



EDMUND G. BROWN JR.
GOVERNOR



MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Central Valley Regional Water Quality Control Board

9 April 2015

Randall McAlister, Remedial Portfolio and
Site Manager
General Electric Company
3135 Easton Turnpike
Fairfield, CT 06828

CERTIFIED MAIL
7014 1200 0000 3347 7043

NOTICE OF APPLICABILITY (NOA)

FOR WASTE DISCHARGE REQUIREMENTS FOR LIMITED THREAT DISCHARGES OF TREATED/UNTREATED GROUNDWATER FROM CLEANUP SITES, WASTEWATER FROM SUPERCHLORINATION PROJECTS, AND OTHER LIMITED THREAT WASTEWATERS TO SURFACE WATER (LIMITED THREAT GENERAL ORDER); ORDER R5-2013-0073-01; NPDES PERMIT NO. CAG995002; GENERAL ELECTRIC COMPANY AND WELLMADDE PRODUCTS COMPANY, GROUNDWATER CLEANUP SYSTEM, MERCED COUNTY

The Central Valley Regional Water Quality Control Board (Central Valley Water Board) office received a Report of Waste Discharge application on 12 November 2013 from General Electric Company (hereafter Discharger) for a groundwater cleanup system in Merced County. The groundwater cleanup system currently discharges treated groundwater in accordance with Waste Discharge Requirements (WDR) Order R5-2009-0061, NPDES Permit No. CA0081833, to Hartley Lateral Canal, which is hydraulically connected to Miles Creek, a water of the United States. Based on the application packet and subsequent information submitted by the Discharger, Central Valley Water Board staff determined that the project meets the required conditions for approval under the Limited Threat General Order. The facility is hereby assigned Limited Threat General Order R5-2013-0073-01-042 and NPDES Permit No. CAG995002. Please reference your Limited Threat General Order number, R5-2013-0073-01-042, in your correspondence and submitted documents.

The Limited Threat General Order shall become effective on **17 April 2015**, when the existing WDR Order R5-2009-0061 (NPDES No. CA0081833) is rescinded by a separate action of the Central Valley Water Board at its regularly scheduled meeting.

The enclosed Limited Threat General Order may also be viewed at the following web address: http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0073-01.pdf. You are urged to familiarize yourself with the contents of the entire document. The Limited Threat General Order prescribes mandatory discharge monitoring and reporting requirements. The facility shall be operated in accordance with the requirements contained in this NOA and the Limited Threat General Order.

KARL E. LONGLEY SCD, P.E., CHAIR | PAMELA C. CREEDON P.E., BCCE, EXECUTIVE OFFICER

1685 E Street, Fresno, CA 93706 | www.waterboards.ca.gov/centralvalley

FACILITY DESCRIPTION

The Facility is located at 1715 Kibby Road in Merced, California, on property owned by Wellmade Products Company. General Electric Company owns and operates a groundwater cleanup system to treat groundwater contaminated with volatile organic compounds, primarily trichloroethylene. The groundwater cleanup system consists of 31 groundwater monitoring wells, nine extraction wells and an air stripper system designed to accommodate a maximum flow of 1,100 gallons per minute. The treatment portion of the air stripper system will be replaced by a two-vessel, 20,000-pound granular activated carbon (GAC) treatment system during 2015. The GAC treatment system is designed to accommodate a maximum flow rate of 700 gallons per minute (anticipated flow rate between 100 and 500 gpm), with the two GAC vessels operated in series. Treated groundwater is discharged to Hartley Lateral Canal, which is hydraulically connected to Miles Creek, a water of the United States. Hartley Lateral Canal is owned and operated by Merced Irrigation District.

During quarterly groundwater monitoring events, purge water from groundwater monitoring wells is collected prior to sampling. All purge well water is treated and disposed of by the methods described in the *Work Plan for Treatment of Purge Water*, dated 2 July 2004, and approved by the Executive Officer. Any changes to the methods described in the work plan shall be reported to the Central Valley Water Board and are subject to Executive Officer approval.

General Electric Company (GE) owned the property at 1715 Kibby Road from 1965 to 1971. GE's disposal practices (wastewater containing volatile organics discharged to an unlined pond on the property) polluted groundwater and affected local industrial, domestic, and municipal supply wells nearby. GE has accepted responsibility for defining the extent of pollution and for the necessary cleanup. The property was owned by Kendall Company from 1972 to 1981. Wellmade Products Company, the current property owner, purchased the property in 1989.

WDR Order R5-2009-0061 (NPDES Permit No. CA0081833) permitted discharge from three different pump-and-treat systems, one on-site and two off-site. The on-site system consists of an air stripper treatment system and the off-site systems consisted of GAC treatment systems. The two off-site systems have been shut down permanently and removed, and the on-site system will be replaced with a GAC treatment system during 2015.

CALIFORNIA TOXICS RULE / STATE IMPLEMENTATION POLICY MONITORING

The Limited Threat General Order incorporates the requirements of the California Toxics Rule (CTR) and the State Water Resources Control Board's (State Water Board) *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*, 2005, also known as the State Implementation Policy (SIP). Screening levels for CTR constituents and other constituents of concern are found in Attachment B of the Limited Threat General Order. Review of the water quality data for the facility in comparison to the screening levels showed there were no California Toxics Rule constituents detected in the effluent above the screening levels. Nitrate (as N), which is not a California Toxics Rule constituent, was detected above its screening level. However, the Limited Threat General Order does not have an effluent limitation or monitoring requirement for nitrate (as N), and given the probable use of the effluent (discharged into a canal used for agriculture irrigation supply), this NOA does not include monitoring requirements for nitrate (as N) nor does it include an effluent limitation. Central Valley Water Board staff determined this is to the maximum benefit to the people of the state because the Discharger is remediating contaminated groundwater, which is being beneficially reused.

BACKSLIDING

WDR Order R5-2009-0061 (NPDES Permit No. CA0081833) includes an effluent limitation for cis-1,2-dichloroethylene, which is a known breakdown product of trichloroethylene. The Limited Threat General Order does not include an effluent limitation or monitoring requirement for cis-1,2-dichloroethylene. Section 402(o)(1) of the Clean Water Act states that "a permit may not be renewed, reissued, or modified to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit." Central Valley Water Board staff requested the Discharger provide an analysis to determine the approximate breakthrough time for cis-1,2-dichloroethylene in comparison to the anticipated breakthrough time for trichloroethylene. The Discharger provided a breakthrough evaluation of the system, which shows that at assumed maximum influent concentrations of 1.5 µg/L for cis-1,2-dichloroethylene and 50 µg/L for trichloroethylene, and a flow rate of approximately 250 gallons per minute, the anticipated breakthrough time is approximately 220 days for both constituents. The Discharger proposes to monitor the midpoint of the GAC treatment system on a quarterly basis and accelerate to monthly when VOCs are detected above 0.5 µg/L, and would initiate a carbon change out when sample results indicate the concentrations are rapidly increasing. The Discharger also proposes to collect data over a period of two years to prepare a breakthrough curve for evaluating system performance.

Based on the new information provided, the information available, and the technology-based effluent limitations for trichloroethylene contained in the Limited Threat General order, Central Valley Water Board staff does not anticipate that the absence of a cis-1,2-dichloroethylene effluent limitation will cause cis-1,2-dichloroethylene to be discharged in concentrations exceeding the technology-based effluent limitations established in WDR Order R5-2009-0061 (NPDES Permit No. CA0081833) or exceeding water quality objectives. Thus, no change in water quality is anticipated with the issuance of this NOA.

EFFLUENT LIMITATIONS

Effluent limitations are specified in Section V. Effluent Limitations and Discharge Specifications of the Limited Threat General Order. The following effluent limitations are applicable to this discharge and are contained in Sections V.A-C of the Limited Threat General Order:

Acute Whole Effluent Toxicity. *Survival of aquatic organisms in 96-hour bioassays of undiluted waste for all limited threat discharges shall be no less than:*

- a. 70%, minimum for any one bioassay; and
- b. 90%, median for any three consecutive bioassays.

pH. *The pH of all limited threat discharges within the Sacramento and San Joaquin River Basins (except Goose Lake in Modoc County) shall at all times be within the range of 6.5 and 8.5.*

Volatile Organic Compounds (VOCs). *The discharge from groundwater extraction and treatment systems shall not exceed the following applicable effluent limitations in the table below:*

Table 8. Effluent Limitations – Volatile Organic Compound Groundwater Remediation Sites

Parameter	Units	Maximum Daily
1,1-Dichloroethylene	µg/L	0.5

Parameter	Units	Maximum Daily
1,1,1-Trichloroethane	µg/L	0.5
1,1,2-Trichloroethane	µg/L	0.5
1,2-Dichlorobenzene	µg/L	0.5
1,2-Dichloroethane	µg/L	0.5
1,2-Dichloropropane	µg/L	0.5
1,3-Dichlorobenzene	µg/L	0.5
1,3-Dichloropropylene	µg/L	0.5
1,4-Dichlorobenzene	µg/L	0.5
Acrolein	µg/L	0.5
Benzene	µg/L	0.5
Bromoform	µg/L	0.5
Methyl Bromide	µg/L	0.5
Chlorobenzene	µg/L	0.5
Chlorodibromomethane	µg/L	0.5
Chloroethane	µg/L	0.5
Chloroform	µg/L	0.5
Methylene Chloride	µg/L	0.5
Dichlorobromomethane	µg/L	0.5
Ethylbenzene	µg/L	0.5
Tetrachloroethylene	µg/L	0.5
Toluene	µg/L	0.5
1,2-trans-Dichloroethylene	µg/L	0.5
Trichloroethylene	µg/L	0.5
Vinyl Chloride	µg/L	0.5

Hartley Lateral Canal is not listed under the Clean Water Act section 303(d) list of impaired water bodies. Therefore, no additional 303(d)-based effluent limitations or monitoring requirements are required by this NOA.

MONITORING AND REPORTING

Monitoring and reporting requirements are contained in Attachment E – Monitoring and Reporting Program of the Limited Threat General Order. The following monitoring requirements are applicable to this discharge and are contained in Attachment E. All other requirements in Attachment E, including reporting requirements in Table E-4, are applicable, as are the additional monitoring requirements specified below for the influent and mid-treatment monitoring locations.

The Discharger is required to comply with the following monitoring requirements:

Monitoring Locations. *The Discharger shall monitor the following locations when discharging to Hartley Lateral Canal:*

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	INF-001	A location where a representative sample of the influent into the treatment system can be collected.
001	EFF-001	A location representative of the final effluent from the treatment system (formerly known as Discharge Point 003).
--	RSW-001	Hartley Lateral Canal, approximately 50 to 100 feet upstream of Discharge Point 001, or the first accessible sampling point upstream of this location.
--	RSW-002	Hartley Lateral Canal, approximately 50 to 100 feet west of the intersection of Doane Lateral Canal and East Childs Avenue, or the first accessible sampling point west of this location.
--	RSW-003	Doane Lateral Canal, approximately 50 to 100 feet south of the intersection of Hartley Lateral Canal and East Childs Avenue, or the first accessible sampling point south of this location.
--	MDT-001	A location between each GAC vessel where a representative sample of effluent from the lead GAC vessel of the treatment system can be collected.

Effluent Monitoring. The Discharger shall monitor the effluent when discharging to Hartley Lateral Canal at EFF-001, as follows:

Table E-2. Effluent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Flow ⁶	mgd	Meter	Continuous	-
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Quarter	1
pH	pH units	Grab	1/Quarter	1,2
Turbidity	NTU	Grab	1/Quarter	1,2
Temperature	°C/°F	Grab	1/Quarter	1,2
Dissolved Oxygen	mg/L	Grab	1/Quarter	1,2
Hardness, Total (as CaCO ₃)	mg/L	Grab	1/Quarter	1
cis-1,2-Dichloroethylene	µg/L	Grab	1/Quarter	1
1,1-Dichloroethylene	µg/L	Grab	1/Quarter	1,3
1,1,1-Trichloroethane	µg/L	Grab	1/Quarter	1,3
1,1,2-Trichloroethane	µg/L	Grab	1/Quarter	1,3
1,2-Dichlorobenzene	µg/L	Grab	1/Quarter	1,3
1,2-Dichloroethane	µg/L	Grab	1/Quarter	1,3
1,2-Dichloropropane	µg/L	Grab	1/Quarter	1,3
1,3-Dichlorobenzene	µg/L	Grab	1/Quarter	1,3
1,3-Dichloropropylene	µg/L	Grab	1/Quarter	1,3
1,4-Dichlorobenzene	µg/L	Grab	1/Quarter	1,3
Acrolein	µg/L	Grab	1/Quarter	1,3
Benzene	µg/L	Grab	1/Quarter	1,3

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Bromoform	µg/L	Grab	1/Quarter	1,3
Methyl Bromide	µg/L	Grab	1/Quarter	1,3
Chlorobenzene	µg/L	Grab	1/Quarter	1,3
Chlorodibromomethane	µg/L	Grab	1/Quarter	1,3
Chloroethane	µg/L	Grab	1/Quarter	1,3
Chloroform	µg/L	Grab	1/Quarter	1,3
Methylene Chloride	µg/L	Grab	1/Quarter	1,3
Dichlorobromomethane	µg/L	Grab	1/Quarter	1,3
Ethylbenzene	µg/L	Grab	1/Quarter	1,3
Tetrachloroethylene	µg/L	Grab	1/Quarter	1,3
Toluene	µg/L	Grab	1/Quarter	1,3
1,2-trans-Dichloroethylene	µg/L	Grab	1/Quarter	1,3
Trichloroethylene	µg/L	Grab	1/Quarter	1,3
Vinyl Chloride	µg/L	Grab	1/Quarter	1,3
Acute Toxicity ⁵	% survival	Grab	4	1
Chronic Toxicity	TUc	Grab	4	1

¹ Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136 or by methods approved by the Central Valley Water Board or the State Water Board.

² A hand-held meter may be used, provided the meter utilizes a USEPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.

³ For priority pollutant constituents with effluent limitations, detection limits shall be below the effluent limitations. If the lowest minimum level (ML) published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Plan or SIP) is not below the effluent limitation, the detection limit shall be the lowest ML. For priority pollutant constituents without effluent limitations, the detection limits shall be equal to or less than the lowest ML published in Appendix 4 of the SIP.

⁴ Shall be sampled at least once between July 2016 and June 2017. See Section V of Attachment E – Monitoring and Reporting Program in the Limited Threat General Order for additional details regarding toxicity monitoring requirements.

⁵ Test species shall be fathead minnows (*Pimephales promelas*).

⁶ The Discharger may substitute daily average flow when the continuous flow meter is non-operational. The Discharger must clearly indicate when the flow is measured as daily average, and describe when the continuous flow meter is non-operational.

Receiving Water Monitoring. If the discharge comprises the entire flow in the receiving water, receiving water monitoring is not required. The Discharger shall monitor Hartley Lateral Canal at RSW-001 and RSW-002 and Doane Lateral Canal at RSW-003 as follows:

Table E-3. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Dissolved Oxygen	mg/L	Grab	1/Quarter	1,2
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Quarter	1,2
pH	pH units	Grab	1/Quarter	1,2
Temperature	°C/°F	Grab	1/Quarter	1,2
Turbidity	NTU	Grab	1/Quarter	1,2
Hardness, Total (as CaCO ₃)	mg/L	Grab	1/Quarter ³	1

¹ Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136 or by methods approved by the Central Valley Water Board or the State Water Board.

² A hand-held meter may be used, provided the meter utilizes a USEPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.

³ Sampling required at RSW-001 only.

Influent and Mid-treatment Monitoring. The Discharger shall monitor the influent to the treatment system at INF-001 and the mid-treatment point at MDT-001, as follows:

Table NOA-5. Influent and Mid-treatment Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
cis-1,2-Dichloroethylene	µg/L	Grab	1/Quarter	1
1,1-Dichloroethylene	µg/L	Grab	1/Quarter	1,2
1,1,1-Trichloroethane	µg/L	Grab	1/Quarter	1,2
1,1,2-Trichloroethane	µg/L	Grab	1/Quarter	1,2
1,2-Dichlorobenzene	µg/L	Grab	1/Quarter	1,2
1,2-Dichloroethane	µg/L	Grab	1/Quarter	1,2
1,2-Dichloropropane	µg/L	Grab	1/Quarter	1,2
1,3-Dichlorobenzene	µg/L	Grab	1/Quarter	1,2
1,3-Dichloropropylene	µg/L	Grab	1/Quarter	1,2
1,4-Dichlorobenzene	µg/L	Grab	1/Quarter	1,2
Acrolein	µg/L	Grab	1/Quarter	1,2
Benzene	µg/L	Grab	1/Quarter	1,2
Bromoform	µg/L	Grab	1/Quarter	1,2
Methyl Bromide	µg/L	Grab	1/Quarter	1,2
Chlorobenzene	µg/L	Grab	1/Quarter	1,2
Chlorodibromomethane	µg/L	Grab	1/Quarter	1,2
Chloroethane	µg/L	Grab	1/Quarter	1,2
Chloroform	µg/L	Grab	1/Quarter	1,2
Methylene Chloride	µg/L	Grab	1/Quarter	1,2
Dichlorobromomethane	µg/L	Grab	1/Quarter	1,2

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
<i>Ethylbenzene</i>	$\mu\text{g/L}$	<i>Grab</i>	<i>1/Quarter</i>	<i>1,2</i>
<i>Tetrachloroethylene</i>	$\mu\text{g/L}$	<i>Grab</i>	<i>1/Quarter</i>	<i>1,2</i>
<i>Toluene</i>	$\mu\text{g/L}$	<i>Grab</i>	<i>1/Quarter</i>	<i>1,2</i>
<i>1,2-trans-Dichloroethylene</i>	$\mu\text{g/L}$	<i>Grab</i>	<i>1/Quarter</i>	<i>1,2</i>
<i>Trichloroethylene</i>	$\mu\text{g/L}$	<i>Grab</i>	<i>1/Quarter</i>	<i>1,2</i>
<i>Vinyl Chloride</i>	$\mu\text{g/L}$	<i>Grab</i>	<i>1/Quarter</i>	<i>1,2</i>

¹ *Pollutants shall be analyzed using the analytical methods described in 40 CFR Part 136 or by methods approved by the Central Valley Water Board or the State Water Board.*

² *For priority pollutant constituents, the detection limits shall be equal to or less than the lowest ML published in Appendix 4 of the SIP.*

GENERAL INFORMATION AND REQUIREMENTS

Discharge of material other than what is described in this NOA is prohibited. The required annual fee (as specified in the annual billing sent by the State Water Board) shall be submitted until this NOA is officially terminated. The Discharger must notify the Central Valley Water Board in writing when the discharge regulated by the Limited Threat General Order is no longer necessary. If a timely written request is not received, the Discharger will be required to pay additional annual fees as determined by the State Water Board.

ENFORCEMENT

Failure to comply with the Limited Threat General Order may result in enforcement actions, which could include civil liability. Effluent limitation violations are subject to discretionary penalties of up to \$10,000 per violation and to a Mandatory Minimum Penalty (MMP) of \$3,000 per violation. In addition, late monitoring reports may be subject to MMPs or discretionary penalties of up to \$1,000 per day late. When discharges do not occur during a quarterly monitoring period, the Discharger must still submit a quarterly monitoring report indicating that no discharge occurred to avoid being subject to enforcement actions.

COMMUNICATION

All monitoring report submittals shall be through the electronic self-monitoring reports (eSMR) module of the California Integrated Water Quality System (CIWQS) database (<http://ciwqs.waterboards.ca.gov/>). Questions regarding compliance and enforcement shall be directed to Warren Gross of the Central Valley Water Board's Compliance and Enforcement Unit, who can be reached at (559) 445-5128 or Warren.Gross@waterboards.ca.gov.

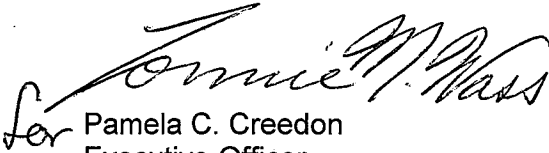
Questions regarding the permitting aspects of the Low Threat General Order, and written notification for termination of coverage under the Low Threat General Order, shall be directed to Aide Ortiz of the Central Valley Water Board's NPDES Permitting Unit, who can be reached at (559) 445-6083 or Aide.Ortiz@waterboards.ca.gov.

All other documents and correspondence, such as responses to inspections, written notifications, and documents submitted to comply with this NOA and the Limited Threat General Order shall be submitted in portable document format (PDF) and emailed to CentralValleyFresno@waterboards.ca.gov. The subject line shall include "NPDES Permitting

Unit" and the Facility name. The body of the email shall include the Discharger's name, Facility name, and Order number R5-2013-0073-01-042. Documents that are 50 megabytes (MB) or larger shall be transferred to a CD, DVD, or flash drive and mailed to our office at 1685 "E" Street, Fresno, California 93706.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with California Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., within 30 days from the date of this NOA, except that if the thirtieth day following the date of this NOA falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the following business day.

Copies of the law and regulations applicable to filing petitions may be found on the Internet at: http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.


for Pamela C. Creedon
Executive Officer

Enclosure: General Order R5-2013-0073-01 (Discharger only)

cc: David Smith, USEPA Region IX, WTR-2-3, San Francisco (via email)
Peter Kozelka, USEPA Region IX, WTR-2-3, San Francisco (via email)
NPDES Wastewater, State Water Resources Control Board, DWQ, Sacramento (via email)
Merced Irrigation District, Merced, CA
Dave Verstoppen, Wellmade Products Company, 1715 Kibby Road, Merced, CA 95340
William Aravanis, Amec Foster Wheeler, Fresno (via email)
Paul Deutsch, Amec Foster Wheeler, Fresno (via email)