

Memorandum

Florida Department of  
Environmental Protection

TO: File

FROM: Robert Soich *Red.*

Date: 12/15/93

SUBJECT: Burning of on-spec used oil at TECO Gannon electric generating facility.

As a result of hazardous waste inspections and warning letters WL93-0065HW29SWD and WL93-0066HW29SWD the air section has been informed that burning of on-spec used oil has been, and continues to be an on-going practice at Gannon Station. The existing air operating permits do not mention this activity nor is there correspondence in the permit file. At this time, this does not appear to be in conflict with air regulations.

Originally, the inspectors thought that on-spec used oil was burned in the turbine but, TECO personnel clarified that it was burned in the boilers. Approximately 94,000 gallons of on-spec used oil was burned in 1992. This represents 4.82% of the fuel oil burned at Gannon when compared to fuel oil burned, at the facility, as reported on their 1992 AORs.

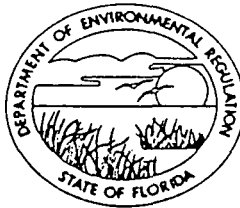
The State of Florida promotes the burning of both off-spec and on-spec used oil. Burning of off-spec used oil is subject to all the notification and permitting requirements. The burning of on-spec used oil is subject as follows:

" If your current air pollution operation permit, construction permit, or BACT determination does not specifically prohibit the burning of used oil, then you may responsibly burn (on-specification) used oil without any permit modification until the Department notifies you that your permit needs to be revised." ( Victoria J. Tschinkel, used oil as a fuel, 1/5/87 memorandum.).

**Upon renewal of Gannon Units 1 thru 6 air operating permits, the permit engineer may want to address the burning of on-spec used oil. Are sampling and analysis requirements needed in the specific conditions of the permit to ensure that used oil specifications are adhered to? It should be noted that from the inspection, it appears that TECO does sample the oil to verify that it meets the definition (specifications) of on-spec used oil.**

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING  
2600 BLAIR STONE ROAD  
TALLAHASSEE, FLORIDA 32301-8241



BOB GRAHAM  
GOVERNOR

VICTORIA J. TSCHINKEL  
SECRETARY

MEMORANDUM

TO: Managers of Electric Utilities, Asphalt Plants, and Other Industrial Burners

FROM: Victoria J. Tschinkel *VJ*

DATE: January 5, 1987

RE: Used Oil as a Fuel

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On April 28, 1986, I issued a memorandum to inform you of recently promulgated federal rules on the burning of used oil. Because some recipients of that memorandum have voiced concerns about the Department's interpretation of certain provisions of the regulations, this memorandum supersedes all previous communication on the subject of used oil as a fuel.

On November 29, 1985, the U.S. EPA promulgated final RCRA regulations on the burning of used oil fuel. The Department has adopted these regulations by reference. The EPA regulations establish specifications for used oil fuel that may be burned in nonindustrial boilers.

Used Oil Specifications

<u>Constituent/Property</u>	<u>Allowable Level</u>
Arsenic	5 ppm maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Total Halogens	4,000 ppm maximum
Flash Point	100 degrees Fahrenheit minimum

Burning of off-specification used oil and hazardous waste fuels in non-industrial boilers is prohibited by the RCRA rules. The April 28 memorandum may have left some readers with the impression that industrial burners were also restricted by these rules to burning fuel that met specifications; however,

Memorandum  
Page Two  
January 5, 1987

industrial boilers and furnaces may burn hazardous waste fuel and used oil fuel, regardless of whether the fuels meet specifications. It should be noted, however, that facilities that burn hazardous waste fuel and off-specification used oil fuel are still subject to administrative requirements such as notification, receipt of an identification number, compliance with the manifest or invoice systems, and, for hazardous waste fuels, compliance with hazardous waste storage standards for hazardous waste fuels.

No level for PCBs is included in the used oil specifications, since the use, including burning for energy recovery, of used oil containing any concentrations of PCBs is prohibited under current federal regulations. Some readers of the April 28 memorandum expressed concern about this statement, asserting that 40 CFR §761.1 makes federal PCB regulations applicable only to substances containing more than 50 ppm PCBs. I have conferred with EPA headquarters concerning the federal position on the issue of burning used oil contaminated with less than 50 ppm PCBs. It is EPA's position that the burning for energy recovery of used oils containing any concentration of PCBs was prohibited as of October 1, 1984. This conclusion is based on 40 CFR §761.20(a), which prohibits use of PCBs in any concentration unless it is specifically authorized under 40 CFR §761.30. Although EPA has authorized the processing and distribution in commerce of PCBs in concentrations of less than 50 PPM for purposes of disposal, 40 CFR §761.20(c)(4), that agency has taken the position that burning for energy recovery is "use" rather than "disposal" and is, therefore, prohibited. Note, however, that PCBs in concentrations of less than 50 ppm may be burned in a high efficiency boiler as an approved PCB disposal method pursuant to 40 CFR §761.60, provided that state air permitting requirements have also been satisfied.

Ms. Jane Kim of the Office of Toxic Substances at EPA headquarters (202/382-3991) has indicated to Department staff that EPA is considering amending federal PCB regulations to allow the burning for energy recovery of used oil containing less than 50 ppm PCBs. Until then, she suggests that companies wishing to burn these oils submit a request to EPA Region IV for authorization with respect to the federal rules. I suggest that interested parties direct any comments on the federal regulation or the anticipated amendment directly to EPA.\*

\* Since the state PCB rule, Rule 17-34, Florida Administrative Code, only regulates the storage for disposal of PCBs, the use of PCBs is not regulated by the Department. However, Department air rules 17-2, F.A.C., and the basic permitting requirement of Chapter 403 F.S. must be complied with.

Memorandum  
Page Three  
January 5, 1987

Although the specification for total halogens (chemicals containing chlorine, bromine, iodine, or fluorine) is 4,000 ppm, used oil containing over 1,000 ppm will be presumed to have been mixed with a halogenated hazardous waste. In the April 28 memorandum, I stated that used oil fuels with more than 1,000 ppm total halogens should not be burned in boilers unless the marketer can show that the used oil does not contain any halogenated hazardous wastes. To clarify any confusion that this statement may have caused, I would like to make the following points:

1. As noted above, hazardous waste fuel and off-specification used oil fuel may be burned for energy recovery in industrial boilers. We did not intend to suggest that such use is prohibited by the RCRA rule.
2. Also, as previously noted, persons may rebut the presumption that used oil containing more than 1,000 ppm total halogens has been mixed with hazardous waste (for example, by showing that the used oil does not contain significant concentrations of halogenated hazardous constituents). The use of the word "any" may have caused some confusion in our cautionary statement; however, since the management and storage standards for used oil and hazardous waste fuels differ, the Department felt that a strong caution was in order.

Finally, I would like to clarify the discussion in my April 28, 1986, memorandum regarding air permitting considerations for the burning of used oil. In that memorandum I stated that the authorization to burn used oil requires that air construction permits be modified to insure that any changes to permit conditions will be federally enforceable. Upon reconsideration on this point, I am now revising the guidance in the previous memorandum as follows:

1. If your current air pollution operation permit, construction permit, or BACT determination does not specifically prohibit the burning of used oil, then you may responsibly burn "on-specification" used oil without any permit modification until the Department notifies you that your permit needs to be revised.

Memorandum  
Page Four  
January 5, 1987

2. If your air permit or BACT determination specifically prohibits the burning of used oil, or if you are burning "off-specification" used oil, you will need to contact the appropriate Department district office within the next 90 days to discuss what type of authorization is needed.

In addition to the air permitting considerations, facilities that burn more than 10,000 gallons of used oil annually must register with the Department as use oil recyclers in accordance with Florida Administrative Code Rule 17-7, Part V, unless specifically exempted under the provisions of that rule.

By burning used oil in an approved manner, you will help Florida recycle a valuable resource, to cut down on its energy dependence, and to protect our fragile environment. You also will be saving money on your fuel bill. We will all benefit by efforts to properly recycle used oil through its use as a fuel.

If you have any questions or comments, please refer them to David Kelley at (904)488-0300 in the Bureau of Waste Management or Barry Andrews at (904)488-1344 in the Bureau of Air Quality Management.

VJT/ks

State of Florida  
DEPARTMENT OF ENVIRONMENTAL REGULATION



# Interoffice Memorandum

FOR ROUTING TO OTHER THAN THE ADDRESSEE

To: _____	LOCTN: _____
To: _____	LOCTN: _____
To: _____	LOCTN: _____
From: _____	DATE: _____

TO: District Managers  
District Air Engineers  
District Air Permitting Engineers  
Local Program Air Directors

THRU: Randy Armstrong  
Howard Rhodes  
Richard Wilkins

FROM: Clair Fancy

DATE: October 22, 1987

SUBJ: Policy to Regulate Used Oil Burning

On November 29, 1985, the U.S. EPA promulgated final regulations on the burning of used oil fuel. These regulations establish specifications for used oil fuel that may be burned in non-industrial boilers. The Department has adopted the rule by reference and has communicated its position on used oil burning by means of a memorandum sent to managers of electric utilities, asphalt plants, and other industrial burners on January 5, 1987.

At the time that the January 5, 1987 memorandum was distributed, the Department was uncertain how used oil fuel which did not meet the specifications established by the EPA rule should be handled. Since that time, the Bureau of Air Quality Management (BAQM) has been actively involved in developing guidelines to regulate the burning of used oil fuel which does not meet EPA specifications. This memorandum provides a summary of the specification limits established by the EPA for burning used oil in non-industrial boilers as well as presenting the BAQM's policy for regulating the emissions from burning off-specification used oil in industrial furnaces and boilers. The policy to regulate off-specification used oil is based on a paper which was presented at the 1987 Annual Conference of the Florida Section's Air Pollution Control Association by Barry Andrews. A copy of the paper is attached. In addition, this memorandum will address how sources burning either specification or off-specification used oil should be permitted.

D. F. A.

NOV 20 1987

DRAFT

### Specification Used Oil Burning

#### Emission Limitations

Non-industrial boilers may only burn oil which is in compliance with the following limitations:

#### Constituent/Property

#### Allowable Level

Arsenic	5 ppm maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Total Halogens	4,000 ppm maximum *
Flash Point	100 degrees Fahrenheit minimum

\* It is presumed that used oil containing greater than 1,000 ppm total halogens has been mixed with a halogenated hazardous waste. Used oil fuels that contain more than 1,000 ppm total halogens should not be burned in non-industrial boilers unless the marketer can show that the used oil does not contain any halogenated hazardous waste.

Industrial boilers and furnaces may also burn specification used oil.

#### Permitting Guidelines

Specification used oil will be considered to be equivalent to virgin oil. Only in the case that an air permit or BACT determination does specifically prohibit the burning of used oil, will it be necessary to contact the appropriate district or local office to obtain authorizations.

### Off-Specification Used Oil Burning

#### Emission Limitations

Non-industrial boilers may not burn used oil which exceeds the previously mentioned specification levels.

Industrial boilers and furnaces may only burn used oil which complies with the following limitations. These emission limitations are based on the type of fuel burning equipment used as follows:

Page 3  
October 22, 1987

Asphaltic Concrete Kilns, Light-Weight Aggregate Kilns,  
Lime Kilns, and Industrial Boilers

Arsenic, Cadmium, and Chromium:

$$\frac{(As)}{3.9 \times 10^{-4}} + \frac{(Cd)}{9.8 \times 10^{-4}} + \frac{(Cr)}{1.4 \times 10^{-3}} \leq 1.0$$

where (As), (Cd), and (Cr) defined by

$$MFR = \frac{(M_w \times R_w) + (M_F \times R_F)}{H_T} \times 10^{-6}$$

where:

MFR - individual metal feed rate in pounds per million Btu of total heat input

M<sub>w</sub> - individual metal concentration in used oil (ppm)

R<sub>w</sub> - used oil feed rate in pounds per hour

M<sub>F</sub> - concentration of metal in the other fuel (ppm)

R<sub>F</sub> - feed rate of other fuel in pounds per hour

H<sub>T</sub> - total heat input to the device in million Btu/hour

Lead:

MFR shall not exceed  $1.6 \times 10^{-2}$  pounds per million Btu.

Hydrogen Chloride:

CFR shall not exceed 0.70 pounds per million Btu.

where CFR is defined by

$$CFR = \frac{(C_w \times R_w) + (C_F \times R_F)}{H_T} \times 10^{-6}$$

Where:

CFR - total chlorine feed rate in pounds per million Btu

C<sub>w</sub> - Chlorine concentration in the used oil (ppm)

C<sub>F</sub> - Chlorine concentration in the other fuel (ppm)



DRAFT

Cement Kilns (Wet & Dry)

Arsenic, Cadmium, and Chromium:

$$\frac{(As)}{1.7 \times 10^{-3}} + \frac{(Cd)}{4.3 \times 10^{-3}} + \frac{(Cr)}{6.3 \times 10^{-3}} \leq 1.0$$

Lead:

MFR shall not exceed  $6.7 \times 10^{-2}$  pounds per million Btu.

Hydrogen Chloride:

CFR shall not exceed 1.8 pounds per million Btu.

Permitting Guidelines

For facilities presently burning or planning to burn off-specification used oil it will be necessary to contact the appropriate district or local program office to obtain authorization (permit revision). It is expected that the majority of the requests to burn off-specification used oil will be in compliance with the emission limitation equations presented herein. To expedite approval, the various districts will be provided with worksheets and detailed instructions to quickly determine if an off-specification used oil burner will be in compliance.

Exemptions

Exemptions will be granted to facilities which generate and burn small quantities of off-specification used oil on site. To qualify for this exemption a burner must only burn off-specification used oil fuel that is generated on-site and is burned in quantities that do not exceed one percent of a particular fuel burning equipment's total volume consumption or heat input. On-site burners will be characterized as "small quantity" burners by the following criteria:

Page 5  
October 22, 1987

<u>Equipment</u>	<u>Size (MMBtu/hr)</u>	<u>Quantity limit/device (gallon/month)</u>
Boilers (1)	0.4 to 1.5	7
	>1.5 to 10	13
	>10 to 50	26
	>50 to 150	55
	>150 to 400	100
	>400	300
Asphaltic Concrete kilns (2)	>18	110
Lime kilns (3)	>60	200
Light-Weight Aggregate kilns (4)	>45	110
Wet Cement kilns (5)	90 to 200	170
	>200	420
	Dry Cement kilns (5)	60 to 160
	>160	280

- (1) No more than two boilers at a time
- (2) No more than one asphaltic concrete kiln at a time
- (3) No more than two lime kilns at a time
- (4) No more than three light-weight aggregate kilns at a time
- (5) No more than three cement kilns at a time

### Conclusion

The Bureau of Air Quality Management believes that the policy outlined in the memorandum will accomplish the Department's goal to encourage the burning of used oil, yet provide assurance that the public's health and environment will not be threatened.

As with any regulation or policy development, it is difficult to address all the situations and problems that could occur when writing proposals for regulating sources. Any questions regarding the content of this memorandum should be directed to Barry Andrews, Project Engineer, Bureau of Air Quality Management, at (904)488-1344.

CF/plm