

RULE 67.10. KELP PROCESSING AND BIO-POLYMER MANUFACTURING OPERATIONS (Effective: 1/30/85; Rev. Effective 6/25/97)

(a) APPLICABILITY

(1) Except as otherwise provided in Section (b), this rule is applicable to any kelp processing or bio-polymer manufacturing line, or associated pilot plant facility, where volatile organic compounds (VOC's) are used as reactants, solvents or extractants or used to separate or purify the products of kelp processing or bio-polymer manufacturing line operations.

(2) Kelp processing and bio-polymer manufacturing operations subject to, or exempt from, this rule shall not be subject to Rule 66.

(b) EXEMPTIONS

The provisions of Sections (d), (e), and (g) of this rule shall not apply to:

(1) Any kelp processing or bio-polymer manufacturing line where emissions of VOC's, at the maximum design capacity of the line, are no greater than 15 pounds in any one day, provided total emissions of VOC's from all kelp processing or bio-polymer manufacturing equipment located at a stationary source are no greater than 100 pounds in a day. It shall be the responsibility of a person claiming this exemption to maintain daily records necessary for the District to determine the applicability of such an exemption; and

(2) Fuel oil; and

(3) Laboratory facilities used exclusively for research and development provided that monthly records are kept of the usage of VOC-containing materials; and

(4) Any temporary equipment installed in a pilot plant facility and resulting in an emissions increase not exceeding 10 pounds of VOC's per day. It shall be the responsibility of a person claiming this exemption to maintain daily records necessary for the District to determine the applicability of such an exemption.

All records pursuant to Subsections (b)(1), (b)(3), and (b)(4) shall be retained on site for at least five years and shall be submitted to the District upon request.

(c) DEFINITIONS

For the purpose of this rule the following definitions shall apply:

(1) **"Approved Air Pollution Control Device"** means a single piece of equipment or combination of pieces of equipment which is designed to reduce the emissions of air contaminants and which is approved, in writing, by the Air Pollution Control Officer.

(2) **"Bio-polymer Manufacturing Line"** means one or more pieces of equipment linked by a process flow in which a bio-polymer or any of its precursors is dried, extracted, filtered, mixed or reacted with any VOC where the end product cannot be produced if any piece of equipment is removed or not functioning.

(3) **"Dryer"** means a device used to remove water and/or VOC's from a material by applying heat, by flowing unsaturated air, or by subjecting the material to vacuum, or any combination thereof.

(4) **"Exempt Compound"** means the same as defined in Rule 2.

(5) **"Fugitive Liquid Leak"** means a visible leak of liquid, containing greater than 10 percent by weight VOC, at a rate in excess of three drops per minute, or a visible mist. For the purposes of this rule, a liquid leak dropping into a capture system which is connected to an air pollution control device shall not be considered a fugitive liquid leak.

(6) **"Incorporator"** means a device in which a solid and a VOC introduced into the device are mixed, where it is not intended that the VOC chemically modify the solid.

(7) **"In-Process Tank"** means a tank, which is part of a kelp processing or bio-polymer manufacturing line or pilot plant facility and which is used to handle or transfer VOC-containing material. In-process tanks include spent pots, but exclude stationary storage tanks.

(8) **"Kelp Processing Line"** means one or more pieces of equipment linked by a process flow in which kelp or any of its derivatives is dried, extracted, filtered, mixed, or reacted with any VOC where the end product cannot be produced if any piece of equipment is removed or not functioning.

(9) **"Laboratory Facility"** means a facility which uses bench-scale or small-scale equipment for the purpose of conducting studies or tests for the research, development or evaluation of a product, process, or service.

(10) **"Pilot Plant Facility"** means a facility which uses small-scale or intermediate-scale process equipment.

(11) **"Press"** means a mechanical device for separating liquids from solids.

(12) **"Reactor"** means a device in which a chemical reaction takes place between two or more materials introduced into the device, where a VOC chemically modifies one or more materials.

(13) **"Research and Development"** means bench-scale or small-scale kelp and/or bio-polymer processing operations, including operations performed for purposes of testing and quality control, which are not used for production purposes to produce a salable product or service, other than the first-article product or service.

(14) **"Spent Pot"** means the container where VOC-containing liquid is initially collected after being discharged from a press.

(15) **"Stationary Source"** means the same as defined in Rule 2.

(16) **"Stationary Storage Tank"** means any tank, reservoir, or other container used to store, but not transport, VOC. Stationary storage tanks do not include tanks used to separate solids from process streams or spent pots.

(17) **"Still"** means a device designed to separate, in whole or in part, the constituents of a mixture of miscible liquids by heating the liquid mixture and preferentially condensing and collecting the vapors.

(18) **"Temporary Equipment"**, for the purposes of the exemption in Subsection (b)(5), means equipment located at a pilot plant facility for a period not exceeding 90 days in any consecutive 12-month period.

(19) **"Volatile Organic Compound (VOC)"** means any volatile compound containing at least one atom of carbon excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonates, and exempt compounds which may be emitted to the atmosphere during operations subject to any provision of this rule.

(d) **STANDARDS**

(1) A person shall not operate any bio-polymer manufacturing line unless the total emissions of VOC's to the atmosphere from all dryers used in conjunction with all lines are reduced by at least 95 percent by weight by means of an approved air pollution control device. This requirement shall not apply to dryers whose exhaust contains VOC at an average concentration of 200 ppmv or less over a complete batch or cycle. Emissions of VOC occurring during the transfer of materials containing VOC into or out of a dryer shall be included when determining emissions from that dryer.

(2) A person shall not operate a kelp processing line unless the total emissions of VOC to the atmosphere from all dryers and reactors used in conjunction with all affected lines are reduced by means of an approved air pollution control device as follows:

(i) For all dryers in kelp processing lines or portions of lines where the primary VOC being emitted is not a process reactant or byproduct of a process reaction, by a total of at least 95 percent by weight.

(ii) For all reactors and dryers associated with those reactors in kelp processing lines or portions of lines where the primary VOC being emitted is a process reactant or byproduct of a process reaction, except propylene glycol, by a total of at least 80 percent by weight.

- (iii) For all dryers in kelp processing lines where propylene glycol is being emitted, by a total of at least 90 percent by weight.

Emissions of VOC occurring during the transfer of materials containing VOC into or out of a dryer or reactor shall be included when determining emissions from the dryer or reactor.

(3) A person shall not operate any pilot plant facility unless the total emissions of VOC's to the atmosphere from all dryers used in conjunction with all lines are reduced by at least 95 percent by weight by means of an approved air pollution control device. This requirement shall not apply to dryers whose exhaust contains VOC at an average concentration of 200 ppmv or less over a complete batch or cycle. Emissions of VOC occurring during the pneumatic transfer of materials containing VOC into or out of a dryer shall be included when determining emissions from that dryer. Emissions of VOC occurring during manual transfer of materials containing VOC into or out of a dryer shall not be included when determining emissions from that dryer, provided the containers used to transfer the materials are covered after filling and prior to discharge.

(4) A person shall not operate any kelp processing or bio-polymer manufacturing line or pilot plant facility unless:

- (i) The uncontrolled emissions of VOC to the atmosphere from presses and spent pots are captured by an emission collection system and the captured emissions are transported to an air pollution control device, and the combined emissions capture and control device efficiency is at least 75% by weight; and

- (ii) The uncontrolled emissions of VOC to the atmosphere from incorporators are captured by an emission collection system and the captured emissions are transported to an air pollution control device, and the combined emissions capture and control device efficiency is at least 80% by weight; and

- (iii) Pumps processing VOC-containing material are equipped with dual mechanical seals, or equipped with other leak-free technology that has been approved in writing by the Air Pollution Control Officer and provided that the equipment complies with Subsection (d)(8); and

- (iv) Liquid process mixtures containing VOC's are maintained at a temperature not higher than 115°F (46°C) before entering a press; and

- (v) Presses are equipped with sealing door covers.

Subsections (d)(4)(i) and (d)(4)(v) shall not apply during maintenance, cleaning, repair, or back flushing of the press systems.

(5) A person shall not operate any kelp processing or bio-polymer manufacturing line or pilot plant facility unless each in-process tank for material containing VOC is equipped with an apparatus or cover which completely covers the tank but not necessarily

provides a vapor tight seal, and which is closed or in place at all times except as necessary to meet operating requirements or for maintenance.

(6) A person shall not operate any kelp processing or bio-polymer manufacturing line unless all aboveground stationary storage tanks, having capacities greater than 20,000 gallons, containing VOC used in conjunction with the line are equipped with pressure-vacuum relief valves which have minimum relief settings of 5 oz/sq. in. (pressure) and 0.5 oz/sq. in. (vacuum). Tanks with capacities greater than 50,000 gallons shall have minimum relief settings of 0.5 oz/sq. in. (pressure) and 0.5 oz/sq. in. (vacuum).

(7) Equipment, devices and systems in use to transport and control VOC emissions pursuant to Subsections (d)(1), (d)(2), (d)(3), and (d)(4) shall be maintained so as to be free of visible holes, breaks, openings or separations between adjoining components, that are not consistent with their design and intended operating function, from which fugitive VOC vapors would be emitted to the atmosphere.

(8) A person shall not operate any kelp processing or bio-polymer manufacturing line or pilot plant facility unless all piping, valves, fittings, tanks, stills, process equipment and other devices used to transport, store, react or process VOC or materials containing VOC are free of fugitive liquid leaks, except for leaks which have been identified, recorded and tagged and are repaired in accordance with the schedule specified in this subsection. A visual inspection of these components shall also be performed at least monthly. A record of these inspections shall be maintained and made available to the District upon request. An alternative inspection schedule and program may be used provided such schedule and program have been approved, in advance, by the Air Pollution Control Officer.

Repair of a fugitive liquid leak may be delayed until the leaking equipment is next scheduled to be off-line, or a production cycle is completed, or within 72 hours of detection, whichever occurs first, provided:

(i) The time, date and location of the leak are recorded promptly following detection;

(ii) All practicable steps to minimize the magnitude of the leak are taken as soon as possible following detection; and

(iii) The record required by Subsection (d)(8)(i) is made available to the Air Pollution Control Officer upon request.

An unrecorded leak identified at the time of the District compliance inspection shall be considered a violation of this rule.

This subsection shall not apply to liquid losses occurring during maintenance, cleaning, repair or back flushing of process and storage equipment.

(9) An operation and maintenance program shall be submitted to the Air Pollution Control Officer for approval for new equipment required by Subsections (d)(1), (d)(2),

(d)(3), (d)(4)(i), and (d)(4)(ii). An existing operation and maintenance program that has been approved by the Air Pollution Control Officer need not be resubmitted for approval as a result of amendments to this rule unless such approved operation and maintenance program is revised. Each program shall be implemented and maintained on approval of the Air Pollution Control Officer.

Each operation and maintenance program submitted for approval shall:

- (i) Maintain the VOC emission reduction efficiency required under Subsections (d)(1), (d)(2), (d)(3), (d)(4)(i), and (d)(4)(ii); and
- (ii) Identify and maintain all key system operating parameters. Key system operating parameters are those parameters, such as temperature, pressure, and/or flow rate, necessary to maintain the VOC emission reduction efficiency required under Subsections (d)(1), (d)(2), (d)(3), (d)(4)(i), and (d)(4)(ii); and
- (iii) Include proposed inspection schedules, anticipated ongoing maintenance steps and proposed daily recordkeeping practices regarding the key system operating parameters.

Each program will apply only to the equipment necessary to meet the requirements of Subsections (d)(1), (d)(2), (d)(3), (d)(4)(i), and (d)(4)(ii), and need not include inspection, maintenance or recordkeeping relevant to compliance with Subsection (d)(7).

A copy of the most recent District-approved operation and maintenance program shall be maintained on site and made available to the Air Pollution Control Officer upon request.

(10) Compliance with Subsections (d)(1), (d)(2), (d)(3), (d)(4)(i), and (d)(4)(ii) shall be determined based upon tests or observations of the process equipment and air pollution control system during a period of at least 16 hours, but not more than 24 hours. Affirmative determination of compliance may be demonstrated through tests or observations for a shorter period of time provided such period of time has been determined appropriate in writing by the Air Pollution Control Officer.

(e) RECORDKEEPING

Any person subject to the requirements of Section (d) of this rule shall maintain the following records:

- (1) A current list of VOC's, subject to this rule that are in use, and
- (2) For air pollution control equipment, maintain records sufficient to document compliance, such as daily records of process and key system operating parameters and maintenance performed pursuant to Subsections (d)(1), (d)(2), (d)(3), (d)(4)(i), and (d)(4)(ii), and (d)(9) which will demonstrate continuous operation and compliance of the emission control device during periods of emission producing activities.

All records shall be retained on site for at least five years, and shall be made available to the District upon request.

(f) VOC TEST METHODS

(1) The VOC content of fluids subject to Subsections (c)(5) of this rule shall be determined in accordance with ASTM Standard Recommended Practices for General Gas Chromatography Procedures, E 260-73, General Techniques of Infrared Quantitative Analysis, E 168-67, or General Techniques of Ultraviolet Quantitative Analysis, E 169-63.

(2) Measurements of VOC emissions subject to Subsections (d)(1), (d)(2), (d)(3), (d)(4)(i), and (d)(4)(ii) of this rule shall be determined in accordance with EPA Test Methods 18 and 25 or 25A (40 CFR, Appendix A). Test procedures shall be performed in accordance with a protocol approved by the Air Pollution Control Officer. An alternative method to EPA Test Method 18 may be used provided such method has been approved, in advance, by the Air Pollution Control Officer and U.S. Environmental Protection Agency for the specific processes being tested. Subsequent to an initial compliance demonstration, appropriate parameters as determined by the Air Pollution Control Officer may be used as indicators of the performance of an emission control system.

(3) The capture efficiency of the emission collection systems subject to Subsections (d)(4)(i), and (d)(4)(ii) of this rule shall be determined according to EPA's technical document, "Guidelines for Determining Capture Efficiency", January 9, 1995. Test procedures shall be performed in accordance with a protocol approved by the Air Pollution Control Officer. EPA Test Method 204 may be used if it is demonstrated to the satisfaction of the Air Pollution Control Officer that all criteria of the test applicability are met. An alternative method to "Guidelines for Determining Capture Efficiency" may be used provided such method has been approved, in advance, by the Air Pollution Control Officer and U.S. Environmental Protection Agency for the specific processes being tested. Subsequent to an initial compliance demonstration, appropriate parameters as determined by the Air Pollution Control Officer may be used as indicators of the performance of an emission collection system.

(g) COMPLIANCE SCHEDULE

(1) Any person operating an existing kelp processing line which is subject to Subsection (d)(4)(i) shall demonstrate compliance with Subsection (d)(4)(i) by June 15, 1997, except for the spent pots. Compliance with Subsection (d)(4)(i) for the spent pots shall be demonstrated by November 24, 1999.

(2) Any person operating an existing kelp processing line which is subject to Subsection (d)(2)(iii) shall demonstrate compliance with Subsection (d)(2)(iii) by November 24, 1999.

(3) Any person operating an existing kelp processing line which is subject to Subsection (d)(4)(ii) shall demonstrate compliance with Subsection (d)(4)(ii) by November 24, 1999.

(4) Any person operating an existing kelp processing line or bio-polymer manufacturing line which is subject to Subsection (d)(8) shall comply with the provisions of that subsection on June 25, 1997, except for incorporators. Compliance with Subsection (d)(8) for incorporators shall be demonstrated by November 24, 1999.

(5) Any person installing a new kelp processing or bio-polymer manufacturing line or pilot plant facility which is subject to the provisions of Section (d) shall have equipment necessary to comply with the provisions of Section (d) installed and operating upon startup of the line or facility and shall demonstrate compliance within 180 days of startup.