CHAPTER 19

PUBLIC HEALTH

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CHAPTER 19 PUBLIC HEALTH

INTRODUCTION

Potential public health impacts include indirect impacts due to construction and operation of the recommended project and direct impacts due to emergency events. Due to the minor nature of the proposed upgrades, the discussion of the existing conditions at the SWRP is not included in this chapter. Potential public health related impacts associated with the construction and operation of the upgrades, however, are discussed.

This chapter specifically addresses public health issues with regard to regulatory requirements related to hazardous materials, wastewater treatment, worker safety, and emergency response under the recommended project.

For a discussion of the public health impacts related to surface water and groundwater quality see Chapter 17, Water Quality. The health effects associated with the recommended project's NO_x, PM_{10}, CO, SO_x, ROG, and toxic emissions from proposed new and modified emissions sources are addressed in Chapter 13, Air Quality.

SETTING

Regulatory Setting

Hazardous Materials

The EPA is the principal federal agency that regulates hazardous materials. As such, the EPA has broadly defined a hazardous waste as one that either: 1) is specifically listed in EPA regulations; 2) has been tested and meets one of the characteristics established by the EPA; or 3) is declared hazardous by the generator based on its knowledge of the waste.

The EPA uses criteria 2 to both identify and characterize the hazardous waste. The EPA selected four general characteristics to define a hazardous waste on the basis that they met the intent of federal law, and that the tests used to detect them were reproducible and relatively easy to perform. The four characteristics are:

- *Ignitability:* Ignitable wastes are those that consist of liquids with a flashpoint below 60 degrees centigrade or solids capable of causing fire under standard temperature and pressure.
- *Corrosivity:* Corrosive wastes are aqueous wastes with a pH below 2 or above 12.5, or which corrode steel at a rate in excess of 0.25 inches per year.
- *Reactivity:* Reactive wastes are those that are normally unstable, react violently with air or water, or form potentially explosive mixtures with water. Additionally, this category includes wastes that emit toxic fumes when mixed with water and materials capable of detonation.
- *Toxicity:* Toxic wastes are solid wastes with constituents that have been determined to be toxic by EPA standard toxicity tests. This criteria is particularly intended for solid wastes that are to be landfilled and, therefore, could leach into the groundwater.

In general, federal regulations applicable to hazardous wastes are contained in Titles 29, 40, and 49 of the Code of Federal Regulations (29, 40, and 49 CFR). The main federal regulations pertaining to hazardous materials are:

- The Resource Conservation and Recovery Act, including the Hazardous and Solid Waste Amendments of 1984, imposes regulations on hazardous waste generators, transporters, and operators of treatment, storage, and disposal facilities. The HSWA also requires the EPA to establish a comprehensive regulatory program for underground storage tanks.

- The Comprehensive Environmental Response, Compensation and Liability Act, also known as Superfund, established a comprehensive national program to identify active and abandoned waste disposal sites that pose a threat to human health or the environment and created a fund to pay for the cleanup of abandoned sites for which no responsible parties can be found.
- The Superfund Amendment Reauthorization Act Title III (community right-to-know laws) is the set of statutes that grants individuals information concerning chemicals located in their communities or workplace and that provides for emergency preparedness for reaction to environmental accidents.
- The Hazardous Materials Transportation Act governs the transportation of hazardous materials. These regulations are promulgated by the U.S. Department of Transportation and enforced by EPA.

Cal-EPA has been granted primary responsibility by the EPA for administering and enforcing hazardous materials management plans. Cal-EPA defines a hazardous material more generally as *a material that because of its quantity, concentration, or physical/ chemical characteristics poses a significant present or potential hazard to human health and safety or to the environment if released* (26 CCR 25501). Hazardous materials include raw materials and products, such as bulk chemicals stored for operation of a WRP, and hazardous wastes generated as a byproduct of the treatment process.

California state regulations governing hazardous materials are equally as stringent as or, in some cases, more stringent than federal regulations. State regulations include detailed planning and management requirements to ensure that hazardous materials are properly handled, stored, and disposed of in a manner that reduces human health risks.

In particular, the state has acted to regulate transfer and disposal of hazardous waste. Hazardous waste haulers are required to comply with regulations that establish numerous standards, including criteria for handling, documenting, and labeling the shipment of hazardous waste (26 CCR 25160 et seq.). Hazardous waste treatment and disposal facilities are also highly regulated and must meet standard criteria for processing, containment, and disposal of hazardous materials (26 CCR 25220).

The following are key state laws pertaining to hazardous materials:

- The Hazardous Materials Release Response Plans and Inventory Act (Business Plan Act)
- The Hazardous Waste Control Act
- The Emergency Services Act

The Business Plan Act requires that a business using hazardous materials prepare a plan describing the facility, inventory, emergency response plans, and training programs. The Districts update this plan biennially and submit it to the Los Angeles County Fire Department, Hazardous Materials Division.

The state equivalent of the federal RCRA is the HWCA. The HWCA created the State Hazardous Waste Management Program, which is similar to the federal RCRA program but is generally more stringent. The HWCA establishes requirements for the proper management of hazardous substances and wastes in regards to: criteria for identifying and classifying hazardous wastes; generation and trans-

portation of hazardous wastes; design and permitting of facilities that recycle, treat, store, and dispose of hazardous wastes; treatment standards; operation of facilities and staff training; and closure of facilities and liability requirements.

Worker Safety

Worker safety laws protect public health in the workplace. These laws are administered and enforced by the California Occupational Safety and Health Administration. The laws apply to normal operational activities and include all provisions for standard injury and illness prevention, construction requirements, and requirements for the handling of chemicals and prevention of infection and disease. Worker safety programs directly benefit public health by reducing the number of accidents and injuries that occur. Hazardous material laws also protect worker and public safety by requiring specific training, handling, transportation, and storage procedures for hazardous materials.

Emergency Response

Public health is protected by numerous federal, state, and local agencies that provide emergency response services. Under the California Emergency Services Act, the state developed an emergency response plan to coordinate emergency services provided by all governmental agencies. The plan is administered by the California Office of Emergency Services. OES coordinates the responses of other agencies, including the EPA, the California Highway Patrol, regional water quality control boards, air quality management districts, and county disaster response offices. Local emergency response teams including the fire, police, and sheriff's departments provide most services to protect public health.

VWRP Hazardous Materials Use and Storage

In the course of regular treatment plant operations, various hazardous wastes are stored and used at the VWRP. Historically, the VWRP used two chemicals classified as acutely hazardous under federal guidelines, chlorine and sulfur dioxide. Chlorine was used for disinfecting the treated wastewater, and sulfur dioxide was used for removing residual chlorine following disinfection of the treated wastewater before discharge to the river. In response to the public health hazard and the handling difficulties associated with acutely hazardous substances, Districts Nos. 26 and 32 have revised the treatment process to utilize less hazardous chemical forms of these two substances, while still achieving comparable operational efficiency. Currently, sodium hypochlorite and sodium bisulfite are employed instead of liquid chlorine and sulfur dioxide for chlorination and dechlorination, respectively. Sodium hypochlorite and sodium bisulfite are not classified by the federal government as acutely hazardous.

Hazardous Substance Inventory

The chemicals listed in Table 19-1 are currently stored at the VWRP in conformance with the latest design standards and state regulations. Districts Nos. 26 and 32 meet all local, state, and federal requirements for the use of hazardous materials. Accordingly, Districts Nos. 26 and 32 file three documents with the Los Angeles County Fire Department: 1) a Hazardous Materials Business Plan (biennially), 2) a Hazardous Materials Inventory (annually), and 3) an Acutely Hazardous Materials Registration (annually). These documents provide vital information for emergency response purposes, including location, type and size of storage tanks, substances stored, and standard operating procedures in the event of an accidental release of hazardous materials.

Table 19-1
VWRP HAZARDOUS MATERIALS INVENTORY

NAME	UNITS	MAXIMUM STORAGE	AVERAGE DAILY STORAGE
Chlorine[a]	lbs	33,000	24,000
Sulfur Dioxide[a]	lbs	33,000	24,000
Sodium Bisulfite	lbs	187,240	124,960
Calcium Hypochlorite	lbs	800	540
Foam Blast 433C	lbs	1,230	820
Anionic Polymer	lbs	87,290	57,600
Aluminum Sulfate	lbs	110,120	73,780
Sodium Hypochlorite	lbs	548,560	365,370
Ferric Chloride	lbs	266,120	169,350
Lube Oil	lbs	5,370	3,600
Sodium Hydroxide	lbs	33,100	22,320
Ferrous Chloride	lbs	191,450	106,990
Diesel Fuel	lbs	70,070	42,040
Hydrochloric Acid	lbs	23,780	19,020
Waste Oil	lbs	4,200	2,800
Argon	scf	3,024	2,016
Carbon Dioxide	scf	690	460
Oxygen	scf	1,992	1,328
Nitrogen	scf	3,390	2,620
Paints and Solvents	lbs	1,390	930
Acetylene	scf	780	520
Propane	lbs	6,470	4,310

Note: a) Acutely hazardous materials. The chlorine and sulfur dioxide facilities are being retained in a back-up capacity only and will eventually be completely phased-out upon completion of operational tests.

Transport of Hazardous Materials

Relevant hazardous materials include some chemicals employed as part of the treatment process that are transported to the VWRP and hazardous wastes resulting from normal treatment operations that are transported for off-site disposal. Those hazardous materials generated or used by Districts Nos. 26 and 32, if shipped on public roads, must be in accordance with the federal HMTA. Currently all hazardous materials transport occurs via the main access roads to the VWRP, which are public roads that convey regular traffic, as well as traffic shipping hazardous materials and wastes.

Worker Safety

Districts Nos. 26 and 32 comply with all Cal-OSHA requirements for worker safety. Furthermore, Districts Nos. 26 and 32 have an active worker safety training program for the safe use of hazardous materials and effective response to emergencies. All field personnel are instructed by their supervisors and

safety specialists on safety hazards throughout the plants and procedures for safely handling hazardous materials in their work areas. The training includes information on:

- How to respond appropriately to hazards.
- How to use equipment, including protective, control, and decontamination equipment.
- How to stop leaks and shut down equipment.

Storage vessels, piping, and delivery systems that contain hazardous materials are clearly labeled and made of compatible materials, and emergency eyewash/shower stations are located near all hazardous materials storage areas. Liquid storage tanks are located in secondary containment barriers in case of spills.

Emergency Response

Districts Nos. 26 and 32 personnel serve as the first and most important level of trained professionals to respond to emergency situations. Personnel observing a release or threatened release of hazardous materials report to a continuously staffed alarm center. The treatment plant operator in charge of the area where there is a release of a hazardous material decides which immediate response steps are to be taken. All operators are trained in how to respond to hazards in their areas, what equipment to use, and how to stop leaks and shut down equipment. The treatment plant operator then informs the supervising treatment plant operator, who decides which additional steps to take, including whether to obtain emergency assistance.

Other emergency assistance can be obtained from agencies such as the state OES, local fire and police departments, and CHEMTRAC, a federal hazardous materials response agency. If necessary, OES will coordinate the responses of other agencies. The local police and fire departments may provide assistance with community evacuations, fire protection, and hazardous materials cleanup. The Districts are legally obligated to call the local fire department hazardous materials division and the OES if outside assistance is needed.

Biosolids Management

Through the use of anaerobic digestion, the biosolids produced at the VWRP achieve high levels of pathogen reduction according to EPA requirements for fecal coliform geometric mean density standards. Furthermore, the regulated metals concentrations in VWRP biosolids consistently meet the EPA limits for unrestricted use. These biosolids can be used in all land-based reuse and disposal alternatives.

IMPACTS AND MITIGATION MEASURES OF THE 2015 PLAN ALTERNATIVES

Criteria for Determining Significance

The level of significance of an environmental impact was determined based on criteria from Appendix G of the State CEQA Guidelines. The project could result in a significant impact if it would:

- Cause a potential health hazard or involve a substantial increase in the use, production, or disposal of hazardous materials in the project area.
- Substantially increase workers' or the public's actual or potential exposure to hazardous materials, wastes, or pathogens.
- Interfere with emergency response plans or evacuation plans in the project area.
- Result in procedures or policies that are insufficient to limit the release of hazardous materials.

Implicit in the impacts analysis is the assumption that, at a minimum, the Districts will continue to obtain required permits and follow required safety procedures and that compliance with regulations discussed above is sufficient to protect public health.

The Recommended Project

VWRP Expansion Construction Impacts

Impact: *Minimal Risk of Exposure to Hazardous Materials during Construction at the VWRP.* No public health risks are anticipated during construction at the VWRP because Districts' and contractors' personnel will follow standard regulations for handling and storage of hazardous materials, construction activities will adhere to Cal-OSHA requirements for worker safety, and wastewater treatment will continue during building expansion (e.g., effluent quality will not be degraded). Therefore, this impact is considered less than significant.

Mitigation. No mitigation is required.

VWRP Expansion Operations Impacts

Impact: *Potential for Accidental Release of Acutely Hazardous Material at the VWRP.* Two chemicals classified as acutely hazardous materials, chlorine and sulfur dioxide, have historically been employed on a daily basis at the VWRP for regular treatment plant operations. However, to mitigate the public health hazard associated with an accidental release of these two substances, regular treatment plant operation has been changed to use less hazardous chemicals, while achieving comparable treatment efficiency. These two non-acutely hazardous chemicals, sodium hypochlorite and sodium bisulfite, are currently undergoing full-scale operational tests for chlorination and dechlorination. The chlorine and sulfur dioxide facilities are being retained in a back-up capacity only and will eventually be completely phased-out upon completion of operational tests. The new facilities under the recommended project will also employ sodium hypochlorite and sodium bisulfite. Therefore, the impact is less than significant.

Mitigation: No mitigation is required.

Impact: *Potential Exposure to Hazardous Materials from Expansion of the VWRP.* Due to the increased projected flow, the amount of hazardous material used, produced, stored, and disposed of at the VWRP is projected to increase. Chapter 11, Energy and Chemicals, specifies the increased chemical use at the VWRP under the recommended project. The amount of future chemical storage is contingent upon the delivery schedules of the various chemical suppliers. The amount of chemical stored must be sufficient to treat all flow occurring between scheduled deliveries plus a contingency amount to account for unforseen circumstances when delivery is not as scheduled. As a result, additional chemical storage facilities have been proposed, as shown on the site plan, for the recommended project.

Due to the rigorous application of safeguards by Districts Nos. 26 and 32, the potential for accidental release of hazardous material is minimal. The new chemical storage facilities will be constructed in conformance with all pertinent requirements and will employ the latest leak detection and protection technologies. Furthermore, adherence to all Cal-OSHA regulations will ensure that exposure of workers to hazardous materials will not be substantially increased. Therefore, this impact is considered less than significant.

Mitigation: No mitigation is required.

Impact: *Potential Exposure to Hazardous Materials Resulting from Transport.* Due to the increased

projected flow, the mass amount of hazardous material transported to and from the VWRP via public access roads will increase. Nevertheless, the frequency of chemical delivery may not necessarily increase as a result of the recommended project; the transporter will deliver more chemical per delivery, but the frequency of delivery will likely remain the same. Similarly, the frequency of hazardous waste transport for off-site disposal will likely not increase, even if the mass of materials generated will.

The impact of a potential exposure to hazardous materials due to transport is directly related to the increase in the frequency of transport. For every trip completed, there is a corresponding probability of accidental release. This probability, however, is very small due to the protocol necessitated by the HMTA. The impact of the recommended project, therefore, is related to the increased probability of accidental exposure resulting from an increase in number of trips. Since the recommended project should not cause a significant increase in number of trips, this impact is less than significant.

Mitigation: No mitigation is required.

SWRP and VWRP Upgrade Construction Impacts

Impact: *Minimal Risk of Exposure to Hazardous Materials during Construction at the SWRP and VWRP.* No exposure risks are anticipated during construction because of the minor nature of the construction activities associated with the upgrades at the SWRP and VWRP. Furthermore, Districts' and contractors' personnel will follow standard regulations for handling and storage of hazardous materials and construction activities will adhere to Cal-OSHA requirements for worker safety. Therefore, this impact is considered less than significant.

Impact: *Potential Public Health Risk Resulting From Short-term Reduction in Treatment Capacity During Upgrade.* To effect the nitrification-denitrification there will be a short-term reduction in treatment capacity. In particular, the SWRP will need to be retrofitted with fine bubble air diffusers, which will require individual aeration tanks to temporarily be taken out of service. However, the impact will be minimized by taking only one tank out of service at a time. Furthermore, the VWRP Stage V expansion will be complete, allowing additional flow to be bypassed to the VWRP for treatment. Therefore, wastewater treatment will not be interrupted during the upgrade construction. Thus, this impact is considered less than significant.

Mitigation. No mitigation is required.

SWRP and VWRP Upgrade Operations Impacts

Impact: *Potential for Exposure to Hazardous Materials from Accidental Release due to Upgrade of the SWRP and VWRP.* The upgrades may require modifications to ancillary systems. In particular, the current disinfection system may not be compatible with the characteristics of the resulting effluent. As a result, modification of the disinfection system may require the addition of a very small amount of ammonia to the effluent. The small amount of ammonia is necessary to limit the formation of trihalomethanes resulting from an excess free chlorine residual . Thus, upgrade of treatment may require an ammonia storage and delivery system.

If in sufficient quantities and at a high concentration, ammonia can be regulated by the EPA for accidental release prevention. The EPA's Chemical Accident Prevention Provisions specify an ammonia threshold concentration of 20 percent or more for regulation for accidental release prevention. The concentration of ammonia being proposed as part of the ancillary systems for nitrification-denitrification is below the specified 20 percent threshold, and, therefore, would not be subject to the EPA's Chemical Accident

Prevention Provisions. However, the Districts will employ all standard release prevention techniques for the ammonia storage and delivery system. As a result, this impact is considered less than significant.

Mitigation. No mitigation is required.

Biosolids Disposal and Reuse Impacts

Impact: *Minimal Potential for Public Exposure to Health Hazards Resulting from Biosolids Disposal and Reuse.* The increase in wastewater flow anticipated will cause a commensurate increase in the biosolids to be managed by Districts Nos. 26 and 32. Biosolids management options available to Districts Nos. 26 and 32 include composting, land application, and/or landfilling activities. The potential for public exposure to health hazards from biosolids disposal and reuse is minimal, however, because of the high quality of the biosolids. Districts Nos. 26 and 32 have reduced pathogens in biosolids to the level required for agricultural use according to the EPA. All land-based reuse and disposal alternatives are available because vector attraction potential has been minimized and heavy metals are well below ceiling concentrations. Districts Nos. 26 and 32 will use only sites that are properly permitted and that have fully addressed site-specific impacts and impacts related to biosolids reuse through the preparation of site-specific environmental documents or compliance with federal, state, and local regulations. Therefore, this impact is less than significant.

Mitigation: No mitigation is required.

No Project Alternative

No public health impacts will occur under this alternative. However, public health risks could increase if SCVJSS flows increase with no commensurate increase in treatment facility or sewer capacities.