DEPARTMENT: Public Health  
BY: Jon Christenson, APCO  
PHONE: 966-3689  

RECOMMENDED ACTION AND JUSTIFICATION: (Policy Item: Yes x, No ______)  
Resolution to adopt Air Pollution Control Rules 902, 903, 904 as required by the Health and Safety Code. Adoption of these rules is required under state law. They limit emissions of toxic air contaminants. They will have a very minimal effect on Mariposa County: no current businesses will be affected. See staff report for additional details (attached). Rule 902 covers Hexavalent Chromium - Cooling Towers; Rule 903 covers Ethylene Oxide - Sterilizers and Aerators and Rule 904 covers Asbestos containing Serpentine Rock.

BACKGROUND AND HISTORY OF BOARD ACTIONS:

Each of these pollutants have been determined to be airborne toxic air contaminants.

LIST ALTERNATIVES AND CONSEQUENCES OF NEGATIVE ACTION:

Passage is required by state law. Failure to enact may lead to forced action by ARB at considerable cost to Mariposa County.

COSTS: (x) Not Applicable
A. Budgeted current FY $________
B. Total anticipated costs $________
C. Required Add'l funding $________
D. Source: ____________________________

SOURCE: ( ) 4/5ths Vote Required
A. Internal transfers $________
B. Unanticipated revenues $________
C. Reserve for contingency $________
D. Description: ____________________________
Balance in Reserve for Contingencies, if approved: $________

CLERK'S USE ONLY:
Res. No.:  APCD 92-1
Ord. No.: ____________________________
Vote - Ayes: 4  Yes: ________  No: ________
Absent: ________  Approved: ________  Denied: ________
( ) Minute Order Attached

The foregoing instrument is a correct copy of the original on file in this office.

Date: ____________________________

ATTEST: MARGIE WILLIAMS
Deputy Clerk of the Board of Supervisors
County of Mariposa, State of CA

ADMINISTRATIVE OFFICER'S RECOMMENDATION:
This item on agenda as:

 Recommended
 Not Recommended
 For Policy Determination
 Submitted with Comment
 Returned for Further Action

Comment: ____________________________

A.O. Initials: ____________________________

Action Form Revised 12/89
NONVEHICULAR AIRBORNE TOXIC CONTROL MEASURES

REGULATION IX

Hexavalent Chromium Airborne Toxic Control Measure – Chromate Cooling Towers (CCR Title 17 and Title 26 Sections 93103)

Rule 902 (a) Definitions. For the purposes of this section, the following definitions shall apply:

In this regulation, hexavalent chromium and chromate are substances identified as toxic air contaminants by the Air Resources Board. You, yours, I, and my mean the person who owns or operates, or who plans to build, own or operate, a cooling tower. The district is the local air pollution control district or air quality management district. A cooling tower is a device which evaporates circulating water to remove heat from a process, a building, or a refrigerator, and puts the heat into the ambient air. Must means a provision is mandatory, and may means a provision is permissive.

Who must comply with this regulation? Any person who owns or operates, or who plans to build, own, or operate, a cooling tower must comply with this regulation.

What must I do to comply with this regulation? To comply with this regulation, you must:

notify the district in writing about your cooling tower, and
not add any hexavalent chromium-containing compounds to the cooling tower circulating water, and
keep the hexavalent chromium concentration in the cooling tower circulating water less than 0.15 milligrams hexavalent chromium per liter of circulating water, and
test the circulating water to determine the concentration of hexavalent chromium every six months, and
keep the results of all required tests of circulating water for two years, and give them to the district when asked.

What information must I send the district? Within 90 days after the effective date of this regulation, you must write and tell the district the following:
that you own or operate a cooling tower, and
where the cooling tower is located, and
who is the owner or operator of the cooling tower, and
whether or not you use hexavalent chromium in the cooling tower, and
if you are using hexavalent chromium, when you plan to stop.

When must I comply with the hexavalent chromium limits? You must stop adding hexavalent chromium-containing compounds to the circulating water in your cooling tower and meet the 0.15 milligrams per liter hexavalent chromium concentration limit no later than 180 days after the effective date of the regulation. This is the compliance date for the regulation.

For how long do I have to test the circulating water? If, after the effective date of this regulation, 2 consecutive required tests showing concentrations of hexavalent chromium less than 0.15 milligrams of hexavalent chromium per liter of circulating water, then the testing requirement is ended. All other requirements remain the same. The district may, however, require you to resume testing the circulating water at any time if the district has information that the circulating water may contain hexavalent chromium.


I use hexavalent chromium in a wooden cooling tower. Even if I stop adding hexavalent chromium on the compliance date, hexavalent chromium from the wood may cause the concentration in the circulating water to exceed 0.15 milligrams per liter for a time after the compliance date. How may I avoid being cited immediately after the compliance date? You may avoid being cited for violations of the 0.15 milligrams per liter hexavalent chromium concentration limit for up to six months after the compliance date. In order to not be cited during the transition period, you must:
comply with all other requirements of this regulation, and
notify the district in writing that your cooling tower has wooden components that are exposed to the circulating water, and that you plan to take advantage of this section,
and
test the circulating water to determine the concentration of hexavalent chromium monthly, and
show a decrease in hexavalent chromium concentrations in the circulating water each month, and
keep the results of the tests of circulating water for two years and give them to the district when asked, and
the hexavalent chromium concentration in the circulating water must not exceed 8 milligrams hexavalent chromium per liter of circulating water.

I switched to non-chromate treatments before this regulation become effective, do I have to meet the same requirements? If you have not used hexavalent chromium in your cooling tower for at least one year immediately before the compliance date, or if your cooling tower has never used hexavalent chromium, and you can demonstrate this to the district, then the district may waive the testing requirement. The district may, however, require you to test the circulating water at any time, if the district has information that the circulating water may contain hexavalent chromium.
Ethylene Oxide Airborne Toxic Control Measure - Sterilizers and Aerators (CCR Title 17 and Title 26 Sections 93108)

Rule 903 (a) Definitions. For the purposes of this section, the following definitions shall apply:

(1) "Acute care facility" means any facility currently licensed by the California Department of Health Services as a general acute care hospital (as defined in Title 22, CCR, Section 70005), or any military hospital.

(2) "Aeration" is the process during which residual ethylene oxide dissipates, whether under forced air flow, natural or mechanically assisted convection, or other means, from previously sterilized materials after the sterilizer cycle is complete.

(3) "Aeration-only facility" means a facility which performs aeration on materials which have been sterilized with ethylene oxide at another facility.

(4) "Aerator" means any equipment or space in which materials previously sterilized with ethylene oxide are placed or remain for the purpose of aeration. An aerator is not any equipment or space in which materials that have previously undergone ethylene oxide sterilization and aeration can be handled, stored, and transported in the same manner as similar materials that have not been sterilized with ethylene oxide.

(5) "Aerator exhaust stream" means all ethylene oxide-contaminated air which is emitted from an aerator.

(6) "Back-draft valve exhaust stream" is the air stream which results from collection of ethylene oxide-contaminated air which may be removed from the sterilizer through a back-draft valve or rear chamber exhaust system during unloading of the sterilized materials.

(7) "Control device" means an article, machine, equipment, or contrivance which reduces the amount of ethylene oxide between its inlet and outlet and which is sized, installed, operated, and maintained according to good engineering practices, as determined by the district.

(8) "Control efficiency" is the ethylene oxide (EtO) mass or concentration reduction efficiency of a control device, as measured with ARB Test Method 431 (Title 17, CCR, Section 94143) according to the source testing requirements herein, and expressed as a percentage calculated across control device as follows:

\[
\text{\% Control Efficiency} = \frac{\text{EtO in} - \text{EtO out}}{\text{EtO in}} \times 100
\]
(9) "Date of compliance" means the time from district adoption of regulations enacting this control measure until a facility must be in compliance with specific requirements of this rule.

(10) "District" means the local air pollution control district or air quality management district.

(11) "Ethylene oxide (ETO)" is the substance identified as a toxic air contaminant by the Air Resources Board in 17 CCR, Section 93000.

(12) "Facility" means any entity or entities which own or operate a sterilizer or aerator, are owned or operated by the same person or persons, and are located on the same parcel or contiguous parcels.

(13) "Facility-wide pounds of ethylene oxide used per year" is the total pounds of ethylene oxide used in all of the sterilizers at the facility during a one-year period.

(14) "Leak-free" refers to that state which exists when the concentration of sterilant gas measured 1 cm. away from any portion of the exhaust system of a sterilizer or aerator, during conditions of maximum sterilant gas mass flow, is less than:

(A) 30 ppm for sterilant gas composed of 12% ethylene oxide/88% chlorofluorocarbon-12 by weight; and

(B) 10 ppm for other compositions of sterilant gas.

as determined by ARB Test Method 21 (Title 17, CCR, Section 94124) using a portable flame ionization detector or a non-dispersive infrared analyzer, calibrated with methane, or an acceptable alternative method or analytical instrument approved by the district. A chlorofluorocarbon-12 specific audible detector using a metal oxide semiconductor sensor shall be considered an acceptable alternative for exhaust systems carrying a sterilant gas mixture of ethylene oxide and chlorofluorocarbon-12.

(15) "Local medical emergency" means an unexpected occurrence in the area served by the acute care facility resulting in a sudden increase in the amount of medical treatments which require a significant increase in the operation of a sterilizer or aerator.

(16) "Sterilant gas" means ethylene oxide or any combination of ethylene oxide and (an)other gas(es) used in a sterilizer.

(17) "Sterilizer" means any equipment in which ethylene oxide is used as a biocide to destroy bacteria, viruses, fungi, and other unwanted organisms on materials. Equipment in which ethylene oxide is used to fumigate foodstuffs is considered a sterilizer.

(18) "Sterilizer cycle" means the process which begins when ethylene oxide is introduced into the sterilizer, includes the initial purge or evacuation after sterilization and subsequent air washes, and ends after evacuation of the final air wash.
(19) "Sterilizer door hood exhaust stream" is the air stream which results from collection of fugitive ethylene oxide emissions by means of an existing hood over the sterilizer door, during the time that the sterilizer door is open after the sterilizer cycle has been completed.

(20) "Sterilizer exhaust stream" is all ethylene oxide-contaminated air which is intentionally removed from the sterilizer during the sterilizer cycle.

(21) "Sterilizer exhaust vacuum pump" means a device used to evacuate the sterilant gas during the sterilizer cycle, including any associated heat exchanger. A sterilizer exhaust vacuum pump is not a device used solely to evacuate a sterilizer prior to the introduction of ethylene oxide.

(b) Applicability. Any person who owns or operates a sterilizer or an aerator must comply with this regulation.

(c) Notification. Any person subject to this regulation must provide the district with the following information, in writing, within 30 days of the date of district adoption:

(1) the name(s) of the owner and operator of the facility, and
(2) the location of the facility, and
(3) the number of sterilizers and aerators at the facility, and
(4) an estimate of the total pounds of ethylene oxide and sterilant gas used by the facility, in all sterilizers, during the previous calendar year, as determined by a method approved by the district.

A district may exempt a source from this requirement if the district maintains current equivalent information on the source.

(d) Reporting. Any person who owns or operates a sterilizer shall furnish a written report to the district annually on the date specified by the district, or, at the district's discretion, shall maintain such a report and make it available to the district upon request. This report shall include one of the following, as determined by the district:

(1) the number of sterilizer cycles and the pounds of ethylene oxide used per cycle for each sterilizer during the reporting period, as determined by a method approved by the district; or
(2) the total pounds of sterilant gas and the total pounds of ethylene oxide purchased, used, and returned in the previous calendar year, as determined by a method approved by the district.

(e) Requirements. No person shall operate a sterilizer or aerator after the applicable date shown in column (d), Table I, unless all of the following requirements are satisfied:
1) there is no discharge of sterilizer exhaust vacuum pump working fluid to wastewater streams. and

2) the exhaust systems including, but not limited to, any piping, ducting, fittings, valves, or flanges, through which ethylene oxide-contaminated air is conveyed from the sterilizer and aerator to the outlet of the control device are leak-free. and

3) all of the control requirements shown in Table I below for the applicable control category are met: and

4) for facilities using more than 600 pounds of ethylene oxide per year, the back-draft valve is ducted to the control device used to control the sterilizer exhaust stream or the aerator exhaust stream; and

5) for facilities using more than 5,000 pounds of ethylene oxide per year, the sterilizer door hood exhaust stream is ducted to the control device used to control the aerator exhaust stream.

Table I
Control and Compliance Requirements

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<th>CONTROL CATEGORY</th>
<th>REQUIREMENTS</th>
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<th>(b)</th>
<th>(c)</th>
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* Not Applicable
Exemptions.

1. The requirements set forth in subsection (e) above do not apply to any facility which treats materials in a sterilizer and which uses a total of 25 pounds or less of ethylene oxide per calendar year.

2. The district hearing board may grant an emergency variance from items (a) and (c) in Table I of subsection (e), Requirements, to a person who owns or operates an acute care facility if response to a local medical emergency requires increased operation of a sterilizer or aerator such that the requirements cannot be met.

The demonstrated need for such increased operation shall constitute "good cause" pursuant to Health and Safety Code Section 42359.5. The emergency variance shall be granted in accordance with this section and any applicable district rule regarding the issuance of emergency variances for such occurrences, including the requirement that the emergency variance shall not remain in effect longer than 30 days; however, the emergency variance shall be granted only for the period of time during which increased operation of a sterilizer or aerator is necessary to respond to the local medical emergency.

Compliance. The facility shall be in compliance with all provisions specified in subsection (e), Requirements, no later than the date specified in column (d) of Table I.

1. For the purpose of determining compliance with the control efficiency requirement shown in column (c) of Table I, subsection (e), if a reduction in the amount of ethylene oxide across the control device is demonstrated, but the control efficiency cannot be affirmatively demonstrated because the concentration of ethylene oxide measured in the outlet of the control device is below 0.2 parts per million ethylene oxide, the facility shall be considered to be in compliance with this requirement.

Alternate Compliance Date. The owner or operator of any facility which uses more than 600 pounds of ethylene oxide per year may choose this alternate compliance option which addresses the date for compliance with the requirements of subsection (e). If this compliance option is chosen, the owner or operator shall:

1. within 3 months of the date of district adoption of regulations enacting this control measure, comply with the requirements shown in subsections (e)(1) and (e)(2) and demonstrate a control efficiency of 99.9% for the sterilizer exhaust stream, in accordance with the source testing requirements set forth in subsection (f); and

2. within 6 months of the date of district adoption of regulations enacting this control measure, submit to the district a plan to discontinue operation of all sterilizers and aerators or comply with the district requirements to submit a plan to comply with the requirements of subsections (e)(3), (e)(4), and (e)(5), and
(3) within 18 months of the date of district adoption of regulations enacting this control measure, do one of the following:

(A) demonstrate to the satisfaction of the district that operation of all sterilizers and aerators at the facility has been permanently discontinued; or

(B) demonstrate compliance with the requirements of subsections (e)(3), (e)(4), and (e)(5), in accordance with the source testing provisions set forth in subsection (i), below.

(i) Source Testing. Source testing shall be conducted according to ARB Test Method 431 (Title 17, CCR, Section 94143) and the method evaluations cited therein or an acceptable source test method approved by the Executive Officer of the Air Resources Board. Specific requirements for application are given below:

(1) The test on a control device for a sterilizer exhaust stream shall be run with a typical load, as approved by the district, in the sterilizer.

(2) The test on a control device for an aerator exhaust stream shall be run with a typical load, as approved by the district, in the aerator.

(3) The inlet and outlet of the control device shall be sampled simultaneously during testing to measure the control efficiency.

(4) The efficiency of each control device shall be determined under conditions of maximum ethylene oxide mass flow to the device, under normal operating conditions. To measure the control efficiency of the control device on the sterilizer exhaust stream, sampling shall be done during the entire duration of the first sterilizer evacuation after ethylene oxide has been introduced. To measure the control efficiency of the control device on an aerator exhaust stream with a constant air flow, sampling shall be done during a period of at least 60 minutes, starting 15 minutes after aeration begins. To measure the control efficiency of the control device on an aerator exhaust stream with a non-constant air flow, sampling shall be done during the entire duration of the first aerator evacuation after aeration begins.

(5) There shall be no dilution of the air stream between the inlet and outlet test points during testing.
NONVEHICULAR AIRBORNE TOXIC CONTROL MEASURES

REGULATION IX

Asbestos Airborne Toxic Control Measure – Asbestos Containing Serpentine Rock.
(CCR Title 17 and Title 26 Section 93106)

Rule 904 (a) Definitions. For the purposes of this section, the following definitions shall apply:

(1) "Aggregate" means a mixture of mineral fragments, sand, gravel, rocks, or similar minerals.

(2) "Alluvial deposit" means any deposit of sediments laid down by running water including but not limited to streams and rivers.

(3) "ARB Test Method 435" means the test method specified in Title 17, California code of Regulations, Section 94147.

(4) "Asbestos" means asbestiforms of the following hydrated minerals: chrysotile (fibrous serpentine), crocidolite (fibrous riebecktite), amosite (fibrous cummingtonite--grunerite), fibrous tremolite, fibrous actinolite, and fibrous anthophyllite.

(5) "Asbestos-containing serpentine material" means serpentine material that has an asbestos content greater than five percent (5.0%) as determined by ARB Test Method 435.

(6) "Receipt" means any written acknowledgement that a specified amount of serpentine material was received, delivered, or purchased. Receipts include but are not limited to, bills of sale, bills of lading, and notices of transfer.

(7) "Road surface" means the traveled way of a road and any shoulder which extends up to 10 feet from the edge of the traveled way.

(8) "Sand and gravel operation" means any aggregate-producing facility operating in alluvial deposits.

(9) "Serpentine" means any form of hydrous magnesium silicate minerals--including, but not limited to, antigorite, lizardite, and chrysotile.

(10) "Serpentine material" is any material that contains at least ten percent (10%) serpentine as determined by a registered geologist. The registered geologist must document precisely how the serpentine content of the material in question was determined.
(11) "Surfacing" means the act of covering any surface used for purposes of pedestrian, vehicular, or nonvehicular travel including, but not limited to, roads, road shoulders, streets, alleys, lanes, driveways, parking lots, playgrounds, trails, squares, plazas, and fairgrounds.

(b) Requirements for use or sale of asbestos-containing serpentine material.

(1) No person shall use or apply serpentine material for surfacing in California unless the material has been tested using ARB Test Method 435 and determined to have an asbestos content of five percent (5.0%) or less. A written receipt or other record documenting the asbestos content shall be retained by any person who uses or applies serpentine material for a period of at least seven years from the date of use or application, and shall be provided to the Air Pollution Control Officer or his designee for review upon request.

(2) Any person who sells, supplies, or offers for sale serpentine material in California shall provide with each sale or supply a written receipt containing the following statement: "Serpentine material may have an asbestos content greater than five percent (5.0%). It is unlawful to use serpentine material for surfacing unless the material has been tested and found to contain less than or equal to five percent (5.0%) asbestos. All tests for asbestos content must use California Air Resources Board Test Method 435, and a written record documenting the test results must be retained for at least seven years if the material is used for surfacing."

(3) No person shall sell, supply, or offer for sale serpentine material for surfacing in California unless the serpentine material has been tested using ARB Test Method 435 and determined to have an asbestos content of five percent (5.0%) or less. Any person who sells, supplies, or offers for sale serpentine material that he or she represents, either orally or in writing, to be suitable for surfacing or to have an asbestos content that is five percent (5.0%) or less, shall provide to each purchaser or person receiving the serpentine material a written receipt which specifies the following information: the amount of serpentine material sold or supplied; the dates that the serpentine material was produced, sampled, tested, and supplied or sold; and the asbestos content of the serpentine material as measured by ARB Test Method 435. A copy of the receipt must, at all times, remain with the serpentine material during transit and surfacing.

(4) Any person who sells, supplies, or offers for sale serpentine material, shall retain for a period of at least seven years from the date of sale or supply, copies of all receipts and copies of any analytical test results from asbestos testing of the serpentine material. All receipts and test results shall be provided to the Air Pollution Control Officer or his designee for review upon request.
(5) If ARB Test Method 435 has been used to perform two or more tests on any one volume of serpentine material, whether by the same or a different person, the arithmetic average of these test results shall be used to determine the asbestos content of the serpentine material.

(c) Exemptions

(1) The provisions of subdivision (b)(2) through (b)(5) shall not apply to sand and gravel operations.

(2) The provisions of subdivision (b)(1) shall not apply to roads located at serpentine quarries, asbestos mines, or mines located in serpentine deposits.

(3) The provisions of subdivision (b)(1) shall not apply to maintenance operations on any existing road surfaces, or to the construction of new roads in serpentine deposits, as long as no additional asbestos-containing serpentine material is applied to the road surface.

(4) Emergency Road Repairs:

The air pollution control officer may issue a temporary exemption from the requirements of subdivision (b)(1) to an applicant who demonstrates that a road repair is necessary due to a landslide, flood, or other emergency and that the use of material other than serpentine is not feasible for this repair. The air pollution control officer shall specify the time during which such exemption shall be effective, provided that no exemption shall remain in effect longer than six (6) months.

(5) Bituminous and Concrete Materials:

The provisions of subdivision (b) shall not apply to serpentine material that is an integral part of bituminous concrete, portland cement concrete, bituminous surface, or other similar cemented materials.

(6) The provisions of subdivision (b)(1) shall not apply to landfill operations other than the surfacing of public-access roads dedicated to use by vehicular traffic.

(d) This section shall be effective upon adoption by the district of regulations enabling this control measure or July 20, 1999, whichever occurs later.