitoring Operations Manager	$137.45	5%	$6.87
Senior Engineer	$114.64	20%	$22.93
Supervising Engineer/Program Supervisor	$123.01	10%	$12.30
Senior Engineering Manager/Planning and Rules Manager	$137.45	5%	$6.87
Senior Office Assistant	68.95	10%	$6.90
			$185.25

Electing to have the Executive Officer conduct Monitoring and Sampling

Pursuant to subdivision (g), an owner or operator may elect to have Executive Officer conduct Monitoring and Sampling by paying fees. These fees are separate from the toxic emission fees included in the amendment to Rule 301 (2019) for monitoring, inspecting, and auditing a facilities' TAC emissions inventories. The monitoring, inspecting, and auditing of a facility would be the work South Coast AQMD conducts prior to designating a facility a Metal TAC Monitoring Facility. The fees for preparation of an Alternative Monitoring and Sampling Plan and to conduct Monitoring and Sampling is for new work that South Coast AQMD would be conducting on behalf of a Metal TAC Monitoring Facility to satisfy the requirements of PR 1480.

Preparation of an Alternative Monitoring and Sampling Plan

Pursuant to paragraph (e)(10), an owner or operator would be required to pay fees for the preparation of Alternative Monitoring and Sampling Plan to meet the requirements of clause (e)(1)(E)(i) and subparagraphs (e)(1)(F) through (e)(1)(I). An owner or operator that elects to have the Executive Officer conduct Monitor and Sampling would submit the information specified in paragraph (e)(2). The Executive Officer would use the information provided by the owner or operator to prepare an Alternative Monitoring and Sampling Plan that would be followed by the Executive Officer when conducting Monitoring and Sampling at the Metal TAC Monitoring Facility.

The fee is $6,000 as specified in Appendix 1, but may be modified due to changes in the consumer price index, evaluation approach, or other events that may modify the fee. The change in fee would be reflected in a future amendment to Rule 306 – Plan Fees.

The proposed fees have been estimated based on South Coast AQMD staff's experience preparing similar plans in other contexts, including monitoring plans required for other rules or for enforcement investigations. While the preparation of a Monitoring and Sampling Plan can vary depending on its complexity, staff will be following a pre-populated template and adding information identifying the approximate location where Metal TAC monitors and wind monitors would be best sited. The Alternative Monitoring and Sampling Plan would be prepared by a Monitoring Operations Manager. Input would be provided from a Meteorological Technician,

Principal AQ Chemist, and an Air Quality Engineer II/Air Quality Specialist. A Meteorological Technician would verify the location of monitoring equipment and the type of equipment to be used. A Principal AQ Chemist would determine the appropriate methods for analysis, an Air Quality Engineer II/Air Quality Specialist would evaluate data collected by the South Coast AQMD and provided by the Metal TAC Monitoring Facility to determine the location of the monitors by using air dispersion modeling. Additional review would be performed by the Advanced Monitoring Operations Manager, Senior Engineer, Program Supervisor, and a Planning and Rules Manager. There are multiple departments involved in the preparation of an Alternative Monitoring and Sampling Plan. Prior to approval, each department must have a first level supervisor review followed by a managerial review prior to the issuance of the Alternative Monitoring and Sampling Plan. There is also time spent by a senior office assistant to create facility folders, scan reports, and provide administrative support to the evaluation staff. Table 2-3 Alternative Monitoring and Sampling Plan Preparation Cost itemized the hours and the corresponding South Coast AQMD staff needed to prepare an Alternative Monitoring and Sampling Plan.

Table 2-3
Monitoring and Sampling Plan Preparation Cost

	FY 2018-2019 Burdened Rate	Number of hours	Cost
Monitoring Operations Manager	$110.90	20	$2,218.00
Meteorology Technician	$96.41	10	$964.10
Advanced Monitoring Operations Manager	$137.45	2	$274.90
Senior Office Assistant	$68.95	5	$344.75
Air Quality Specialist/Air Quality Engineer II	$107.20	15	$1,608.00
Senior Engineer	$114.64	3	$343.92
Program Supervisor	$123.01	1.5	$184.52
Planning and Rules Manager	$137.45	0.5	$68.73
			$6,006.91

Reduced Monitoring and Sampling

Subparagraph (g)(1)(C) requires the owner or operator that has a current Reduced Alternative or Alternative Monitoring and Sampling Plan to pay the fees for the number of monitors and frequency specified in the most recent plan.

Subparagraph (h)(4)(B) requires the owner or operator to pay fees for the reduced sampling frequency and/or reduced number of monitors as specified in the most recent Reduced Alternative Monitoring and Sampling Plan.

Subparagraph (h)(6)(A) requires the owner or operator to pay fees for a sampling frequency of at least once every three days after certain exceedances of the Benchmark Concentration.

Monitoring and Sampling

A monthly fee is billed to the owner or operator based on the number of monitors required and the monitoring and sampling frequency as specified in the most recently approved Reduced Alternative or Alternative Monitoring and Sampling Plan. The fee structure would initially be established in Appendix 1 of PR 1480, however, the fees for Metal TAC Monitoring would

eventually be incorporated into Rule 301 and periodically updated to reflect changes to the consumer price index or other situations. Appendix 1 of this rule would only be used for Monitoring and Sampling fees until the fees are incorporated into Rule 301. The fees in PR 1480 Table 1 are broken down by the base monitor and additional monitors. The base monitor refers to the minimum of one monitor required by PR 1480. There are two types of monitors – hexavalent chromium or non-hexavalent chromium multi-metal. For Metal TAC Monitoring Facilities requiring only one monitor, the base fee would be the only charge. The fee for the additional monitor would only apply if the Metal TAC Facility was required to have more than one of the same type of monitor. To calculate the fees, the base fee would apply first, then the additional monitor fees would apply to additional monitors of the same type. This is because for hexavalent chromium monitors, staff would need to retrieve the sample within 24 hours of the completion of the sampling period while there is no need to do the same for the multi-metal monitors. If a Metal TAC Monitoring Facility was required to have two monitors – one hexavalent chromium and one non-hexavalent chromium, the base fee that represents this scenario would be used. Table 2-4 shows the PR 1480 Appendix 1, Table 1 – Alternative or Reduced Alternative Monitoring and Sampling Plan Monthly Monitoring Fees that lists the fees that will be assessed to the owner or operator of a Metal TAC Monitoring facility electing to have the South Coast AQMD conduct Monitoring and Sampling.

Table 2-4
PR 1480 Table 1 – Alternative or Reduced Alternative Monitoring and Sampling Plan Monthly Monitoring Fees

	Number and Type of Monitor	Sampling Frequency			
		1 in 3 Days		1 in 6 Days	
		2 Staff	1 Staff	2 Staff	1 Staff
Base	–1 - Metal TAC Monitor - Hexavalent Chromium	$10,000	$6,500	$5,000	$3,500
	–1 - Metal TAC Monitor – Non-Hexavalent Chromium	$5,500	$3,500	$3,000	$2,000
	–1 - Metal TAC Monitor – Hexavalent Chromium & –1 - Metal TAC Monitor – Non-Hexavalent Chromium	$13,000	$8,500	$6,500	$4,500
Additional	1- Metal TAC Monitor - Hexavalent Chromium	$4,000	$3,500	$2,500	$2,000
	1- Metal TAC Monitor – Non-Hexavalent Chromium	$2,500	$2,000	$1,500	$1,000

Monthly billing was chosen over quarterly billing in large part due to stakeholder concerns that smaller facilities would not be able to pay the larger upfront fees associated with quarterly billing. South Coast AQMD would send the owner or operator of a Metal TAC Facility a bill at the beginning of the month with payment due at the end of the month, after the Monitoring and Sampling services have been rendered. A monthly billing frequency was selected as facilities would be able to elect to have the South Coast AQMD conduct Monitoring and Sampling at any time after being designated a Metal TAC Monitoring Facility and there is no requirement for the facility to continue to have the South Coast AQMD conduct Monitoring and Sampling for a specified duration. Furthermore, when certain criteria are met, the Metal TAC Monitoring Facility

would be able to reduce the monitoring frequency and/or the number of monitors or discontinue Metal TAC Monitoring and Sampling. Since the Metal TAC Monitoring Facility would be charged on a pro-rated basis for the services rendered, a monthly billing schedule would make for easier administration.

During the development of PR 1480, rule staff consulted with both laboratory staff and special monitoring/operations to determine the reasonable costs incurred by the South Coast AQMD when conducting monitoring, sampling, and analysis and the necessary cost recovery when a Metal TAC Monitoring Facility chooses the South Coast AQMD to perform such activities. The fees were calculated on an annual basis and then divided up into months to match the proposed monthly collection of fees. The monthly fees were rounded up to the nearest five hundred to account for incidentals which were not adequately captured such as additional mileage charges beyond the estimated distance between Paramount and Diamond Bar, specialized parts needed to install monitoring equipment, copying of data reports, retention of data reports, storage of samples and solutions required in PR 1480, and auditing of samples collected.

In order to determine the appropriate fee, staff itemized the non-labor and labor costs required to conduct monitoring and sampling, which is separate from sample analysis. Non-labor costs for monitoring and sampling included monitors based on the anticipated useful life of the monitor, annual maintenance and battery of the monitor, and vehicle mileage based on a round trip to Paramount from Diamond Bar. There were two different types of Metal TAC monitors that were considered in the preparation of fees, Omni sampler for sampling of hexavalent chromium and a PQ100 sampler for non-hexavalent chromium Metal TACs. The lifetime of the sampler was doubled for a sampling frequency of 1 in 6 days due to the usage being half of a sampling frequency of 1 in 3 days. Special monitoring staff determined the rental estimates for hexavalent chromium monitors, non-hexavalent chromium monitors, and wind monitors by dividing the purchase cost by the anticipated working life time of the equipment based on experience using the equipment. This is a reasonable method to assign costs to facilities because it averages out the initial purchase cost of the monitor by the number of samples and the fees assessed to an owner or operator is based on the number of samples being collected. An additional monitor would be cheaper than the base monitor fee as it would not be necessary to incur an additional trip as the work associated the additional monitor with that trip would be assessed to the base costs.

Labor costs were estimated using the fully burdened staff rates. The fully burdened rate takes into account the staff's hourly salary rate and additional costs such as taxes and benefits. Staff hours were determined based on the necessary tasks to conduct monitoring and maintain the associated equipment. Labor for monitoring and sampling included sample set-up and collection, preventative maintenance, cleaning, flow checks, chain of custody documentation, drive time, semiannual calibration, and annual audit. Additional labor was added for hexavalent chromium monitors as staff would need to retrieve the sample within 24 hours of the completion of the sampling period, hence creating the need for an extra trip to the facility, while there is no need to do the same for the multi-metal monitors where the sample could be retrieved on the next sample day.

South Coast AQMD typically deploys two field staff to perform field work due to potential hazards encountered in the field. During the review of an Alternative Monitoring and Sampling or Reduced Alternative Monitoring and Sampling Plan, the Executive Officer will evaluate and determine if it is appropriate to have only one field staff to conduct Monitoring and Sampling at the Metal TAC Monitoring Facility. A Metal TAC Monitoring Facility would be notified of the Executive

Officer's decision at the time of approval of the Alternative or Reduced Alternative Monitoring and Sampling Plan. The Executive Officer's decision will be based on the following factors:

1. Height of the monitor
2. Use of a ladder
3. Sampling schedule
4. Access to the facility
5. Safety concerns

Sample Analysis

Laboratory staff determined the cost to prepare filters and analyze the Metal TAC by itemizing both labor and non-labor components. Non-labor costs for the analysis of hexavalent chromium include filter, petri dish, consumable reagents, instruments, and an instrument service plan. Labor for the analysis of hexavalent chromium includes prep-light inspection, filter impregnation, sample extraction, sample analysis, and multiple levels of quality assurance and quality check. Non-labor for the analysis of a multi-metal samples includes inductively coupled plasma mass spectrometry supplies, reagents, annual preventative maintenance contracts for analysis equipment, and instruments. Laboratory staff determined the fees associated with the instruments by dividing the total cost of the instruments by the number of samples that would be performed during the anticipated lifetime of the instrument. This is a reasonable method to assign costs to facilities because it averages out the initial purchase cost of the instruments by the number of samples and the fees assessed to an owner or operator is based on the number of samples being analyzed. Labor for the analysis of a multi-metal sample includes extraction preparation, instrument, analysis, and multiple levels of quality assurance and quality control. The analysis and preparation of filters for a hexavalent chromium sample is more expensive due to the increase in time needed to prepare and analyze per sample compared to those for a non-hexavalent chromium Metal TAC.

If the Alternative or Reduced Alternative Monitoring and Sampling Plan requires collection of wind speed and direction, an additional charge of $500 per month would be added. The fee is based on annual work including wind system acquisition, installation cost, wind system calibration, mileage, data review, and an annual independent audit of wind system. An itemization of the non-labor costs and labor costs are shown in Table 2-5 Breakdown of Wind Monitor Costs.

Table 2-5
Breakdown of Wind Monitor Costs

Wind Monitor and Non Labor Costs	Cost	Anticipated Lifetime			Non-Labor Annual Fee
Wind System Acquisition	$6,000	6 years			$ 1,000.00
Vehicle Usage	Miles	Mileage Rate	Number of Occurrences		
Standard Mileage-Install	60	0.58	Once Every 6 Years		$ 5.80
Standard Mileage-Calibration	60	0.58	Twice a Year		$ 69.60
Equipment		Occurrence			
Annual modem subscription	$252.00	Once a Year			$ 252.00
Annual flange bearings and battery replacement	$ 40.00	Once a Year			$ 40.00
Vertical bearings replaced every 3	$170.10	Every 3 Years			$ 56.70
				Non-Labor Subtotal	*$ 1,424.10*
Labor	Hours	Rate	Position	Number of Occurrences	Labor Annual Fee
Wind System Installation	4	96.41	Met Tech	Once Every 6 Years	$ 64.27
Wind System Installation	4	91.81	AQIS II	Once Every 6 Years	$ 61.21
Wind System Calibration	4	96.41	Met Tech	Twice a Year	$ 771.28
Wind System Calibration	4	91.81	AQIS II	Twice a Year	$ 734.48
Annual Data Review	20	96.41	Met Tech	Once a Year	$ 1,928.20
Annual independent audit of wind system by third party					$ 1,000.00
				Labor Subtotal	*$ 4,559.44*
				Annual Total	$ 5,983.54
				Monthly Total	$ 498.63
				Appendix I Fee	***$ 500.00***

Table 2-6 Breakdown of Monitoring and Sampling Fees provides a breakdown of the fees for Monitoring and Sampling by the non-labor costs and labor costs needed to conduct sampling/monitoring and the non-labor costs and labor costs needed to perform sample analysis. The items that went into both the non-labor costs and labor costs are described earlier. An itemized table of how each PR 1480 Appendix 1 fee was estimated can be found in Appendix B to this Staff Report. The tables vary based on whether it is a base or additional monitor, the type of monitor, frequency, and number of staff needed.

Table 2-6
Breakdown of Monitoring and Sampling Fees

				Monitoring and Sampling		Sample Analysis					
Base/ Additional	**No. and Type of Monitor**	**Frequency**	**No. of Staff**	**Non-Labor**	**Labor**	**Non-Labor**	**Labor**	**Annual Total**	**Monthly Total**	**Appendix 1 Fee**	**Appendix B Reference[1]**
Base	1 Hex chrome	1 in 3 days	2	$10,306.40	$83,938.30	$3,645.60	$20,412.00	$118,302.30	$9,858.53	$10,000.00	Table B-1
Base	1 Hex chrome	1 in 3 days	1	$10,306.40	$42,250.30	$3,645.60	$20,412.00	$76,614.30	$6,384.53	$6,500.00	Table B-2
Additional	1 Hex chrome	1 in 3 days	2	$1,850.00	$21,406.30	$3,645.60	$20,412.00	$47,313.90	$3,942.83	$4,000.00	Table B-3
Additional	1 Hex chrome	1 in 3 days	1	$1,954.40	$10,984.30	$3,645.60	$20,412.00	$36,996.30	$3,083.03	$3,500.00	Table B-4
Base	1 Hex chrome	1 in 6 days	2	$5,415.40	$42,250.30	$1,822.80	$10,206.00	$59,694.50	$4,974.54	$5,000.00	Table B-5
Base	1 Hex chrome	1 in 6 days	1	$5,415.40	$21,406.30	$1,822.80	$10,206.00	$38,850.50	$3,237.54	$3,500.00	Table B-6
Additional	1 Hex chrome	1 in 6 days	2	$1,135.00	$10,984.30	$1,822.80	$10,206.00	$24,148.10	$2,012.34	$2,500.00	Table B-7
Additional	1 Hex chrome	1 in 6 days	1	$1,135.00	$5,773.30	$1,822.80	$10,206.00	$18,937.10	$1,578.09	$2,000.00	Table B-8
Base	1 Metal	1 in 3 days	2	$6,604.90	$42,250.30	$3,369.24	$8,711.81	$60,936.25	$5,078.02	$5,500.00	Table B-9
Base	1 Metal	1 in 3 days	1	$6,604.90	$21,406.30	$3,369.24	$8,711.81	$40,092.25	$3,341.02	$3,500.00	Table B-10
Additional	1 Metal	1 in 3 days	2	$2,324.50	$10,984.30	$3,369.24	$8,711.81	$25,389.85	$2,115.82	$2,500.00	Table B-11
Additional	1 Metal	1 in 3 days	1	$2,324.50	$5,773.30	$3,369.24	$8,711.81	$20,178.85	$1,681.57	$2,000.00	Table B-12
Base	1 Metal	1 in 6 days	2	$3,480.65	$21,406.30	$1,684.62	$4,355.90	$30,927.47	$2,577.29	$3,000.00	Table B-13
Base	1 Metal	1 in 6 days	1	$3,480.65	$10,984.30	$1,684.62	$4,355.90	$20,505.47	$1,708.79	$2,000.00	Table B-14
Additional	1 Metal	1 in 6 days	2	$1,288.25	$5,773.30	$1,684.62	$4,355.90	$13,102.07	$1,091.84	$1,500.00	Table B-15
Additional	1 Metal	1 in 6 days	1	$1,288.25	$3,167.80	$1,684.62	$4,355.90	$10,496.57	$874.71	$1,000.00	Table B-16
Base	Combination	1 in 3 days	2	$12,630.90	$105,344.60	$7,014.84	$29,123.81	$154,114.15	$12,842.85	$13,000.00	Table B-17
Base	Combination	1 in 3 days	1	$12,630.90	$53,234.60	$7,014.84	$29,123.81	$102,004.15	$8,500.35	$8,500.00	Table B-18
Base	Combination	1 in 6 days	2	$6,703.65	$53,234.60	$3,507.42	$14,561.90	$78,007.57	$6,500.63	$6,500.00	Table B-19
Base	Combination	1 in 6 days	1	$6,703.65	$27,179.60	$3,507.42	$14,561.90	$51,952.57	$4,329.38	$4,500.00	Table B-20

[1]An itemized table of how each Appendix 1 Fee was developed is located in Appendix B for the listed table in the column.

For example, a facility that elects to have the South Coast AQMD conduct Monitoring and Sampling and is required to have one hexavalent chromium monitor with two staff members at a sampling frequency of once every three days would be assessed the following fees:

- $6,000 – Alternative Monitoring and Sampling Plan Preparation Fee (described above)
- $10,000 – Monthly Monitoring and Sampling Fee (shown in Table 2-4)

Reduced Monitoring and Sampling Frequency and/or Monitors – Subdivision (h)

Reduced Basic or Reduced Alternative Monitoring and Sampling Plan (h)(1) and (h)(4)

An owner or operator with an approved Basic or Alternative Monitoring and Sampling Plan is eligible to request a reduction in the Monitoring and Sampling frequency, from the initial, at least once every three days, to a reduced, at least once every six days, schedule and/or a reduction in the number of monitors, if the criteria in subparagraphs (e)(5)(A) through (e)(5)(D) are met. The owner or operator would submit a draft Reduced Monitoring and Sampling Plan and implement the Reduced Monitoring and Sampling Plan after the owner or operator gets approval from the Executive Officer. In response to stakeholder concerns, a Metal TAC Monitoring Facility that was required to revert back to a once every three day sampling frequency would be eligible to reduce the monitoring frequency one more time. However, if the Metal TAC Monitoring Facility was required to revert back to a once every three day sampling schedule, it would no longer be eligible to reduce the monitoring frequency.

Exceedance of Benchmark Concentration (h)(2), (h)(3),(h)(5), and (h)(6)

A Benchmark Concentration is the Metal TAC concentration at a Metal TAC Monitor that would represent a Reduced Risk Level at a Sensitive Receptor calculated using the methodology in Appendix 2 in the rule and is provided to the facility during designation as a Metal TAC Monitoring Facility. For facilities conducting their own monitoring and sampling, if the concentration of three consecutive Valid Samples each exceeded the Benchmark Concentration by four times, for any individual Metal of Concern, the owner or operator must provide notice to the Executive Officer with the date of the exceedances, the monitor, the concentration level of the Metal TAC, and an explanation, if any for the exceedance. For example, if a Metal TAC Monitoring Facility has two Metals of Concern (e.g. Metal TAC 1 and Metal TAC 2) identified by the Executive Officer in subparagraph (d)(8)(C), and there are three consecutive results greater than four times the Benchmark Concentration specified in subparagraph (d)(8)(F) for either Metal TAC 1 or Metal TAC 2, the owner or operator must notify the Executive Officer. However, if the three consecutive exceedances of four times the Benchmark Concentration are for Metal TAC 1, Metal TAC 2, and Metal TAC 1, then the owner or operator does not need to notify the Executive Officer. This is because the three consecutive exceedances of four times the Benchmark Concentration are not all for the same Metal TAC. The explanation can include any information to substantiate that the exceedances were not attributed to the facility. For facilities electing to have the South Coast AQMD conduct monitoring and sampling, the Executive Officer would notify the owner or operator of the exceedances and the owner or operator can provide information to the Executive Officer with any information to substantiate that the exceedances were not attributed to the facility.

If the Executive Officer finds that the emissions are attributed to the facility, the facility must immediately return to an increased Monitoring and Sampling frequency of once every three days

and/or increase the number of monitors to what was previously approved. The Executive Officer will notify the facility in writing and will take the facility's Reduced Monitoring and Sampling Plan, change the frequency and the number of monitors to revert back to what was in the previously approved Basic or Alternative Monitoring and Sampling Plan and provide the owner or operator with an approved Basic or Alternative Monitoring and Sampling Plan. The owner or operator would not be allowed to request a reduced monitoring and sampling frequency and/or monitors again. Although a facility may have reduced the number monitors when moving from a Basic or Alternative Monitoring and Sampling Plan to a Reduced Monitoring and Sampling Plan, all monitors should remain onsite or be available to be installed immediately, in the event that a facility is required to add monitors when reverting to a Basic or Alternative Monitoring and Sampling Plan.

Monitoring, Recordkeeping, and Reporting Requirements – Subdivision (i)

Upon starting Monitoring and Sampling, a facility must electronically submit a report to the Executive Officer by the 21st of each month. Paragraph (i)(1) specifies the information that must be reported. Records specified in paragraph (i)(2) must be maintained for a minimum of three years by the owner or operator of a facility and will be made available to the Executive Officer upon request. Additionally, if the concentration of three consecutive Valid Samples each exceeded the Benchmark Concentration by four times, for any individual Metal of Concern, the owner or operator of a Metal TAC Monitoring Facility shall notify the Executive Officer by calling 1-800-CUT-SMOG within 24 hours of receiving the third Valid Sample result and provide the information specified in paragraphs (h)(2)(A) and (h)(2)(B). An owner or operator of a Metal TAC Monitoring Facility can provide information such as why the exceedance is not attributed to the facility or if there were certain activities occurring at the facility in the follow up report within three calendar days of the initial notification to the Executive Officer.

The owner or operator of a Metal TAC Monitoring Facility shall notify the Executive Officer by calling 1-800-CUT-SMOG and providing the information specified in (i)(4) within two hours of knowing that a Valid Sample was not or will not be collected from any approved monitor. Within seven calendar days of the call to the Executive Officer, the owner or operator must provide written documentation of the repair or replacement of the monitor that demonstrates that the incident was beyond the control of the facility and was not due to neglect or operator error. The Executive Officer will determine whether or not the incident would count as missed Valid Sample(s). Scheduled events, such as announced power outages, that would affect the ability of the owner or operator, or its third party contractor, to collect a Valid Sample are not considered beyond the control of the owner or operator. In the event the Executive Officer is conducting the Monitoring and Sampling for the Metal TAC Monitoring Facility under an Alternative or Reduced Alternative Monitoring and Sampling Plan, the owner or operator is required to notify the Executive Officer of such scheduled events.

Discontinuation of Monitoring and Sampling – Subdivision (j)

Once the owner or operator of a Metal TAC Monitoring facility receives a written notification from the Executive Officer that the approved Risk Reduction Plan has been fully implemented or if the approved Health Risk Assessment indicates that a Risk Reduction Plan is not required, the facility shall no longer be designated a Metal TAC Monitoring Facility. The owner or operator of

the facility would no longer be subject to paragraph (d)(9) and may discontinue Monitoring and Sampling.

It is possible that a facility that is designated under Rule 1402 as Potentially High Risk Level Facility may not be required to prepare and implement a Risk Reduction Plan if the approved Health Risk Assessment has a cancer risk of less than 25 in one million and a non-cancer chronic hazard index of less than 3.0.

Housekeeping provisions which are needed to minimize fugitive emissions should be incorporated into any required Risk Reduction Plan to ensure that these emission reduction measures are permanent and enforceable. Full implementation of the Risk Reduction Plan represents completion of permanent pollution controls and measures to ensure the facility will maintain health risk levels below the Rule 1402 Action Risk Level.

Exemptions – Subdivision (k)

PR 1480 includes two exemptions to account for those sources that are already regulated under rules that have ambient air monitoring requirements for lead or hexavalent chromium. While lead emissions addressed by Rule 1420 – Emissions Standard for Lead, Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities, or Rule 1420.2 – Emission Standards for Lead from Metal Melting Facilities are exempt, these facilities would still be subject to PR 1480 for Metal TAC(s) other than lead. Additionally, hexavalent chromium emissions monitored as required by Rule 1156 are exempt, however these facilities would still be subject to PR 1480 for other Metal TAC(s).

PR 1480 includes an exemption for facilities that have annual gross receipts of three million dollars ($3,000,000) or less, averaged over the previous three years, and 25 or fewer employees. During the development of PR 1480, stakeholders were concerned that the costs of Monitoring and Sampling would place a financial burden on smaller facilities that would not have the ability to absorb those costs. The criteria was based in stakeholder input on the number of employees and gross receipts which would make the requirements of PR 1480 too burdensome. Facilities meeting the criteria would be exempt from PR 1480 except for paragraphs (d)(1) and (d)(2). The Executive Officer may issue an Initial Notice and Information Requests, but the owner or operator would not receive a Notice of Findings and the facility would not be designated as Metal TAC Monitoring Facility under PR 1480. No later than 60 days after receiving the Initial Notice, the owner or operator would be required to submit documentation to show that the facility meets both the criteria. For gross receipts, the owner or operator would need to provide tax returns for the previous three years or other documentation that the Executive Officer can use to verify the annual gross receipts. For the number of employees, the owner or operator would need to provide the Internal Revenue Service's Form 941, which lists the number of employees or any other documentation that the Executive Officer can use to verify the number of employees. For purposes of PR 1480, employees includes but is not limited to full-time, part-time, temporary, seasonal, etc. In addition to the information provided, the Executive Officer may also rely on South Coast AQMD inspector reports to verify the number of employees.

South Coast AQMD Monitoring and Sampling Fees – Appendix 1

Appendix 1 lists the fees for the Executive Officer to prepare the Alternative Monitoring and Sampling Plan and conduct Monitoring and Sampling under an Alternative Monitoring and

Sampling Plan. The fee for the preparation of the Alternative Monitoring and Sampling Plan in Appendix 1 will be superseded by Rule 306 – Plan Fees and the fee for conducting Monitoring and Sampling will be superseded by Rule 301 – Permitting and Associated Fees when the rules are amended to include these relevant fees.

Principle

This paragraph outlines that the owner or operator of a Metal TAC Monitoring Facility would pay the Executive Officer on a monthly basis to conduct Monitoring and Sampling.

Preparation of a Monitoring and Sampling Plan

Under PR 1480, facilities can submit a Basic Monitoring and Sampling Plan and use third party contractors to conduct the ambient air monitoring and sampling, or they can elect to have the Executive Officer prepare an Alternative Monitoring and Sampling Plan and conduct the ambient air monitoring and sampling. The owner or operator who elects to have the Executive Officer conduct the Monitoring and Sampling would be responsible for the fees associated with the plan preparation of subparagraphs (e)(1)(E) through (e)(1)(I) of an Alternative Monitoring and Sampling Plan. If a facility prepares a Basic Monitoring and Sampling Plan, it must be submitted to the Executive Officer for evaluation and be subjected to a plan review fee per Rule 306.

Metal TAC Monitoring Fee

PR 1480 Table 1 – Alternative or Reduced Alternative Monitoring and Sampling Plan Monthly Monitoring Fees lists the fees that will be assessed to the facility.

If the Executive Officer contracts with a third-party contractor to conduct Monitoring and Sampling, the fees would be specified by the third-party contractor. The fees charged by the Executive Officer would not exceed the fees specified in Rule 306, Rule 301, or Appendix 1, if applicable.

The number, type, and location of the monitors is initially specified in the designation notice and maintained in the most recent Alternative Monitoring and Sampling Plan. The number of monitors would impact the monthly fees. The base number of monitors depends on the Metals of Concern identified in the designation notice. Additional monitors may be needed to measure Metal TAC emissions coming from sources throughout the facility. The cost for each additional monitor beyond the base is specified in Table 1. Additional monitors would increase the workload at the facility resulting in increased fees. The Executive Officer may require modification to the number, type, and location of the monitors needed to conduct Monitoring and Sampling based on new information from the date the facility was designated a Metal TAC Monitoring Facility. The Executive Officer may require the owner or operator of a Metal TAC Monitoring Facility to submit a draft Alternative Monitoring and Sampling Plan with the necessary modifications. The need for the modification would be explained in the notice from the Executive Officer.

Payment Deadline

The fees for Monitoring and Sampling shall be billed on a monthly basis with payments being due on or before the end of the month for which Monitoring and Sampling is required. This bill would include any other unpaid operating and maintenance fees. If the operating and maintenance fee is not paid in full within 60 calendar days of its due date, a 10 percent surcharge shall be imposed. This surcharge is needed to recover the additional staff costs needed to collect on the outstanding

amounts owed by owner or operators of facilities. In addition, non-payment of invoices would be a violation of this rule or Rule 301, once the fees are included.

Pro-Rated Payments

If Monitoring and Sampling will no longer be required to be conducted by the Executive Officer or if the sampling frequency is modified in the middle of a month, an owner or operator shall pay fees at a prorated amount.

If the number and/or type of monitors is modified in the middle of a month, an owner or operator shall pay fees at a prorated amount.

Methodology for Calculating Benchmark Concentration – Appendix 2

The Benchmark Concentration is provided at the time a facility is designated a Metal TAC Monitoring Facility and is used as criteria for approval of a Reduced Basic or Reduced Alternative Monitoring Sampling Plan pursuant to subparagraph (e)(5)(A), basis for a Metal TAC Monitoring Facility on a Reduced Basic or Reduced Alternative Monitoring and Sampling Plan to revert back to a Basic or Alternative Monitoring and Sampling Plan pursuant to paragraphs (h)(3) and (h)(6), and as a notification level pursuant to paragraphs (h)(2), (h)(5), and (i)(3). The Benchmark Concentration is specific for each facility and each Metal of Concern and would be specified in the designation letter pursuant to subparagraph (d)(8)(F).

In order to designate a Metal TAC Monitoring Facility, the South Coast AQMD staff would have to use air dispersion modeling to demonstrate that the facility's Metal TAC emissions are causing the Significant Risk Level to be exceeded at a Sensitive Receptor. The results from monitoring and sampling would be used to compare to the air dispersion model predicted concentrations. If the model predicted concentrations are higher than the monitoring and sampling results, then there is confidence that no additional sources of Metal TAC emissions at the facility have been overlooked.

The Benchmark Concentration is the higher of the Ratio Concentration and the Estimated Risk Concentration. The Ratio Concentration is based on calculating the reductions needed at the Sensitive Receptor to get below the Reduced Risk Level and applying that ratio to the highest 30 consecutive calendar day average concentration at the monitor.

For example, a facility's Metal TAC emissions were modeled and found to cause a cancer risk of 700 in one million at a Sensitive Receptor and the model predicted concentration at the monitor was 4.27 ng/m3. The facility's Ratio is the maximum cancer risk divided by the Reduced Risk Level or 450 per million / 25 per million = 18.

Table 2-7 shows the ambient monitoring data from the monitor at the facility's fenceline.

Based on Table 2-7, the highest 30 consecutive calendar day average concentration is 3.93 ng/m3 (bold numbers). Therefore the facility's Ratio Concentration is calculated as the highest 30 consecutive calendar day average concentration divided by the Ratio or 3.93 ng/m3 / 18 = 0.22 ng/m3.

Table 2-7
Example Ambient Monitoring Data

Date	Concentration	Date	Concentration	Date	Concentration	Date	Concentration
5/1/19	2.0 ng/m3	**5/22/19**	**5.0 ng/m3**	**6/12/19**	**6.2 ng/m3**	7/3/19	1.5 ng/m3
5/4/19	1.3 ng/m3	**5/25/19**	**3.5 ng/m3**	**6/15/19**	**3.0 ng/m3**	7/6/19	1.0 ng/m3
5/7/19	1.7 ng/m3	**5/28/19**	**6.0 ng/m3**	**6/18/19**	**3.5 ng/m3**	7/9/19	2.0 ng/m3
5/10/19	1.2 ng/m3	**5/31/19**	**3.0 ng/m3**	**6/21/19**	**3.0 ng/m3**	7/12/19	0.1 ng/m3
5/13/19	1.5 ng/m3	**6/3/19**	**2.0 ng/m3**	6/24/19	2.0 ng/m3	7/15/19	4.0 ng/m3
5/16/19	1.3 ng/m3	**6/6/19**	**3.0 ng/m3**	6/27/19	2.1 ng/m3	7/18/19	7.0 ng/m3
5/19/19	1.6 ng/m3	**6/9/19**	**5.0 ng/m3**	6/30/19	0.9 ng/m3	7/21/19	0.7 ng/m3

The Estimated Risk Concentration is the concentration which represents the Reduced Risk Level plus the Basin-wide background concentration from the most recent Multiple Air Toxics Study (MATES)[1].

In this example, if the Metal TAC was hexavalent chromium, which has a concentration of 0.045 ng/m3 for the Reduced Risk Level and a Basin-wide background concentration of 0.06 ng/m3, then the Estimated Risk Concentration would be 0.105 ng/m3. Since the Ratio Concentration of 0.22 ng/m3 is higher than the Estimated Risk Concentration, the Benchmark Concentration would be 0.22 ng/m3.

However, if the Metal TAC was arsenic, which has a concentration of 0.32 ng/m3 for the Reduced Risk Level and the MATES Basin-wide average concentration is 0.55 ng/m3, then the Estimated Ratio Concentration would be 0.87 ng/m3. In this case, the Benchmark Concentration would be 0.87 ng/m3.

In instances where there are multiple facilities that have the same emissions of Metals of Concern in proximity to the Metal TAC Monitoring Facility and those emissions might be captured by the downwind monitor, the Executive Officer might use or approve the use of an alternative methodology to calculate the Benchmark Concentration. This alternative methodology would be used in situations where:

A. There is one or more facilities that are within 1,000 feet of the owner or operator's Metal TAC Monitoring Facility. The distance is measured from the fenceline of the Metal TAC Monitoring Facility to the fenceline of the other facility;

B. Each facility referenced in A, above, has been issued an Initial Notice pursuant to paragraph (d)(1); and

C. The Executive Officer has emissions data that the facility or facilities referenced in A, above, has equipment or sources within the facility with the same Metals of Concern as those emitted by the Metal TAC Monitoring Facility.

The alternative methodology would establish a Benchmark Concentration that is representative of the Reduced Risk Level at a sensitive receptor for each Metal of Concern, taking into account the emissions from other facilities which are in close proximity. The use of the alternative methodology would be based on the unique characteristics and parameters for each Metal TAC Monitoring Facility and developed on a case by case basis.

CHAPTER 3: IMPACT ASSESSMENT

AFFECTED SOURCES

PR 1480 applies to facilities that are sources of Metal TAC(s) after being notified by the Executive Officer through an Initial Notice. This includes facilities that conduct practices such as metal working including but not limited to metal heat treating, forging, melting, cutting, welding, grinding, polishing, and finishing. These facilities can potentially include cement operations and other operations that use metals in the process. Facilities that may have been previously exempt from permitting under Rule 219 – Equipment Not Requiring a Written Permit Pursuant to Regulation II are potentially subject to the requirements of PR 1480 if it is designated a Metal TAC Monitoring Facility.

EMISSIONS IMPACT

PR 1480 does not directly reduce emissions. A facility designated under PR 1480 will be designated as a Potentially High Risk Level Facility under Rule 1402 which will require implementation of an Early Action Risk Reduction Plan and a Risk Reduction Plan. If Metal TAC emissions are being released prior to implementing a Risk Reduction Plan, the South Coast AQMD can seek an order for abatement from the Hearing Board or use other legal tools to address elevated Metal TAC emissions.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

Pursuant to the California Environmental Quality Act (CEQA) and South Coast AQMD Rule 110, the South Coast AQMD, as lead agency for the proposed project, has reviewed PR 1480 pursuant to: 1) CEQA Guidelines Section 15002(k) – General Concepts, the three-step process for deciding which document to prepare for a project subject to CEQA; and 2) CEQA Guidelines Section 15061 – Review for Exemption, procedures for determining if a project is exempt from CEQA. South Coast AQMD staff has determined that because PR 1480 does not contain any project elements requiring physical modifications that would cause an adverse effect on the environment, it can be seen with certainty that there is no possibility that the proposed project may have a significant adverse effect on the environment. Therefore, the project is considered to be exempt from CEQA pursuant to CEQA Guidelines Section 15061(b)(3) – Common Sense Exemption. PR 1480 is crafted to require facilities designated as Potentially Significant Facilities to conduct metal toxic air contaminant monitoring. Therefore, the proposed project is considered to be categorically exempt because it is designed to protect or enhance the environment pursuant to CEQA Guidelines Section 15308 – Actions by Regulatory Agencies for Protection of the Environment. Additionally, as provided in CEQA Guidelines Section 15306 – Information Collection, the proposed project is exempt because it will consist of basic data collection, research and resource evaluation activities and will not result in a serious or major disturbance to an environmental resource. CEQA Guidelines Section 15306 exempts such a project for information-gathering purposes, or as part of a study leading to future action which the agency has not yet taken. Further, South Coast AQMD staff has determined that there is no substantial evidence indicating that any of the exceptions to the categorical exemptions apply to the proposed project pursuant to CEQA Guidelines Section 15300.2 – Exceptions. A Notice of Exemption will be prepared pursuant to CEQA Guidelines Section 15062 – Notice of Exemption. If the project is approved, the Notice of Exemption will be filed with the county clerks of Los Angeles, Orange, Riverside and San Bernardino counties.

SOCIOECONOMIC IMPACT ASSESSMENT

Affected Facilities and Industries

PR 1480 is a monitoring and sampling rule for facilities with Metal Toxic Air Contaminant (TAC) emissions that meet specific criteria. PR 1480 establishes the process to designate facilities with Metal TAC emissions. If a facility meets the specified criteria in PR 1480, the facility will be designated as a Metal TAC Monitoring Facility and will be required to conduct ambient monitoring and sampling. The designation process includes an Initial Notice to the facility that the South Coast AQMD is conducting ambient monitoring and sampling. The Executive Officer may then issue a request for information, if additional information is needed to determine if the facility meets the criteria for designation as a Metal TAC Monitoring Facility. Through the designation process, the owner or operator has the opportunity to provide additional information to the Executive Officer. The Executive Officer will consider the information provided by the owner or operator, in addition to information collected through South Coast AQMD's own investigation and will evaluate if the criteria specified in paragraph (d)(7) to designate the facility as a Metal TAC Monitoring Facility is met. If the facility meets the designation criteria, which includes that the facility has been designated as a Potentially High Risk Level Facility under Rule 1402 and the Metal TAC emissions from the facility are causing a health risk to a sensitive receptor that is above the Significant Risk Level, the facility would be designated as a Metal TAC Monitoring Facility and will be required to submit a Monitoring and Sampling Plan and conduct Monitoring and Sampling.

PR 1480 only applies to facilities that are emitting Metal TACs. There are a wide range of industries that use Metal TACs such as cadmium, nickel, arsenic, and hexavalent chromium. Table 3-1 presents the facilities and industries in the four-county region with various types of metal operations. According to Emsi (Economic Modeling International), nearly 1,350 facilities operate in industry categories that conduct activities with various Metal TACs. Only those facilities that meet the designation criteria specified in PR 1480 would be subject to ambient monitoring and sampling. Based on monitoring and sampling efforts that the South Coast AQMD has conducted since the end of 2016, there are only three facilities that have been designated as a Potentially Significant Level Facility under Rule 1402, which is one of the criteria to designate a facility as a Metal TAC Monitoring Facility under PR 1480.

Table 3-1
Industry Categories Potentially Subject to PR 1480, by County

NAICS	Los Angeles	Orange	Riverside	San Bernardino	Total
332813 (Electroplating, Plating, Polishing, Anodizing, and Coloring)	258	75	12	10	**355**
327910 (Abrasive Products Manufacturing)	18	6	1	4	**29**
3315 (Foundries)	86	16	7	18	**127**
332111 (Iron and Steel Forging)	19	2	2	3	**26**
332313 (Plate Work Manufacturing)	42	13	11	12	**78**
332811 (Metal Heat Treating)	39	9	1	3	**52**
327310 (Cement and Concrete Product Manufacturing)	6	2	1	4	**13**
327320 (Ready-Mix Concrete Manufacturing)	86	21	27	37	**171**
423930 (Recyclable Material Merchant Wholesalers)	315	69	32	58	**474**
316110 (Leather and Hide Tanning and Finishing)	12	1	1	3	**17**
Grand Total					**1,342**

During the designation process the Executive Officer may need additional emissions data such as source tests, screening tests, or sample analyses. PR 1480 allows the owner or operator to either conduct the emissions testing and/or sample analyses, or provide the Executive Officer access to the facility to conduct such activities. Since it is optional for the operator to conduct emissions testing and sample analyses during the investigative portion of the designation process, it is assumed that the operator will rely on the South Coast AQMD to conduct these tests and analyses. In addition to collecting emissions data, under paragraph (d)(5), PR 1480 requires the owner or operator to provide process information and other information such as alloys used and operational data.

The designation process is based on modeled health risks to the nearest sensitive receptor that exceeds the Significant Risk Level which is a cancer risk of 100 in one million, or a total Individual Substance Chromic Hazard Index of 5.0. If a facility is designated as a Metal TAC Monitoring Facility, the owner or operator is required to submit a monitoring and sampling plan, and conduct Monitoring and Sampling. Metal TAC Monitoring and Sampling would be required until a Rule 1402 Risk Reduction Plan is implemented, or if a Risk Reduction Plan is not required, until the Health Risk Assessment is approved. The timeframe between the designation of a facility as a Metal TAC Monitoring Facility to when a 1402 Risk Reduction Plan is implemented (or a Health Risk Assessment is approved, if a Risk Reduction Plan was not required) is the period that the

majority of costs impacts will occur for the facility, and is the primary focus of the implementation cost associated with PR 1480.

Compliance Cost Assumptions

To estimate the number of facilities that could potentially receive a PR 1480 Initial Notice, staff used historical data where the South Coast AQMD has identified an issue concerning Metal TAC emissions and the facility had been designated as a Potentially Significant Risk Level Facility under Rule 1402, which is one of the criteria to designate a Metal TAC Monitoring Facility. Since 2016, there have been three facilities that were designated as Potentially High Risk Level Facilities under Rule 1402 and each of these facilities were designated based on their Metal TAC emissions, and based on a residential sensitive receptor had an estimated health risk greater than 100 in one million. For the purpose of cost impact analysis, a simulation of costs for these three facilities is used. Since these three facilities were designated as Potentially High Risk Level facilities over a nine month time period (December 2016 to September 2017), it can be assumed that three facilities per year could be designated under PR 1480. This is a conservative assumption, since there have not been any facilities designated as Potentially High Risk Level Facilities since 2017, despite the community monitoring efforts in Compton and Rancho Dominguez.

The analysis is based on South Coast AQMD's ambient air monitoring data collected near these facilities to create realistic scenarios when each facility would have been designated and the required monitoring frequencies to determine costs for the period of the simulation.[7]

The costs include the development of an approved monitoring and sampling plan (one-time cost), and the ongoing collection of metal TAC samples on the required schedule prescribed in the approved Monitoring and Sampling Plan (PR 1480 subdivision (e)). Under PR 1480, an owner or operator of a Metal TAC Monitoring Facility is required to either conduct ambient monitoring and sampling using a contractor of the owner or operator's choice (Basic Monitoring and Sampling Plan) *or* by paying a fee for the South Coast AQMD to conduct Monitoring and Sampling (Alternative Monitoring and Sampling Plan). The fees under PR 1480 includes the cost of installing, operating, and maintaining air monitoring instrumentation (including consumables like filter media, paperwork, and sample handling/transport materials), staffing and training, as well as ongoing laboratory analysis, data quality control and reporting pursuant to PR 1480 requirements in subdivision (i).

Staff contacted environmental consulting companies and private laboratories to try to perform a comparison of the cost of services when using South Coast AQMD resources, however, most companies were reluctant to provide cost data. While some of the contractors contacted conduct source-specific sampling using the same methodologies as the South Coast AQMD, none of the companies contacted by staff had comparable pricing for a monitoring regime of the scale and duration that would be required by PR 1480. It is expected that many companies would extend their services to a competitive service comparable or even lower than that estimated by the South Coast AQMD's monitoring and analysis services available to PR 1480 designated facilities. For the purposes of this cost estimate, the costs provided are specific to South Coast AQMD fees for

[7] PR 1480 Monitoring requirements specify a 1-in-3 day sample frequency, unless the facility is eligible for the reduced monitoring and sampling frequency (subdivision (h)) of 1-in-6 days. This analysis accounted for the changes in sampling frequency based on eligible reduced frequency or reverting to 1-in-3 because three consecutive samples exceeded four times the benchmark concentration.

conducting monitoring and sampling if a facility is designated as a Metal TAC Monitoring Facility. Table 3-2 shows the PR 1480 Table 1 fees for an Alternative and Reduced Alternative Monitoring and Sampling Plans.

Table 3-2
PR 1480 Table 1 – Alternative or Reduced Alternative Monitoring and Sampling Plan Monthly Monitoring Fees

	Number and Type of Monitor	Sampling Frequency			
		1 in 3 Days		1 in 6 Days	
		2 Staff	1 Staff	2 Staff	1 Staff
Base	–1 - Metal TAC Monitor - Hexavalent Chromium	$10,000	$6,500	$5,000	$3,500
	–1 - Metal TAC Monitor – Non-Hexavalent Chromium	$5,500	$3,500	$3,000	$2,000
	–1 - Metal TAC Monitor – Hexavalent Chromium & –1 - Metal TAC Monitor – Non-Hexavalent Chromium	$13,000	$8,500	$6,500	$4,500
Additional	1- Metal TAC Monitor - Hexavalent Chromium	$4,000	$3,500	$2,500	$2,000
	1- Metal TAC Monitor – Non-Hexavalent Chromium	$2,500	$2,000	$1,500	$1,000

Table 3-3 lists the three facilities that were designated as Potentially Significant Risk Level Facilities under Rule 1402 and the various timeframes of when a facility would begin monitoring and sampling (1 in 3 days), when the facility would be eligible to reduce their monitoring and sampling (1 in 6 days), and when the facility would be required to revert back to a basic monitoring and sampling schedule (1 in 3 days). Since these facilities were designated under Rule 1402 based on hexavalent chromium ambient monitoring and sampling that was conducted near each of these three facilities, actual ambient monitoring and sampling data was used to identify the timeframes for each of the three facilities. It was assumed that the facilities would be designated as a Metal TAC Monitoring Facility under PR 1480 at the same time as designation as a Potentially High Risk Level Facility under Rule 1402 and that the timeframe between designation as a Metal TAC Monitoring Facility and implementing a Basic or Basic Alternative Monitoring and Sampling Plan is three months. Once a Metal TAC Facility is notified of its designation, the owner or operator has 30 days to submit a draft Monitoring and Sampling Plan or to elect to have the South Coast AQMD conduct Monitoring and Sampling. Assuming that review of the Monitoring and Sampling Plan would take 30 days, the owner or operator would have an additional 30 days to hire contractors and begin Monitoring and Sampling. The PR 1480 criteria of when a facility could be eligible to reduce the frequency of monitoring and sampling or revert to the basic frequency of monitoring and sampling was applied to the actual monitoring and sampling data for each of the three facilities. Staff also accounted for the required monitoring schedules specific to each facility based on benchmark concentration, in which a facility would be eligible for a reduced frequency (1 in 6 day) or revert back to the 1 in 3 day sampling frequency.

Table 3-3
Facilities that Exceeded PR 1480 Triggers during South Coast AQMD Special Monitoring Surveillance

Facility	Date PR1480 Designation would have occurred	Date Basic Monitoring 1-in-3 Days	Eligible to Submit Reduced Monitoring 1-in-6 Days	Required to Revert to Basic Monitoring 1-in-3 Days*
Anaplex	12/14/2016	3/14/2016	8/29/2017	12/2/2017
			6/28/2018	8/12/2018**
Aerocraft	12/14/2016	3/14/2017	N/A	N/A
Lubeco	9/28/2017	12/27/2017	5/23/2018	N/A

*Per subdivision (h), if the benchmark concentration is exceeded by four times for three consecutive samples, the facility is required to revert to 1-in-3 monitoring schedule.
**Per subparagraph (e)(5)(D) a facility will be ineligible for another reduced Monitoring and Sampling Plan if it has exceeded the benchmark concentration after implementing a reduced Monitoring and Sampling Plan a second time.

Cost Estimate for Facilities Historically Exceeding PR 1480 Triggers in South Coast AQMD Special Monitoring Surveillance

Table 3-4 shows the compliance cost estimate for facilities using historical ambient monitoring data and the requirements in PR 1480. Although a minimum of one monitor is required and is expected for most facilities, a conservative assumption of two monitors was used for each facility. It was assumed that one staff person would be used, and the facility would provide safe access to collect samples. No additional fee for wind monitoring was included as it was assumed that the owner or operator would either use a nearby wind monitor or elect not to have a wind monitor. A flat fee of $6,000 was added for the preparation of an Alternative Monitoring and Sampling Plan, while all other costs are ongoing based on the per month fees found in Table 1 of Appendix 1 in PR 1480. At the time of analysis, none of the three facilities have completed their Rule 1402 Risk Reduction Plans, therefore, for the purposes of this analysis, the costs were estimated till the date of this analysis.

Table 3-4
PR 1480 Compliance Cost for Paramount Facilities Using Historical Monitoring Data*

	Designation Date	Date Sampling Began	# of Monitors Used	Plan Prep Fee	Cost While On 1 in 3 day Schedule	Cost While On 1 in 6 day Schedule	Total Monitoring Cost	Average Annual Cost
Anaplex	12/14/2016	3/14/2017	2	$6,000	$101,000	$70,000	$177,000	$142,000
Aerocraft	12/14/2016	3/14/2017	2	$6,000	$302,000	$ -**	$308,000	$246,000
Lubeco	9/28/2017	12/27/2017	2	$6,000	$47,000	$82,000	$135,000	$135,000

* Costs were calculated from the actual intervals for 1 in 3 day and 1 in 6 day sampling schedules using start and end dates that facility monitoring data would make it eligible for reduced sampling or required to revert to a standard schedule because of a benchmark concentration exceedance.

** Based on historical monitoring data, Aerocraft would not have been eligible to reduce the sampling frequency from 1 in 6 days to 1 in 3 days.

After a facility receives an Initial Notice and prior to the issuance of a Notice of Finding, South Coast AQMD would incur the same per sample costs for monitoring as part of the facility's investigation. The duration of monitoring activities would be no less than 30 days under at least 1 in 3 day sampling schedule, but could last six months or longer until sources of emissions and maximum concentrations are determined.

Caveats to the Cost Estimate

Siting & Accessibility of Sampling Equipment

There are some caveats to applying South Coast AQMD monitoring fees. Sampling conducted by South Coast AQMD in the cities of Paramount and Compton from 2016 to present were sited *beyond* the fenceline of the facilities being monitored, while PR 1480 requires that at least one monitor is sited in a location representative of the maximum ground level concentration of the metal TACs accessible to the facility, which may be *inside* the fenceline of the facility depending on the siting approved in the Monitoring and Sampling Plan. South Coast AQMD's use of ladder-accessible telephone pole-mounted samplers required that two field staff be sent out to retrieve a sample due to required safety protocols, and a facility would likely choose a more practical siting for its sampler that allows for a single field staff to retrieve a sample safely without the assistance of a second field staff. For this reason, the cost estimate assumed one field staff.

Sampling Equipment

A facility's PR 1480 designation will require the monitoring of specific analytes based on the processes and emissions specific to the facility, which in some cases may necessitate multiple monitors collocated in each location. For instance, a facility that emits both hexavalent chromium and nickel, which requires two different sampling filter media and laboratory analysis methods (Hexavalent Chromium and Total Metals analysis, respectively), would require either two TSP monitors (i.e. BGI PQ100 or BGI OMNI) or a multi-channel metals monitor (i.e. Xontech 924 Toxics sampler). Sampling equipment selection will depend on practical considerations specific to the siting of the instrumentation such as available power, accessibility and safety, site security, noise/vibration, and overall cost. The cost estimate based on South Coast AQMD metal TAC monitoring practices may differ from the practical considerations recommended by a contractor/consultant for a particular facility.

Timeline

The timeline used in the cost estimate delineates the initial date upon which a facility was identified and is contributing to a health risk related to Metal TACs, and therefore would have been subject to the initial steps defined in the PR 1480 Initial Notice. Staff identified retroactively the date at which each facility would likely have been designated into PR 1480 monitoring requirements as a starting point for compliance costs, and then projected forward towards the date the same facility would be able to implement a Rule 1402 Risk Reduction Plan as the end point for PR 1480 compliance costs. Since the dates used in this timeline represent pre-PR 1480 scenarios, the timeline does not reflect the regulatory impact in which a facility would likely accelerate mitigations in order to avoid prolonged and unnecessary compliance costs. The three facilities selected to estimate compliance costs of PR 1480 did not bear financial responsibility for metal TAC monitoring during this period, but in some cases have implemented mitigation measures through the South Coast AQMD's AB2588 Air Toxics 'Hot Spots' program.

Rule 1402 Compliance Costs for PR 1480 Affected Facilities

During the rulemaking process, stakeholders requested that Rule 1402 cost be included as part of the implementation costs associated with PR 1480. Staff has responded that implementation of PR 1402 is separate from PR 1480 and each of these rules have similar, but separate designation processes. A facility that is designated as a Potentially Significant Risk Level Facility under Rule 1402, will not necessarily designated as a PR 1480 Metal TAC Monitoring Facility.

Although the Rule 1402 cost is not required to be included, staff has included cost information for implementation of Rule 1402. The June 2015 Socioeconomic Report for Rules 212, 1401, 1401.1, and 1402[8] analyzed compliance costs for implementing the 2015 OEHHA Guidelines. Cost information from the 2015 Socioeconomic Report has been updated to 2019 dollars.

Cost of Health Risk Assessments

The cost of a health risk assessment varies depending on the complexity. The complexity of the HRA is determined by the number of different processes contributing toxic emissions. In the 2015 Socioeconomic Analysis, it was assumed that an HRA is considered basic if there are 1-2 processes that contribute to the health risk, intermediate if 3-5 processes contribute to the health risk, and complex if more than five processes that contribute to the health risk. Furthermore, HRAs conducted for the first time at a facility are considered more costly (complex) than updated HRAs. Since these facilities would be over a Significant Risk Level, they would also be subject to Public Notification Requirements. Based on the 2015 Socioeconomic Analysis the Public Notification Cost is $1,800 (2019 dollars). A summary of the estimated cost from the 2015 Socioeconomic Analysis for Rule 1402 for preparing a Health Risk Assessment is presented in Table 3-5.

Table 3-5
Projected HRA Costs (2019 Dollars)

Complexity of HRA	HRA Cost
Basic	$16,000
Intermediate	$49,000
Complex	$81,000

Based on 2015 Socioeconomic Analysis for Rules 212, 1401, 1401.1, and 1402

Cost of Risk Reduction Measures

PAR 1402 requires facilities to implement risk reductions if the estimated cancer risk is 25 in one million or greater, which is the existing action risk level threshold. The 2015 Socioeconomic Analysis include estimated costs for HEPA and scrubbers, which is the primary pollution controls that will be needed to address metal particulates. Table 3-6 shows the compliance cost for pollution controls in PR 1480 affected industries, adjusted to 2019 dollars from the June 2015 Socioeconomic Analysis for Rules 212, 1401, 1401.1, and 1402.

[8] The 2015 Socioeconomic Analysis can be found here: http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2015/brdpkg-2015-jun5.pdf#page=633

Table 3-6
Estimated Cost for HEPA and Scrubbers from 2015 Socioeconomic Analysis for Rules 212, 1401, 1401.1, and 1402 (2019 Dollars)

General Industry Category	Industry Classification (6-Digit NAICS Code)	Typical Control Device(s)	Estimated Cost (2019 Dollars)
Metal Forging and Heat Treating	Machine Tool Manufacturing (333517)	• HEPA • Scrubber	HEPA Costs • Capital cost of $86,700 • Annual electricity cost is $18,600 • Filter replacement cost is $1,100 annually Scrubber • Capital cost of $59,300 • Annual electricity cost is $6,000
Metal Melting	Industrial Process Furnace and Oven Manufacturing (332813)		
Metal Plating and Finishing	Electroplating, plating, polishing, anodizing, and coloring (332813		

DRAFT FINDINGS UNDER CALIFORNIA HEALTH AND SAFETY CODE SECTION 40727

Requirements to Make Findings

California Health and Safety Code Section 40727 requires that prior to adopting, amending or repealing a rule or regulation, the South Coast AQMD Governing Board shall make findings of necessity, authority, clarity, consistency, non-duplication, and reference based on relevant information presented at the public hearing and in the staff report.

Necessity

PR 1480 is needed to further protect public health by requiring a Metal TAC Monitoring Facility to conduct Metal TAC Monitoring to demonstrate what the monitored values would be. PR 1480 serves as both a tool to identify Metal TAC emissions and a method to verify that the Enforceable Measures enacted by an owner or operator of a Metal TAC Monitoring Facility were effective. Metal TAC Monitoring will monitor emissions coming from the facility and provide monitored values of Metal TAC to which a neighboring community is potentially exposed. The findings from PR 1480 may lead to the development of rules that reduces Metal TAC Emissions. Further, PR 1480 is needed to establish a fee schedule for Metal TAC Monitoring Facility that elect to have the Executive Officer conduct Metal TAC Monitoring.

Authority

The South Coast AQMD Governing Board has authority to adopt PR 1480 pursuant to the California Health and Safety Code Sections 39656 et seq., 40000, 40001, 40702, 40725 through 40728, 41510, 41511, 41512, 41512.5, 41700, 42303.

Clarity

PR 1480 is written or displayed so that its meaning can be easily understood by the persons directly affected by it.

Consistency

PR 1480 is in harmony with and not in conflict with or contradictory to, existing statutes, court decisions or state or federal regulations.

Non-Duplication

PR 1480 will not impose the same requirements as or in conflict with any existing state or federal regulations. The proposed amended rule is necessary and proper to execute the powers and duties granted to, and imposed upon, the South Coast AQMD.

Reference

By adopting PR 1480, the South Coast AQMD Governing Board will be implementing, interpreting or making specific the provisions of the California Health and Safety Code Section 39656 et seq. (toxic air contaminants), 40001 (non-vehicular air pollution), 40702 (adopt regulations & execute duties), 41700 (nuisance), 41510 (right of entry), 41511 (rules to require source to determine emissions), 41512 (fees), 41512.5 (fees), 42303 (requests for information), and Federal Clean Air Act Section 116 (Retention of State authority).

COMPARATIVE ANALYSIS

California Health and Safety Code Section 40727.2 requires a comparative analysis of the proposed rule requirements with those of any Federal or South Coast AQMD rules and regulations applicable to the same equipment or source category.

The following regulations are compared to PR 1480 in this analysis:

- South Coast AQMD – Rule 1420 – Emission Standards for Lead
- South Coast AQMD – Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities
- South Coast AQMD – Rule 1420.2 – Emission Standards for Lead from Metal Melting Facilities
- South Coast AQMD – Rule 1156 – Further Reductions of Particulate Emissions from Cement Manufacturing Facilities

Table 3-7
Comparative Analysis

Rule Element	PR 1480	Rule 1420	Rule 1420.1	Rule 1420.2	Rule 1156
Applicability	Facilities that receive an Initial Notice from Executive Officer	Facilities that use or process lead-containing materials	Lead-acid battery recycling facilities that process more than 50,000 tons of lead a year	Facilities that melt 100 tons or more of lead in any calendar year	All operations, material handling, and transport at a cement manufacturing facility
Designation	Based on Health Risk above the Significant Risk Level using air dispersion modeling and risk assessment procedures	Not applicable	Not applicable	Not applicable	Not applicable
Compliance Plan or Monitoring Plan	Monitoring and Sampling Plans: • Basic • Alternative • Reduced Basic • Reduced Alternative	Specifies general facility information	Only required if a facility exceeds ambient lead concentration of 0.100 μg/m3. Identifies additional lead control measures beyond the rule.	Only required if facility exceeds ambient lead concentration of 0.100 μg/m3 or total facility point source emissions greater than 0.080 lbs/hour. Identifies additional lead control measures beyond the rule	Compliance Monitoring Plan

Minimum Number of Ambient Monitors	Minimum of one monitor at facility location approved by the Executive Officer Provisions included for monitor failure	Minimum of two monitors at facility locations approved by the Executive Officer	Minimum of four monitors at facility locations approved by the Executive Officer	Minimum of three monitors at locations approved by the Executive Officer Provisions included for monitor failure	Minimum of three monitors at facility approved by the Executive Officer. Minimum on one monitor with 12 continuous months without any exceedance of limit. Return to minimum of three monitors with three exceedances within 12 months.
Metal TAC(s) Monitored	Specific metal TAC(s) identified by Executive Officer upon designation	Lead	Lead, arsenic, (benzene and 1,3-butadiene)	Lead	Hexavalent chromium (and PM monitoring with three Notices of Violation for Rule 403 – Dust, within three years)

Sample Collection (Monitoring Frequency)	Once every three days initially; Once every six days on Reduced Plans upon full implementation of Rule 1402 Early Action Reduction Plan and 30-day average concentration below the Benchmark Concentration, which represents the Reduced Risk Level at Sensitive Receptor Provisions included for monitor failure	Once every six days	Daily for lead and arsenic Provisions included for monitor failure	Once every three days or daily depending on the exceedance of ambient air concentration limits, and the severity	Once every three days. Once every six days with no single exceedance of limit during 12 continuous months of monitoring
Sample Retention Requirements	Six month sample retention (unless specified otherwise in plan)		One year sample retention	One year sample retention	
Discontinuing Monitoring	Upon completion of approved Risk Reduction Plan or if Risk Reduction Plan was not required with an approved Health Risk Assessment			Concentration is below 0.070 μg/m3 averaged over 30 consecutive days, no single day exceeding 0.070 μg/m3 for one full, and total facility mass lead emissions are less than 0.040 lb/hour	Upon Reclamation Plan or clean-up/rehabilitation for Post Closure Activities

Reporting Requirements	Results reported monthly Reporting to Executive Officer within 24 hours of third consecutive sample results showing exceedance of four times the Benchmark Concentration Failure to collect sample within 2 hours of knowing sample was not collected and follow up report for cause of equipment failure within 7 days	Results reported quarterly Ambient air lead and wind monitoring for any lead-processing facility that is required or elects to do ambient air monitoring	Results reported monthly Reporting to Executive Officer with 72 hours of daily ambient air lead concentration of 0.300 µg/m3 Annual Ongoing Facility Status Report	Results reported monthly Reporting to Executive Officer within 24 hours Failure to collect sample within 2 hours of knowing sample was not collected Source test results within 90 days	Results reported monthly Source test results within 60 days

APPENDIX A: RESPONSE TO COMMENTS

LIST OF COMMENT LETTERS RECEIVED

1. Los Angeles County Department of Public Health Comment Letter (10/1/18)
2. California Metals Coalition (CMC) Comment Letter (3/18/19)
3. Metal Finishing Association of Southern California (MFASC) Comment Letter (3/22/19)
4. California Metals Coalition (CMC) Comment Letter (6/20/19)
5. Metal Finishing Association of Southern California (MFASC) Comment Letter (8/14/19)
6. Metal Finishing Association of Southern California (MFASC) Comment Letter (10/4/19)
7. Arconic Inc Comment Letter (10/21/19)
8. California Metals Coalition (CMC) Comment Letter (10/29/19)

SCAQMD Proposed Rule 1480 - Toxic Metals Monitoring
Initial Input from the Department of Public Health Toxicology and Environmental Assessment Branch – October 1, 2018

Recommendations for Disseminating Test Results to the Community

- Multilingual website(s) that includes easy to read information on contaminants being tested, health risks, health risk thresholds, and results.
- Persons accessing the website(s) should have the ability to query test results by location to easily create frequency tables and maps.
- Data for at least the past 6 months should be available on the website(s) with a straightforward process for requesting data older than 6 months. 1-1
- The website(s) should be available on mobile platforms (e.g. tablets, cell phones, etc.).
- Outreach for the website(s) should be conducted via television, radio and newspapers in English and other predominant languages.

Community Considerations

- Many community members will not trust data that is generated and reported by operators. Every effort to ensure transparency in the process as well as the accuracy and integrity of the data must be made to address community concerns.
- Technical guidelines must be given to set a minimum detection level and other operational specifications of the monitoring systems. This should include guidelines for ensuring that equipment is operational during any type of weather or other conditions typical to the sites operations and location. There should be enforcement related to the reliability of the monitoring system and penalties for a system that is offline more than rarely. Detection levels should be set to address community concerns such that results can be compared to appropriate health standards for sensitive populations (e.g. detection levels must be lower than residential air screening levels as promulgated by Cal/EPA and USEPA). 1-2

Responses to Los Angeles County Department of Public Health Comment Letter, submitted 10/01/18

1-1 Response: The South Coast AQMD will post the available Monitoring and Sampling data on the South Coast AQMD website. Monitoring and Sampling data that is not posted (i.e. older data) can be obtained by submitting a Public Records Request (available on South Coast AQMD's website at https://www.aqmd.gov/nav/online-services/public-records). South Coast AQMD staff will continue to work with County of Los Angeles Public Health staff on the format of how the information is disseminated.

1-2 Response: The PR 1480 Monitoring and Sampling Plan Guidance document will provide the minimum specifications for Monitoring and Sampling, which includes sample analysis and quality control, that both the that South Coast AQMD and the Metal TAC Monitoring facility or its third party contractors would use.

CALIFORNIA METALS COALITION

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March 18, 2019

Min Sue, Air Quality Specialist
South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, California 91765

Dear Mr. Sue:

The California Metals Coalition appreciates the opportunity to comment on the South Coast Air Quality Management District ("District" or "SCAQMD") workshop proceedings and consideration of **SCAQMD Proposed Rule (PR) 1480**.

These comments on PR 1480 are divided into the following sections: Summary; Background on CMC; Comments on Slides; and Recommendations for Further Scoping and Development.

SUMMARY

This comment letter addresses the PR 1480 slides presented on February 5, 2019 at working group meeting #4. At working group meeting #4, the SCAQMD explained Rule 1402, and discussed 1480 concepts and framework.

BACKGROUND ON CMC

California is home to approximately 4,000 metalworking facilities, employing over 350,000 Californians. The average industry salary is $66,400/year in wages and benefits.

8 out of 10 employees in the metalworking sector are considered ethnic minorities or reside in disadvantaged communities throughout Southern California. A job in the metals sector is often the only path to the middle class for many of these Californians.

Here is a breakdown of the metalworking industry's impact on the 4 counties within SCAQMD jurisdiction:

- **Los Angeles County**: 54,290 Direct Jobs | 52,741 Indirect Jobs | $7 billion wages | $26 billion economic activity

- **Orange County**: 25,448 Direct Jobs | 18,912 Indirect Jobs | $2.9 billion wages | $10.8 billion economic activity
- **San Bernardino**: 9,778 Direct Jobs | 8,378 Indirect Jobs | $1.2 billion wages | $4.5 billion economic activity
- **Riverside**: 6,971 Direct Jobs | 7,712 Indirect Jobs | $957 million wages | $3.2 billion economic activities
- **Total**: 96,487 Direct Jobs | 87,743 Indirect Jobs | $12 billion wages | $33.8 billion economic activity

California metal manufacturers use recycled metal (ex: aluminum, brass, iron and steel) to make parts for the aerospace industry, clean energy technologies, electric cars, biotech apparatuses, medical devices, national defense items, agriculture, infrastructure, construction machinery, household appliances, food processing and storage, movement of water, and millions of other products demanded by society.

COMMENTS ON SLIDES

Item #1, SLIDES 4-9: PR 1480 Triggers Could Have a Lower Evidentiary Standard than Rule 1402.

Rule 1402 was established to implement California's Assembly Bill 2588 (AB2588) program. The rule provides applicability criteria for facilities. If the District Executive Officer (EO) determines, based on quadrennial emissions reporting, that emissions levels from the facility have the potential to cause an exceedance of specified risk thresholds, the facility is notified that it is considered a High Risk Facility.

SCAQMD also has pulled facilities into Rule 1402 working outside the standard applicability process based on an EO determination. But in these situations, the evidentiary standard for pulling facilities into Rule 1402 has varied from case to case. 2-1

CMC is concerned that PR 1480 will have a lower applicability threshold than the Rule 1402 threshold used to designate High Risk Facilities. To resolve this issue, PR 1480 must include specific guidelines that the District would follow before deeming a facility as a Potentially Significant Source. At a minimum, these guidelines should mirror the Rule 1402 criteria used when notifying a facility that it is considered a High Risk Facility. Without these criteria, facilities impacted by PR 1480 will be held to a lower evidentiary standard than those deemed a High Risk Facility through Rule 1402.

Item #2, SLIDES 4-9: Oppose Concurrent Applicability for Rule 1402 and Proposed Rule PR 1480

CMC appreciates District staff discussing the details of Rule 1402 with Working Group participants. However, CMC has concerns regarding the District's proposal to concurrently link Rule 1402 applicability with PR 1480.

2-2

CMC recommends not linking Rule 1402 applicability to the initial PR 1480 determination. Rather, CMC recommends that a facility considered a Potentially Significant Source would initially be subject only to PR 1480 requirements. If based on PR 1480 monitoring and/or source attribution analysis the facility is confirmed as a Potentially Significant Source, then Rule 1402 requirements could be triggered.

Item #3, SLIDE 12 and 13, The District Should Provide a Quantitative Technical Assessment before Designating a Facility as a Potentially Significant Source. Such an Assessment Should Include an Affirmative Source Attribution Demonstration.

CMC recommends that as part of the PR 1480 rulemaking process, the District should specify the methods by which ambient air monitoring would be conducted. As an example, what procedures will be followed by the District in collecting ambient air data? CMC requests SCAQMD to identify and list specific EPA, CARB, SCAQMD, or any other guidance that the District would follow in collecting air samples under PR1480. The rule should clearly establish this requirement to use published guidance to be followed by SCAQMD—and the facility—when collecting samples.

2-3

CMC would also suggest that the SCAQMD establish quantitative guidelines for ambient air measurements so that there can be confidence in the technical evidence used in the designation of a Potentially Significant Source.

Any data collected outside established guidance for 'screening purposes' should not be used for such a determination. This should hold true for ambient measurements as well as any non-protocol source tests. For example, the District has acknowledged there is no established guidance for glass plate sampling so any information collected in this manner would be qualitative at best. Since the PR1480 determination requires a quantitative determination, such information would be of limited value.

Item #4, SLIDE 12-13, Facilities Should Be Allowed the Opportunity to Fully Review SCAQMD Data Before Being Responsible to Respond

Before notifying a facility to start monitoring for toxics under PR1480, facilities should be provided reasonable time to review the SCAQMD's findings, monitoring data and any technical analysis.

Results from other near-by stations would also be useful to understand the full picture. Along with the data, the District should share information regarding methodologies used to collect data, and any deviation from established methods should be listed. The District should also be required to share information regarding surrounding facilities or other possible emission sources in the area.

2-4

CMC would request that a facility's response to these findings be reviewed and responded to by SCAQMD prior to any further action under PR1480 or Rule 1402. CMC expects that PR 1480 establish definitive timelines for the above-described actions.

Item #5: SLIDES 13-14: Screening Tools Are Not Sufficient for Quantitative Determinations under PR 1480 (or Rule 1402):

CMC opposes the use of screening tools (ex: glass plate sampling, staff observations, and permits) as a basis for PR 1480 determinations. While screening tools may be useful for deciding where quantitative assessment is needed, they are not a substitute for quantitative assessment when the District is making a regulatory determination that is inherently quantitative.

2-5

Glass plate samples do not align with the goal set in the SCAQMD Air Toxic Action plan. SCAQMD's Air Toxic Action Plan states the District will systematically identify and prioritize high-risk facilities, then use the latest air monitoring technology to confirm specific sources causing high emissions.

If screening tools indicate the possibility of a high TAC source, the District can conduct an investigation using approved methods pursuant to applicable protocols. Any data collected outside of applicable protocols for 'screening purposes' is not a valid basis for identifying a facility as a Potentially Significant Source in PR 1480.

2-5 cont.

Lastly, PR 1480 should require the same test requirements be applied by facilities and the District, alike. If a facility is required to conduct PR 1480 monitoring, it should be the same scope and approach that the District adopts to reach the conclusion of a Potentially Significant Source, with similar frequency and methods.

Item #6: SLIDE 15: 14-day Response Period is Too Short and Should Be Removed:

As discussed previously in Item #4, facilities impacted by PR 1480 should be given ample time to review technical evidence, including air monitoring data, collected by SCAQMD. CMC suggests the 14-day response period be removed and updated to allow facilities reasonable time to review the District's data and respond.

2-6

Item #7: SLIDE 16: No Description of How SCAQMD Will Account for Other Pollution Sources:

In most Southern California locations, community air monitors will measure pollution from any number of surrounding sources. There needs to be a clear mechanism in PR 1480 that describes how the SCAQMD will conduct source attribution and control for other potential sources (e.g., trucks, trains, fireworks, street sweepers[2], etc.).

2-7

Item #8: SLIDE 17: SCAQMD Staff Should Re-Do Flow Chart:

As commented at the last Working Group Meeting, the flow chart on Slide 17 should include more detail. As noted above, this flow chart should be revised such that Rule 1402 is only triggered after 1480 monitoring results from the facility have been collected/analyzed. Facility monitoring could indicate the facility is not a Potentially Significant Source. Such a sequential approach would limit the possibility of a facility being erroneously encumbered with the economic burden of 1402.

2-8

Item #9: SLIDE 29: Costs Are Known and Should be Presented at Next Working Group Meeting on March 26, 2019:

Per SCAQMD's estimate in the Air Toxics Action Plan, deploying just two air monitors near a facility could cost about $6,000 per week, including all costs for monitoring and analysis. This does not include costs the facilities would incur on preparing a monitoring plans for approval by the District. Based on this estimate,

2-9

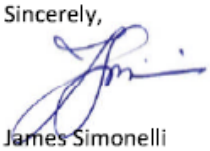
[2] "Application of Next Generation Air Monitoring Methods in the South Coast Air Basin" January 2019 (page 19)

the proposed one-in-three-day monitoring will be very expensive. This economic burden will be felt more severely by smaller facilities. For additional guidance, the District should reference the July 12, 2017 letter attached to this comments letter. 2-9 cont.

Finally, the costs related to a Health Risk Assessment (HRA) are also known and should be presented at the next working group meeting. 2-10

Thank you for your time, and for allowing CMC to participate and comment on PR 1480. We look forward to continued discussions.

Sincerely,



James Simonelli
Executive Director

CC: Mike Morris, SCAQMD

July 12, 2017

Governor Jerry Brown
Members of the California Legislature
State Capitol
Sacramento, CA, 95814

Re: Air Districts' Opposition to GHG Cap & Trade Proposal Unfunded Mandates and Lack of Funding to Reduce Air Pollution in Impacted Communities

Dear Governor Brown and Members of the California Legislature:

The undersigned California Air Districts strongly support the goals of improving air quality in disadvantaged communities and reducing greenhouse gas emissions through the proposed legislation, AB 398 and AB 617. Reduction of criteria and toxic emissions will yield significant public and environmental health benefits, including, but not limited to, reduced mortality and illnesses associated with high air pollution levels. We also appreciate the proposed amendments to increase the air districts' penalty authority, and the reaffirmation of the air districts' primary authority over criteria and air toxic emissions from stationary sources. *However, as currently written, AB 398 and AB 617 would impose enormous new workloads on air districts without any funding source and without the needed funding to reduce air pollution in impacted communities.* It will be impossible to comply with the far-reaching new mandates of better protecting and improving public health without significant and sustained funding, including both funding to carry out the new work required, and funding to provide incentives to reduce mobile source pollution. Statewide, more than a billion dollars would be needed. Therefore, we must respectfully oppose these new mandates.

While there may be opportunities to further reduce toxic emissions from stationary sources, to really benefit disadvantaged communities, diesel emissions must be drastically reduced. AB 617 does not recognize that the best way to reduce exposure to toxics in disadvantaged communities is to significantly increase funding for diesel emission reduction from mobile sources. *The air districts do not have any ability to raise funds for these purposes on their own.* In South Coast and San Joaquin Valley, over 80% of NOx emissions contributing to ozone and PM2.5, and about 90% of the basin-wide risk from air toxics, comes from mobile sources (70% from diesel particulates). AB 617 needs to explicitly require reductions from mobile sources, and since the California Air Resources Board (CARB) and the districts have limited regulatory ability to further reduce emissions from mobile sources, incentive funding in the range of more than a billion dollars per year is needed.

AB 617 also requires CARB to prepare a monitoring plan requiring "advanced sensing monitoring networks" for criteria and toxic air pollutants, and requires CARB to identify the

highest priority locations around the state for these networks. The districts must implement such networks, however, the bill does not limit the number of networks that will be required, provide an end date for monitoring, or define "advanced sensing monitoring." For the air districts, new workloads and expenditures could be unlimited. *While the districts have the ability to charge fees for their work related to permitted sources, as a practical matter these fees cannot support the significant new mandates required by this bill.* As an example, assuming the use of filter-based PM2.5 samplers for toxic metals such as hexavalent chromium (not some unspecified advanced technology), it costs $6,000 per week, or over $300,000 per year, just to maintain one upwind and one downwind sampler at a single location or facility. It is unrealistic to expect a small plating shop or other metalworking facility to be able to support the amount of monitoring required, and this does not even consider the monitoring that is not focused on a given facility, but used to identify areas of high exposure. If the districts were to try to impose fees for this monitoring, it would likely be very controversial as to who should pay the fees when the source of high emissions is likely to be mobile sources or a specific facility that has not yet been identified. Therefore it is not realistic to think the districts could raise their fees sufficiently to support the required monitoring.

Moreover, the South Coast Air Quality Management District, Bay Area Air Quality Management District, Sacramento Metropolitan Air Quality Management District, and the San Joaquin Valley Air Pollution Control District recently increased their permit fees to help cover the costs of existing programs. It would not be realistic to expect permitted sources to pay yet another fee increase, of unknown but likely very large dimensions, to support AB 617 mandates.

AB 617 also requires CARB to select areas in the state for the development of a community emission reduction program, then require the districts adopt and implement such programs. Further, if CARB rejects the community plan, we would need at least 180 days to resubmit a revised plan, not the 30 days currently provided. We expect that the majority of areas selected would be in the larger districts, which already have robust programs to reduce air toxics and criteria pollutants, including in disadvantaged areas. Developing such plans may not be the most cost-effective way to achieve emission reductions, compared to increasing mobile source incentive funding for programs such as Carl Moyer, which sets a goal of expending 50% of its funds in disproportionately impacted areas, which in South Coast is defined as low-income areas that are disproportionately exposed to air toxics and/or particulate air pollution. In South Coast, the program has typically exceeded the 50% goal.

We also have concerns about the new mandates relative to imposing best available retrofit control technology (BARCT). Full implementation by 2023 may be too aggressive given the time it takes to determine BARCT, and the number of source types to consider. In the past, these determinations for a limited number of source types have typically involved at least a 1 to 2 year public process, and another three to five years for implementation. We also request clarification that the law's provisions do not preempt the districts from using information other than the CARB clearinghouse to establish BARCT or BACT.

Furthermore, our public health objectives and the emission reduction goals require all interested parties to do their parts. Preempting local districts from working to achieve these goals is a strategic mistake.

Based on the foregoing, the undersigned air districts oppose AB 617 unless the bill is amended to provide that the mandates imposed on air districts must be implemented only to the extent the state provides significant and sustained funding to local air districts to help reduce air pollution in impacted communities

Sincerely,

Wayne Nastri
Executive Officer
South Coast AQMD

Jack Broadbent
Executive Officer
Bay Area AQMD

Seyed Sadredin
Executive Director
San Joaquin Valley APCD

Larry Greene
Executive Director
Sacramento Metropolitan AQMD

Responses to California Metals Coalition (CMC) Comment Letter, submitted 3/18/19

2-1 Response: PR 1480 includes a detailed process for designation of a Metal TAC Monitoring Facility (see subdivision (d)) and the criteria for designation is specified in paragraph (d)(7). PR 1480 has a more rigorous process to designate a Metal TAC Monitoring Facility than the process under Rule 1402 for designating Potentially High Risk Level facilities. Some key distinctions between designation process for PR 1480 and Rule 1402 is the criteria for estimating the health risk, the applicability of toxic air contaminants, exclusions, and receptor types. One of the key criteria under PR 1480 is that the designation is based on facility-specific information where the estimated health risk is based on air dispersion modeling. Under Rule 1402, the demonstration that the estimated health risk is above the Significant Risk Level, can be based on modeled, monitored, or emissions data. Another distinction is the applicability of the type of toxic air contaminants. PR 1480 applies to metal toxic air contaminants while Rule 1402 applies to all toxic air contaminants. In the designation process, PR 1480 accounts for emission reductions or elimination of emissions due to for enforceable measures and toxics rules with future effective compliance dates, while these exclusions in estimating the health risk are not allowed under Rule 1402. Lastly, the criteria for evaluation the estimated health risk under PR 1480 is based on a sensitive receptor, while Rule 1402 considers all receptors. One of the designation criteria for PR 1480 is that the facility must be designated as a Potentially High Risk Level Facility under Rule 1402.

2-2 Response: PR 1480 and Rule 1402 have distinct designation processes as described in Response to Comment 2-1. A facility designated under Rule 1402 as a Potentially High Risk Level Facility may or may not be designated as a Metal TAC Monitoring Facility under PR 1480.

PR 1480 is designed to complement Rule 1402. PR 1480 will require the monitoring of some Rule 1402 Potentially High Risk Level Facilities. Rule 1402 has a process to designate a Potentially High Risk Level Facility based on whether the Significant Risk Level has been exceeded at any sensitive receptor or worker receptor location for all TACs emitted from the facility. PR 1480 has a process to designate a Metal TAC Monitoring Facility based on whether the Significant Risk Level has been exceeded at any sensitive receptor for Metal TACs emitted from the facility. One of the designation criteria for PR 1480 is that the facility must be designated as a Potentially High Risk Level Facility under Rule 1402. Thus, before a facility is designated a PR 1480 Metal TAC Monitoring Facility, it must first be designated a Rule 1402 Potentially High Risk Level Facility.

2-3 Response: The monitoring and sampling methods that the South Coast AQMD will use prior to designating a facility are the same methods that would be used if a

facility is designated as a Metal TAC Monitoring Facility. A Rule 1480 Monitoring and Sampling Plan Guidance (Guidance) has been prepared to assist owners and operators of Metal TAC Monitoring Facilities and their third party contractors in the preparation of the plan. The South Coast AQMD would use this same Guidance when monitoring and sampling.

Glass plate sampling is useful when investigating whether a facility is a source of Metal TACs emissions. Screening tests would be used by South Coast AQMD staff when investigating whether a facility is a source of Metal TAC emissions. However, when performing the air dispersion modeling and calculating the health risks from the Metal TACs emitted from a facility, the South Coast AQMD would use emission rate information from source tests or other default factors to conduct air dispersion modeling and estimate the health risks to Sensitive Receptors from Metal TAC emissions from the facility. The South Coast AQMD staff will use the Tier 4 detailed risk assessment procedures in Rule 1401 when conducting air dispersion modeling and estimating health risks.

2-4 Response: PR 1480 includes up to 90 days for a facility to review the data used by South Coast AQMD in the designation process. First, an Initial Notice would be given to the owner or operator of a facility at least 30 days prior to the Notice of Findings and the owner or operator may request up to 90 days following the Notice of Findings to review the data and results of information provided in the Notice of Findings and provide additional information on why the facility should not be designated a Metal TAC Monitoring Facility. South Coast AQMD staff would work with a facility during this process and take into consideration any responses and additional information provided. Paragraph (d)(3) specifies the information the owner or operator would be provided.

2-5 Response: Screening tests and screening tools would be used by South Coast AQMD staff when investigating whether a facility is a source of Metal TAC emissions. However, air dispersion modeling using emissions data from the facility will be used to calculate the health risks at the sensitive receptors from the Metal TACs emitted from a facility. The South Coast AQMD would use emission rate information from source tests or other default factors to conduct air dispersion modeling and estimate the health risks to Sensitive Receptors from Metal TAC emissions from the facility. The Monitoring and Sampling requirements in PR 1480 are based on South Coast AQMD's past experience with Monitoring and Sampling focused on facilities.

2-6 Response: Please see response to comment 2-4. The 14 day response time has been extended to 30 days, with an option for up to 90 days following the Notice of Findings for an owner or operator of a facility to provide information to the Executive Officer.

2-7 Response: Community air monitors are one of the various ways that South Coast AQMD staff can be alerted that there is an air quality issue. When an air quality issue is identified, South Coast AQMD staff conducts an investigation of the sources and initiates Monitoring and Sampling. After receiving a Notice of Findings, an owner or operator of a facility has the opportunity to provide information to the Executive Officer of other sources which may be contributing to the ambient monitors and South Coast AQMD staff would investigate those sources. However, designation as a Metal TAC Monitoring Facility is solely based on the Metal TAC emissions from the facility. Therefore, it is not necessary to attribute measured ambient concentrations to other sources.

2-8 Response: PR 1480 and Rule 1402 are separate rules with separate designation processes. Please see response to Comment 2-2.

2-9 Response: The comment refers to a letter from the air districts to Governor Jerry Brown on AB 617 ambient air monitoring costs. As discussed at Working Group Meeting #7 on 8/6/2019, this was based on South Coast AQMD's cost to monitor several facilities in the City of Paramount which were under Orders for Abatement. The annual cost of $300,000 was based on fully burdened rates for two field staff to setup, conduct, and retrieve samples from monitors mounted in locations which were not easily accessible (i.e. elevated on utility poles). Sample analysis was also was expedited because the results were the basis for the Order for Abatement conditions to curtail operations if a concentration limit was exceeded. PR 1480 does not require expedited sample analysis and the monitors will likely be placed near the fenceline within the facility where the location should be accessible by one field staff.

The costs of PR 1480 have been analyzed in the Socioeconomic Impact Assessment included in Chapter 3 of the Staff Report. Fees for Monitoring and Sampling for a facility that elects to use South Coast AQMD staff to conduct the Monitoring and Sampling have been substantially reduced through the rulemaking process. The South Coast AQMD was able to provide a number of allowances such as reducing the number of South Coast AQMD personnel from 2 to 1 if the monitor could be safely accessed and reducing the minimum monitors from 2 to 1. This reduced the cost by more than 50%. Some facilities have commented through the rulemaking process that they would keep an upwind monitor. PR 1480 would not require that upwind monitor and it would be the choice of the operator to have an upwind monitor. In addition, the fees under the Alternative Monitoring and Sampling are expected to be higher than a third party consultant that the facility is allowed to hire to conduct the ambient monitoring and sampling. Additionally, smaller facilities with 25 or fewer employees and gross receipts of three million dollars or less, averaged over the previous three

years, are exempt from the provisions of PR 1480 except paragraphs (d)(1) and (d)(2).

2-10 Response: PR 1480 does not require a facility to prepare a health risk assessment. At the Working Group Meeting #5, South Coast AQMD staff presented information regarding the AB 2588 program and health risk assessments.

MFASC
METAL FINISHING ASSOCIATION OF SOUTHERN CALIFORNIA, INC.

March 22, 2019

Via Email

Min Sue msue@aqmd.gov
Dan Garcia dgarcia@aqmd.gov
Susan Nakamura snakamura@aqmd.gov
Neil Fujiwara nfujiwara@aqmd.gov

South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, CA 91765

RE: Proposed Rule 1480 –Toxic Metal Air Emission Monitoring

Dear Min, Dan, Susan and Neil -

With the approaching Workshop #5 on March 26, the Metal Finishing Association of Southern California [MFASC] would like to reiterate and emphasize several key issues that we have raised in previous workshops.

Metal Finishing Industry

The Metal Finishing Association of Southern California, together with the Metal Finishing Association of Northern California, together represent over 130 companies throughout Northern and Southern California, which comprise a diverse industrial base of metal finishing and related businesses that employ thousands of workers.

Our members provide necessary products and services to manufacturers in various other industries, including, automotive, consumer products, industrial, energy, aerospace and numerous others. In particular, a large segment of our memberships provide mission critical parts and components for military aircraft, satellites, telecommunications, defense and the like. In addition, well over 90% of the associations' members meet the federal definition of Small Business with fewer than 150 employees, and these are typically private family businesses or otherwise small closely held companies.

Our industry has a statewide economic impact of more than $13 billion per year, and it is responsible for more than 130,000 jobs.

Context – PAR 1469

Metal finishing facilities are now endeavoring to meet the significant new requirements and related compliance costs now that the district has adopted Proposed Amended Rule 1469 (PAR 1469). This follows almost two years of meetings and negotiations.

The rule addresses hexavalent chromium containing tanks not previously known to be sources of hexavalent chromium

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emissions and includes requirements such as building enclosures, best management practices, and housekeeping provisions that minimize the release of fugitive emissions from chromium electroplating and chromic acid anodizing operations.

PAR 1469 also has provisions to ensure continuous proper operation of point source pollution controls and contingency provisions to add pollution controls for a building enclosure for any facility that repeatedly fails to comply with the point source emission requirements or fails to shut down a tank after not passing a test to evaluate the collection efficiency of a tank with pollution controls.

The District estimates that small decorative plating facilities will experience an average impact of 3.4% to 7.4% of their revenues, and that this will increase dramatically if chemical fume suppressants are not certified and they are required to install add-on pollution controls. The district also projects that approximately 37 to 63 jobs will be lost each year.

Toxic Metal Air Emission Monitoring

The District is now proposing a new Rule 1480. Under this rule, if data collected by SCAQMD demonstrates that a facility is a *Potentially Significant Source* of toxic metal emissions, the district would notify the facility and could subject the facility to new air monitoring requirements including sampling, monitoring and analysis.

The metals addressed by the rule include Arsenic (As), Cadmium (Cd), Copper (Cu), Hexavalent Chromium (CrVI), Nickel (Ni), and Manganese (Mn). The emissions processes include metal finishing, metal heat treating, metal forging, chromate coatings, metal shredding, metal melting, and metal buffing and grinding.

A facility designated as a Potentially Significant Source would be required to:

- Submit an ambient air monitoring plan, and
- Comply with the requirements for a Potentially High Risk Level facility pursuant to Rule 1402 (e.g. Early Action Reduction Plan)

3-1

These proposed new requirements are substantial and metal finishing facilities will be required to incur significant time, workload, and economic burdens in their efforts to comply. The District has already mentioned potential costs in the amount of several thousands of dollars each week for the monitoring and analysis. These are in addition to the new costs being incurred in compliance with the new PAR 1469.

The metal finishing industry is urging the District to address key issues prior to finalization. These include:

1. *Adequate time to respond* – facilities should be provided a reasonable period of time to respond to a District notification that they are a Potentially Significant Source.

   The current proposal - 14 days - is an insufficient amount of time for a facility to develop and submit its response to this significant notification. This is especially true with regard to the District's example of the type of response it desires to receive within this timeframe: "Substantiate why the facility is not a source."

   3-2

   The rule should also address the information that will be made available to facilities with this significant notification, in order to enable them to prepare an informed response. This information should include not only the data itself but also the data collection methodologies, as well as other potential sources of emissions.

   3-3

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2. *Clear and separate regulatory process* – facilities should be able to reference and rely upon a distinct set of rules and procedures, as opposed to the current rule that references Rule 1402. 3-4

   The current proposal references Rule 1402 early action reduction plan procedures that currently apply to other facilities and could be revised over time.

   It is also important that Rule 1480 clearly provide for: 3-5
   - The identification and quantification of all other sources of the emissions.
   - The methodology to be utilized for ambient air monitoring.
   - The quantitative guidelines for ambient air measurements.
   - The quantitative determination the District will employ to
   - The criteria for the determination that a facility is a Potentially Significant Source.
   - The criteria for notifying a facility that it is a Potentially Significant Source.

3. *Cost Impacts* – the industry should be provided with the District's cost estimates in sufficient advance time that will allow the impacted facilities to review the information and provide a response.

   The cost estimates should address every cost to be borne by facilities including but not limited to the preparation of the response to the District's notification that they are a Potentially Significant Source, the preparation of an air monitoring plan, the performance of sampling and analysis, and the review of air monitoring data. 3-6

   MFASC also requests, consistent with our comments in the recent PAR 1469 process, that the district include within this rulemaking the financial measures it will adopt in acknowledgement of the public statements that: "It is unrealistic to expect a small plating shop or other metalworking facility to be able to support the amount of monitoring required." [July 27, 2017 joint air district letter to Governor Brown and the Legislature regarding AB 938 and AB 617]. 3-7

Thank you for the consideration of these and the other issues that our association and its members are raising in this rulemaking. MFASC and our representatives look forward to continued discussions on the PR 1480 with the District.

Sincerely,

Dale Watkins,
President

P.O. Box 6547, Burbank, CA 91510-6547 (818) 238-9590 www.mfaca.org

Responses to Metal Finishing Association of Southern California (MFASC) Comment Letter, submitted 3/22/19

3-1 Response: Paragraph (d)(5) recognizes the compliance efforts by affected facilities to comply with existing South Coast AQMD rules and that information will be considered in the designation process. The costs of PR 1480 have been analyzed in the Socioeconomic Impact Assessment included in Chapter 3 of the Staff Report. Fees for Monitoring and Sampling for a facility that elects to use South Coast AQMD staff to conduct the Monitoring and Sampling have been substantially reduced through the rulemaking process. The South Coast AQMD was able to provide a number of allowances such as reducing the number of South Coast AQMD personnel from 2 to 1 if the monitor could be safely accessed and reducing the minimum monitors from 2 to 1. This reduced the cost by more than 50%. Some facilities have commented through the rulemaking process that they would keep an upwind monitor. PR 1480 would not require that upwind monitor and it would be the choice of the operator to have an upwind monitor. In addition, the fees under the Alternative Monitoring and Sampling are expected to be higher than a third party consultant that the facility is allowed to hire to conduct the ambient monitoring and sampling. Additionally, smaller facilities with 25 or fewer employees and gross receipts of three million dollars or less, averaged over the previous three years, are exempt from the provisions of PR 1480 except paragraphs (d)(1) and (d)(2).

3-2 Response: Please see response to Comment 2-4. To provide the owner or operator of facilities additional time to provide additional information, an Initial Notice would be given to the owner or operator of a facility at least 30 days prior to the Notice of Findings and the owner or operator may request up to 90 days following the Notice of Findings to provide information on why the facility should not be designated a Metal TAC Monitoring Facility. Therefore, the owner or operator has at least 120 days to prepare information should a Notice of Findings be issued to the facility.

3-3 Response: Please see response to Comment 2-4. Subparagraph (d)(3) specifies the information included in a Notice of Findings, which includes the results of Monitoring and Sampling conducted by the South Coast AQMD, results of data collected from any Information Requests following the Initial Notice, findings that the facility has equipment or processes with Metal TAC emissions capable of being released into the ambient air, and the highest health risk value, broken down by the Metal TACs, at the Sensitive Receptor location that exceeds the Significant Risk Level based on the Metal TAC emissions from the facility.

3-4 Response: PR 1480 and Rule 1402 are separate rules with separate requirements, but are complementary to each other where Rule 1402 will require risk reduction and PR 1480 monitors emissions while permanent risk reduction

measures are implemented for facilities with high health risk levels. PR 1480 relies on the milestones within Rule 1402 for Potentially High Risk Level Facilities (i.e. implementation of an Early Action Reduction Plan and implementation of a Risk Reduction Plan) since that is one of the criteria for designation as a Metal TAC Monitoring Facility under PR 1480.

3-5 Response: Please see responses to Comments 2-3 and 2-7. After a Notice of Findings, the owner or operator of a facility can submit information to the Executive Officer to identify other Metal TAC sources (see paragraph (d)(4) and subparagraph (d)(5)(E)). Subparagraph (d)(7)(D) specifies that designation of a Metal TAC Monitoring Facility only relies on the Metal TAC emissions from the facility, therefore, it is not necessary to identify and quantify all other sources of Metal TAC emissions.

The methods used by a Metal TAC Monitoring Facility for Monitoring and Sampling are to be specified in the Monitoring and Sampling Plan. A Rule 1480 Monitoring and Sampling Plan Guidance has been prepared to assist owners and operators of Metal TAC Monitoring Facilities and their third party contractors in the preparation of the plan. The South Coast AQMD follows the same guidance when conducting ambient monitoring and sampling.

The "Potentially Significant Source" has been renamed "Metal TAC Monitoring Facility". The criteria for designation of a Metal TAC Monitoring Facility is specified in paragraph (d)(7) and the information to be included in the notification to a facility of designation is specified in paragraph (d)(8). Additionally, Appendix 2 includes an Alternative Methodology to establishing the Benchmark Concentration.

3-6 Response: The South Coast AQMD fees for conducting Monitoring and Sampling pursuant to subdivision (g) were provided to the Working Group Meeting #8 on 8/29/2019. The costs of PR 1480 have been analyzed in the Socioeconomic Impact Assessment included in Chapter 3 of the Staff Report. The criteria used to designate a facility as a Metal TAC Monitoring Facility under PR 1480 will result in a subset of facilities designated as Potentially High Risk Level facilities under Rule 1402. Implementation costs associated with Rule 1402 were evaluated during that rulemaking and those cost impacts are separate from PR 1480. However, at the request of stakeholders the Socioeconomic Impact Assessment does include information regarding implementation costs associated with Rule 1402 are provided.

3-7 Response: The comment refers to a joint air district letter to Governor Brown and the Legislature regarding AB 617 and was discussed at the Working Group Meeting #7 on 8/6/2019. When an air quality issue is identified, South Coast AQMD staff conducts an investigation of the sources and initiates

Monitoring and Sampling. However, it can take months to years for a facility to install permanent emission controls. During this time, South Coast AQMD continues Monitoring and Sampling to ensure that public health is protected. Once a facility is designated under PR 1480, the Monitoring and Sampling responsibility is shifted from South Coast AQMD to the facility responsible for the Metal TAC emissions and that responsibility continues until verification that all the permanent emission controls have been implemented and are operating.

Fees for Monitoring and Sampling for a facility that elects to use South Coast AQMD staff to conduct the Monitoring and Sampling have been substantially reduced through the rulemaking process. The South Coast AQMD was able to provide a number of allowances such as reducing the number of South Coast AQMD personnel from 2 to 1 if the monitor could be safely accessed and reducing the minimum monitors from 2 to 1. This reduced the cost by more than 50%. Some facilities have commented through the rulemaking process that they would keep an upwind monitor. PR 1480 would not require that upwind monitor and it would be the choice of the operator to have an upwind monitor. In addition, the fees under the Alternative Monitoring and Sampling are expected to be higher than a third party consultant that the facility is allowed to hire to conduct the ambient monitoring and sampling. Additionally, smaller facilities with 25 or fewer employees and gross receipts of three million dollars or less, averaged over the previous three years, are exempt from the provisions of PR 1480 except paragraphs (d)(1) and (d)(2).

CALIFORNIA METALS COALITION

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June 20, 2019

Min Sue, Air Quality Specialist
South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, California 91765

Dear Mr. Sue:

The California Metals Coalition appreciates the opportunity to comment on the South Coast Air Quality Management District ("District" or "SCAQMD") workshop proceedings and consideration of **SCAQMD Proposed Rule (PR) 1480**.

These comments on PR 1480 are divided into the following sections: Summary; Background on CMC; Comments on Slides; and Recommendations for Further Scoping and Development.

SUMMARY

This comment letter addresses the PR 1480 slides presented on May 23, 2019 at working group meeting #6. At working group meeting #6, the SCAQMD provided examples of how it identified sources, and discussed 1480 draft rule provisions and cost considerations.

BACKGROUND ON CMC

California is home to approximately 4,000 metalworking facilities, employing over 350,000 Californians. The average industry salary is $66,400/year in wages and benefits.

8 out of 10 employees in the metalworking sector are considered ethnic minorities or reside in disadvantaged communities throughout Southern California. A job in the metals sector is often the only path to the middle class for many of these Californians.

Here is a breakdown of the metalworking industry's impact on the 4 counties within SCAQMD jurisdiction:

- **Los Angeles County**: 54,290 Direct Jobs | 52,741 Indirect Jobs | $7 billion wages | $26 billion economic activity

- **Orange County**: 25,448 Direct Jobs | 18,912 Indirect Jobs | $2.9 billion wages | $10.8 billion economic activity
- **San Bernardino**: 9,778 Direct Jobs | 8,378 Indirect Jobs | $1.2 billion wages | $4.5 billion economic activity
- **Riverside**: 6,971 Direct Jobs | 7,712 Indirect Jobs | $957 million wages | $3.2 billion economic activites
- **Total**: 96,487 Direct Jobs | 87,743 Indirect Jobs | $12 billion wages | $33.8 billion economic activity

California metal manufacturers use recycled metal (ex: aluminum, brass, iron and steel) to make parts for the aerospace industry, clean energy technologies, electric cars, biotech apparatuses, medical devices, national defense items, agriculture, infrastructure, construction machinery, household appliances, food processing and storage, movement of water, and millions of other products demanded by society.

COMMENTS ON SLIDES

Item #1, SLIDE 7: General Process for Identifying a Facility Should be Explicit in Staff Report

At the working group meeting on May 23, 2019, CMC requested clarification on what steps would be taken by the SCAQMD before triggering a "Notice of Findings" letter (Slide 37) to a facility.

Staff presented a concise 4-Step process to address CMC's concerns. CMC would prefer that this 4-Step process be included in PR 1480. 4-1

But if the 4-Step process is not included in the rule language, it should be detailed in the staff report and presented at the Stationary Source Committee and Governing Board Meetings.

Item #2, SLIDES 8-12: General 4-Step Process to Identify a Facility Contributing to Ambient Levels

CMC was concerned that a facility could be designated a Potentially Significant Source without an in-depth review and data collection by the SCAQMD.

- **Step 1: Identifying a Facility as Possibly Contributing to an Air Issue**. CMC agrees with staff that the SCAQMD should conduct air monitoring prior to triggering a "Notice of Findings" letter. All of the examples presented at the working group meeting included this step.
  - **SUGGESTION**: The SCAQMD should notify the facility when air monitoring begins near the facility. The 1480 process is a process of sharing information and correcting problems. It is concerning if the SCAQMD does not believe it should alert the facility that air monitoring is occurring outside of the facility. 4-2
- **Step 2: Within Facility, Identify the Source or Sources.**
  - **SUGGESTION:** In order to best respond to the identification of source(s), a facility may want to conduct on-site ambient air monitoring. This data could be compared to the SCAQMD data. If the SCAQMD does not alert the facility that it has initiated monitoring near the facility, then the opportunity is lost and the facility will be one step behind in the process.
- **Step 3: Determine if Sources are Capable of Generating Emissions.** 4-3

- **SUGGESTION:** During this process, the SCAQMD and facility should also focus on fixing any problems. Time is important, and if an issue can be resolved—and emissions reduced—action should be encouraged prior to triggering PR 1480.

- **Step 4: Determine if Emissions Can be Released to the Ambient Air**.
  - **SUGGESTION**: Similar to Step 3, the SCAQMD and facility should also focus on remedies. Changing a vent or eliminating cross drafts should be part of this step.

4-3 cont.

Item #3, Unclear If Data Currently Being Collected Can Immediately be Used to Trigger PR 1480

It is unclear whether or not the SCAQMD can use data collected prior to PR 1480 to trigger a "Notice of Findings" letter. The concern is that a facility could immediately receive a "Notice of Findings" letter after PR 1480 is adopted, or that the SCAQMD staff might be on steps 3 or 4 of the process before PR 1480 is placed before the Board.

4-4

Staff should describe how this will be handled after the adoption of PR 1480, and if the facility could immediately receive a letter.

Item #4: No Description of How SCAQMD Will Account for Other Pollution Sources:

Community air monitors will be sampling pollutant concentrations from ambient air which can potentially include other surrounding emissions sources. These could include stationary sources, mobile sources, and/or area emissions sources. Some of these may be temporary or intermittent sources. It is unclear how SCAQMD will be attributing measured ambient air concentrations to potential sources. There needs to be a clear mechanism in PR 1480 that describes how SCAQMD conduct such source attribution and consider all potential source types such as trucks, trains, constructions, street sweepers, unpermitted stationary sources, fireworks, etc. The burden of identifying and quantifying these sources should not be the sole responsibility of the facility when responding to a "Notice of Findings" letter.

4-5

Item #5: SLIDE 36: Opportunity to Commit to Changes Prior to Triggering PR 1480

When a facility receives a "Notice of Findings" letter, it is expected that the 4-Step process will have occurred—roughly spanning over 6 months.

During this time, if the problem has been pinpointed, why can't a facility be given the opportunity under section (d) to commit to fixing the issue? As an example, if the issue is to add a HEPA filter or enclose part of the building, why should the facility be forced to spent $300,000+ in testing under PR 1480 when the fix is already available?

4-6

Item #6: SLIDE 37: Providing All Test Data and Requested Information Prior to Triggering the 14-day Response Time.

When the facility receives the "Notice of Findings" letter, the SCAQMD should also provide all of the data and information leading to this determination. The 14-day response period should not begin until the SCAQMD has provided all the data and information. If the facility has to wait for a period of time to receive these materials, it should not be counted against the 14-day response period.

4-7

Item #7: SLIDES 50-56: Costs for PR 1480 Will Exceed $300,000.

In CMC's March 18, 2019 comment letter, we included specific information on the cost of ambient air monitoring. Based on the last working group meeting, this information did not get included in the presentation.

On July 12, 2017, the South Coast AQMD, Bay Area AQMD, San Joaquin Valley AQMD, and Sacramento Metropolitan AQMD submitted a letter to Governor Jerry Brown[1]. The letter detailed the cost of ambient air monitoring and estimated this cost at $6,000/week or $300,000 per year. 4-8

These numbers should be at least roughly accurate given the authors of the letter, and the fact it is being sent to the Governor of California. SCAQMD staff working on PR 1480 could use this information for their cost evaluation unless more recent information is available.

Item #8: SLIDES 50-56: Costs for 1402 Must Be Included.

PR 1480 has a direct trigger into Rule 1402. The cost of complying with 1402 should be included in PR 1480 economic assessment. A full Health Risk Assessment (HRA) under 1402 is not less than $250,000. 4-9

Item #9: CMC Disagrees with Using OEHHA's Risk Factor for Hexavalent Chromium.

While OEHHA may be the preferred source for health risk values, it is not required that SCAQMD use OEHHA. This is important because there are inherent problems with OEHHA's analysis of the inhalation of hexavalent chromium. As an example, SCAQMD would be relying on OEHHA's data records that come from the 1940s and 1950s. 4-10

At the PR 1480 working group meeting that staff discusses inhalation of hexavalent chromium, CMC requests that we spend time discussing industry's problems with OEHHA's data.

RECOMMENDATIONS FOR FURTHER SCOPING AND DEVELOPMENT

Thank you for your time, and for allowing CMC to participate and comment on PAR 1480. We look forward to continued discussions.

Sincerely,

James Simonelli
Executive Director

[1] http://www.metalscoalition.com/uploads/2/4/3/5/24359359/aqmd_letter_to_jerry_brown_7-12-17__official_.pdf

Responses to California Metals Coalition (CMC) Comment Letter, submitted 6/20/19

4-1 Response: The Four-Step Process is included in the Staff Report. The designation process for Metal TAC Monitoring Facilities generally follows the Four-Step process, which form the basis for the information for the Notice of Findings and the criteria for designating a Metal TAC Monitoring Facility.

4-2 Response: Paragraph (d)(1) includes an Initial Notice as an early notification that the South Coast AQMD is conducting ambient monitoring of Metal TACs near the facility.

4-3 Response: An Initial Notice would be given to the owner or operator of a facility at least 30 days prior to the Notice of Findings and the facility may request up to 90 days following the Notice of Findings to provide information on why the facility should not be designated a Metal TAC Monitoring Facility. During this time, the owner or operator can work with South Coast AQMD staff on measures to reduce emissions prior to designation. PR 1480 allows the operator under paragraph (d)(5) to provide a list of enforceable measures that have been implemented and enforceable measures that will be implemented within 90 days of the Notice of Findings. This allows the operator the opportunity to implement enforceable measures that can reduce or eliminate the estimated health risk at the sensitive receptor to a level that is less than the Significant Risk Level. The focus is on implementation of permanent and enforceable measures. The South Coast AQMD staff agrees that modifications to a building enclosure can significantly reduce fugitive emissions and there are mechanisms to ensure that these modifications are enforceable. However, permanent reductions at the source are also needed.

4-4 Response: Historical data gathered prior to the passage of Rule 1480 may be used to designate a facility. However, the South Coast AQMD staff would have to follow the designation process in subdivision (d). This means that an Initial Notice would be provided and the owner or operator of a facility would have an opportunity to provide additional information. Further, the facility would have the meet the criteria in paragraph (d)(7) in order to be designated a Metal TAC Monitoring Facility. One of the criteria for designation is that the facility has been designated as a Potentially High Risk Level Facility under Rule 1402. A facility could not be designated under PR 1480 until the facility was designated under Rule 1402 as a Potentially High Risk Level Facility. To date, there are only three facilities that have been designated as Potentially High Risk Level Facilities, two facilities in Paramount and one facility in Long Beach.

4-5 Response: Please see response to Comment 2-7 and Appendix 2, Alternative Methodology for establishing the Benchmark Concentration. Community air monitors are one of the various ways that South Coast AQMD staff can be alerted that there is an air quality issue. When an air quality issue is

identified, South Coast AQMD staff conducts an investigation of the sources and initiates Monitoring and Sampling. After receiving a Notice of Findings, an owner or operator of a facility has the opportunity to provide information to the Executive Officer of other sources which may be contributing to the ambient monitors and South Coast AQMD staff would investigate those sources. However, designation as a Metal TAC Monitoring Facility is solely based on the Metal TAC emissions from the facility. Therefore, it is not necessary to attribute measured ambient concentrations to other sources.

4-6 Response: Please see response to Comment 4-3. Paragraph (d)(5) recognizes that there will be emission reductions from Enforceable Measures that will be fully operational within 90 days of the Notice of Findings and the compliance efforts by affected facilities to comply with existing South Coast AQMD rules. Therefore, the Executive Officer will take this information into consideration when designating a Metal TAC Monitoring Facility. In addition, subparagraph (d)(5)(D) includes a provision where the owner or operator can provide a list of equipment or sources where there is an applicable Regulation XIV rule that has a future effective compliance date. Provided the owner or operator has met all of the interim requirements specified in the Regulation XIV rule, the emission reductions associated with these measures would be accounted for when estimating the health risk at the sensitive receptor as part of the designation process.

4-7 Response: Please see response to Comment 2-4. The 14 day response time has been extended to 30 days following the Notice of Findings to provide information, with the option to provide information up to 90 days following the Notice of Findings. Paragraph (d)(3) provides specifics on the information which will be provided to the facility within the Notice of Findings and it includes the data and information the Executive Officer has that indicates a facility may be designated as a Metal TAC Monitoring Facility.

4-8 Response: Please see response to Comments 2-9 and 3-7. The comment refers to a letter from the air districts to Governor Jerry Brown on AB 617 ambient air monitoring costs. As discussed at the Working Group Meeting #7 on 8/6/2019, this was based on South Coast AQMD's cost to monitor several facilities in the City of Paramount which were under Orders for Abatement. The annual cost of $300,000 was based on fully burdened rates for two field staff to setup, conduct, and retrieve samples from monitors mounted in locations which were not easily accessible (i.e. elevated on utility poles). Sample analysis was also was expedited because the results were the basis for the Order for Abatement conditions to curtail operations if a concentration limit was exceeded. PR 1480 does not require expedited

sample analysis and the monitors will likely be placed near the fenceline within the facility where the location should be accessible by one field staff.

The costs of PR 1480 have been analyzed in the Socioeconomic Impact Assessment included in Chapter 3 of the Staff Report. Fees for Monitoring and Sampling for a facility that elects to use South Coast AQMD staff to conduct the Monitoring and Sampling have been substantially reduced through the rulemaking process. The South Coast AQMD was able to provide a number of allowances such as reducing the number of South Coast AQMD personnel from 2 to 1 if the monitor could be safely accessed and reducing the minimum monitors from 2 to 1. This reduced the cost by more than 50%. Some facilities have commented through the rulemaking process that they would keep an upwind monitor. PR 1480 would not require that upwind monitor and it would be the choice of the operator to have an upwind monitor. In addition, the fees under the Alternative Monitoring and Sampling are expected to be higher than a third party consultant that the facility is allowed to hire to conduct the ambient monitoring and sampling. Additionally, smaller facilities with 25 or fewer employees and gross receipts of three million dollars or less, averaged over the previous three years are exempt from PR 1480 except paragraphs (d)(1) and (d)(2).

4-9 Response: Please see response to Comment 3-4. PR 1480 and Rule 1402 are separate rules and PR 1480 does not have a direct trigger into Rule 1402. PR 1480 includes an additional criteria that the facility must be designated as a Potentially High Risk Level Facility under Rule 1402 before designation in PR 1480. Rule 1402 has a process to designate a Potentially High Risk Level Facility, which is based on exceeding the Significant Risk Level at a Sensitive Receptor or Worker receptor from all TAC emissions from a facility. Similarly, PR 1480 has a process to designate a Metal TAC Monitoring Facility, which is based on exceeding the Significant Risk Level at a Sensitive Receptor from the Metal TAC emissions from a facility. In order to be designated under either rule, the designation process must be followed and the facility has to meet criteria specific to each rule. Implementation costs associated with Rule 1402 were evaluated during that rulemaking and staff believes that those cost impacts are separate from PR 1480. However, at the request of stakeholders the Socioeconomic Impact Assessment does include information regarding implementation costs associated with Rule 1402 are provided.

4-10 Response: South Coast AQMD's Risk Assessment Procedures rely on OEHHA's methodology. Stakeholder concerns with OEHHA's methodology or data should be discussed with OEHHA directly.

August 14, 2019

Via Email

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South Coast Air Quality Management District
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RE: Proposed Rule 1480 –Toxic Metal Air Emission Monitoring

Dear Min, Dan, Susan and Neil -

Following the Working Group Meeting #7 on August 6, the Metal Finishing Association of California [MFASC] would like to provide additional written comments highlighting the key issues we have identified with Proposed Rule 1480, Air Toxic Metals Monitoring.

MFASC continues to have significant concerns with PR 1480. The association members and representatives have raised these concerns in the workshops, and MFASC submitted a substantive comment letter on March 22.

As is clear from the comments and requested revisions that follow, the regulation as currently drafted would provide the district with unfettered authority and discretion, without clear criteria for key district decisions, that would enable the district to easily designate every facility as a Potentially Significant Facility [PSF], subjecting them to expensive and onerous requirements to place monitors, frequently collect and analyze samples, and submit reports.

In addition, the specific costs remain unidentified and potentially extremely significant, especially when consideration is given to the new costs and burdens on facilities working to comply with PAR 1469.

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We urge the district to address and resolve these issues prior to the presentation of the rule to the district Governing Board for adoption. Until the issues are resolved, MFASC is not in a position to support the new rule.

The specific provisions of the draft regulation, and our concerns, follow here:

Initial notice – Subdivision (d) (1) – the regulation must set forth clear criteria for important decisions the district will be making. The text must clearly state what is considered "*contributing*" and what is considered "*emitting a substantial amount*" as these are the determinations that trigger the initial notice.

The regulation must include a provision requiring the district to provide a facility, within the initial notice, with information on the process, timeframes, and available options.

In addition, the regulation must require the district to notify the facility that it is monitoring and the potential sources of emissions that are being monitored. 5-1

Finally, yet importantly, the regulation must include a provision requiring the district to inform the facility of the information that is serving as the basis for the initial notice, together with a provision enabling the facility to address and potentially resolve the basis for the notice as an alternative to potentially being designated a PSF.

Compliance with Initial Notice – Subdivision (d) (2) – it must be clear in subdivision (A) that a facility will not be required to perform source testing. It should be clear in subdivision (C) that the records to be provided are for the metals addressed by this rule and not any toxic air contaminants. 5-2

Notice of Findings – Subdivision (d) (3) – the regulation must require the district to provide facilities with the information that will enable them to respond to the notice of findings. The text must state that the notice shall include all of the data that the district has, including sampling results from all others sources of emissions. 5-3

In addition, the regulation must provide that, if the district decides to proceed with a notice of findings, it shall do so no later than 6 months following the issuance of an initial notice.

Notice of Findings - Subdivision (d) (5) – the regulation must provide additional time for a facility to provide a response to the notice of findings. Even with a potential 30 –day extension, the requirement that a facility respond in writing within 30 days of the Notice of Findings provides insufficient time for the facility to review the district's information and prepare its response. 5-4

Written List – Subdivision (d) (6) – the regulation must clearly state what is considered "*enforceable measures*" that permanently reduce emissions. 5-5

Designation of a Potentially Significant Facility [PSF] – Subdivision (d) (8) – the regulation must set forth clear criteria for the district to designate a facility as a PSF. 5-6

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Authorizing the district to make a designation *"based on information, including but not limited to..."* is vague and ambiguous, provides unlimited discretion to the district, fails to set forth prioritization of information, and does not provide for weighing of information.

This is further complicated by the definition of a PSF in subdivision (a) (10) as facility the district has determined *"is likely to either exceed or has exceeded the Significant Risk Level for any Sensitive Receptor location..."*. The regulation must clearly state what is considered *"likely."* Subdivisions (d) (8) and (a) (10) must be consistent. 5-6 cont.

Notification of Designation or Nondesignation – Subdivision (d) (9) – the regulation must provide a reasonable deadline for the district to notify the facility that a determination has been made to designate it as a PSF or not to designate it as a PSF. 5-7

In addition, the list of metals and values must be listed in specific subdivision (C).

Monitoring and Sampling Plan – Subdivision (e) (2) – the regulation must set forth clear criteria for a decision to approve or disapprove a draft monitoring and sampling plan, rather than the merely stating that the decision *"will be based on information submitted..."*. 5-8

The regulation must more clearly state in subdivision (A) that the district shall provide a facility with a deficiency letter that shall identify each deficiency when it disapproves a draft monitoring and sampling plan.

Metal TAC Monitoring Requirements – Subdivision (f) (4) – the regulation must clearly state that the facility shall not miss a valid sample for more than one day over a consecutive 30 *calendar* day period, so that the requirement is not misunderstood as referring to missing a valid sample over a 30 *sample* day period. 5-9

Metal TAC Monitoring Requirements – Subdivision (f) (7) – the regulation must provide the opportunity for a hexavalent chromium sample to be submitted for analysis more than one calendar day after collection when the shipment to a laboratory will take a longer period of time. The regulation must also provide more than one business day for a facility to provide a sample to the district upon request. 5-10

It would also be helpful if the District would provide the association with a list of the laboratories it has identified that conduct hexavalent chromium sample analysis.

It is foreseeable that the requirement that valid samples or sample extracts be retained for one year will create a significant compliance cost for facilities. 5-11

Alternative Monitoring and Sampling - Subdivision (g) – the regulation must list the specific sampling methods that the district will utilize. 5-12

Reduced Monitoring and Sampling Frequency – Subdivision (h) (1) (A) – the regulation must clearly state that both the 30 day rolling average and the 180 consecutive day calculation are 30 and 180 5-13

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calendar days, so that the periods are not misunderstood as referring to sampling days. 5-13 cont.

Reduced Monitoring and Sampling Frequency – Subdivision (h) (1) (B) – the regulation must include a maximum period of years after which a facility that is ineligible to modify its sampling schedule may once again submit a request to reduce the frequency of monitoring and sampling. Otherwise, the ineligibility would continue forever. 5-14

Request to Discontinue Metal TAC Monitoring – Subdivision (j) – the regulation in subdivisions (1) and (1) (A) must clearly state that the 180 consecutive day monitoring and sampling period is calendar days, so that the period is not misunderstood as referring to sampling days.

The regulation in subdivision (1) (C) must not require a description of the enforceable measures in those situations where monitoring results demonstrated low emission levels. 5-15

The regulation in subdivision (3) must provide a maximum period of time for the district to notify a facility as to whether the request to discontinue monitoring has been approved or disapproved.

Costs –Appendix 1 – while we appreciate the inclusion of a preliminary and incomplete Appendix 1, it remains critical for the industry to be able to have information on the district's cost estimates in sufficient advance time that will allow the impacted facilities to review the information and provide a response.

The cost estimates must address every cost to be borne by facilities for each potential compliance pathway including but not limited to the preparation of the response to the district's notification that they are a Potentially Significant Source, the preparation of an air monitoring plan, the performance of sampling and analysis, and the review of air monitoring data. 5-16

Multiple Sources of Emissions – new provision - as mentioned near the conclusion of the workshop, the regulation must include provisions that address the situations where there are multiple sources of emissions. 5-17

Context – PAR 1469

It remains important to recognize that metal finishing facilities are now endeavoring to meet the significant new requirements and related compliance costs now that the district has adopted Proposed Amended Rule 1469 (PAR 1469). This follows almost two years of meetings and negotiations.

The rule addresses hexavalent chromium containing tanks not previously known to be sources of hexavalent chromium emissions and includes requirements such as building enclosures, best management practices, and housekeeping provisions that minimize the release of fugitive emissions from chromium electroplating and chromic acid anodizing operations. 5-18

PAR 1469 also has provisions to ensure continuous proper operation of point source pollution controls and contingency provisions to add pollution controls for a building enclosure for any facility that

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repeatedly fails to comply with the point source emission requirements or fails to shut down a tank after not passing a test to evaluate the collection efficiency of a tank with pollution controls.

The District estimates that small decorative plating facilities will experience an average impact of 3.4% to 7.4% of their revenues, and that this will increase dramatically if chemical fume suppressants are not certified and they are required to install add-on pollution controls. The district also projects that approximately 37 to 63 jobs will be lost each year.

5-18 cont.

Thank you for the consideration of these and the other issues that our association and its members are raising in this rulemaking. MFASC and our representatives look forward to continued discussions on the PR 1480 with the District.

Sincerely,

Justin Guzman

Justin Guzman, MFASC Excecutive Officer

Jerry Desmond

Jerry Desmond, MFASC Advocate

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Responses to Metal Finishing Association of Southern California (MFASC) Comment Letter, submitted 8/14/19

5-1 Response: The Initial Notice in paragraph (d)(1) is an early written notice that the Executive Officer is conducting ambient monitoring of Metal TACs near the facility and does not have any criteria associated with it as it is an informational early notice to the owner or operator. The owner or operator of a facility may schedule a meeting with the Executive Officer at any time to discuss any aspects of PR 1480. During this initial stage, the Executive Officer may also issue Information Requests for the purposes of gathering the information required to determine if a facility meets the criteria to be designated a Metal TAC Monitoring Facility. Paragraph (d)(3) includes the specific information which will be provided in the Notice of Findings to an owner or operator of a facility prior to designation. The criteria for designation as a Metal TAC Monitoring Facility is based on the facility's Metal TAC emissions causing the Significant Risk Level of 100 in one million to be exceeded at a Sensitive Receptor.

Provisions referring to "contributions" and "emitting a substantial amount" have been removed. PR 1480 bases the criteria for designating a Metal TAC Monitoring Facility on facility-specific information that will be inputted in an air dispersion model to estimate the health risk at a sensitive receptor. This approach eliminates the need to determine the contribution of another source.

5-2 Response: The Information Requests pursuant to paragraph (d)(2) would give the owner or operator of a facility the option to either conduct any required source tests or to allow the Executive Officer to conduct the source tests. Additionally, it was clarified that the Information Requests would be limited to Metal TACs.

5-3 Response: Please see response to Comment 3-3. Paragraph (d)(3) lists the information that will be provided in the Notice of Findings and states that the Notice of Findings would be issued no later than 180 days of the Initial Notice or 180 days of the due date of the most recent Information Request, whichever is later.

5-4 Response: Please see response to Comment 2-4. The 14 day response time has been extended to 30 days following the Notice of Findings for an owner or operator of a facility to provide information to the Executive Officer. To provide the owner or operator of facilities additional time to prepare a response, an Initial Notice would be given to the owner or operator of a facility at least 30 days prior to the Notice of Findings and the owner or operator may request up to 90 days following the Notice of Findings to provide information on why the facility should not be designated a Metal TAC Monitoring Facility. Therefore, the owner or operator has at least 120

days to prepare information from the date of the Initial Notice should a Notice of Findings be issued to the facility.

5-5 Response: The term "Enforceable Measures" has been defined in paragraph (c)(4). Paragraph (d)(5) has been expanded to clarify what information should be included in a response to the Notice of Findings, including those related to Enforceable Measures.

5-6 Response: Paragraph (d)(7) states the criteria the Executive Officer will use when designating a Metal TAC Monitoring Facility. The vague and ambiguous terms referred to in the comment have been removed from PR 1480.

5-7 Response: There is no deadline by which the Executive Officer must notify an owner or operator whether or not their facility has been designated. Once the owner or operator provides information to the Executive Officer pursuant to paragraph (d)(5), the Executive Officer needs to review and consider the information prior to making the designation. By not placing a deadline, this allows the Executive Officer to continue working with the owner or operator prior to designation.

If a facility is designated as a Metal TAC Monitoring Facility, the designation letter would specify the Metals of Concern and the corresponding Benchmark Concentration.

5-8 Response: Subdivision (e) has been expanded to further detail the review and approval process for the various types of Monitoring and Sampling Plans including language for deficiency letters that provide the facility the information on how to correct and resubmit a revised draft Monitoring and Sampling Plan.

5-9 Response: PR 1480 was revised to include a reference to "calendar day" where appropriate.

5-10 Response: PR 1480 does not require expedited sample analysis. Results have to be provided to the Executive Officer on the 21st of every month, which takes into account the two week turnaround on sample analysis. The sample analysis turnaround time should be specified in the Monitoring and Sampling Plan. Paragraph (f)(7) allows an owner or operator of a facility to provide Valid Samples or sample extracts to the Executive Officer five days after the request is made. South Coast AQMD staff does not maintain a list of laboratories capable of performing hexavalent chromium analyses.

5-11 Response: Retention of Valid Samples or sample extracts has been reduced from one year to six months.

5-12 Response: The Rule 1480 Monitoring and Sampling Plan Guidance provides information on the recommended Monitoring and Sampling methods to be used.

5-13 Response: This criteria is no longer used to allow a Metal TAC Monitoring Facility to reduce the sampling frequency and/or number of monitors.

5-14 Response: Subparagraph (e)(5)(D) clarifies that a Metal TAC Monitoring Facility has a total of two opportunities to be on a Reduced Monitoring and Sampling Plan.

5-15 Response: The proposed rule language has been revised and the discontinuation of Monitoring and Sampling occurs when the owner or operator receives written notification from the Executive Officer that the facility's approved Risk Reduction Plan has been fully implemented or if a Risk Reduction Plan is not necessary, that the Health Risk Assessment has been approved.

5-16 Response: The costs of PR 1480 have been analyzed in the Socioeconomic Impact Assessment included in Chapter 3 of the Staff Report.

5-17 Response: The PR 1480 designation as a Metal TAC Monitoring Facility is solely based on the Metal TAC emissions from the facility. In situations where there are multiple sources of emissions, the Executive Officer would consider the emissions from those other sources during the designation process. Additionally, if there are multiple sources of the same Metal of Concern, Appendix 2 includes an alternative approach to determining the Benchmark Concentration that acknowledges the other sources, if they meet certain criteria.

5-18 Response: Paragraph (d)(5) recognizes the compliance efforts by affected facilities to comply with existing South Coast AQMD rules and that information will be considered in the designation process. Subparagraph (d)(5)(D) includes a provision where the owner or operator can provide a list of equipment or sources where there is an applicable Regulation XIV rule that has a future effective compliance date. Provided the owner or operator has met all of the interim requirements specified in the Regulation XIV rule, the emission reductions associated with these measures would be accounted for when estimating the health risk at the sensitive receptor as part of the designation process.

Additionally in paragraph (k)(3), facilities with 25 or fewer employees and average annual gross receipts of three million dollars ($3,000,000) or less, averaged over the previous three years, are exempt from the provisions of PR 1480 except paragraphs (d)(1) and (d)(2)..

MFASC
METAL FINISHING ASSOCIATION OF SOUTHERN CALIFORNIA, INC.

October 4, 2019

Via Email

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RE: Proposed Rule 1480 –Toxic Metal Air Emission Monitoring [Updated Comments]

Dear Min, Dan, Susan and Neil -

Following up on Wednesday's Public Workshop, and in advance of the Working Group Meeting #9 that will be held next Tuesday, October 8, the Metal Finishing Association of California [MFASC] would like to provide additional written comments highlighting the key issues of concern with Proposed Rule [PR] 1480, Air Toxic Metals Monitoring. As we continue to engage in a meaningful dialogue concerning the Rule, MFASC continues to have significant concerns with PR 1480.

The association members and representatives have raised these concerns in the working group meetings and the public workshop, and MFASC submitted substantive comment letters on March 22 and August 14. We appreciate the revisions that have been made to date as the rule has been developed, but the work is far from done.

First and most significantly, the costs associated with the efforts of facilities to comply with the new rule are quite strenuous and would cause many businesses to close their operations with a detrimental impact to their communities including the loss of jobs to the thousands of local residents they employ. 6-1

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Based on information recently provided by the District, the estimated annual cost for each impacted facility would be approximately $300,0000. For the many businesses that have annual gross revenues in the range of $1 million to $2 million, this impact would be a death knell.

It is also important to note the costs and burdens associated with proposed new Rule 1480 are in addition to the significant costs and impacts of the recently-adopted revisions to Rule 1469 that address the same air emissions from our facilities. Metal finishing businesses are devoting significant financial resources and efforts to implement the numerous mandates of that rule. The negative impacts of revised Rule 1469 will easily exceed the District's estimates that impacted facilities will cease operations and significant jobs will be lost. The work and the jobs will move outside of this state. 6-1 cont.

Proposed Rule 1480 presents several additional concerns and challenges. These include:

- The rule would impose requirements on metal finishing facilities that are out of proportion to the contributions that an individual facility makes to the emissions of toxic air contaminants.
    - For example, we contribute less than 1/3 of 1% of the emissions of hexavalent chromium.
    - There are numerous other sources of emissions that are not permitted by the District and would not be subject to this rule – yet the rule would only impose expensive monitoring and sampling requirements on the permitted facilities. 6-2
- The rule would impose requirements on facilities regardless of either the amount of their emissions or the proportion of their contribution to an exceedance of a significant risk level for a toxic air contaminant.
    - Any contribution would trigger a Notice of Findings and a designation that a facility is a Metal TAC Monitoring Facility – with the resulting costs and burdens.
- The rule would establish timeframes that are unreasonably short and would provide insufficient time for affected facilities to provide meaningful responses. These include:
    - *Two hours* - to report a failed sample to the District.
    - *Twenty-four hours* - to report three consecutive exceedances and provide information that they are not attributable to a facility. 6-3
    - *Fourteen days* – to respond to a District Notification of Findings and request a meeting.
    - *Thirty days* – to develop and provide a response to a denial of a draft monitoring and sampling plan.
    - *Sixty days* – to develop and provide information challenging the Notice of Findings.
- The rule would unfairly place challenging if not impossible burdens on facilities to develop and provide evidence proving negatives:
    - That they are not contributing to an exceedance of a significant risk level for a toxic air contaminant; and 6-4
    - That the emissions are not attributable to that specific facility.
- The rule would fail to recognize, with regard to facilities subject to Rule 1469, that significant efforts are being made to comply with the rule with the result that emissions have been significantly reduced. 6-5
- The rule would fail to provide a sensible process for facilities to work together with the District to identify and implement measures that prevent the facility from being designated as a Metal 6-6

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TAC Monitoring Facility and incurring the significant expenses and undergoing the significant monitoring and sampling burdens. 6-6 cont.

We urge the district to address and resolve these issues prior to the presentation of the rule to the district Governing Board for adoption. MFASC will continue to be engaged. Until the issues are resolved, MFASC is not in a position to support the new rule.

Thank you for the consideration of these and the other issues that our association and its members are raising in this rulemaking. MFASC and our representatives look forward to continued discussions on the PR 1480 with the District.

Sincerely,

Justin Guzman

Justin Guzman, MFASC Excecutive Officer

Jerry Desmond

Jerry Desmond, MFASC Advocate

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Responses to Metal Finishing Association of Southern California (MFASC) Comment Letter, submitted 10/4/19

6-1 Response: Please see response to Comment 4-8. Fees for monitoring and sampling for a facility that elects to use South Coast AQMD staff to conduct the monitoring and sampling have been substantially reduced through the rulemaking process. The South Coast AQMD was able to provide a number of allowances such as reducing the number of South Coast AQMD personnel from 2 to 1 if the monitor could be safely accessed and reducing the minimum monitors from 2 to 1. This reduced the cost by more than 50%. Some facilities have commented through the rulemaking process that they would keep an upwind monitor. PR 1480 would not require that upwind monitor and it would be the choice of the operator to have an upwind monitor. In addition, the fees under the Alternative Monitoring and Sampling are expected to be higher than a third party consultant that the facility is allowed to hire to conduct the ambient monitoring and sampling.

Paragraph (d)(5) recognizes the compliance efforts by affected facilities to comply with existing South Coast AQMD rules and that information will be considered in the designation process. The costs of PR 1480 have been analyzed in the Socioeconomic Impact Assessment included in Chapter 3 of the Staff Report.

Additionally in paragraph (k)(3), facilities with 25 or fewer employees and average annual gross receipts of three million dollars ($3,000,000) or less, averaged over the previous three years, will not be subject to this rule

6-2 Response: PR 1480 affects all facilities with Metal TAC emissions. Designation under PR 1480 would be based solely on the Metal TAC emissions coming from the facility causing the Significant Risk Level to be exceeded at any Sensitive Receptor. This approach eliminates the need to decipher the contribution from other sources when estimating the health risk at the sensitive receptor.

When evaluating toxic emissions and their associated health risk, there are a variety of factors in addition to the emissions that are accounted for. Some key parameters in estimating the health risk include the potency of the toxic air contaminant, the health effects (cancer or non-cancer), the proximity to the sensitive and worker receptors. The South Coast AQMD appreciates that toxic emissions Basin-wide have reduced, however, there still remains facilities that pose significant health risk to neighboring communities.6-3

Response: The requirement to notify the Executive Officer by telephone within two hours of knowing whether a sample is invalid, or whether a sample has not or will not be taken, is an adequate amount of time. The deadline for providing written follow up report has been extended to three calendar days following the call.

Once an owner or operator of a Metal TAC Monitoring Facility is aware of the first and second exceedances, they would be more vigilant about the next Valid Sample result. Therefore, the requirement to provide notification to the Executive Officer by telephone 24 hours after the receiving the third consecutive Valid Sample results that exceeds the Benchmark Concentration is reasonable. The deadline for providing a written report on the possible causes not attributed to the facility has been extended to three calendar days.

The 14 day response time has been extended to 30 days following the Notice of Findings for an owner or operator of a facility to provide information to the Executive Officer, with the option to provide information 90 days following the Notice of Findings. The provision requiring an owner or operator to request a meeting within 14 days of receiving the Notice of Findings has been removed. An owner or operator can request meetings with the Executive Officer and South Coast AQMD staff at any time during the designation process.

When a draft Monitoring and Sampling Plan is not approved, the Executive Officer will provide the owner or operator of a Metal TAC Monitoring Facility with a letter that specifies all deficiencies in the Plan. Therefore, the owner or operator of a Metal TAC Monitoring Facility would be aware of what needs to be updated and 30 days is sufficient to correct the deficiencies and submit the revised draft Monitoring and Sampling Plan.

The time for an owner or operator to respond to a Notice of Findings was extended from 60 days to 90 days. This is sufficient time for an owner or operator to review the information contained in the Notice of Findings and prepare a response or provide additional information.

6-4 Response: The designation of a Metal TAC Monitoring Facility under PR 1480 would be based solely on the Metal TAC emissions from the facility causing an exceedance of the Significant Risk Level at a Sensitive Receptor. Throughout the designation process, the owner or operator of a facility has the opportunity to provide evidence to the Executive Officer of other sources or that the Metal TAC concentrations at the monitor are not attributed to the facility. PR 1480 includes specific criteria the Executive Officer would use to designate a facility.

6-5 Response: Paragraph (d)(5) recognizes the compliance efforts by affected facilities to comply with existing South Coast AQMD rules and that information will be considered in the designation process. Subparagraph (d)(5)(D) includes a provision where the owner or operator can provide a list of equipment or sources where there is an applicable Regulation XIV rule measure to reduce emissions that has a future effective compliance date. Provided the owner

or operator has met all of the interim requirements specified in the Regulation XIV rule, the emission reductions associated with these measures would be accounted for when estimating the health risk at the sensitive receptor as part of the designation process.

6-6 Response: One of the criteria for designation as a Metal TAC Monitoring Facility is that the facility must first be designated as a Potentially High Risk Level Facility under Rule 1402. Through the Rule 1402 process that the facility would work with the South Coast AQMD to develop measures that will reduce the emissions from a facility. PR 1480 does include three mechanisms to provide information to reduce or eliminate emissions that will be used when calculating the health risk at the sensitive receptor which include enforceable measures that have been implemented, enforceable measures that will be implemented within 90 days of a Notice of Findings, and implementation of Regulation XIV rules with future effective compliance dates. The designation process in PR 1480 is separate and the goal of PR 1480 is to transfer the responsibility of Monitoring and Sampling from the South Coast AQMD to the facility responsible for the emissions causing the health risks.

Henk J. van der Meyden, PG
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October 21, 2019

Min Sue
Planning, Rule Development and Area Sources
SCAQMD
21865 Copley Drive
Diamond Bar, CA 91765

via e-mail - *msue@aqmd.gov*

RE: Comments on SCAQMD Proposed Rule 1480: Ambient Monitoring and Sampling of Metal Toxic Air Contaminants

Dear Mr. Sue:

Arconic Inc. (Arconic) is pleased to submit the following comments on the September 20, 2019 proposed draft rule language of South Coast Air Quality Management District's (SCAQMD) Proposed Rule 1480 - Ambient Monitoring and Sampling of Metal Toxic Air Contaminants (Proposed Rule 1480). Our California operations include several facilities[1] located in the SCAQMD that potentially could be impacted by Proposed Rule 1480.

Arconic (NYSE: ARNC) creates breakthrough products that shape industries. Working in close partnership with our customers, we solve complex engineering challenges to transform the way we fly, drive, build and power. Through the ingenuity of our people and cutting-edge advanced manufacturing techniques, we deliver these products at a quality and efficiency that ensure customer success and shareholder value.

Arconic is generally supportive of the SCAQMD's effort to develop regulations in order to ensure that ambient air concentrations of toxic metals remain protective of human health and the environment. We appreciate SCAQMD's continued interest in developing sound regulations that protect public health and the environment while minimizing unnecessary regulatory burdens on industry and offer the following comments to the SCAQMD for its consideration into the final Rule 1480.

1.0 Arconic supports further clarification of the criteria for designating a facility as a Metal TAC Monitoring Facility.

During Working Group Meeting #9, SQAQMD staff presented information on stakeholder comments received since the September 20, 2019 version of Proposed Rule 1480[2]. Several comments were directed at the words "contributing" and "contributions" in proposed paragraphs (d)(3), (d)(6), (d)(8) and

7-1

[1] Forged Metals, Inc. in Fontana, CA; Schlosser Forge Company in Rancho Cucamonga, CA; and Valley-Todeco, Inc. in Sylmar, CA

[2] Proposed Rule 1480 – Ambient Monitoring and Sampling of Metal Toxic Air Contaminants, Working Group Meeting #9, October 8, 2019, http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1480/pr1480_wg9_100619.pdf?sfvrsn=8, (accessed October 16, 2019).

(d)(9), and the ambiguity that these words bring to the process of designating a facility as a Metal TAC Monitoring Facility. SCAQMD staff acknowledged in the presentation made during Working Group Meeting #9 that they are looking at possibly revising the wording in these paragraphs to clarify the intent. Arconic shares the stakeholder concerns that have been raised with the use of the words "contributing" and "contribution" and supports the efforts by the SCAQMD to revise the wording.

During Working Group Meeting #9, SCAQMD staff also clarified that the designation of a facility as a Metal TAC Monitoring Facility under Proposed Rule 1480 will be based on the results of air dispersion modeling of Metal TAC emission(s) from an individual facility that indicate that the significant risk level has been met or exceeded at any sensitive receptor. Arconic appreciates this clarification that SCAQMD staff made and looks forward to this being further clarified in section (d) of the Proposed Rule 1480.

Therefore, Arconic recommends that the draft language of several subparagraphs in Proposed Rule 1480(d) be revised to read as follows:

(d)(3)(C) Findings that demonstrate the facility emissions of Metal TAC(s) are the sole source causing ~~is contributing to~~ ambient levels of the Metal TAC(s) identified in subparagraph (d)(3)(A) to be met or exceed the Significant Risk Level at any Sensitive Receptor; and...

(d)(6)(A) Additional data to substantiate that some or all Metal TAC emissions from equipment or processes at the individual facility of the owner or operator are not the sole source cause of ~~contributing to the ambient monitors or~~ meeting or exceeding the Significant Risk Level at any Sensitive Receptor;...

(d)(8)(C) Based on the Metal TAC emissions, the Executive Officer finds that the Significant Risk Level has been met or exceeded for any Sensitive Receptor using air dispersion modeling and the Risk Assessment Procedures referenced in Rule 1401 and the facility's emissions were the individual sole source that caused ~~contributed to~~ the Significant Risk Level to be met or exceeded, taking into account the following to the extent available:
(i) Results of Metal TAC emissions testing and sampling analyses;
(ii) Results of Monitoring and Sampling;
(iii) Records of Metal TAC material usages, manifests, and other records;
(iv) Information provided in paragraphs (d)(3), (d)(5), (d)(6), and (d)(7);
(v) Background concentrations ~~and contributions from other sources~~; and
(vi) Other information available to the Executive Officer.

(d)(9)(D) The facility equipment and processes are the individual sole source causing ~~contributing to meeting or exceeding~~ the Significant Risk Level to be met or exceeded at the Sensitive Receptors; and

7-1 cont.

2.0 The ability to reduce the monitoring and sampling frequency and/or number of monitors should only be based on estimated health risk below Reduced Risk Level and implementation of Early Action Reduction Plan measures or Enforceable Measures

The requirements for reduced monitoring and sampling and/or number of monitors are contained in section (h) of Proposed Rule 1480. It is Arconic's understanding that the ability to obtain approval for reduced monitoring is a one-time deal based on the criteria of paragraph (h)(1) which includes reference

7-2

to subparagraphs (e)(5)(A through (e)(5)(C). Specifically, subparagraph (e)(5)(C) stipulates that a draft Reduced Monitoring and Sampling Plan ("Plan") cannot be approved if a Metal TAC Monitoring Facility ("Facility") previously had an approved Plan in place. Under paragraph (h)(3), once a Facility is found to have exceeded the Benchmark Concentration in its approved Plan by 10X for three consecutive Valid Samples, the Facility must revert to monitoring at a frequency of one Valid Sample every three days at each site and can never obtain approval of a subsequent Plan. Even in the extreme case where a Facility subsequently implemented additional work practices, installed additional pollution control equipment, etc., and was consistently achieving monitoring results that were at levels below the Benchmark Concentration that was included in the approved initial Plan, the Facility would not be eligible to submit a new Plan for approval.

While Arconic agrees that a Facility operating under an approved Plan must take the necessary steps to ensure that the Benchmark Concentration is never exceeded by 10X, it is possible that this could occur. The criteria for the initial approval of a Plan are specified in subparagraphs (e)(5)(A) and (e)(5)(B), and Arconic believes that the ability to obtain approval of a Plan should be based on a Facility these criteria:

7-2 cont.

(A) The estimated health risk associated with the facility's Metal TAC emissions are below the Reduced Risk Level for any Sensitive Receptor;
(B) The measures identified in an approved Early Action Reduction Plan pursuant to Rule 1402 – Control of Toxic Air Contaminants from Existing Sources or Enforceable Measures have been implemented; and...

Arconic also believes that the SCAQMD should not be burdened with ongoing review of Plans from Facilities that are not capable of staying below the 10X Benchmark concentration on a consistent basis.

Therefore, Arconic recommends that the draft language of Proposed Rule 1480(e)(5)(C) be revised to read as follows:

(e)(5)(C) The owner or operator of a Metal TAC Facility has not been notified in the last 90 days by the Executive Director under paragraph (h)(3) or paragraph (h)(6). ~~did not previously have an approved Reduced Monitoring and Sampling Plan.~~

3.0 The contents of the Executive Officer's response to a request to discontinue monitoring and sampling need to be defined in Rule 1480(j)(3).

Proposed Rule 1480(j)(3) currently requires that the Executive Officer will notify the owner or operator of a Metal TAC Monitoring Facility ("facility") in writing of the status of the Monitoring and Sampling Relief Plan ("Plan") review within 90 days after receiving the Plan. Per proposed Rule 1480(j)(1), the submittal of a Plan is required to request discontinuing sampling and monitoring.

Arconic is concerned that the proposed language of Rule 1480(j)(3) does not require the Executive Director to render a decision regarding the approval or denial of a request to discontinue monitoring and sampling. In fact, once the Executive Director has satisfied the notification of the status of the Plan review under Proposed Rule 1480(j)(3), there is no clear driver to get to the approval under Proposed Rule 1480(j)(4). Given the high costs associated with continued monitoring and sampling for a facility, Arconic believes that a timely review of a Plan for completeness with the requirements of Proposed Rule 1480(j)(1) and 1480(j)(2) and a decision to approve or deny a Plan are in the interest of both a facility

7-3

and the SCAQMD.

Therefore, Arconic recommends that the draft language of Proposed Rule 1480(j)(3) be revised to read as follows:

(3) No later than 90 days after receiving the Monitoring and Sampling Relief Plan, the Executive Officer will notify an owner or operator of a Metal TAC Monitoring Facility in writing whether ~~of the status of~~ the Monitoring and Sampling Relief Plan is approved~~review~~.
   (A) If the Monitoring and Sampling Relief Plan is not approved, the notification letter will specify all deficiencies with the requirements of paragraphs (j)(1) and (j)(2) that kept the Executive Director from approving the Monitoring and Sampling Relief Plan.
   (B) Within 30 days of receiving a notification letter that states that a Monitoring and Sampling Relief Plan is not approved, the owner or operator of a Metal TAC Monitoring Facility shall submit a revised Monitoring and Sampling Relief Plan.
   (C) The review and approval of revised Monitoring and Sampling Relief Plan shall follow the requirements of paragraph (j)(3).
   (D) If 90 days elapse with no action by the Executive Officer, such inaction shall be deemed a final appealable agency action.

7-3 cont.

Conclusion

Arconic appreciates the opportunity to comment on Proposed Rule 1480. We are hopeful that our comments will help SCAQMD to further improve the proposed rule and create a final rule which incorporates flexible and cost-effective compliance provisions for our facilities and other potentially affected facilities.

Should you require clarification or further discussion of our comments, please contact me.

Sincerely,

Henk van ~~der Meyden, PG~~
Sr. Environmental Consultant
Arconic, Inc.

cc.:

Philip M. Fine, Ph.D., Deputy Executive Officer Planning, Rule Development and Area Sources, SCAQMD

Susan Nakamura, Assistant Deputy Executive Officer Planning, Rule Development and Area Sources, SCAQMD

Jillian Wong, Ph.D., Planning and Rules Manager Planning, Rule Development and Area Sources, SCAQMD

Neil Fujiwara, Air Quality Specialist, SCAQMD

Yunnie Osias, Air Quality Specialist, SCAQMD

Responses to Arconic Inc. Comment Letter, submitted 10/21/19

7-1 Response: Paragraph (d)(7) states the criteria the Executive Officer will use when designating a Metal TAC Monitoring Facility. Subparagraph (d)(7)(D) specifies use of air dispersion modeling and the Risk Assessment Procedures referenced in Rule 1401 to estimate the health risk from Metal TAC emissions from the facility. Similar change was made for the Notice of Findings in subparagraph (d)(3)(D) to include air dispersion modeling. The PR 1480 designation as a Metal TAC Monitoring Facility is solely based on the Metal TAC emissions from the facility. In situations where there are multiple sources of emissions, the Executive Officer would consider the emissions from those other sources during the designation process.

7-2 Response: The criteria specified in subparagraph (e)(5)(D) requires that the facility did not previously have more than one approved Reduced Monitoring and Sampling Plan. A facility may be eligible for a Reduced Monitoring and Sampling Plan twice provided they meet all requirements in paragraph (e)(5).

7-3 Response: The proposed rule language has been revised and discontinuation of Monitoring and Sampling occurs when the owner or operator receives written notification from the Executive Officer that the facility's approved Risk Reduction Plan has been fully implemented or if a Risk Reduction Plan is not necessary, that the Health Risk Assessment has been approved. Submittal of a Monitoring and Sampling Relief Plan is no longer required in PR 1480.

CALIFORNIA METALS COALITION

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October 29, 2019

Min Sue, Air Quality Specialist
South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, California 91765

Dear Mr. Sue:

The California Metals Coalition appreciates the opportunity to comment on the South Coast Air Quality Management District ("District" or "SCAQMD") workshop proceedings and consideration of **SCAQMD Proposed Rule (PR) 1480.**

These comments on PR 1480 are divided into the following sections: Summary; Background on CMC; Comments on Slides and Draft Language; and Closing Comments.

SUMMARY

This comment letter addresses the PR 1480 slides presented on October 23, 2019 at working group meeting #10. At working group meeting #10, SCAQMD staff further explained Proposed Rule 1480, draft language, and Rule 1402.

BACKGROUND ON CMC

California is home to approximately 4,000 metalworking facilities, employing over 350,000 Californians. The average industry salary is $66,400/year in wages and benefits.

8 out of 10 employees in the metalworking sector are considered ethnic minorities or reside in disadvantaged communities throughout Southern California. A job in the metals sector is often the only path to the middle class for many of these Californians.

Here is a breakdown of the metalworking industry's impact on the 4 counties within SCAQMD jurisdiction:

- **Los Angeles County**: 54,290 Direct Jobs | 52,741 Indirect Jobs | $7 billion wages | $26 billion economic activity

- **Orange County**: 25,448 Direct Jobs | 18,912 Indirect Jobs | $2.9 billion wages | $10.8 billion economic activity
- **San Bernardino**: 9,778 Direct Jobs | 8,378 Indirect Jobs | $1.2 billion wages | $4.5 billion economic activity
- **Riverside**: 6,971 Direct Jobs | 7,712 Indirect Jobs | $957 million wages | $3.2 billion economic activities
- **Total**: 96,487 Direct Jobs | 87,743 Indirect Jobs | $12 billion wages | $33.8 billion economic activity

California metal manufacturers use recycled metal (ex: aluminum, brass, iron and steel) to make parts for the aerospace industry, clean energy technologies, electric cars, biotech apparatuses, medical devices, national defense items, agriculture, infrastructure, construction machinery, household appliances, food processing and storage, movement of water, and millions of other products demanded by society.

COMMENTS ON SLIDES AND/OR DRAFT LANGUAGE

Item #1, Draft Language (d)(5)(D)(iv): Creating a Guidance Document on Multi-TAC Source Apportionment:

Draft language in (d)(5)(D)(iv) states that the facility can provide "Evidence demonstrating that the cause(s) and source(s) of the Metal TAC emissions is not attributed to the facility."

The following concerns were raised at the October 23, 2019, working group meeting:

- PR 1480's model does not effectively account for multiple TAC sources. The model presupposes that differences between the modeled and monitored concentrations are due to "fugitive" in-facility sources despite multiple examples[1] in Paramount and Compton. The January 19, 2019 report *Application of Next Generation Air Monitoring Methods in the South Coast Air Basin* pinpoints several outside sources that have potentially major impacts:
  - "Unexpected emission sources were encountered numerous times during neighborhood surveys or during drives focused on other potential sources." (Page 2)
  - "A significant enhancement of Cr(VI) was observed on Freeway 91, and in fact, throughout the campaign, several Cr(VI) enhancements were noted during highway drives." (Page 16)
  - "One notable area of enhanced particulate matter chromium (PMCr) occurred during a measurements where the AML followed a street sweeper in the Longwood neighborhood." (Page 19)
- As currently written, PR 1480 puts the burden on the facility to demonstrate whether or not other sources are contributing to exceedances. But there is not guidance for this demonstration.

8-1

CMC suggests that with no established guidance for the facilities or SCAQMD on how to set apportionment to potential sources, the guidance document staff is preparing should detail the apportionment information. This guidance should define the types and quality of information a facility would need to record in preparation for this type of demonstration and guidance to the SCAQMD as to the level of evidence needed (ex: freeways, construction, street sweeping, fires, etc.) that would be sufficient to

[1] http://www.aqmd.gov/docs/default-source/compliance/Paramount/mobile-monitoring.pdf?sfvrsn=8

accept such a demonstration. This guidance for source apportionment will directly impact (d)(7), and if the facility will be designated as a Metal TAC Facility. Given the criticality of such guidance to the implementation of the rule, it should be developed before 30 days rule adoption to inform stakeholders and the Governing Board. 8-1 cont.

Item #2, Draft Language (d)(8)(F) & Appendix 2: Guidance for Source Apportionment in Benchmark Concentration.

Section (d)(8)(F) includes the "Benchmark Concentration" as part of the Metal TAC Monitoring Facility designation. As noted in the previous comment (Item #1), there is no guidance for how the SCAQMD will consider the impact of other sources on the Benchmark Concentration. 8-2

CMC suggests adding to the guidance document how source apportionment will be determined when establishing the Benchmark Concentration.

Item #3, Draft Language (d)(2): What is the Trigger for the Information Request?

Section (d)(2) of the draft language states: "No later than the date specified in an Information Request, an owner or operator of a facility shall comply with all Information Requests from the Executive Officer…" 8-3

What is the trigger for the Information Request? Without clear guidelines for what triggers an Information Request, it must be assumed that the Information Request has no requirements.

CMC suggests including what will trigger the facility to receive an Information Request.

Item #4, Slide #20 and (d)(5)(C): Artificially Negates Deadlines and Investments in Other Rules (a.k.a. Cumulative Impact of Multiple Metal Rules).

Draft language states in section (d)(5)(C) that "A written list of Enforceable Measures where equipment or processes will be implemented within 90 days of the Notice of Findings…". This section attempts to recognize the significant efforts being made by the metals sector through other SCAQMD rules to target emission reductions.

As reference, over the last 48 months, the metals sector has seen the passage of Rules 1420, 1420.1, 1420.2, 1430, 1469, and 1407. Anticipated metal rules include, but may not be limited to, 1435, 1426, 1469.1, 1147, 1147.1, and 1147.2. Twelve rules are anticipated to cost the metals sector at least $250 million. 8-4

The current provisions in (d)(5)(C)(i)(ii) and (iii) are too restrictive and do not recognize the significant time and investment being placed on small businesses through the other rules listed above.

CMC suggests:

- Deferring to the actual emission-reducing deadlines in a specific rule (ex: Rule 1407, 1469 or 1435) rather than the arbitrary requirements in (d)(5)(C)(i) (ii) and (iii).

- As an example, section (d)(5)(C)(i) states that "Equipment will be installed within 60 days from the Notice of Findings…". What if the facility is implementing emission-reducing measures in a SCAQMD rule that will take 61 days? CMC believes that if the facility is committing to the emission-reducing measures in another rule, PR 1480 should not create an artificial timeline that will negate this investment.
- As a second example, section (d)(5)(C)(iii) states that "Equipment will be routinely operated no later than 90 Days from the Notice of Findings…" Again, this is unnecessarily restrictive. If a facility is installing a $1 million baghouse to control the TACs of concern, an arbitrary 90 day requirement in PR 1480 should not negate this investment.
- As a third example, section (d)(5)(C)(i) states that "Permit to Construct has been issued." What if there is not a permit to construct needed in the emission-reducing measure? All of the new metal rules include housekeeping and facility enclosure requirements that will reduce emissions, but do not always require a permit to construct. Based on the current PR 1480 draft language, these emission-reducing measures will not be recognized.

8-4 cont.

Item #5, Slide #6: Additional Costs for Ambient Air Monitoring: Back-Up Power.

On October 11, 2019, Governor Gavin Newsom stated that the power outages occurring in Northern California (PG&E territory) are the new "norm" for the state. Some businesses, and residents, have experienced up to 5 days of no electricity. These unscheduled power outages during the fire season may also impact areas within the SCAQMD jurisdiction.

Slide #6 of the presentation describes the anticipated costs of ambient air monitoring. CMC requests that the cost of back-up power to the unit(s) be incorporated. The staff report should also describe if the power outage counts as a "mechanical failure."

Lastly, it should also be noted that CMC expects most metal facilities—especially the larger facilities—to utilize at least 2 monitors per facility.

8-5

Item #6, SLIDE #6 and Draft Language Appendix Table 1, Section 4 "Payment Deadline" Pre-Payment:

Draft language states that operating and maintenance fees be billed "in advance of any three month period." CMC disagrees with the requirement. Pre-payment occurs when the vendor believes the facility is financially unstable or may not pay for services after receiving them.

CMC suggests eliminating the pre-payment requirement and replacing it with a 5% down payment on services, and then the balance being due 45 days after the ambient air monitoring data is provided to the facility.

8-6

Item #7, SLIDE #6 and Draft Language Appendix Table 1, Section 4 "Payment Deadline" Penalties:

Draft language states that unpaid operating and maintenance fees will incur a 10% surcharge every 60 calendar days, which equates to a 60% annual rate. As an example, the expected annual fee of $168,000 for 2 monitors and 2 staff would generate a penalty of $100,800/year. CMC disagrees with this steep requirement in PR 1480.

8-7

On October 11, 2019, Governor Newsom signed into law AB 539, which limits the interest rates on installment loans in the state of California. California's legislature recognized the excessive interest rates, 30-40%/year, being charged by lenders. For PR 1480, CMC suggests using market rates, approximately 6%-8%/year, as the annual interest rate on late payments. 8-7 cont.

Item #8, Adding a Provision to Report on the Rule in 3 Years

There are many new concepts and significant costs being introduced in PR 1480. As an example, "Benchmark Concentration" was introduced for the first time on October 23, 2019 —approximately one week before the November 1, 2019 set hearing date.

The Benchmark Concentration calculation includes a series of calculations and related risk results that cannot be determined intuitively. This is true for long-term, advanced degree consultants and air experts, much less the average metal facility operator. 8-8

CMC suggests that PR 1480 include a provision requiring that staff present to the SCAQMD Board (2 years from adoption), how well the key aspects of the rule are working.

CONCLUSION

Thank you for your time, and for allowing CMC to participate and comment on PR 1480. We look forward to continued discussions.

Sincerely,

James Simonelli
Executive Director

CC: Susan Nakamura, SCAQMD

Responses to California Metals Coalition (CMC) Comment Letter, submitted 10/29/19

8-1 Response: Paragraph (d)(7) states the criteria the Executive Officer will use when designating a Metal TAC Monitoring Facility. Subparagraph (d)(7)(D) specifies use of air dispersion modeling and the Risk Assessment Procedures referenced in Rule 1401 to estimate the health risk from Metal TAC emissions from the facility. The PR 1480 designation as a Metal TAC Monitoring Facility is solely based on the Metal TAC emissions from the facility. In situations where there are multiple sources of emissions, the Executive Officer would consider the emissions from those other sources during the designation process.

Paragraph (d)(5) incorporates Enforceable Measures that may be provided by the facility which go into the air dispersion modeling and Risk Assessment Procedures. These may include those measure already implemented by the facility, those that will be implemented before the 90 day deadline specified in paragraph (d)(6) for this information, and finally the measures required by Regulation XIV rules with final compliance deadlines. Upon verification by the Executive Officer, the Metal TAC emission reductions or elimination would be considered by the Executive Officer during the designation process.

8-2 Response: Staff presented an example how the Benchmark Concentration is calculated at Working Group Meeting #11, the afternoon of day the comment was received, based on Appendix 2 – Methodology for Calculating Benchmark Concentration. The calculation involves taking the highest 30 calendar day average prior to the designation of the facility as a Metal TAC Monitoring Facility and dividing it by a ratio based exclusively on the Facility's Metal TAC emissions. Staff explained that the facility may request that the Executive Officer to adjust the average concentration based on outside sources, but it would reduce the Benchmark Concentration resulting in being more difficult for the facility to be eligible for a Reduced Basic or Reduced Alternative Monitoring and Sampling Plan.

A provision was added in Appendix 2 for an Alternative Methodology for the Benchmark Concentration when there are multiple sources with the same Metals of Concern. The Executive Officer may utilize an alternative methodology for establishing a Benchmark Concentration that better represents the Metals of Concern that are emitted from a facility and captured by their downwind monitor, when there are multiple facilities that have emissions of the same Metals of Concern. The alternative methodology shall establish a Benchmark Concentration that is representative of the Reduced Risk Level at a sensitive receptor for each Metal of Concern taking into account facilities that are in close proximity (1,000 feet of the Metal TAC Monitoring Facility) that have the same Metals of Concern. (Please refer to Appendix 2)

8-3 Response: Paragraph (d)(2) specifies that the Information Requests are for additional information that the Executive Officer needs to make a determination if the facility meets the criteria specified in paragraph (d)(7).

8-4 Response: Paragraph (d)(5) incorporates Enforceable Measures that may be provided by the facility which will be used as inputs into the air dispersion modeling and Risk Assessment Procedures. Subparagraph (d)(5)(D) includes a provision where the owner or operator can provide a list of equipment or sources where there is an applicable Regulation XIV rule that has a future effective compliance date. Provided the owner or operator has met all of the interim requirements specified in the Regulation XIV rule, the emission reductions associated with these measures would be accounted for when estimating the health risk at the sensitive receptor as part of the designation process.

8-5 Response: Paragraph (f)(9) has provisions for mechanical failures, including power outages therefore back-up power due to power outages would not be required.

8-6 Response: Fee payments changed from quarterly billing to monthly billing to address the concern with large lump sum upfront payments. Invoice would be issued at the beginning of the month with payment due at the end of each month of Monitoring and Sampling conducted by the Executive Officer.

8-7 Response: The 10% surcharge is applied once on the unpaid balance after the fee is 60 days past due and is not compounded. The surcharge is not an interest rate fee but is needed for fee recovery for additional staff resources needed to collect the payments.

8-8 Response: The methodology to calculate the Benchmark Concentration was revised in the proposed rule language on October 20, 2019. Previously, the Benchmark Concentration was based on the Monitoring and Sampling results for the 30 days prior to submittal of the Reduced Monitoring and Sampling Plan. In the October 20, 2019 version, staff proposed an updated methodology and provided a detailed description in in Appendix 2 of PR 1480. The updated methodology was based on calculating the reductions needed at the Sensitive Receptor to get below the Reduced Risk Level and applying that ratio to the highest 30 consecutive calendar day average concentration at the monitor or the concentration which represents the Reduced Risk Level plus the Basin-wide background concentration from the most recent Multiple Air Toxics Study (MATES). The Benchmark Concentration now corresponds to the Reduced Risk Level of a Sensitive Receptor, rather than the 30 day average concentration preceding a submission of a Reduced Monitoring and Sampling Plan on the previous version of the draft rule language. The Benchmark Concentration is specific

for each facility and each Metal of Concern and would be specified in the designation letter pursuant to subparagraph (d)(8)(F).

Staff will include a resolution to report back to the Stationary Source Committee on the implementation status in two years from the adoption of PR 1480.

APPENDIX B: ITEMIZATION OF MONTHLY FEES FOR MONITORING AND SAMPLING

TABLE OF CONTENTS

Table B-1 – Base - 1 Hexavalent Chromium Monitor - 1 in 3 days Frequency - 2 Staff

Sampling Monitoring							**Annual Fee**
Sampler Cost Estimate and Non-Labor	**Cost**	**Anticipated lifetime of equipment**					**Sampler Annual Fee**
Omni sampler	$5,720.00	4 years					$1,430.00
Annual maintenance & battery	$420.00						$420.00
Vehicle Usage	**Miles**		**Mileage Rate**	**Number of Occurrences in a Year**			**Vehicle Annual Fee**
Standard Mileage	60		$ 0.58	243			$8,456.40
				Non-Labor Subtotal for Monitoring and Sampling			*$10,306.40*
Sampling and Monitoring Labor	***Hours***	***Rate***	***Number of Staff***	***Position***	***Subtotal***	***Number Of Occurrences in a Year***	***Operation Fee***
Sample setup and collection, preventive maintenance, cleaning, flow checks, chain of custody, pick-up, and drive time	2	$86.85	2	AQIS I	$347.40	120	$41,688.00
Pick-up, sample collection, and drive time	2	$86.85	2	AQIS I	$347.40	120	$41,688.00
Semi annual calibration	2	$91.81	1	AQIS II	$183.62	2	$367.24
Annual Audit	2	$97.53	1	Senior AQIS	$195.06	1	$195.06
						Labor Subtotal	*$83,938.30*
			Sampling and Monitoring Total				$94,244.70
Hexavalent Chromium Analysis							
Materials	**Cost Per Sample**					**Number of Occurrences in a Year**	**Material Annual Fee**
Filter & Petri Dish	$ 9.60					120	$ 1,152.00
Reagents Consumables	$ 10.10					120	$ 1,212.00
Instrument & Service Plan	$ 10.68					120	$ 1,281.60
				Non-Labor Subtotal of Hexavalent Chromium Analysis			$ 3,645.60
Labor	**Hours Per Sample**	**Rate**	**Number of Staff**	**Position**	**Subtotal**	**Number of Occurrences in a Year**	**Labor Annual Fee**
Prep light inspection	0.0125	$ 68.95	1	Senior Office Assistant	$ 0.86	120	$ 103.43
Filter impregnation, solution, and cassette	0.0625	$ 102.74	1	AQ Chemist	$ 6.42	120	$ 770.55
Labeling	0.1625	$ 68.95	1	Senior Office Assistant	$ 11.20	120	$ 1,344.53
Sample Extraction	0.3	$ 102.74	1	AQ Chemist	$ 30.82	120	$ 3,698.64
Sample Analysis	0.6	$ 102.74	1	AQ Chemist	$ 61.64	120	$ 7,397.28
QA/QC-Data Prep & Analyst Review	0.15	$ 102.74	1	AQ Chemist	$ 15.41	120	$ 1,849.32
QA/QC-Peer Review	0.1	$ 102.74	1	AQ Chemist	$ 10.27	120	$ 1,232.88
QA/QC-Senior Review & Report Prep	0.15	$ 108.93	1	AQ Chemist	$ 16.34	120	$ 1,960.74
QA/QC-Final Review	0.1	$ 123.00	1	Principal AQ Chemist	$ 12.30	120	$ 1,476.00
QA/QC-Final Review	0.01	$ 137.45	1	Lab Manager	$ 1.37	120	$ 164.94
QA/QC-Data Reporting	0.05	$ 68.95	1	Senior Office Assistant	$ 3.45	120	$ 413.70
						Labor Subtotal	$ 20,412.00
			Hexavalent Chromium Analysis Total				$ 24,057.60
						Annual Total	$118,302.30
						Monthly Total	**$9,858.53**
						Appendix 1 Total	**$10,000.00**

Table B-2 – Base - 1 Hexavalent Chromium Monitor - 1 in 3 days Frequency - 1 Staff

Sampling Monitoring							**Annual Fee**
Sampler Cost Estimate and Non-Labor	**Cost**	**Anticipated lifetime of equipment**					**Sampler Annual Fee**
Omni sampler	$5,720.00	4 years					$1,430.00
Annual maintenance & battery	$420.00						$420.00
Vehicle Usage	**Miles**		**Mileage Rate**			**Number of Occurrences in a Year**	**Vehicle Annual Fee**
Standard Mileage	60		$ 0.58			243	$8,456.40
				Non-Labor Subtotal for Monitoring and Sampling			*$10,306.40*
Sampling and Monitoring Labor	***Hours***	***Rate***	***Number of Staff***	***Position***	***Subtotal***	***Number Of Occurrences in a Year***	***Operation Fee***
Sample setup and collection, preventive maintenance, cleaning, flow checks, chain of custody, and drive time	2	$86.85	1	AQIS I	$173.70	120	$20,844.00
Pick-up, sample collection, and drive time	2	$86.85	1	AQIS I	$173.70	120	$20,844.00
Semi annual calibration	2	$91.81	1	AQIS II	$183.62	2	$367.24
Annual Audit	2	$97.53	1	Senior AQIS	$195.06	1	$195.06
						Labor Subtotal	*$42,250.30*
			Sampling and Monitoring Total				$52,556.70
Hexavalent Chromium Analysis							
Materials	**Cost Per Sample**					**Number of Occurrences in a Year**	**Material Annual Fee**
Filter & Petri Dish	$ 9.60					120	$ 1,152.00
Reagents Consumables	$ 10.10					120	$ 1,212.00
Instrument & Service Plan	$ 10.68					120	$ 1,281.60
				Non-Labor Subtotal of Hexavalent Chromium Analysis			$ 3,645.60
Labor	**Hours Per Sample**	**Rate**	**Number of Staff**	**Position**	**Subtotal**	**Number of Occurrences in a Year**	**Labor Annual Fee**
Prep light inspection	0.0125	$ 68.95	1	Senior Office Assistant	$ 0.86	120	$ 103.43
Filter impregnation, solution, and cassette	0.0625	$ 102.74	1	AQ Chemist	$ 6.42	120	$ 770.55
Labeling	0.1625	$ 68.95	1	Senior Office Assistant	$ 11.20	120	$ 1,344.53
Sample Extraction	0.3	$ 102.74	1	AQ Chemist	$ 30.82	120	$ 3,698.64
Sample Analysis	0.6	$ 102.74	1	AQ Chemist	$ 61.64	120	$ 7,397.28
QA/QC-Data Prep & Analyst Review	0.15	$ 102.74	1	AQ Chemist	$ 15.41	120	$ 1,849.32
QA/QC-Peer Review	0.1	$ 102.74	1	AQ Chemist	$ 10.27	120	$ 1,232.88
QA/QC-Senior Review & Report Prep	0.15	$ 108.93	1	AQ Chemist	$ 16.34	120	$ 1,960.74
QA/QC-Final Review	0.1	$ 123.00	1	Principal AQ Chemist	$ 12.30	120	$ 1,476.00
QA/QC-Final Review	0.01	$ 137.45	1	Lab Manager	$ 1.37	120	$ 164.94
QA/QC-Data Reporting	0.05	$ 68.95	1	Senior Office Assistant	$ 3.45	120	$ 413.70
						Labor Subtotal	$ 20,412.00
			Hexavalent Chromium Analysis Total				$ 24,057.60
						Annual Total	$76,614.30
						Monthly Total	**$6,384.53**
						Appendix 1 Total	**$6,500.00**

Table B-3 – Additional - 1 Hexavalent Chromium Monitor - 1 in 3 days Frequency - 2 Staff

Sampling Monitoring							**Annual Fee**
Sampler Cost Estimate and Non-Labor	**Cost**	**Anticipated lifetime of equipment**					**Sampler Annual Fee**
Omni sampler	$5,720.00	4 years					$1,430.00
Annual maintenance & battery	$420.00						$420.00
Vehicle Usage	**Miles**		**Mileage Rate**			**Number of Occurrences in a Year**	**Vehicle Annual Fee**
Standard Mileage (sampling, calibration, and audit included in the base)	60		$ 0.58			0	$0.00
				Non-Labor Subtotal for Monitoring and Sampling			*$1,850.00*
Sampling and Monitoring Labor	***Hours***	***Rate***	***Number of Staff***	***Position***	***Subtotal***	***Number Of Occurrences in a Year***	***Operation Fee***
Sample setup and collection, preventive maintenance, cleaning, flow checks, chain of custody, and drive time	0.5	$86.85	2	AQIS I	$86.85	120	$10,422.00
Pick-up, sample collection, and drive time	0.5	$86.85	2	AQIS I	$86.85	120	$10,422.00
Semi annual calibration	2	$91.81	1	AQIS II	$183.62	2	$367.24
Annual Audit	2	$97.53	1	Senior AQIS	$195.06	1	$195.06
						Labor Subtotal	*$21,406.30*
			Sampling and Monitoring Total				$23,256.30
Hexavalent Chromium Analysis							
Materials	**Cost Per Sample**					**Number of Occurrences in a Year**	**Material Annual Fee**
Filter & Petri Dish	$ 9.60					120	$ 1,152.00
Reagents Consumables	$ 10.10					120	$ 1,212.00
Instrument & Service Plan	$ 10.68					120	$ 1,281.60
				Non-Labor Subtotal of Hexavalent Chromium Analysis			$ 3,645.60
Labor	**Hours Per Sample**	**Rate**	**Number of Staff**	**Position**	**Subtotal**	**Number of Occurrences in a Year**	**Labor Annual Fee**
Prep light inspection	0.0125	$ 68.95	1	Senior Office Assistant	$ 0.86	120	$ 103.43
Filter impregnation, solution, and cassette	0.0625	$ 102.74	1	AQ Chemist	$ 6.42	120	$ 770.55
Labeling	0.1625	$ 68.95	1	Senior Office Assistant	$ 11.20	120	$ 1,344.53
Sample Extraction	0.3	$ 102.74	1	AQ Chemist	$ 30.82	120	$ 3,698.64
Sample Analysis	0.6	$ 102.74	1	AQ Chemist	$ 61.64	120	$ 7,397.28
QA/QC-Data Prep & Analyst Review	0.15	$ 102.74	1	AQ Chemist	$ 15.41	120	$ 1,849.32
QA/QC-Peer Review	0.1	$ 102.74	1	AQ Chemist	$ 10.27	120	$ 1,232.88
QA/QC-Senior Review & Report Prep	0.15	$ 108.93	1	AQ Chemist	$ 16.34	120	$ 1,960.74
QA/QC-Final Review	0.1	$ 123.00	1	Principal AQ Chemist	$ 12.30	120	$ 1,476.00
QA/QC-Final Review	0.01	$ 137.45	1	Lab Manager	$ 1.37	120	$ 164.94
QA/QC-Data Reporting	0.05	$ 68.95	1	Senior Office Assistant	$ 3.45	120	$ 413.70
						Labor Subtotal	$ 20,412.00
			Hexavalent Chromium Analysis Total				$ 24,057.60
						Annual Total	$47,313.90
						Monthly	**$3,942.83**
						Appendix 1 Total	**$4,000.00**

Table B-4 – Additional - 1 Hexavalent Chromium Monitor - 1 in 3 days Frequency - 1 Staff

Sampling Monitoring							**Annual Fee**
Sampler Cost Estimate and Non-Labor	**Cost**	**Anticipated lifetime of equipment**					**Sampler Annual Fee**
Omni sampler	$5,720.00	4 years					$1,430.00
Annual maintenance & battery	$420.00						$420.00
Vehicle Usage	**Miles**		**Mileage Rate**			**Number of Occurrences in a Year**	**Vehicle Annual Fee**
Standard Mileage (Sampling including in base-only audit and calibration)	60		$ 0.58			3	$104.40
				Non-Labor Subtotal for Monitoring and Sampling			*$1,954.40*
Sampling and Monitoring Labor	***Hours***	***Rate***	***Number of Staff***	***Position***	***Subtotal***	***Number Of Occurrences in a Year***	***Operation Fee***
Sample setup and collection, preventive maintenance, cleaning, flow checks, chain of custody, and drive time	0.5	$86.85	1	AQIS I	$43.43	120	$5,211.00
Pick-up, sample collection, and drive time	0.5	$86.85	1	AQIS I	$43.43	120	$5,211.00
Semi annual calibration	2	$91.81	1	AQIS II	$183.62	2	$367.24
Annual Audit	2	$97.53	1	Senior AQIS	$195.06	1	$195.06
						Labor Subtotal	*$10,984.30*
			Sampling and Monitoring Total				$12,938.70
Hexavalent Chromium Analysis							
Materials	**Cost Per Sample**					**Number of Occurrences in a Year**	**Material Annual Fee**
Filter & Petri Dish	$ 9.60					120	$ 1,152.00
Reagents Consumables	$ 10.10					120	$ 1,212.00
Instrument & Service Plan	$ 10.68					120	$ 1,281.60
				Non-Labor Subtotal of Hexavalent Chromium Analysis			$ 3,645.60
Labor	**Hours Per Sample**	**Rate**	**Number of Staff**	**Position**	**Subtotal**	**Number of Occurrences in a Year**	**Labor Annual Fee**
Prep light inspection	0.0125	$ 68.95	1	Senior Office Assistant	$ 0.86	120	$ 103.43
Filter impregnation, solution, and cassette	0.0625	$ 102.74	1	AQ Chemist	$ 6.42	120	$ 770.55
Labeling	0.1625	$ 68.95	1	Senior Office Assistant	$ 11.20	120	$ 1,344.53
Sample Extraction	0.3	$ 102.74	1	AQ Chemist	$ 30.82	120	$ 3,698.64
Sample Analysis	0.6	$ 102.74	1	AQ Chemist	$ 61.64	120	$ 7,397.28
QA/QC-Data Prep & Analyst Review	0.15	$ 102.74	1	AQ Chemist	$ 15.41	120	$ 1,849.32
QA/QC-Peer Review	0.1	$ 102.74	1	AQ Chemist	$ 10.27	120	$ 1,232.88
QA/QC-Senior Review & Report Prep	0.15	$ 108.93	1	AQ Chemist	$ 16.34	120	$ 1,960.74
QA/QC-Final Review	0.1	$ 123.00	1	Principal AQ Chemist	$ 12.30	120	$ 1,476.00
QA/QC-Final Review	0.01	$ 137.45	1	Lab Manager	$ 1.37	120	$ 164.94
QA/QC-Data Reporting	0.05	$ 68.95	1	Senior Office Assistant	$ 3.45	120	$ 413.70
						Labor Subtotal	$ 20,412.00
			Hexavalent Chromium Analysis Total				$ 24,057.60
						Annual Total	$36,996.30
						Monthly Total	**$3,083.03**
						Appendix 1 Total	**$3,500.00**

Table B-5 – Base - 1 Hexavalent Chromium Monitor - 1 in 6 days Frequency - 2 Staff

Sampling Monitoring							**Annual Fee**
Sampler Cost Estimate and Non-Labor	**Cost**	**Anticipated lifetime of equipment**					**Sampler Annual Fee**
Omni sampler	$5,720.00	8 years					$715.00
Annual maintenance & battery	$420.00						$420.00
Vehicle Usage	**Miles**		**Mileage Rate**		**Number of Occurrences in a Year**		**Vehicle Annual Fee**
Standard Mileage	60		$ 0.58		123		$4,280.40
					Non-Labor Subtotal for Monitoring and Sampling		*$5,415.40*
Sampling and Monitoring Labor	***Hours***	***Rate***	***Number of Staff***	***Position***	***Subtotal***	***Number Of Occurrences in a Year***	***Operation Fee***
Sample setup and collection, preventive maintenance, cleaning, flow checks, chain of custody, pick-up, and drive time	2	$86.85	2	AQIS I	$347.40	60	$20,844.00
Pick-up, sample collection, and drive time	2	$86.85	2	AQIS I	$347.40	60	$20,844.00
Semi annual calibration	2	$91.81	1	AQIS II	$183.62	2	$367.24
Annual Audit	2	$97.53	1	Senior AQIS	$195.06	1	$195.06
						Labor Subtotal	*$42,250.30*
			Sampling and Monitoring Total				$47,665.70
Hexavalent Chromium Analysis							
Materials	**Cost Per Sample**					**Number of Occurrences in a Year**	**Material Annual Fee**
Filter & Petri Dish	$ 9.60					60	$ 576.00
Reagents Consumables	$ 10.10					60	$ 606.00
Instrument & Service Plan	$ 10.68					60	$ 640.80
				Non-Labor Subtotal of Hexavalent Chromium Analysis			$ 1,822.80
Labor	**Hours Per Sample**	**Rate**	**Number of Staff**	**Position**	**Subtotal**	**Number of Occurrences in a Year**	**Labor Annual Fee**
Prep light inspection	0.0125	$ 68.95	1	Senior Office Assistant	$ 0.86	60	$ 51.71
Filter impregnation, solution, and cassette	0.0625	$ 102.74	1	AQ Chemist	$ 6.42	60	$ 385.28
Labeling	0.1625	$ 68.95	1	Senior Office Assistant	$ 11.20	60	$ 672.26
Sample Extraction	0.3	$ 102.74	1	AQ Chemist	$ 30.82	60	$ 1,849.32
Sample Analysis	0.6	$ 102.74	1	AQ Chemist	$ 61.64	60	$ 3,698.64
QA/QC-Data Prep & Analyst Review	0.15	$ 102.74	1	AQ Chemist	$ 15.41	60	$ 924.66
QA/QC-Peer Review	0.1	$ 102.74	1	AQ Chemist	$ 10.27	60	$ 616.44
QA/QC-Senior Review & Report Prep	0.15	$ 108.93	1	AQ Chemist	$ 16.34	60	$ 980.37
QA/QC-Final Review	0.1	$ 123.00	1	Principal AQ Chemist	$ 12.30	60	$ 738.00
QA/QC-Final Review	0.01	$ 137.45	1	Lab Manager	$ 1.37	60	$ 82.47
QA/QC-Data Reporting	0.05	$ 68.95	1	Senior Office Assistant	$ 3.45	60	$ 206.85
						Labor Subtotal	$ 10,206.00
			Hexavalent Chromium Analysis Total				$ 12,028.80
						Annual Total	$59,694.50
						Monthly Total	**$4,974.54**
						Appendix 1 Total	**$5,000.00**

Table B-6 – Base - 1 Hexavalent Chromium Monitor - 1 in 6 days Frequency - 1 Staff

Sampling Monitoring							**Annual Fee**
Sampler Cost Estimate and Non-Labor	**Cost**		**Anticipated lifetime of equipment**				**Sampler Annual Fee**
Omni sampler	$5,720.00		8 years				$715.00
Annual maintenance & battery	$420.00						$420.00
Vehicle Usage	**Miles**		**Mileage Rate**			**Number of Occurrences in a Year**	**Vehicle Annual Fee**
Standard Mileage	60		$ 0.58			123	$4,280.40
				Non-Labor Subtotal for Monitoring and Sampling			*$5,415.40*
Sampling and Monitoring Labor	***Hours***	***Rate***	***Number of Staff***	***Position***	***Subtotal***	***Number Of Occurrences in a Year***	***Operation Fee***
Sample setup and collection, preventive maintenance, cleaning, flow checks, chain of custody, and drive time	2	$86.85	1	AQIS I	$173.70	60	$10,422.00
Pick-up, sample collection, and drive time	2	$86.85	1	AQIS I	$173.70	60	$10,422.00
Semi annual calibration	2	$91.81	1	AQIS II	$183.62	2	$367.24
Annual Audit	2	$97.53	1	Senior AQIS	$195.06	1	$195.06
						Labor Subtotal	*$21,406.30*
			Sampling and Monitoring Total				$26,821.70
Hexavalent Chromium Analysis							
Materials	**Cost Per Sample**					**Number of Occurrences in a Year**	**Material Annual Fee**
Filter & Petri Dish	$ 9.60					60	$ 576.00
Reagents Consumables	$ 10.10					60	$ 606.00
Instrument & Service Plan	$ 10.68					60	$ 640.80
				Non-Labor Subtotal of Hexavalent Chromium Analysis			$ 1,822.80
Labor	**Hours Per Sample**	**Rate**	**Number of Staff**	**Position**	**Subtotal**	**Number of Occurrences in a Year**	**Labor Annual Fee**
Prep Light Inspection	0.0125	$ 68.95	1	Senior Office Assistant	$ 0.86	60	$ 51.71
Filter impregnation, solution, and cassette	0.0625	$ 102.74	1	AQ Chemist	$ 6.42	60	$ 385.28
Labeling	0.1625	$ 68.95	1	Senior Office Assistant	$ 11.20	60	$ 672.26
Sample Extraction	0.3	$ 102.74	1	AQ Chemist	$ 30.82	60	$ 1,849.32
Sample Analysis	0.6	$ 102.74	1	AQ Chemist	$ 61.64	60	$ 3,698.64
QA/QC-Data Prep & Analyst Review	0.15	$ 102.74	1	AQ Chemist	$ 15.41	60	$ 924.66
QA/QC-Peer Review	0.1	$ 102.74	1	AQ Chemist	$ 10.27	60	$ 616.44
QA/QC-Senior Review & Report Prep	0.15	$ 108.93	1	AQ Chemist	$ 16.34	60	$ 980.37
QA/QC-Final Review	0.1	$ 123.00	1	Principal AQ Chemist	$ 12.30	60	$ 738.00
QA/QC-Final Review	0.01	$ 137.45	1	Lab Manager	$ 1.37	60	$ 82.47
QA/QC-Data Reporting	0.05	$ 68.95	1	Senior Office Assistant	$ 3.45	60	$ 206.85
						Labor Subtotal	$ 10,206.00
			Hexavalent Chromium Analysis Total				$ 12,028.80
						Annual Total	$38,850.50
						Monthly Total	**$3,237.54**
						Appendix 1 Total	**$3,500.00**

Table B-7 – Additional - 1 Hexavalent Chromium Monitor - 1 in 6 days Frequency - 2 Staff

Sampling Monitoring							**Annual Fee**
Sampler Cost Estimate and Non-Labor	**Cost**		**Anticipated lifetime of equipment**				**Sampler Annual Fee**
Omni sampler	$5,720.00		8 years				$715.00
Annual maintenance & battery	$420.00						$420.00
Vehicle Usage	**Miles**		**Mileage Rate**	**Number of Occurrences in a Year**			**Vehicle Annual Fee**
Standard Mileage (sampling, calibration, and audit included in the base)	60		$ 0.58	0			$0.00
				Non-Labor Subtotal for Monitoring and Sampling			*$1,135.00*
Sampling and Monitoring Labor	***Hours***	***Rate***	***Number of Staff***	***Position***	***Subtotal***	***Number Of Occurrences in a Year***	***Operation Fee***
Sample setup and collection, preventive maintenance, cleaning, flow checks, chain of custody, and drive time	0.5	$86.85	2	AQIS I	$86.85	60	$5,211.00
Pick-up, sample collection, and drive time	0.5	$86.85	2	AQIS I	$86.85	60	$5,211.00
Semi annual calibration	2	$91.81	1	AQIS II	$183.62	2	$367.24
Annual Audit	2	$97.53	1	Senior AQIS	$195.06	1	$195.06
						Labor Subtotal	*$10,984.30*
			Sampling and Monitoring Total				$12,119.30
Hexavalent Chromium Analysis							
Materials	**Cost Per Sample**					**Number of Occurrences in a Year**	**Material Annual Fee**
Filter & Petri Dish	$ 9.60					60	$ 576.00
Reagents Consumables	$ 10.10					60	$ 606.00
Instrument & Service Plan	$ 10.68					60	$ 640.80
				Non-Labor Subtotal of Hexavalent Chromium			$ 1,822.80
Labor	**Hours Per Sample**	**Rate**	**Number of Staff**	**Position**	**Subtotal**	**Number of Occurrences in a Year**	**Labor Annual Fee**
Prep light inspection	0.0125	$ 68.95	1	Senior Office Assistant	$ 0.86	60	$ 51.71
Filter impregnation, solution, and cassette	0.0625	$ 102.74	1	AQ Chemist	$ 6.42	60	$ 385.28
Labeling	0.1625	$ 68.95	1	Senior Office Assistant	$ 11.20	60	$ 672.26
Sample Extraction	0.3	$ 102.74	1	AQ Chemist	$ 30.82	60	$ 1,849.32
Sample Analysis	0.6	$ 102.74	1	AQ Chemist	$ 61.64	60	$ 3,698.64
QA/QC-Data Prep & Analyst Review	0.15	$ 102.74	1	AQ Chemist	$ 15.41	60	$ 924.66
QA/QC-Peer Review	0.1	$ 102.74	1	AQ Chemist	$ 10.27	60	$ 616.44
QA/QC-Senior Review & Report Prep	0.15	$ 108.93	1	AQ Chemist	$ 16.34	60	$ 980.37
QA/QC-Final Review	0.1	$ 123.00	1	Principal AQ Chemist	$ 12.30	60	$ 738.00
QA/QC-Final Review	0.01	$ 137.45	1	Lab Manager	$ 1.37	60	$ 82.47
QA/QC-Data Reporting	0.05	$ 68.95	1	Senior Office Assistant	$ 3.45	60	$ 206.85
						Labor Subtotal	$ 10,206.00
			Hexavalent Chromium Analysis Total				$ 12,028.80
						Annual Total	$24,148.10
						Monthly Total	**$2,012.34**
						Appendix 1 Total	**$2,500.00**

Table B-8 – Additional - 1 Hexavalent Chromium Monitor - 1 in 6 days Frequency - 1 Staff

Sampling Monitoring							**Annual Fee**
Sampler Cost Estimate and Non-Labor	**Cost**	**Anticipated lifetime of equipment**					**Sampler Annual Fee**
Omni sampler	$5,720.00	8 years					$715.00
Annual maintenance & battery	$420.00						$420.00
Vehicle Usage	**Miles**		**Mileage Rate**	**Number of Occurrences in a Year**			**Vehicle Annual Fee**
Standard Mileage (sampling, calibration, and audit included in the base)	60		$ 0.58	0			$0.00
				Non-Labor Subtotal for Monitoring and Sampling			*$1,135.00*
Sampling and Monitoring Labor	***Hours***	***Rate***	***Number of Staff***	***Position***	***Subtotal***	***Number Of Occurrences in a Year***	***Operation Fee***
Sample setup and collection, preventive maintenance, cleaning, flow checks, chain of custody, and drive time	0.5	$86.85	1	AQIS I	$43.43	60	$2,605.50
Pick-up, sample collection, and drive time	0.5	$86.85	1	AQIS I	$43.43	60	$2,605.50
Semi annual calibration	2	$91.81	1	AQIS II	$183.62	2	$367.24
Annual Audit	2	$97.53	1	Senior AQIS	$195.06	1	$195.06
						Labor Subtotal	*$5,773.30*
			Sampling and Monitoring Total				$6,908.30
Hexavalent Chromium Analysis							
Materials	**Cost Per Sample**					**Number of Occurrences in a Year**	**Material Annual Fee**
Filter & Petri Dish	$ 9.60					60	$ 576.00
Reagents Consumables	$ 10.10					60	$ 606.00
Instrument & Service Plan	$ 10.68					60	$ 640.80
				Non-Labor Subtotal of Hexavalent Chromium Analysis			$ 1,822.80
Labor	**Hours Per Sample**	**Rate**	**Number of Staff**	**Position**	**Subtotal**	**Number of Occurrences in a Year**	**Labor Annual Fee**
Prep light inspection	0.0125	$ 68.95	1	Senior Office Assistant	$ 0.86	60	$ 51.71
Filter impregnation, solution, and cassette	0.0625	$ 102.74	1	AQ Chemist	$ 6.42	60	$ 385.28
Labeling	0.1625	$ 68.95	1	Senior Office Assistant	$ 11.20	60	$ 672.26
Sample Extraction	0.3	$ 102.74	1	AQ Chemist	$ 30.82	60	$ 1,849.32
Sample Analysis	0.6	$ 102.74	1	AQ Chemist	$ 61.64	60	$ 3,698.64
QA/QC-Data Prep & Analyst Review	0.15	$ 102.74	1	AQ Chemist	$ 15.41	60	$ 924.66
QA/QC-Peer Review	0.1	$ 102.74	1	AQ Chemist	$ 10.27	60	$ 616.44
QA/QC-Senior Review & Report Prep	0.15	$ 108.93	1	AQ Chemist	$ 16.34	60	$ 980.37
QA/QC-Final Review	0.1	$ 123.00	1	Principal AQ Chemist	$ 12.30	60	$ 738.00
QA/QC-Final Review	0.01	$ 137.45	1	Lab Manager	$ 1.37	60	$ 82.47
QA/QC-Data Reporting	0.05	$ 68.95	1	Senior Office Assistant	$ 3.45	60	$ 206.85
						Labor Subtotal	$ 10,206.00
			Hexavalent Chromium Analysis Total				$ 12,028.80
						Annual Total	$18,937.10
						Monthly	**$1,578.09**
						Appendix 1 Total	**$2,000.00**

Table B-9 – Base - 1 Metal Monitor - 1 in 3 days Frequency - 2 Staff

Sampling Monitoring							**Annual Fee**
Sampler Cost Estimate and Non-Labor	**Cost**		**Anticipated lifetime of equipment**				**Sampler Annual Fee**
Omni sampler	$8,290.00		4 years				$2,072.50
Annual maintenance & battery	$252.00						$252.00
Vehicle Usage	**Miles**		**Mileage Rate**	**Number of Occurrences in a Year**			**Vehicle Annual Fee**
Standard Mileage	60		$ 0.58	123			$4,280.40
				Non-Labor Subtotal for Monitoring and Sampling			*$6,604.90*
Sampling and Monitoring Labor	***Hours***	***Rate***	***Number of Staff***	***Position***	***Subtotal***	***Number Of Occurrences in a Year***	***Operation Fee***
Sample setup and collection, preventive maintenance, cleaning, flow checks, chain of custody, pickup and drive time	2	$86.85	2	AQIS I	$347.40	120	$41,688.00
Semi annual calibration	2	$91.81	1	AQIS II	$183.62	2	$367.24
Annual Audit	2	$97.53	1	Senior AQIS	$195.06	1	$195.06
						Labor Subtotal	*$42,250.30*
			Sampling and Monitoring Total				$48,855.20
Multi-Metal Analysis							
Materials	**Cost Per Sample**					**Number of Occurrences in a Year**	**Material Annual Fee**
ICPMS supplies, reagents, and other supplies	$ 10.17					120	$ 1,220.46
Annual preventative maintenance contracts	$ 10.75					120	$ 1,290.36
Instrument	$ 7.15					120	$ 858.42
				Non-Labor Subtotal of Multi-Metals			$ 3,369.24
Labor	**Hours Per Sample**	**Rate**	**Number of Staff**	**Position**	**Subtotal**	**Number of Occurrences in a Year**	**Labor Annual Fee**
Extraction and Preparation	0.25	$ 79.44	1	Laboratory Tech	$ 19.86	120	$ 2,383.20
Instrument Set Up & Analysis	0.35	$ 102.74	1	AQ Chemist	$ 35.96	120	$ 4,315.08
Data Analysis & Review	0.125	$ 102.74	1	AQ Chemist	$ 12.84	120	$ 1,541.10
Data Analysis & Review	0.025	$ 123.00	1	Senior AQ Chemist	$ 3.08	120	$ 369.00
Data Analysis & Review	0.0125	$ 68.95	1	Principal AQ Chemist	$ 0.86	120	$ 103.43
						Labor Subtotal	$ 8,711.81
			Multi-Metal Analysis Total				$ 12,081.05
						Annual Total	$60,936.25
						Monthly Total	$5,078.02
						Appendix 1 Total	$5,500.00

Table B-10 – Base - 1 Metal Monitor - 1 in 3 days Frequency - 1 Staff

Sampling Monitoring							**Annual Fee**
Sampler Cost Estimate and Non-Labor	**Cost**		**Anticipated lifetime of equipment**				**Sampler Annual Fee**
PQ 100	$8,290.00		4 years				$2,072.50
Annual maintenance & battery	$252.00						$252.00
Vehicle Usage	**Miles**		**Mileage Rate**			**Number of Occurrences in a Year**	**Vehicle Annual Fee**
Standard Mileage	60		$ 0.58			123	$4,280.40
				Non-Labor Subtotal for Monitoring and Sampling			*$6,604.90*
Sampling and Monitoring Labor	***Hours***	***Rate***	***Number of Staff***	***Position***	***Subtotal***	***Number Of Occurrences in a Year***	***Operation Fee***
Sample setup and collection, preventive maintenance, cleaning, flow checks, chain of custody, pickup and drive time	2	$86.85	1	AQIS I	$173.70	120	$20,844.00
Semi annual calibration	2	$91.81	1	AQIS II	$183.62	2	$367.24
Annual Audit	2	$97.53	1	Senior AQIS	$195.06	1	$195.06
						Labor Subtotal	*$21,406.30*
			Sampling and Monitoring Total				$28,011.20
Multi-Metal Analysis							
Materials	**Cost Per Sample**					**Number of Occurrences in a Year**	**Material Annual Fee**
ICPMS supplies, reagents, and other supplies	$ 10.17					120	$ 1,220.46
Annual preventative maintenance contracts	$ 10.75					120	$ 1,290.36
Instrument	$ 7.15					120	$ 858.42
				Non-Labor Subtotal of Multi-Metals			$ 3,369.24
Labor	**Hours Per Sample**	**Rate**	**Number of Staff**	**Position**	**Subtotal**	**Number of Occurrences in a Year**	**Labor Annual Fee**
Extraction and Preparation	0.25	$ 79.44	1	Laboratory Tech	$ 19.86	120	$ 2,383.20
Instrument Set Up & Analysis	0.35	$ 102.74	1	AQ Chemist	$ 35.96	120	$ 4,315.08
Data Analysis & Review	0.125	$ 102.74	1	AQ Chemist	$ 12.84	120	$ 1,541.10
Data Analysis & Review	0.025	$ 123.00	1	Senior AQ Chemist	$ 3.08	120	$ 369.00
Data Analysis & Review	0.0125	$ 68.95	1	Principal AQ Chemist	$ 0.86	120	$ 103.43
						Labor Subtotal	$ 8,711.81
			Multi-Metal Analysis Totals				$ 12,081.05
						Annual Total	$40,092.25
						Monthly Total	$3,341.02
						Appendix 1 Total	$3,500.00

Table B-11 – Additional - 1 Metal Monitor - 1 in 3 days Frequency - 2 Staff

Sampling Monitoring							**Annual Fee**
Sampler Cost Estimate and Non-Labor	**Cost**	**Anticipated lifetime of equipment**					**Sampler Annual Fee**
Omni sampler	$8,290.00	4 years					$2,072.50
Annual maintenance & battery	$252.00						$252.00
Vehicle Usage	**Miles**		**Mileage Rate**			**Number of Occurrences in a Year**	**Vehicle Annual Fee**
Standard Mileage (sampling, calibration, and audit included in the base)	60		$ 0.58			0	$0.00
				Non-Labor Subtotal for Monitoring and Sampling			*$2,324.50*
Sampling and Monitoring Labor	***Hours***	***Rate***	***Number of Staff***	***Position***	***Subtotal***	***Number Of Occurrences in a Year***	***Operation Fee***
Sample setup and collection, preventive maintenance, cleaning, flow checks, chain of custody, pickup and drive time	0.5	$86.85	2	AQIS I	$86.85	120	$10,422.00
Semi annual calibration	2	$91.81	1	AQIS II	$183.62	2	$367.24
Annual Audit	2	$97.53	1	Senior AQIS	$195.06	1	$195.06
						Labor Subtotal	*$10,984.30*
			Sampling and Monitoring Total				$13,308.80
Multi-Metal Analysis							
Materials	**Cost Per Sample**					**Number of Occurrences in a Year**	**Material Annual Fee**
ICPMS supplies, reagents, and other supplies	$ 10.17					120	$ 1,220.46
Annual preventative maintenance contracts	$ 10.75					120	$ 1,290.36
Instrument	$ 7.15					120	$ 858.42
				Non-Labor Subtotal of Multi-Metals			$ 3,369.24
Labor	**Hours Per Sample**	**Rate**	**Number of Staff**	**Position**	**Subtotal**	**Number of Occurrences in a Year**	**Labor Annual Fee**
Extraction and Preparation	0.25	$ 79.44	1	Laboratory Tech	$ 19.86	120	$ 2,383.20
Instrument Set Up & Analysis	0.35	$ 102.74	1	AQ Chemist	$ 35.96	120	$ 4,315.08
Data Analysis & Review	0.125	$ 102.74	1	AQ Chemist	$ 12.84	120	$ 1,541.10
Data Analysis & Review	0.025	$ 123.00	1	Senior AQ Chemist	$ 3.08	120	$ 369.00
Data Analysis & Review	0.0125	$ 68.95	1	Principal AQ Chemist	$ 0.86	120	$ 103.43
						Labor Subtotal	$ 8,711.81
			Multi-Metals Analysis Total				$ 12,081.05
						Annual Total	$25,389.85
						Monthly Total	$2,115.82
						Appendix 1 Total	$2,500.00

Table B-12 – Additional - 1 Metal Monitor - 1 in 3 days Frequency – 1 Staff

Sampling Monitoring							**Annual Fee**
Sampler Cost Estimate and Non-Labor	**Cost**		**Anticipated lifetime of equipment**				**Sampler Annual Fee**
PQ 100	$8,290.00		4 years				$2,072.50
Annual maintenance & battery	$252.00						$252.00
Vehicle Usage	**Miles**		**Mileage Rate**			**Number of Occurrences in a Year**	**Vehicle Annual Fee**
Standard Mileage (sampling, calibration, and audit included in the base)	60		$ 0.58			0	$0.00
				Non-Labor Subtotal for Monitoring and Sampling			*$2,324.50*
Sampling and Monitoring Labor	***Hours***	***Rate***	***Number of Staff***	***Position***	***Subtotal***	***Number Of Occurrences in a Year***	***Operation Fee***
Sample setup and collection, preventive maintenance, cleaning, flow checks, chain of custody, pickup and drive time	0.5	$86.85	1	AQIS I	$43.43	120	$5,211.00
Semi annual calibration	2	$91.81	1	AQIS II	$183.62	2	$367.24
Annual Audit	2	$97.53	1	Senior AQIS	$195.06	1	$195.06
						Labor Subtotal	*$5,773.30*
			Sampling and Monitoring Total				$8,097.80
Multi-Metal Analysis							
Materials	**Cost Per Sample**					**Number of Occurrences in a Year**	**Material Annual Fee**
ICPMS supplies, reagents, and other supplies	$ 10.17					120	$ 1,220.46
Annual preventative maintenance contracts	$ 10.75					120	$ 1,290.36
Instrument	$ 7.15					120	$ 858.42
				Non-Labor Subtotal of Multi-Metals			$ 3,369.24
Labor	**Hours Per Sample**	**Rate**	**Number of Staff**	**Position**	**Subtotal**	**Number of Occurrences in a Year**	**Labor Annual Fee**
Extraction and Preparation	0.25	$ 79.44	1	Laboratory Tech	$ 19.86	120	$ 2,383.20
Instrument Set Up & Analysis	0.35	$ 102.74	1	AQ Chemist	$ 35.96	120	$ 4,315.08
Data Analysis & Review	0.125	$ 102.74	1	AQ Chemist	$ 12.84	120	$ 1,541.10
Data Analysis & Review	0.025	$ 123.00	1	Senior AQ Chemist	$ 3.08	120	$ 369.00
Data Analysis & Review	0.0125	$ 68.95	1	Principal AQ Chemist	$ 0.86	120	$ 103.43
						Labor Subtotal	$ 8,711.81
			Multi-Metal Analysis Totals				$ 12,081.05
						Annual Total	$20,178.85
						Quarterly Total	$1,681.57
						Appendix 1 Total	$2,000.00

Table B-13 – Base - 1 Metal Monitor - 1 in 6 days Frequency - 2 Staff

Sampling Monitoring							**Annual Fee**
Sampler Cost Estimate and Non-Labor	**Cost**		**Anticipated lifetime of equipment**				**Sampler Annual Fee**
Omni sampler	$8,290.00		8 years				$1,036.25
Annual maintenance & battery	$252.00						$252.00
Vehicle Usage	**Miles**		**Mileage Rate**			**Number of Occurrences in a Year**	**Vehicle Annual Fee**
Standard Mileage	60		$ 0.58			63	$2,192.40
				Non-Labor Subtotal for Monitoring and Sampling			*$3,480.65*
Sampling and Monitoring Labor	***Hours***	***Rate***	***Number of Staff***	***Position***	***Subtotal***	***Number Of Occurrences in a Year***	***Operation Fee***
Sample setup and collection, preventive maintenance, cleaning, flow checks, chain of custody, pickup and drive time	2	$86.85	2	AQIS I	$347.40	60	$20,844.00
Semi annual calibration	2	$91.81	1	AQIS II	$183.62	2	$367.24
Annual Audit	2	$97.53	1	Senior AQIS	$195.06	1	$195.06
						Labor Subtotal	*$21,406.30*
			Sampling and Monitoring Total				$24,886.95
Multi-Metal Analysis							
Materials	**Cost Per Sample**					**Number of Occurrences in a Year**	**Material Annual Fee**
ICPMS supplies, reagents, and other supplies	$ 10.17					60	$ 610.23
Annual preventative maintenance contracts	$ 10.75					60	$ 645.18
Instrument	$ 7.15					60	$ 429.21
				Non-Labor Subtotal of Multi-Metals			$ 1,684.62
Labor	**Hours Per Sample**	**Rate**	**Number of Staff**	**Position**	**Subtotal**	**Number of Occurrences in a Year**	**Labor Annual Fee**
Extraction and Preparation	0.25	$ 79.44	1	Laboratory Tech	$ 19.86	60	$ 1,191.60
Instrument Set Up & Analysis	0.35	$ 102.74	1	AQ Chemist	$ 35.96	60	$ 2,157.54
Data Analysis & Review	0.125	$ 102.74	1	AQ Chemist	$ 12.84	60	$ 770.55
Data Analysis & Review	0.025	$ 123.00	1	Senior AQ Chemist	$ 3.08	60	$ 184.50
Data Analysis & Review	0.0125	$ 68.95	1	Principal AQ Chemist	$ 0.86	60	$ 51.71
						Labor Subtotal	$ 4,355.90
			Multi-Metal Analysis Total				$ 6,040.52
						Annual Total	$30,927.47
						Monthly Total	$2,577.29
						Appendix 1 Total	$3,000.00

Table B-14 – Base - 1 Metal Monitor - 1 in 6 days Frequency - 1 Staff

Sampling Monitoring							**Annual Fee**
Sampler Cost Estimate and Non-Labor	**Cost**		**Anticipated lifetime of equipment**				**Sampler Annual Fee**
Omni sampler	$8,290.00		8 years				$1,036.25
Annual maintenance & battery	$252.00						$252.00
Vehicle Usage	**Miles**		**Mileage Rate**	**Number of Occurrences in a Year**			**Vehicle Annual Fee**
Standard Mileage	60		$ 0.58	63			$2,192.40
				Non-Labor Subtotal for Monitoring and Sampling			*$3,480.65*
Sampling and Monitoring Labor	***Hours***	***Rate***	***Number of Staff***	***Position***	***Subtotal***	***Number Of Occurrences in a Year***	***Operation Fee***
Sample setup and collection, preventive maintenance, cleaning, flow checks, chain of custody, pickup and drive time	2	$86.85	1	AQIS I	$173.70	60	$10,422.00
Semi annual calibration	2	$91.81	1	AQIS II	$183.62	2	$367.24
Annual Audit	2	$97.53	1	Senior AQIS	$195.06	1	$195.06
						Labor Subtotal	*$10,984.30*
			Sampling and Monitoring Total				$14,464.95
Multi-Metal Analysis							
Materials	**Cost Per Sample**					**Number of Occurrences in a Year**	**Material Annual Fee**
ICPMS supplies, reagents, and other supplies	$ 10.17					60	$ 610.23
Annual preventative maintenance contracts	$ 10.75					60	$ 645.18
Instrument	$ 7.15					60	$ 429.21
				Non-Labor Subtotal of Multi-Metals			$ 1,684.62
Labor	**Hours Per Sample**	**Rate**	**Number of Staff**	**Position**	**Subtotal**	**Number of Occurrences in a Year**	**Labor Annual Fee**
Extraction and Preparation	0.25	$ 79.44	1	Laboratory Tech	$ 19.86	60	$ 1,191.60
Instrument Set Up & Analysis	0.35	$ 102.74	1	AQ Chemist	$ 35.96	60	$ 2,157.54
Data Analysis & Review	0.125	$ 102.74	1	AQ Chemist	$ 12.84	60	$ 770.55
Data Analysis & Review	0.025	$ 123.00	1	Senior AQ Chemist	$ 3.08	60	$ 184.50
Data Analysis & Review	0.0125	$ 68.95	1	Principal AQ Chemist	$ 0.86	60	$ 51.71
						Labor Subtotal	$ 4,355.90
			Multi Metals Analysis Totals				$ 6,040.52
						Annual Total	$20,505.47
						Monthly Total	$1,708.79
						Appendix 1 Total	$2,000.00

Table B-15 – Additional - 1 Metal Monitor - 1 in 6 days Frequency - 2 Staff

Sampling Monitoring							**Annual Fee**
Sampler Cost Estimate and Non-Labor	**Cost**		**Anticipated lifetime of equipment**				**Sampler Annual Fee**
Omni sampler	$8,290.00		8 years				$1,036.25
Annual maintenance & battery	$252.00						$252.00
Vehicle Usage	**Miles**		**Mileage Rate**			**Number of Occurrences in a Year**	**Vehicle Annual Fee**
Standard Mileage (sampling, calibration, and audit included in the base)	60		$ 0.58			0	$0.00
				Non-Labor Subtotal for Monitoring and Sampling			*$1,288.25*
Sampling and Monitoring Labor	***Hours***	***Rate***	***Number of Staff***	***Position***	***Subtotal***	***Number Of Occurrences in a Year***	***Operation Fee***
Sample setup and collection, preventive maintenance, cleaning, flow checks, chain of custody, pickup and drive time	0.5	$86.85	2	AQIS I	$86.85	60	$5,211.00
Semi annual calibration	2	$91.81	1	AQIS II	$183.62	2	$367.24
Annual Audit	2	$97.53	1	Senior AQIS	$195.06	1	$195.06
						Labor Subtotal	*$5,773.30*
			Sampling and Monitoring Total				$7,061.55
Multi-Metal Analysis							
Materials	**Cost Per Sample**					**Number of Occurrences in a Year**	**Material Annual Fee**
ICPMS supplies, reagents, and other supplies	$ 10.17					60	$ 610.23
Annual preventative maintenance contracts	$ 10.75					60	$ 645.18
Instrument	$ 7.15					60	$ 429.21
				Non-Labor Subtotal of Multi-Metals			$ 1,684.62
Labor	**Hours Per Sample**	**Rate**	**Number of Staff**	**Position**	**Subtotal**	**Number of Occurrences in a Year**	**Labor Annual Fee**
Extraction and Preparation	0.25	$ 79.44	1	Laboratory Tech	$ 19.86	60	$ 1,191.60
Instrument Set Up & Analysis	0.35	$ 102.74	1	AQ Chemist	$ 35.96	60	$ 2,157.54
Data Analysis & Review	0.125	$ 102.74	1	AQ Chemist	$ 12.84	60	$ 770.55
Data Analysis & Review	0.025	$ 123.00	1	Senior AQ Chemist	$ 3.08	60	$ 184.50
Data Analysis & Review	0.0125	$ 68.95	1	Principal AQ Chemist	$ 0.86	60	$ 51.71
						Labor Subtotal	$ 4,355.90
			Multi-Metals Analysis Total				$ 6,040.52
						Annual Total	$13,102.07
						Monthly Total	$1,091.84
						Appendix 1 Total	$1,500.00

Table B-16 – Additional - 1 Metal Monitor - 1 in 6 days Frequency - 1 Staff

Sampling Monitoring							**Annual Fee**
Sampler Cost Estimate and Non-Labor	**Cost**		**Anticipated lifetime of equipment**				**Sampler Annual Fee**
Omni sampler	$8,290.00		8 years				$1,036.25
Annual maintenance & battery	$252.00						$252.00
Vehicle Usage	**Miles**		**Mileage Rate**			**Number of Occurrences in a Year**	**Vehicle Annual Fee**
Standard Mileage (sampling, calibration, and audit included in the base)	60		$ 0.58			0	$0.00
				Non-Labor Subtotal for Monitoring and Sampling			*$1,288.25*
Sampling and Monitoring Labor	***Hours***	***Rate***	***Number of Staff***	***Position***	***Subtotal***	***Number Of Occurrences in a Year***	***Operation Fee***
Sample setup and collection, preventive maintenance, cleaning, flow checks, chain of custody, pickup and drive time	0.5	$86.85	1	AQIS I	$43.43	60	$2,605.50
Semi annual calibration	2	$91.81	1	AQIS II	$183.62	2	$367.24
Annual Audit	2	$97.53	1	Senior AQIS	$195.06	1	$195.06
						Labor Subtotal	*$3,167.80*
			Sampling and Monitoring Total				$4,456.05
Multi-Metal Analysis							
Materials	**Cost Per Sample**					**Number of Occurrences in a Year**	**Material Annual Fee**
ICPMS supplies, reagents, and other supplies	$ 10.17					60	$ 610.23
Annual preventative maintenance contracts	$ 10.75					60	$ 645.18
Instrument	$ 7.15					60	$ 429.21
				Non-Labor Subtotal of Multi-Metals			$ 1,684.62
Labor	**Hours Per Sample**	**Rate**	**Number of Staff**	**Position**	**Subtotal**	**Number of Occurrences in a Year**	**Labor Annual Fee**
Extraction and Preparation	0.25	$ 79.44	1	Laboratory Tech	$ 19.86	60	$ 1,191.60
Instrument Set Up & Analysis	0.35	$ 102.74	1	AQ Chemist	$ 35.96	60	$ 2,157.54
Data Analysis & Review	0.125	$ 102.74	1	AQ Chemist	$ 12.84	60	$ 770.55
Data Analysis & Review	0.025	$ 123.00	1	Senior AQ Chemist	$ 3.08	60	$ 184.50
Data Analysis & Review	0.0125	$ 68.95	1	Principal AQ Chemist	$ 0.86	60	$ 51.71
						Labor Subtotal	$ 4,355.90
			Multi Metals Analysis Totals				$ 6,040.52
						Annual Total	$10,496.57
						Monthly Total	$874.71
						Appendix 1 Total	$1,000.00

Table B-17 – Base - 1 Hexavalent Chromium Monitor & 1 Metal Monitor - 1 in 3 days Frequency - 2 Staff

Sampling Monitoring								**Annual Fee**
Sampler Cost Estimate and Non-Labor	**Cost**	**Anticipated lifetime of equipment**						**Sampler Annual Fee**
PQ 100 sampler	$8,290.00	4 years						$2,072.50
Annual maintenance & battery	$252.00							$252.00
Omni sampler	$5,720.00	4 years						$1,430.00
Annual maintenance & battery	$420.00							$420.00
Vehicle Usage	**Miles**			**Mileage Rate**			**Number of Occurrences in a Year**	**Vehicle Annual Fee**
Standard Mileage	60			$ 0.58			243	$8,456.40
					Non-Labor Subtotal for Monitoring and Sampling			*$12,630.90*
Sampling and Monitoring Labor	***Base Hours***	***Additional Hour***	***Rate***	***Number of Staff***	***Position***	***Subtotal***	***Number Of Occurrences in a Year***	***Operation Fee***
Hexavalent Chromium/Multi-metal sample setup and collection, preventive maintenance, cleaning, flow checks, chain of custody, pickup and drive time	2	0.5	$86.85	2	AQIS I	$434.25	120	$52,110.00
Hexavalent Chromium pick-up, sample collection, and drive time	2	0.5	$86.85	2	AQIS I	$434.25	120	$52,110.00
Semi annual calibration	2	2	$91.81	1	AQIS II	$367.24	2	$734.48
Annual Audit	2	2	$97.53	1	Senior AQIS	$390.12	1	$390.12
							Labor Subtotal	*$105,344.60*
				Sampling and Monitoring Total				$117,975.50
Multi-Metal Analysis								
Materials	**Cost Per Sample**	**Number of Samples**				**Subtotal**	**Number of Occurrences in a Year**	**Material Annual Fee**
ICPMS supplies, reagents, and other supplies	$ 10.17	1				$ 10.17	120	$ 1,220.46
Annual preventative maintenance contracts	$ 10.75	1				$ 10.75	120	$ 1,290.36
Instrument	$ 7.15	1				$ 7.15	120	$ 858.42
					Non-Labor Subtotal of Multi-Metals			$ 3,369.24
Labor	**Hours Per Sample**	**Number of Samples**	**Rate**	**Number of Staff**	**Position**	**Subtotal**	**Number of Occurrences in a Year**	**Labor Annual Fee**
Extraction and Preparation	0.25	1	$ 79.44	1	Laboratory Tech	$ 19.86	120	$ 2,383.20
Instrument Set Up & Analysis	0.35	1	$ 102.74	1	AQ Chemist	$ 35.96	120	$ 4,315.08
Data Analysis & Review	0.125	1	$ 102.74	1	AQ Chemist	$ 12.84	120	$ 1,541.10
Data Analysis & Review	0.025	1	$ 123.00	1	Senior AQ Chemist	$ 3.08	120	$ 369.00
Data Analysis & Review	0.0125	1	$ 68.95	1	Principal AQ Chemist	$ 0.86	120	$ 103.43
							Labor Subtotal	$ 8,711.81
				Multi Metal Analysis Total				$ 12,081.05
Hexavalent Chromium Analysis								
Materials	**Cost Per Sample**	**Number of Samples**					**Number of Occurrences in a Year**	**Material Annual Fee**
Filter & Petri Dish	$ 9.60	1					120	$ 1,152.00
Reagents Consumables	$ 10.10	1					120	$ 1,212.00
Instrument & Service Plan	$ 10.68	1					120	$ 1,281.60
					Non-Labor Subtotal of Hexavalent Chromium			$ 3,645.60
Labor	**Hours Per Sample**	**Number of Samples**	**Rate**	**Number of Staff**	**Position**	**Subtotal**	**Number of Occurrences in a Year**	**Labor Annual Fee**
Prep light inspection	0.0125	1	$ 68.95	1	Senior Office Assistant	$ 0.86	120	$ 103.43
Filter impregnation, solution, and cassette	0.0625	1	$ 102.74	1	AQ Chemist	$ 6.42	120	$ 770.55
Labeling	0.1625	1	$ 68.95	1	Senior Office Assistant	$ 11.20	120	$ 1,344.53
Sample Extraction	0.3	1	$ 102.74	1	AQ Chemist	$ 30.82	120	$ 3,698.64
Sample Analysis	0.6	1	$ 102.74	1	AQ Chemist	$ 61.64	120	$ 7,397.28
QA/QC-Data Prep & Analyst Review	0.15	1	$ 102.74	1	AQ Chemist	$ 15.41	120	$ 1,849.32
QA/QC-Peer Review	0.1	1	$ 102.74	1	AQ Chemist	$ 10.27	120	$ 1,232.88
QA/QC-Senior Review & Report Prep	0.15	1	$ 108.93	1	AQ Chemist	$ 16.34	120	$ 1,960.74
QA/QC-Final Review	0.1	1	$ 123.00	1	Principal AQ Chemist	$ 12.30	120	$ 1,476.00
QA/QC-Final Review	0.01	1	$ 137.45	1	Lab Manager	$ 1.37	120	$ 164.94
QA/QC-Data Reporting	0.05	1	$ 68.95	1	Senior Office Assistant	$ 3.45	120	$ 413.70
							Labor Subtotal	$ 20,412.00
				Hexavalent Chromium Analysis Total				$ 24,057.60
							Annual Total	$ 154,114.15
							Monthly Total	$ 12,842.85
							Appendix 1 Total	$ 13,000.00

Table B-18 – Base - 1 Hexavalent Chromium Monitor & 1 Metal Monitor - 1 in 3 days Frequency - 1 Staff

Sampling Monitoring								**Annual Fee**
Sampler Cost Estimate and Non-Labor	**Cost**	**Anticipated lifetime of equipment**						**Sampler Annual Fee**
PQ 100 sampler	$8,290.00	4 years						$2,072.50
Annual maintenance & battery	$252.00							$252.00
Omni sampler	$5,720.00	4 years						$1,430.00
Annual maintenance & battery	$420.00							$420.00
Vehicle Usage	**Miles**			**Mileage Rate**			**Number of Occurrences in a Year**	**Vehicle Annual Fee**
Standard Mileage	60			$ 0.58			243	$8,456.40
					Non-Labor Subtotal for Monitoring and Sampling			*$12,630.90*
Sampling and Monitoring Labor	***Base Hours***	***Additional Hour***	***Rate***	***Number of Staff***	***Position***	***Subtotal***	***Number Of Occurrences in a Year***	***Operation Fee***
Hexavalent Chromium/Multi-metal sample setup and collection, preventive maintenance, cleaning, flow checks, chain of custody, pickup and drive time	2	0.5	$86.85	1	AQIS I	$217.13	120	$26,055.00
Hexavalent Chromium pick-up, sample collection, and drive time	2	0.5	$86.85	1	AQIS I	$217.13	120	$26,055.00
Semi annual calibration	2	2	$91.81	1	AQIS II	$367.24	2	$734.48
Annual Audit	2	2	$97.53	1	Senior AQIS	$390.12	1	$390.12
							Labor Subtotal	*$53,234.60*
				Sampling and Monitoring Total				$65,865.50
Multi-Metal Analysis								
Materials	**Cost Per Sample**	**Number of Samples**				**Subtotal**	**Number of Occurrences in a Year**	**Material Annual Fee**
ICPMS supplies, reagents, and other supplies	$ 10.17	1				$ 10.17	120	$ 1,220.46
Annual preventative maintenance contracts	$ 10.75	1				$ 10.75	120	$ 1,290.36
Instrument	$ 7.15	1				$ 7.15	120	$ 858.42
					Non-Labor Subtotal of Multi-Metals			$ 3,369.24
Labor	**Hours Per Sample**	**Number of Samples**	**Rate**	**Number of Staff**	**Position**	**Subtotal**	**Number of Occurrences in a Year**	**Labor Annual Fee**
Extraction and Preparation	0.25	1	$ 79.44	1	Laboratory Tech	$ 19.86	120	$ 2,383.20
Instrument Set Up & Analysis	0.35	1	$ 102.74	1	AQ Chemist	$ 35.96	120	$ 4,315.08
Data Analysis & Review	0.125	1	$ 102.74	1	AQ Chemist	$ 12.84	120	$ 1,541.10
Data Analysis & Review	0.025	1	$ 123.00	1	Senior AQ Chemist	$ 3.08	120	$ 369.00
Data Analysis & Review	0.0125	1	$ 68.95	1	Principal AQ Chemist	$ 0.86	120	$ 103.43
							Labor Subtotal	$ 8,711.81
				Multi Metal Analysis Total				$ 12,081.05
Hexavalent Chromium Analysis								
Materials	**Cost Per Sample**	**Number of Samples**					**Number of Occurrences in a Year**	**Material Annual Fee**
Filter & Petri Dish	$ 9.60	1					120	$ 1,152.00
Reagents Consumables	$ 10.10	1					120	$ 1,212.00
Instrument & Service Plan	$ 10.68	1					120	$ 1,281.60
							Non-Labor Subtotal of Hexavalent Chromium Analysis	$ 3,645.60
Labor	**Hours Per Sample**	**Number of Samples**	**Rate**	**Number of Staff**	**Position**	**Subtotal**	**Number of Occurrences in a Year**	**Labor Annual Fee**
Prep light inspection	0.0125	1	$ 68.95	1	Senior Office Assistant	$ 0.86	120	$ 103.43
Filter impregnation, solution, and cassette	0.0625	1	$ 102.74	1	AQ Chemist	$ 6.42	120	$ 770.55
Labeling	0.1625	1	$ 68.95	1	Senior Office Assistant	$ 11.20	120	$ 1,344.53
Sample Extraction	0.3	1	$ 102.74	1	AQ Chemist	$ 30.82	120	$ 3,698.64
Sample Analysis	0.6	1	$ 102.74	1	AQ Chemist	$ 61.64	120	$ 7,397.28
QA/QC-Data Prep & Analyst Review	0.15	1	$ 102.74	1	AQ Chemist	$ 15.41	120	$ 1,849.32
QA/QC-Peer Review	0.1	1	$ 102.74	1	AQ Chemist	$ 10.27	120	$ 1,232.88
QA/QC-Senior Review & Report Prep	0.15	1	$ 108.93	1	AQ Chemist	$ 16.34	120	$ 1,960.74
QA/QC-Final Review	0.1	1	$ 123.00	1	Principal AQ Chemist	$ 12.30	120	$ 1,476.00
QA/QC-Final Review	0.01	1	$ 137.45	1	Lab Manager	$ 1.37	120	$ 164.94
QA/QC-Data Reporting	0.05	1	$ 68.95	1	Senior Office Assistant	$ 3.45	120	$ 413.70
							Labor Subtotal	$ 20,412.00
				Hexavalent Chromium Analysis Total				$ 24,057.60
							Annual Total	$ 102,004.15
							Monthly Total	$ 8,500.35
							Appendix 1 Total	$ 8,500.00

Table B-19 – Base - 1 Hexavalent Chromium Monitor & 1 Metal Monitor - 1 in 6 days Frequency - 2 Staff

Sampling Monitoring								**Annual Fee**
Sampler Cost Estimate and Non-Labor	**Cost**	**Anticipated lifetime of equipment**						**Sampler Annual Fee**
PQ 100 sampler	$8,290.00	8 years						$1,036.25
Annual maintenance & battery	$252.00							$252.00
Omni sampler	$5,720.00	8 years						$715.00
Annual maintenance & battery	$420.00							$420.00
Vehicle Usage	**Miles**			**Mileage Rate**			**Number of Occurrences in a Year**	**Vehicle Annual Fee**
Standard Mileage	60			$ 0.58			123	$4,280.40
					Non-Labor Subtotal for Monitoring and Sampling			*$6,703.65*
Sampling and Monitoring Labor	***Base Hours***	***Additional Hour***	***Rate***	***Number of Staff***	***Position***	***Subtotal***	***Number Of Occurrences in a Year***	***Operation Fee***
Hexavalent Chromium/Multi-metal sample setup and collection, preventive maintenance, cleaning, flow checks, chain of custody, pickup and drive time	2	0.5	$86.85	2	AQIS I	$434.25	60	$26,055.00
Hexavalent Chromium pick-up, sample collection, and drive time	2	0.5	$86.85	2	AQIS I	$434.25	60	$26,055.00
Semi annual calibration	2	2	$91.81	1	AQIS II	$367.24	2	$734.48
Annual Audit	2	2	$97.53	1	Senior AQIS	$390.12	1	$390.12
							Labor Subtotal	*$53,234.60*
				Sampling and Monitoring Total				$59,938.25
Multi-Metal Analysis								
Materials	**Cost Per Sample**	**Number of Samples**				**Subtotal**	**Number of Occurrences in a Year**	**Material Annual Fee**
ICPMS supplies, reagents, and other supplies	$ 10.17	1				$ 10.17	60	$ 610.23
Annual preventative maintenance contracts	$ 10.75	1				$ 10.75	60	$ 645.18
Instrument	$ 7.15	1				$ 7.15	60	$ 429.21
					Non-Labor Subtotal of Multi-Metals			$ 1,684.62
Labor	**Hours Per Sample**	**Number of Samples**	**Rate**	**Number of Staff**	**Position**	**Subtotal**	**Number of Occurrences in a Year**	**Labor Annual Fee**
Extraction and Preparation	0.25	1	$ 79.44	1	Laboratory Tech	$ 19.86	60	$ 1,191.60
Instrument Set Up & Analysis	0.35	1	$ 102.74	1	AQ Chemist	$ 35.96	60	$ 2,157.54
Data Analysis & Review	0.125	1	$ 102.74	1	AQ Chemist	$ 12.84	60	$ 770.55
Data Analysis & Review	0.025	1	$ 123.00	1	Senior AQ Chemist	$ 3.08	60	$ 184.50
Data Analysis & Review	0.0125	1	$ 68.95	1	Principal AQ Chemist	$ 0.86	60	$ 51.71
							Labor Subtotal	$ 4,355.90
				Multi Metal Analysis Total				$ 6,040.52
Hexavalent Chromium Analysis								
Materials	**Cost Per Sample**	**Number of Samples**					**Number of Occurrences in a Year**	**Material Annual Fee**
Filter & Petri Dish	$ 9.60	1					60	$ 576.00
Reagents Consumables	$ 10.10	1					60	$ 606.00
Instrument & Service Plan	$ 10.68	1					60	$ 640.80
					Non-Labor Subtotal of Hexavalent Chromium			$ 1,822.80
Labor	**Hours Per Sample**	**Number of Samples**	**Rate**	**Number of Staff**	**Position**	**Subtotal**	**Number of Occurrences in a Year**	**Labor Annual Fee**
Prep light inspection	0.0125	1	$ 68.95	1	Senior Office Assistant	$ 0.86	60	$ 51.71
Filter impregnation, solution, and cassette	0.0625	1	$ 102.74	1	AQ Chemist	$ 6.42	60	$ 385.28
Labeling	0.1625	1	$ 68.95	1	Senior Office Assistant	$ 11.20	60	$ 672.26
Sample Extraction	0.3	1	$ 102.74	1	AQ Chemist	$ 30.82	60	$ 1,849.32
Sample Analysis	0.6	1	$ 102.74	1	AQ Chemist	$ 61.64	60	$ 3,698.64
QA/QC-Data Prep & Analyst Review	0.15	1	$ 102.74	1	AQ Chemist	$ 15.41	60	$ 924.66
QA/QC-Peer Review	0.1	1	$ 102.74	1	AQ Chemist	$ 10.27	60	$ 616.44
QA/QC-Senior Review & Report Prep	0.15	1	$ 108.93	1	AQ Chemist	$ 16.34	60	$ 980.37
QA/QC-Final Review	0.1	1	$ 123.00	1	Principal AQ Chemist	$ 12.30	60	$ 738.00
QA/QC-Final Review	0.01	1	$ 137.45	1	Lab Manager	$ 1.37	60	$ 82.47
QA/QC-Data Reporting	0.05	1	$ 68.95	1	Senior Office Assistant	$ 3.45	60	$ 206.85
							Labor Subtotal	$ 10,206.00
				Hexavalent Chromium Analysis Total				$ 12,028.80
							Annual Total	$ 78,007.57
							Monthly Total	$ 6,500.63
							Appendix 1 Total	$ 6,500.00

Table B-20 – Base - 1 Hexavalent Chromium Monitor & 1 Metal Monitor - 1 in 6 days Frequency - 1 Staff

Sampling Monitoring								**Annual Fee**
Sampler Cost Estimate and Non-Labor	**Cost**	**Anticipated lifetime of equipment**						**Sampler Annual Fee**
PQ 100 sampler	$8,290.00	8 years						$1,036.25
Annual maintenance & battery	$252.00							$252.00
Omni sampler	$5,720.00	8 years						$715.00
Annual maintenance & battery	$420.00							$420.00
Vehicle Usage	**Miles**			**Mileage Rate**			**Number of Occurrences in a Year**	**Vehicle Annual Fee**
Standard Mileage	60			$ 0.58			123	$4,280.40
					Non-Labor Subtotal for Monitoring and Sampling			*$6,703.65*
Sampling and Monitoring Labor	***Base Hours***	***Additional Hour***	***Rate***	***Number of Staff***	***Position***	***Subtotal***	***Number Of Occurrences in a Year***	***Operation Fee***
Hexavalent Chromium/Multi-metal sample setup and collection, preventive maintenance, cleaning, flow checks, chain of custody, pickup and drive time	2	0.5	$86.85	1	AQIS I	$217.13	60	$13,027.50
Hexavalent Chromium pick-up, sample collection, and drive time	2	0.5	$86.85	1	AQIS I	$217.13	60	$13,027.50
Semi annual calibration	2	2	$91.81	1	AQIS II	$367.24	2	$734.48
Annual Audit	2	2	$97.53	1	Senior AQIS	$390.12	1	$390.12
							Labor Subtotal	*$27,179.60*
				Sampling and Monitoring Total				$33,883.25
Multi-Metal Analysis								
Materials	**Cost Per Sample**	**Number of Samples**				**Subtotal**	**Number of Occurrences in a Year**	**Material Annual Fee**
ICPMS supplies, reagents, and other supplies	$ 10.17	1				$ 10.17	60	$ 610.23
Annual preventative maintenance contracts	$ 10.75	1				$ 10.75	60	$ 645.18
Instrument	$ 7.15	1				$ 7.15	60	$ 429.21
					Non-Labor Subtotal of Multi-Metals			$ 1,684.62
Labor	**Hours Per Sample**	**Number of Samples**	**Rate**	**Number of Staff**	**Position**	**Subtotal**	**Number of Occurrences in a Year**	**Labor Annual Fee**
Extraction and Preparation	0.25	1	$ 79.44	1	Laboratory Tech	$ 19.86	60	$ 1,191.60
Instrument Set Up & Analysis	0.35	1	$ 102.74	1	AQ Chemist	$ 35.96	60	$ 2,157.54
Data Analysis & Review	0.125	1	$ 102.74	1	AQ Chemist	$ 12.84	60	$ 770.55
Data Analysis & Review	0.025	1	$ 123.00	1	Senior AQ Chemist	$ 3.08	60	$ 184.50
Data Analysis & Review	0.0125	1	$ 68.95	1	Principal AQ Chemist	$ 0.86	60	$ 51.71
							Labor Subtotal	$ 4,355.90
				Multi Metal Analysis Total				$ 6,040.52
Hexavalent Chromium Analysis								
Materials	**Cost Per Sample**	**Number of Samples**					**Number of Occurrences in a Year**	**Material Annual Fee**
Filter & Petri Dish	$ 9.60	1					60	$ 576.00
Reagents Consumables	$ 10.10	1					60	$ 606.00
Instrument & Service Plan	$ 10.68	1					60	$ 640.80
					Non-Labor Subtotal of Hexavalent Chromium			$ 1,822.80
Labor	**Hours Per Sample**	**Number of Samples**	**Rate**	**Number of Staff**	**Position**	**Subtotal**	**Number of Occurrences in a Year**	**Labor Annual Fee**
Prep light inspection	0.0125	1	$ 68.95	1	Senior Office Assistant	$ 0.86	60	$ 51.71
Filter impregnation, solution, and cassette	0.0625	1	$ 102.74	1	AQ Chemist	$ 6.42	60	$ 385.28
Labeling	0.1625	1	$ 68.95	1	Senior Office Assistant	$ 11.20	60	$ 672.26
Sample Extraction	0.3	1	$ 102.74	1	AQ Chemist	$ 30.82	60	$ 1,849.32
Sample Analysis	0.6	1	$ 102.74	1	AQ Chemist	$ 61.64	60	$ 3,698.64
QA/QC-Data Prep & Analyst Review	0.15	1	$ 102.74	1	AQ Chemist	$ 15.41	60	$ 924.66
QA/QC-Peer Review	0.1	1	$ 102.74	1	AQ Chemist	$ 10.27	60	$ 616.44
QA/QC-Senior Review & Report Prep	0.15	1	$ 108.93	1	AQ Chemist	$ 16.34	60	$ 980.37
QA/QC-Final Review	0.1	1	$ 123.00	1	Principal AQ Chemist	$ 12.30	60	$ 738.00
QA/QC-Final Review	0.01	1	$ 137.45	1	Lab Manager	$ 1.37	60	$ 82.47
QA/QC-Data Reporting	0.05	1	$ 68.95	1	Senior Office Assistant	$ 3.45	60	$ 206.85
							Labor Subtotal	$ 10,206.00
				Hexavalent Chromium Analysis Total				$ 12,028.80
							Annual Total	$ 51,952.57
							Monthly Totals	$ 4,329.38
							Appendix 1 Totals	$ 4,500.00