SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Addendum to July 1998 Final Environmental Assessment for Rule 1401– New Source Review of Toxic Air Contaminants and the March 2000 Final Environmental Assessment for Rule 1402 – Control of Toxic Air Contaminants from Existing Sources for:

Proposed Amended Rules 1401– New Source Review of Toxic Air Contaminants and 1402 – Control of Toxic Air Contaminants from Existing Sources

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INTRODUCTION

The State of California's Office of Environmental Health Hazard Assessment (OEHHA) recently finalized cancer and chronic risk values for several chemicals. Rule 1401 requires updating the Rule 1401 Table I to incorporate risk values within 150 days from the time they are finalized by OEHHA. Therefore, the South Coast Air Quality Management District (SCAQMD) is proposing amendments that will update the list of compounds and effective dates in Table I of Rule 1401 based on a new cancer risk value for naphthalene, new or updated cancer and chronic (non-cancer) risk values for speciated polychlorinated biphenyls (PCBs), two polychlorinated dibenzo-p-dioxins (PCDDs), and one polychlorinated dibenzofuran (PCDF). Table I in Rule 1401 lists the regulated toxic air contaminants (TACs) that have risk values approved by OEHHA and these values are used to calculate the potential cancer and non-cancer risk from the chemical to a nearby receptor.

Proposed amendments will also clarify the emission calculation procedure for the addition of control equipment to existing equipment in Rule 1401 for consistency with the New Source Review calculation methodology under SCAQMD Regulation XIII – New Source Review, and update the definition of maximum individual cancer risk (MICR) in both Rules 1401 and 1402 for consistency with OEHHA's new risk guidelines. The current language includes a 46-year exposure time for workers, which is consistent with the SCAQMD's current risk assessment procedures. However, OEHHA's new risk assessment procedures assume a 40-year exposure. In order to be consistent with OEHHA's new risk procedures and the new SCAQMD risk assessment procedures to be implemented in spring 2005, the worker exposure time would be deleted from the definition and will refer to the risk assessment procedures when calculating the MICR at worker receptor locations.

This document, prepared pursuant to the California Environmental Quality Act (CEQA), Public Resources Code 21000 et seq., constitutes an Addendum to the June 1998 Final Environmental Assessment (EA) for Rule 1401 – New Source Review of Toxic Air Contaminants, (certified at the July 1998 Governing Board public hearing) and the March 2000 Final EA for Rule 1402 - Control of Toxic Air Contaminants from Existing Sources (certified at the March 2000 Governing Board public hearing). An addendum is the appropriate CEQA document for the proposed project because the proposed project constitutes a change to these previously approved projects and the changes do not trigger any conditions identified in CEQA Guidelines §15162. Pursuant to CEQA Guidelines §15164(c), an addendum need not be circulated for public review. This Addendum, along with the previously prepared Initial Studies, Draft EAs, Final EAs, Addenda, supporting documentation, and record of project approval are available upon request by calling the SCAQMD Public Information Center at (909) 396-2309.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

The proposed amendments to Rule 1401 and Rule 1402 are considered to be modifications to previously approved projects and are a "project" as defined by CEQA. CEQA requires that the potential adverse environmental impacts of proposed projects be evaluated and that feasible methods to reduce or avoid identified significant adverse environmental impacts of these projects be identified. To fulfill the purpose and intent of CEQA, the SCAQMD, as the CEQA Lead Agency for this project, prepared comprehensive Final EAs for the following previously approved projects: proposed amended Rule 1401 (SCAQMD No. 980130MK, June, 1998) and proposed amended Rule 1402 (SCAQMD No. 991223MK, March 2000).

This Addendum to the June 1998 and March 2000 Final EAs has been prepared in accordance with CEQA Guidelines §15164, which states that an addendum shall be prepared unless any of the following conditions requiring preparation of a subsequent EA pursuant to CEQA Guidelines §15162 are anticipated:

- Substantial changes which will require major revisions of the previous CEQA documents due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

- Substantial changes, with respect to the circumstances under which the project is undertaken, which will require major revisions of the previous CEQA documents due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

- New information of substantial importance which was not known and could not have been known with the exercise of reasonable diligence at the time the previous CEQA documents were certified as complete, such as:

    ◊ The project will have one or more significant effects not discussed in the previous CEQA documents;

    ◊ Significant effects previously examined will be substantially more severe than shown in the previous CEQA documents;

    ◊ Identification of mitigation measures or alternatives previously found not be feasible, but would in fact be feasible, and would substantially reduce one or more significant effects, but the project proponent declines to adopt the mitigation measures or alternatives; or

    ◊ Identification of mitigation measures or alternatives which are considerably different from those analyzed in the previous CEQA documents would

substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

An Addendum is the appropriate CEQA document for the current proposed project because incorporating a new CPs and chronic RELs for substances already listed in Table 1 of Rule 1401 is not expected to result in new or more severe significant effects requiring substantial revisions in the previous EAs or Addenda. In particular, no new significant project-specific or cumulative impacts in any environmental areas were identified, nor would any project-specific or cumulative impacts in any environmental areas be made substantially worse as a result of implementing the proposed project as explained in the "Analysis of Environmental Impacts" section of this Addendum. This Addendum is not required to be circulated for public review, but will be provided to the Governing Board before the March 4, 2005 Public Hearing. This Addendum and all other related CEQA documents are available to the public upon request.

PROJECT LOCATION

The SCAQMD has jurisdiction over an area of approximately 10,743 square miles (referred to hereafter as the district), consisting of the four-county South Coast Air Basin (Basin) (Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino counties) and the Riverside County portions of the Salton Sea Air Basin (SSAB) and the Mojave Desert Air Basin (MDAB). The Basin, which is a subarea of the district, is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Basin includes all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino counties. The Riverside County portions of the SSAB and MDAB are bounded by the San Jacinto Mountains in the west and span eastward up to the Palo Verde Valley. The federal nonattainment area (known as the Coachella Valley Planning Area) is a subregion of Riverside County and the SSAB that is bounded by the San Jacinto Mountains to the west and the eastern boundary of the Coachella Valley to the east (Figure 1).

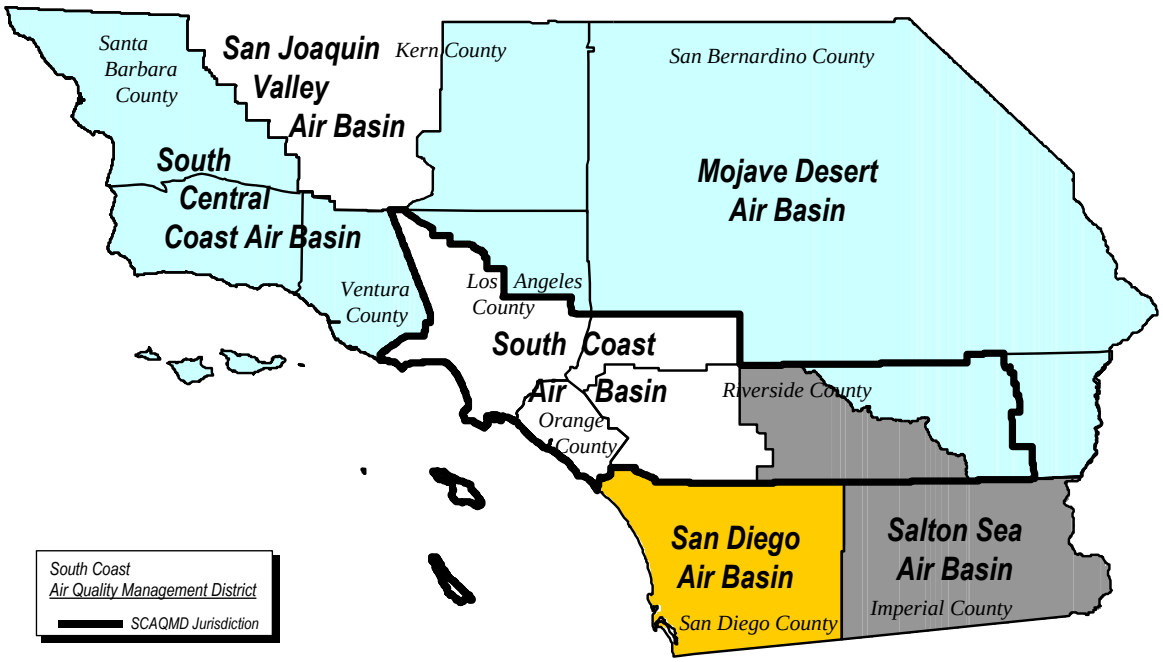

FIGURE 1

South Coast Air Quality Management District

METHODOLOGY BACKGROUND

Current Health Risk Assessment Methodology

A toxic substance released to the air is called a TAC or an "air toxic." Federal agencies use the term hazardous air pollutant (HAP) for the same compounds. TACs are identified by state and federal agencies based on a review of available scientific evidence. A substance is considered toxic if it has the potential to cause adverse health effects. Exposure to a toxic substance can increase the risk of contracting cancer or produce other adverse health effects. Compounds with cancer risk values (carcinogens) may cause an increase in the probability that an exposed individual would develop cancer. Compounds with non-cancer risk values (non-carcinogens) may cause other health effects including nausea or difficulty breathing and may contribute to immunological, neurological, reproductive, developmental, and respiratory problems.

A URF is a measure of the cancer potency of a carcinogen and is used to calculate the MICR from exposure to one or more TACs. A reference exposure level (REL) is a concentration level or dose below which no adverse noncancer health effects are anticipated. URFs and RELs are established by OEHHA and approved by the State of California's Scientific Review Panel (SRP).

The SCAQMD's Risk Assessment Procedures for Rules 1401 and 212 (version 7.0) is currently used by SCAQMD permitting staff and the regulated community to estimate toxic risk from new, relocated, and modified permitted sources. The Risk Assessment Procedures are based on California Air Pollution Control Officers Association (CAPCOA) guidelines, which were finalized in 1993. In 2003, OEHHA finalized guidelines which supercede the 1993 CAPCOA risk assessment guidelines. As a result, the SCAQMD staff is revising its Risk Assessment Procedures for Rules 1401 and 212 to be consistent with OEHHA's revised guidelines.

Changes to the Health Risk Assessment Methodology

There are two primary changes to the risk assessment procedures: (1) different unit of measure for cancer potency and (2) revisions to the multipathway effects. In the current risk assessment procedures, the unit of measure for cancer potency is based on the unit risk factor (URF) which is measured as one microgram per cubic meter of air volume. Under the revised Risk Assessment Procedures for Rules 1401 and 212 (version 7.0) the unit of measure for cancer risk is based on a CP value which is measured as one milligram per kilogram of body weight. Therefore, the cancer risk will no longer be evaluated using the URF but rather by the cancer potency (CP) factor. The CP factor is a measure of the cancer potency of a carcinogen. It is the estimated probability that a person will contract cancer as a result of inhalation of a concentration of one milligram per kilogram of body weight of the TAC continuously over a period of 70 years. The methodology to calculate non-cancer health effects hasn't changed although the value of the some of the factors, such as the multi-pathway (MP) adjustment factor, used to calculate a non-cancer health effect may have changed.

As outlined in the SCAQMD's risk assessment guidance document, entitled Risk Assessment Procedures for Rules 1401 and 212 (version 7.0), MICR is calculated by multiplying CP with dose-inhalation (DI) and the MP factor. DI is a calculated value accounting for the concentration in air, daily breathing rate and the exposure value factor. The MP factor is used for substances that may contribute to risk from exposure pathways other than inhalation. These substances deposit on the ground in particulate form and contribute to risk through ingestion of soil or backyard garden vegetables or through other routes. The MP factor estimates the total risk associated with a given inhalation risk.

Revisions to the multipathway effects include different exposure assumptions for workers and residents, indexing pollutant concentration body weight as opposed to volume of air, and different breathing rate for residents and workers. For worksites with operations less than 24 hours, the worker exposure is generally 30 percent more stringent under the revised Risk Assessment Procedures for Rules 1401 and 212 (version 7.0). In addition, there are eight families of TACs in the updated document where the residential/sensitive receptor is expected to be more stringent. The impacts on future permitting are expected to be minimal, however, as these TACs are either not commonly used within the district or there are permitting requirements that require installation of best available control technology (BACT) under the SCAQMD's Regulation XIII which is the same technology as BACT for toxics (T-BACT) for these compounds.

Rules/Procedures that Govern TACs

SCAQMD Rule 1401 - New Source Review for Toxic Air Contaminants, specifies limits for MICR, cancer burden, and non-cancer acute (short-term) and chronic (long-term) hazard indices (HI) from new permit units, relocations, or modification to existing permit units which emit TACs. Rule 1401 was originally adopted and amended by the SCAQMD Governing Board (Board) in 1990, and has been amended ten times since to add TACs and implement state approved risk values.

Rule 1402 - Control of Toxic Air Contaminants from Existing Sources, relies on the list of TACs regulated under Table 1 of Rule 1401. The objective of existing Rule 1402 is to minimize the public health risk from exposure to TAC emissions from existing sources. Existing facilities in the SCAQMD jurisdiction, whose facility-wide toxic emissions exceed the specified MICR or HIs for compounds with health effects other than cancer (non-carcinogens), are subject to the risk reduction requirements of Rule 1402. Rule 1402 has been amended once since its adoption in 1994.

OEHHA is the state agency responsible for establishing risk exposure levels for TACs. The SRP reviews and approves the methodologies used to develop these risk values, thereby finalizing them for use by state and local agencies in assessing risk exposures from the TACs. OEHHA approves the documents and posts the information on the internet. This approval is considered final action by the state. Rule 1401 subdivision (e) requires that within 150 days of finalizing risk values for compounds in Rule 1401 Table I by OEHHA, SCAQMD staff must propose amendments to Rule 1401 to reflect the changes.

Once new RELs and CPs are approved by OEHHA, Rule 1401 requires the SCAQMD to: (1) publish a Notice of Intent to change risk values, (2) analyze the impacts from regulating new TACs or existing TACs at their new risk values and (3)

report to the SCAQMD Governing Board with recommendations for changing the risk values in the procedures for assessing TAC risks.

Rule 1402 also requires staff to promptly notify the Governing Board and affected facilities after OEHHA finalizes the addition of a new TAC or changes to a risk value and report to the SCAQMD's Governing Board regarding preliminary estimates of Rule 1402 program impacts associated with the new values. Rule 1402 also requires the risk values to take effect 12 months after the report to the Board unless the Board approves a different implementation schedule. In addition to analyzing potential adverse impacts from the proposed amendments, this Addendum includes an assessment that provides a preliminary estimate of Rule 1402 program impacts.

Recent Activity

The SRP met and approved toxicity equivalency factors (TEFs) for use in calculating CP values and chronic RELs for speciated polychlorinated biphenyls (PCB), and revision of TEFs for two polychlorinated dibenzo-p-dioxins (PCDD) and one polychlorinated dibenzofuran (PCDF) on June 20, 2003. OEHHA finalized and adopted the factors on August 29, 2003. The SRP met and approved the new cancer potency value for naphthalene on May 19, 2004, and OEHHA finalized and adopted the factor on August 2, 2004. A chronic risk value for naphthalene was previously added to Rule 1401.

Table 1 identifies the chemicals affected by this amendment. Napthalene was previously regulated for chronic effects and will now also be regulated for cancer risk. Naphthalene is most commonly used in moth repellent, fungicide, smokeless powder, cutting fluid, lubricants, synthetic resins, synthetic tanning, preservatives, textile chemicals, emulsion breakers, scintillation counters, antiseptics, and is emitted through vehicle exhaust, wood burning and tobacco smoke. Most sources of naphthalene emissions identified in the analysis for this project were due to fuel combustion.

The two PCDDs and one PCDF were previously regulated for both cancer risk and chronic effects but the potency values have been updated. These chemical are most widely emitted from chemical and combustion processes where high temperatures are maintained and a source of chlorine and hydrocarbons is present, as in polyvinyl chloride (PVC) production.

PCBs were previously regulated for cancer risk but OEHHA has speciated the category and has assigned specific CPs and chronic RELs for each individual type of PCB. The manufacture of PCBs was discontinued in the United States in 1976 because of their persistence, toxicity, and ecological damage via water pollution; however, PCBs can be a combustion by-product.

Table 1 also lists the affected TACs current status in Rule 1401 and the action to be taken as a result of these proposed amendments. After Rule 1401 is amended to incorporate the effective date to regulate the affected compounds for cancer and/or chronic risk using CPs and RELs recently finalized by OEHHA, the risk assessment guidance document, entitled Risk Assessment Procedures for Rules 1401 and 212 (version 7.0) will be modified accordingly to list those specific CPs and RELs and the screening levels for the affected compounds will be updated. The compliance date for Rule 1401 to regulate naphthalene for cancer risk and to regulate speciated PCBs for both cancer risk and chronic risk for new sources will be effective as of the date of Board approval or the date of implementation of the revised risk assessment procedures whichever is later. The compliance date to regulate the PCDDs and the PCDF with updated potency values and screening levels is the original date of listing, August 18, 2000, however new values will be used to calculate risk as of the date of adoption of proposed amendments to Rule 1401 or date of implementation of new risk assessment guidelines, whichever is later for Rule 1401. The effective date for using the new values for Rule 1402 is one year from date of adoption of proposed amendments to Rule 1401.

TABLE 1

Toxic Air Contaminants Affected by PAR 1401

Toxic Air Contaminant	CAS #	Listed in Rule 1401 Table I	Currently Regulated Effect	Listed in Rule 1401 Table II	Proposed Action
Naphthalene	91-20-3	Yes	Chronic	No	Regulate for Cancer Risk
POLYCHLORINATED DIBENZO-P-DIOXINS (PCDDs)					
1,2,3,7,8, Pentachlorodibenzo-p-dioxin	40321-76-4	Yes	Cancer/ Chronic	No	Update CP and Chronic REL
1,2,3,4,6,7,8,9 Octachlorodibenzo-p-dioxin	3268-87-9	Yes	Cancer/ Chronic	No	Update CP and Chronic REL
POLYCHLORINATED DIBENZOFURAN (PCDF)					
1,2,3,4,6,7,8,9 Octachlorodibenzofuran	39001-02-0	Yes	Cancer/ Chronic	No	Update CP and Chronic REL
POLYCHLORINATED BIPHENYLS (PCBs)					
3,3',4,4'-Tetrachlorobiphenyl	32598-13-3	Yes	Cancer	No	Update CP and Regulate for Chronic Effect
3,4,4',5-Tetrachlorobiphenyl	70362-50-4	Yes	Cancer	No	Update CP and Regulate for Chronic Effect
2,3,3',4,4'-Pentachlorobiphenyl	32598-14-4	Yes	Cancer	No	Update CP and Regulate for Chronic Effect

TABLE 1(CONCLUDED)

Toxic Air Contaminants Affected by PAR 1401

Toxic Air Contaminant	CAS #	Listed in Rule 1401 Table I	Currently Regulated for Effect	Listed in Rule 1401 Table II	Proposed Action
2,3,4,4',5-Pentachlorobiphenyl	74472-37-0	Yes	Cancer	No	Update CP and Regulate for Chronic Effect
2,3',4,4',5-Pentachlorobiphenyl	31508-00-6	Yes	Cancer	No	Update CP and Regulate for Chronic Effect
2',3,4,4',5-Pentachlorobiphenyl	65510-44-3	Yes	Cancer	No	Update CP and Regulate for Chronic Effect
3,3',4,4',5-Pentachlorobiphenyl	57465-28-8	Yes	Cancer	No	Update CP and Regulate for Chronic Effect
2,3,3',4,4',5-Hexachlorobiphenyl	38380-08-4	Yes	Cancer	No	Update CP and Regulate for Chronic Effect
2,3,3',4,4',5'-Hexachlorobiphenyl	69782-90-7	Yes	Cancer	No	Update CP and Regulate for Chronic Effect
2,3',4,4',5.5'-Hexachlorobiphenyl	52663-72-6	Yes	Cancer	No	Update CP and Regulate for Chronic Effect
3,3',4,4',5,5'-Hexachlorobiphenyl	32774-16-6	Yes	Cancer	No	Update CP and Regulate for Chronic Effect
2,3,3'4,4',5,5'-Heptachlorobiphenyl	39635-31-9	Yes	Cancer	No	Update CP and Regulate for Chronic Effect

RULE 1401 BACKGROUND

Rule 1401 specifies limits for MICR, cancer burden, and noncancer acute and chronic HIs from new, relocated, or modified permit units that emit or have the potential to emit TACs. Under Rule 1401, affected permit units cannot exceed a MICR of one-in-one million (1×10^{-6}) if T-BACT is not used, or ten-in-one million (10×10^{-6}) if T-BACT is used. The increase in excess cancer cases in the population with a MICR greater than one in one million (1×10^{-6}) from the permit unit cannot exceed 0.5. In addition, the limit for noncancer acute and chronic compounds is a HI of 1.0. These risks limits apply to all permit units requiring new permits pursuant to Rule 201 - Permit to Construct, and Rule 203 – Permit to Operate.

Table I in Rule 1401 lists the over 200 regulated TACs that have OEHHA-approved risk values (cancer risk factors, acute RELs, and chronic RELs) and Table II lists the chemicals that have proposed risk values and may be regulated in the future, pending final action by OEHHA.

Rule 1401 was originally adopted in 1990, and has been amended a number of times since its original adoption. In December 1990, six months after the original adoption date, Rule 1401 was amended to add an additional 48 cancer causing compounds. The dates of amendment and brief summaries of each subsequent amendment to Rule 1401 are provided in the following paragraphs. Also provided below are dates and

summaries of subsequent rule amendments relative to OEHHA finalizing RELs and URFs used to calculate cancer risk.

The July 1998 amendments to Rule 1401 established limits relative to exposure to TACs with health effects other than cancer, such as respiratory, reproductive, or cardiovascular health effects. The amendments added approximately 114 TACs, with cancer and noncancer health effects to the list of regulated compounds with URFs and RELs.

The July 1998 amendments also identified 81 TACs that did not yet have OEHHA-approved URFs or RELs for cancer or noncancer effects. TACs with draft URFs not yet approved by OEHHA or RELs are listed in Rule 1401 Table II – TACs with Proposed Risk Values. Without OEHHA-approved risk values, the cancer or noncancer health effect from compounds listed in Table II are not regulated by the SCAQMD. Therefore, these compounds are not included as a TAC analyzed in a health risk assessment prepared to determine compliance with Rule 1401. Rule 1401 Table I lists the TACs that have been adopted by the SCAQMD, which have finalized OEHHA-approved unit risk factors and/or RELs and, therefore, can be regulated under Rule 1401 risk requirements. Rule 1401 subdivision (e) requires that within 150 days of risk values for compounds not in Table I being finalized by OEHHA, and/or compounds in Table I being updated by OEHHA, staff will propose amendments to the rule to reflect the changes. The SCAQMD Governing Board must approve changes to Rule 1401 and is notified of the additions or changes to the risk assessment document, entitled Risk Assessment Procedures for Rules 1401 and 212 (version 7.0).

On June 3, 1998, the OEHHA approved revised unit risk factors for 58 carcinogenic TACs, which are currently on the list of regulated compounds contained in the risk assessment guidance document. On October 9, 1998, the SCAQMD Governing Board approved amending the rule and was notified of the revised unit risk factors for the affected chemicals. There were no other changes to Rule 1401 at that time.

On June 3, 1998, OEHHA also approved new unit risk factors for 41 carcinogens without risk values. These compounds were listed in Rule 1401 Table II. The SCAQMD Governing Board amended Rule 1401 to add these compounds to the Rule 1401 Table I on January 8, 1999. The URFs were also added to the risk assessment guidance document.

At the March 12, 1999 public hearing, the SCAQMD Governing Board approved the addition of nickel and nickel compounds to Rule 1401 Table I. The Governing Board also delayed the effective date for some compounds in Rule 1401 Table I whose RELs were recommended by OEHHA but, at the time, not yet approved by the SRP. Because SCAQMD committed that the rule would be based on final risk

values, the effective date would be delayed until the risk values received their official final approval by the SRP.

On February 10, 1999, OEHHA approved the methodology to determine acute RELs and at the same time approved 63 acute RELs. The final technical support document, including the methodology for determining RELs, was published on April 5, 1999. The methodology for determining RELs is typically the same for each compound, although it may be updated to reflect the latest procedure, and is approved each time a set potency factors is approved by the SRP. Two of the 63 TACs approved by OEHHA were assigned final RELs that did not change from the draft REL, and five of the 63 TACs are currently regulated by the SCAQMD as a criteria pollutant. Because the criteria pollutants are sufficiently regulated under existing SCAQMD rules and regulations, these five TACs were not added to Rule 1401. In August 1999, the SCAQMD amended Rule 1401 and incorporated acute RELs for the remaining 56 TACs into the risk assessment guidance document.

In March 2000, Rule 1401 was amended to delete the provision for a limited cumulative risk assessment because this requirement overlapped with the Rule 1402 overall facility risk threshold, which is more comprehensive and addresses facility-wide cumulative risks.

OEHHA approved the methodology to determine chronic RELs on April 13, 2000, and published the final technical support document on April 25, 2000. In August 2000, the SCAQMD Governing Board amended Table 1 in Rule 1401 to add these compounds and 39 chronic RELs (76 individual chemicals) were incorporated into the risk assessment guidance document. Some of the 39 substances (e.g. dibenzo-p-dioxins, dibenzofurans) are considered to be a class of compounds comprised of a number of chemicals that possess the same REL (tetrachlorodibenzo-p-dioxin, tetrachlorodibenzofuran) and, thus, there are more chemicals than approved chronic RELs.

On December 6, 2000, OEHHA approved the methodology to determine 23 chronic RELs (26 individual chemicals) and published the final technical support document on January 22, 2001. In June 2001, the chronic RELs were incorporated into the risk assessment guidance document and the SCAQMD Governing Board amended Rule 1401.

On May 3, 2002, 13 chronic RELs (13 individual chemicals) were incorporated into the risk assessment guidance document and the SCAQMD Governing Board amended Rule 1401. OEHHA had previously approved the methodology to determine chronic RELs on November 28, 2001, and published the final technical support document on December 28, 2001.

On February 7, 2003, two chronic RELs were incorporated into the risk assessment guidance document and the SCAQMD Governing Board amended Rule 1401. OEHHA had previously approved the methodology to determine chronic RELs on July 26, 2002, and published the final technical support document on September 3, 2002.

On May 2, 2003, the cancer risk URF for one compound, methyl tert-butyl ether (MTBE), was incorporated into the risk assessment guidance document and the SCAQMD Governing Board amended Rule 1401. In December 2002, the state OEHHA finalized the cancer risk value for the one compound.

RULE 1402 BACKGROUND

Rule 1402, adopted in April 1994, is directed toward reducing risk from public health risks from cancer and non-cancer causing emissions of TACs from existing stationary sources. Cancer risks from carcinogens are expressed as an added lifetime risk of contracting cancer as a result of a given exposure. This added risk to a maximally exposed individual is referred to as a MICR. The risk to an exposed population, referred to as "cancer burden," is expressed as an estimate of the number of excess cancer cases which may occur in the population as a result of exposure. The health risk from exposure to non-carcinogenic TACs is evaluated by comparing the exposure to the TAC to a reference level. Exposure below this reference level is not expected to result in adverse health effects. The comparison is expressed as an acute or chronic HI which is a ratio of the estimated exposure to the reference level.

In March 2000, Rule 1402 was amended to add an action level for risk reduction and accelerate the time to make reductions unless specific technical or economic criteria are met. The amendments identified industries that will not be subject to the risk reduction requirements but will be instead regulated under source specific requirements. The proposal also includes additional inventory and public notification requirements, other changes to improve rule effectiveness, and improve public health.

PROJECT DESCRIPTION

On June 20, 2003, the SRP met and approved TEFs used in calculating cancer potency values and chronic RELs for speciated polychlorinated biphenyls (PCB), as well as revised TEFs for two polychlorinated dibenzo-p-dioxins (PCDD) and one polychlorinated dibenzofuran (PCDF). OEHHA finalized and adopted the factors on August 29, 2003. The SRP met and approved the new cancer potency value for naphthalene on May 19, 2004 and OEHHA finalized and adopted the factor on August 2, 2004.

Rule 1401

The proposed amendments would incorporate the effective date into Rule 1401 to regulate the affected TACs for their cancer and non-cancer effects along with other minor changes. A copy of proposed amended Rule 1401 is included in Appendix A and is summarized in the following bulleted items:

- Modify the definition of MICR to remove the 46 years for worker exposure and refer to the calculation procedure in the Risk Assessment Procedures to maintain consistency between the rule and the guidance document [subsection (c)(8)].

- For modifications (solely to reduce issuance of air contaminants) of sources installed prior to October 8, 1976 require emission calculations to be based on permit conditions, or when no such conditions are imposed from maximum rated capacity, maximum daily hours of operation and physical characteristics of the material processed [subsection (f)(3)(c)].

- Maintain effective dates, June 1, 1990 and August 18, 2000, to regulate two PCDDs and one PCDF for both cancer risk and chronic health effect, respectively. New CPs and chronic RELs have been assigned to the PCDDs and PCDF and will be included in the risk assessment guideline document [Table 1, Rule 1401]. The new risk values will become effective on the date of adoption or the date of implementation of the revised risk assessment procedures, whichever is later. In the interim, the current risk values will be used.

- Add an effective date (date of adoption) to regulate speciated PCBs for both cancer risk and chronic health effect. PCBs are currently listed in Rule 1401 Table I - Toxic Air Contaminants, and regulated for cancer risk. PCBs have been speciated and CPs and chronic RELs have been assigned to the individual PCBs. The new CPs and chronic RELs will be included in the risk assessment guideline document and will become effective on the date of adoption of the proposed amendments or the date of implementation of the revised risk assessment procedures, whichever is later [Table 1, Rule 1401].

- Add an effective date (date of adoption) to regulate naphthalene for cancer risk. Naphalene is currently listed in Rule 1401 Table I - Toxic Air Contaminants and regulated for chronic health effects. The new CP will be included in the risk assessment guideline document and will become effective on the date of adoption of the proposed amendments or the date of implementation of the revised risk assessment procedures, whichever is later [Table 1, Rule 1401].

Table 2 outlines the affected TACs, list the current chronic REL, new CP, current screening level and new screening level based on the new potency factor.

TABLE 2

TACs with New CPs and Chronic RELs

Toxic Air Contaminant	CAS #	New Chronic REL (ug/m^3)	New CP $(mg/kg\text{-}day)^{-1}$	Current Screening Level (lb/yr) at 25 meters	Screening Level (lb/yr) Based on New CP at 25 meters	T-BACT Determined by
Naphthalene	91-20-3	9.0 (existing)	3.4×10^{-5}	298 (chronic)	0.951	New Cancer Risk
P O L Y C H L O R I N A T E D D I B E N Z O - P - D I O X I N S (PCDDs)						
1,2,3,7,8, Pentachlorodibenzo-p-dioxin	40321-76-4	4×10^{-5}	$1.3 \times 10^{+5}$	2.56×10^{-7}	8.98×10^{-8}	Updated Cancer Risk
1,2,3,4,6,7,8,9 Octachlorodibenzo-p-dioxin	3268-87-9	4×10^{-1}	$1.3 \times 10^{+1}$	9.00×10^{-4}	8.98×10^{-4}	Updated Cancer Risk
P O L Y C H L O R I N A T E D D I B E N Z O F U R A N (PCDF)						
1,2,3,4,6,7,8,9 Octachlorodibenzofuran	39001-02-0	4×10^{-1}	$1.3 \times 10^{+1}$	9.00×10^{-4}	8.98×10^{-4}	Updated Cancer Risk
P O L Y C H L O R I N A T E D B I P H E N Y L S (PCBs)						
3,3',4,4'-Tetrachlorobiphenyl	32598-13-3	4×10^{-1}	$1.3 \times 10^{+1}$	2.00×10^{-3}	1.87×10^{-4}	Updated Cancer Risk
3,4,4',5-Tetrachlorobiphenyl	70362-50-4	4×10^{-1}	$1.3 \times 10^{+1}$	2.00×10^{-3}	1.87×10^{-4}	Updated Cancer Risk
2,3,3',4,4'-Pentachlorobiphenyl	32598-14-4	4 x 10-1	1.3 x 10+1	2.00 x 10-3	1.87 x 10-4	Updated Cancer Risk
2,3,4,4',5-Pentachlorobiphenyl	74472-37-0	8 x 10-2	6.5 x 10+1	2.00 x 10-3	3.74 x 10-5	Updated Cancer Risk
2,3',4,4',5-Pentachlorobiphenyl	31508-00-6	4 x 10-1	1.3 x 10+1	2.00 x 10-3	1.87 x 10-4	Updated Cancer Risk
2',3,4,4',5-Pentachlorobiphenyl	65510-44-3	4 x 10-1	1.3 x 10+1	2.00 x 10-3	1.87 x 10-4	Updated Cancer Risk
3,3',4,4',5-Pentachlorobiphenyl	57465-28-8	4 x 10-4	1.3 x 10+4	2.00 x 10-3	1.87 x 10-7	Updated Cancer Risk
2,3,3',4,4',5-Hexachlorobiphenyl	38380-08-4	8 x 10-2	6.5 x 10+1	2.00 x 10-3	3.74 x 10-5	Updated Cancer Risk
2,3,3',4,4',5'-Hexachlorobiphenyl	69782-90-7	8 x 10-2	6.5 x 10+1	2.00 x 10-3	3.74 x 10-5	Updated Cancer Risk
2,3',4,4',5.5'-Hexachlorobiphenyl	52663-72-6	4 x 10+0	1.3 x 10+0	2.00 x 10-3	1.87 x 10-3	Updated Cancer Risk
3,3',4,4',5,5'-Hexachlorobiphenyl	32774-16-6	4×10^{-3}	$1.3 \times 10^{+3}$	2.00×10^{-3}	1.87×10^{-6}	Updated Cancer Risk
2,3,3'4,4',5,5'-Heptachlorobiphenyl	39635-31-9	4×10^{-1}	$1.3 \times 10^{+1}$	2.00×10^{-3}	1.87×10^{-4}	Updated Cancer Risk

Rule 1402

Rule 1402 requires the risk values mentioned above in the proposed amendments to Rule 1401 to take effect 12 months after a report to the Board unless the Board approves a different implementation schedule. Staff is recommending an implementation date, for Rule 1402 purposes, one year from the date of adoption of the proposed amendments. In addition, a change to the definition of MICR is being proposed in Rule 1402.

- Modify the definition of MICR to remove the 46 years for worker exposure and refer to the calculation procedure in the Risk Assessment Procedures to maintain consistency between the rule and the guidance document [subsection (c)(9)].

ANALYSIS OF ENVIRONMENTAL IMPACTS

Methodology and Assumptions to Identify Future Affected Facilities

Naphthalene, PCBs, PCDDs, and PCDFs are currently listed as TACs in Table I of Rule 1401, however, new and revised risk factors are more stringent than previously listed. Impacts from adding CPs to TACs to the Risk Assessment Procedures for Rules 1401 and 212 are typically secondary or cross-media impacts generated by air pollution control equipment to comply with the new, more stringent requirements. The SCAQMD's standard methodology for identifying new, modified, or relocated facilities that could be affected by new or modified CPs is described in the following paragraphs.

Rule 1401 Facilities

In order to determine the number and type of permits for new, relocated or modified equipment affected by the proposed project, the SCAQMD evaluated those existing facilities currently in the SCAQMD permit database that emit the TAC with the new OEHHA-approved CPs proposed to be included in Risk Assessment Procedures for Rules 1401 and 212. Emissions from these facilities were then evaluated to determine if they could exceed the MICR limit of one-in-one million (1.0×10^{-6}) in Rule 1401 and, therefore, would require T-BACT installation in the event that the equipment is modified or relocated. Staff used Tier I screening assessment procedures from the risk assessment guidance document to calculate the MICR. The screening assessment analysis is based on the annual emissions of a particular TAC compound, a MICR limit of one-in-one million (1.0×10^{-6}), and other conservative assumptions, such as a receptor distance of 25 meters.

An assessment was conducted to determine if emission controls would be installed solely because adding the new CPs or due to other existing requirements that would have caused the emissions to be controlled already (such as Regulation XIII – New Source Review). Additional key factors affecting results of the screening analysis include type and amount of TAC emitted, release rate, meteorological conditions, and receptor distances. The steps identified in the following paragraphs were taken to determine the number of potentially affected permit units that could potentially require controls solely due to the newly approved CP.

The first step of the screening analysis was to identify potentially affected permits. The SCAQMD permit database was reviewed for permits issued over the past five years and found that approximately 60 permits were issued for sources with naphthalene emissions primarily as a result of fuel combustion, one PCB source was permitted, and no permits were issued for equipment with PCDD or PCDF emissions. No impacts are expected based on the results of the analysis for PCDD and PCDFs since the past five years of permit data indicated that there has historically been very few to no sources emitting these TACs and these TACs are not analyzed any further. The annual emissions from the one permitted PCB source exceeded both the current and new screening levels. However, since the manufacture of PCBs was discontinued in the United States in 1976, it is unlikely that any permitting impacts will be seen from these compounds in the future. Therefore, no impacts are expected from usage of PCBs and are not analyzed any further.

The second step involved calculating screening level risk using the new CP and comparing it to screening risk value derived using the existing chronic REL or cancer risk to determine the need for further control. Of the 60 naphthalene permits, two-thirds were equipped with BACT which, in this case, is the same as T-BACT allowing these sources to be permitted at a risk level up to 10-in-one million. The emission factor for naphthalene is very low and, as a result, naphthalene emissions contribute to less than two percent of the total risk for diesel combustion and natural gas engines. As a result, additional conditions would not have been needed to keep the risk below 10-in-one million. Therefore, there would likely be no permit impacts for those 40 naphthalene sources. The final step involved evaluation of the remaining affected TACs when subjected to current toxics analysis. Several of the remaining naphthalene sources were only slightly above the Tier 1 screening level and would likely pass the Tier 2 or Tier 3 detailed, site-specific analysis. Of the remaining permits, seven were diesel-fueled power washers (small portable water heaters, external combustion) with permit conditions on fuel usage and/or hours of operation to keep them below an emission level that would trigger BACT for criteria pollutants. Two of the permits were relatively large natural-gas fired engines. The engines were approximately 2,000 brake horsepower units equipped with SCR. A Tier 4 modeling analysis resulted in an MICR of 7.4-in-one million. These engines would not have exceeded the allowed 10-in-one million MICR with controls if the

new CP for naphthalene was added to the cancer risk analysis because the naphthalene contribution to risk for natural gas engines is less than two percent of the total risk. Therefore, no further naphthalene permits would be impacted by this proposed rule change.

Rule 1402 Facilities

The Air Toxics Hot Spots Information and Assessment Act of 1987 (AB2588) established a state-wide program to inventory and assess the risks from facilities that emit TACs and to notify the public about significant health risks associated with the emissions. The AB2588 database is the most complete and up-to-date source of information regarding air toxic emissions for the various industrial categories and includes air toxic emissions data, facility information, basic equipment and process information. The AB2588 database was used to obtain information on historical TAC emissions data to estimate the effects of the proposed amendments on existing facilities subject to proposed amended Rule 1402.

In general, the analysis focuses on only those facilities with air toxic emissions from chemicals whose finalized cancer risk values were either newly added by OEHHA or risk values that were more stringent than the previous values, and where controls would not be required already for limiting other health effects. The analysis excluded all of the industry-wide category facilities identified in Rule 1402 since they are not subject to the rule requirements at this time.

The first step in the analysis determined the screening value for each chemical that is representative of a facility-level cancer screening based on 25-in-one million. The screening value was developed utilizing the new risk assessment procedures, but is intended to be representative on a facility-wide basis. This value is then compared to the previous screening level to determine if the cancer health effect is the risk driver. If so, the new screening value will be used in the facility impact analysis. Facilities which were already impacted by the old screening value will not be analyzed as they were analyzed at the time the old screening value was added. Only those above the new screening value and below the old screening value are new impacts.

Under the AB2588 program, the SCAQMD uses emissions data, the carcinogenic and non-carcinogenic potency of the substances emitted by a facility, and potential receptors to calculate prioritization scores. This procedure was established by a CAPCOA committee, modified by the SCAQMD and approved by the SCAQMD Governing Board in September 1990. The priority scores are then used to place facilities into high, intermediate, or low priority categories for the purpose of health risk assessment. A priority score of ten or more is considered high, and the facilities in this category are required to submit health risk assessments.

Using the AB2588 data, staff conducted an assessment to identify any potential impacts from the proposed amendments to Rule 1402. Based on a very conservative Tier 1 screening analysis, there are 28 existing facilities in the AB2588 database that might exceed the new facility action risk level of 25-in-one million cancer risk for naphthalene. Some exceed it only by a small amount while others emit more than 50 times the new screening level. It is important to note that this analysis was done with a Tier 1 screening which differs from the way in which priority scores are calculated under AB2588, so the actual risk from naphthalene emissions at these facilities may be much less than 25-in-one million.

Of the 28 facilities identified, 17 have priority scores above 10 (approximately equivalent to 100-in-one million risk), so they have already been required to perform a Health Risk Assessment. Therefore, 11 of 28 facilities may be affected by the new risk factor once new priority scores have been calculated. Nine of the remaining facilities have priority scores between one and 10, and two are exempt because their scores are below one. The impact is expected to be minimal since the emission factor for naphthalene is so low and contributes less than two percent to the total risk for diesel combustion and natural gas engines. There was one facility in the AB2588 database which was identified as potentially affected by the new CP for PCBs. PCBs were not previously speciated as a combustion by-product, so this facility may or may not be affected depending upon which PCB it emits. It was later determined that this facility has already been requested to conduct a health risk assessment because and if risks are greater than 25-in-one-million, will be required to implement risk reduction measures to get below 25-in-one-million. This is not due to PAR 1402 and as a result, further analysis is not required. No facilities were found for PCDDs and PCDFs that exceed the action risk level, so there are no impacts from these compounds.

Impacts Identified For Each Rule 1401 Amendment

Table 3 provides an overview of the amendments to Rule 1401 since the July 1998 amendments. The overview also provides the results of the air quality impact analysis from each CEQA document prepared for the Rule 1401 amendment. As presented in Table 3, the CEQA documents prepared subsequent to the July 1998 EA determined if the project generated potential adverse impacts, an EA was prepared and released for the appropriate public comment and review period. However, if no impacts were identified (no affected facilities beyond what is already required regardless of Rule 1401), an Addendum was prepared.

TABLE 3

Changes to Rule 1401 since July 1998 Amendment

Date of Rule Amendment	CEQA Document Prepared	Project Description	Results of Air Quality Impact Analysis
July 10, 1998	EA	Established limits relative to exposure to TACs with non-cancer health effects. 114 TACs added with URFs and RELs.	Operational emissions from the control technology are significant for NOx and, depending on the mix of control devices used to comply with the proposed amendments, VOC and CO. The "worst-case" emissions (pounds per day) are as follows:
			NO_x / **VOC** / **CO** / **PM10** 894 - 3897 / 75 - 306 / 251 - 861 / 0.4
January 8, 1999	SEA	57 compounds moved from Table II to Table I; assigned new URFs and/or RELs.	Six facilities per year would be affected by the proposed amendments and would need to install T-BACT. No significant operational impacts result from choicing T-BACT with "worst-case" emissions (pounds per day).
			NO_x / **VOC** / **CO** / **PM10** 34.2 / 2.7 / 6.9 / --
March 12, 1999	Addendum	Delay effective date of the RELs for 134 chronic and 36 acute TACs.	No significant adverse environmental impact because the types of T-BACT and the potential impacts from installation and operation of the T-BACT have not changed.
August 13, 1999	EA	New acute RELs for 63 TACs.	16 facilities per year were identified as having the potential to use oxidation devices. Operational emissions were determined to be not significant.
			NO_x / **VOC** / **CO** / **PM10** 42.7 / 3.6 / 10 / 0.35
March 17, 2000	EA[1]	Delete the provision for a limited cumulative risk assessment.	No impact since it overlapped with existing Rule 1402 requirements.
August 18, 2000	Addendum	New chronic RELs for 76 TACs.	No facilities were anticipated to be required to install control equipment and thus no secondary adverse environmental impacts would be generated.
June 15, 2001	Addendum	New chronic RELs for 26 TACs.	No facilities were anticipated to be required to install control equipment beyond that previously analyzed.
May 3, 2002	Addendum	New/updated chronic RELs for 13 TACs.	No facilities were anticipated to be required to install control equipment and thus no secondary adverse environmental impacts would be generated.

[1] EA included amendments to Rule 1402

TABLE 3 (CONCLUDED)

Changes to Rule 1401 since July 1998 Amendment

Date of Rule Amendment	CEQA Document Prepared	Project Description	Results of Air Quality Impact Analysis
February 7, 2003	Addendum	New chronic RELs for two TACs.	No facilities were anticipated to be required to install control equipment and thus no secondary adverse environmental impacts would be generated.
May 2, 2003	Addendum	New URF for one TAC, MTBE.	MTBE to be phased out. No additional emission controls were anticipated to be required beyond those currently required, thus no significant adverse environmental impacts.
March 4, 2005	Addendum	New CPs for 16 TACs	No facilities were anticipated to be required to install control equipment beyond what is currently required and thus no secondary adverse environmental impacts would be generated.

CONCLUSION

No additional emission controls are anticipated to be required from the potentially affected future facilities beyond those controls currently required (e.g., BACT) due to the new CPs and chronic RELs. In addition, no existing facilities are anticipated to exceed the risk threshold and require additional control equipment solely based on the proposed project. Changing the definition of MICR to be consistent with OEHHA's risk assessment procedures is an administrative amendment and does not impose any new requirements. Modifying the emission calculation methodology in the Risk Assessment Procedures for Rules 1401 and 212 which may affect whether or not air pollution control equipment would need to be added to existing equipment is also considered administrative in nature and would not impose any new requirements. On this basis, staff has concluded that there would be no significant adverse environmental impacts associated with amending Rule 1401 and 1402.

APPENDIX A

PROPOSED AMENDED RULES 1401 AND 1402

In order to save space and avoid repetition, please refer to the latest version of the proposed amended Rules 1401 and 1402 located elsewhere in the final rule package.