



**NORTH COAST RAILROAD AUTHORITY
RUSSIAN RIVER DIVISION
HAZARDOUS MATERIALS AND
WASTE MANAGEMENT PLAN**

Prepared for:



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Santa Rosa, California 95407**

November 2009



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**HAZARDOUS MATERIALS AND
WASTE MANAGEMENT PLAN
NORTH COAST RAILROAD AUTHORITY
RUSSIAN RIVER DIVISION
FREIGHT RAIL PROJECT**

Kleinfelder Project No. 78207

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1.0 INTRODUCTION

Hazardous materials and hazardous waste (HM/HW) are regulated by multiple federal, state and local agencies. The purpose of this document is to summarize the requirements, describe the HM/HW activities that may typically be conducted by NCRA and/or their operator and identify the procedures that NCRA implements to address the safe management of HM/HW in association with the operations, maintenance and repair of the railroad.



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The following provides a summary of the federal and state HM/HW regulations that may be applicable to NCRA freight operations.

2.1 HAZARDOUS MATERIALS REGULATIONS

2.1.1 Hazardous Materials Business Plan

The storage of hazardous materials is regulated in California under AB 2185 *et al*: The Waters Bill and by the federal Superfund Amendments and Reauthorization Act (SARA Title III Sections 302, 311, and 312). Handlers of hazardous materials above certain thresholds are required to prepare a Hazardous Materials Business Plan (Business Plan) which identifies the quantities and locations of hazardous material storage. The purpose of the Business Plan is to provide emergency responders with critical information regarding hazardous materials present on the site that facilitates a safe and effective response to the emergency. The Business Plan is submitted to the local Certified Unified Program Agency (CUPA). The CUPA then provides the information to the Governor's Office of Emergency Service (OES). (HSC 25500 *et seq.*)

A Business Plan is required if a business handles more than the following current threshold amounts of a hazardous material at any one time:

- 55 gallons (gal);
- 500 pounds (lb);
- 200 cubic feet (ft); and
- Extremely hazardous substances (EHS) above federal threshold planning quantities (TPQ).

There is no comprehensive definition for hazardous materials; OES and CUPA's refer to lists from other laws and consider additional materials on a case-by-case basis. One commonly used definition defines hazardous materials as "any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant



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present or potential hazard to human health and safety, or to the environment.” Hazardous materials include, but are not limited to, hazardous substances and hazardous wastes. A substance can typically be considered hazardous if it is listed on any of the hazardous/toxic regulatory lists (e.g.: SARA, Prop 65, Air District’s Air Toxics lists, RMP, OSHA, DOT, fire department) or if the manufacturer or producer is required to prepare a Material Safety Data Sheet (MSDS) for the substance.

The Business Plan must be resubmitted or recertified every three years and when there is a significant change to the inventory or operations. In addition, an updated accurate hazardous materials inventory or certification must be submitted annually (HSC 25505(d)). Some CUPAs consider their annual inspection and annual permit renewal procedures to satisfy this requirement.

2.1.2 Risk Management Plan

Any business that handles Acutely Hazardous Materials (AHM) in amounts greater than the TPQ must file a registration form with the CUPA (HSC 255333) and may be subject to Federal Risk Management Plan (RMP) and/or the California Accidental Release Program (CalARP) RMP requirements (19 CCR 2735.4). California has a larger, more stringent list of regulated hazardous substances and threshold quantities.

The RMP requirements are divided into the following three sub-programs based on the degree of offsite risk posed by accidents that may occur at the facility:

Program 1: The facility is eligible for Program 1 if it there has been no significant release of a regulated substance in the past five years; there has not been a release that would result in an offsite consequence; and the facility has coordinated emergency response procedures with local emergency response organizations. Program 1 is the simplest program. It requires that the facility submit the basic RMP which verifies the above criteria, conduct an offsite consequence analysis (OCA) and provide general facility information.

Program 2: The facility is eligible for Program 2 if it does not qualify for Program 1 or 3.

The most significant difference between Program 1 and Program 2 is that Program 2 requires a prevention program. The Program 2 prevention program requires safety



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information, a hazard review, written operating procedures, written training procedures/program, a maintenance program, compliance audits every three years, and incident investigations.

Program 3: The facility is subject to Program 3 if it does not qualify for Program 1 and the process is either subject to Office of Safety and Health Administration (OSHA) Process Safety Management Standard or is in an additional specified industry sector. Program 3 must include all of the elements in Program 2, plus complete a more comprehensive hazard review, address changes in management, pre-start review, employee participation, contractor training, and procedures for hot work permits.

2.1.3 Railroad Ties

New railroad ties are not considered a hazardous material, but are managed in accordance with NCRA's BMPs.

2.2 HAZARDOUS WASTE REGULATIONS

The federal program that covers hazardous waste management is the Resource Conservation and Recovery Act (RCRA) (40 CFR 260 – 273). In California, the Department of Toxic Substances Control (DTSC) administers most aspects of RCRA (22 CCR 66260 – 66270, 67100, 67426, 67450). DTSC has delegated oversight of basic generator requirements to local Certified, Unified Program Agencies (CUPAs).

The California Hazardous Waste Control Law (HWCL) provides a separate regulatory framework for hazardous waste management in California which has additional, more stringent requirements beyond those identified in RCRA.

2.2.1 Hazardous Waste Identification

A waste is considered hazardous if it is a RCRA listed waste, a RCRA characteristic waste or a California non-RCRA waste. Non-RCRA wastes typically are subject to different requirements than RCRA waste so it is important to make the distinction when identifying the type of hazardous waste being generated.



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A business is responsible for determining if the wastes it generates are hazardous. A hazardous determination may be based on “knowledge of the waste” or based on laboratory analysis.

Under certain conditions, materials that are recycled without first changing their physical or chemical compositions are not considered waste (22 CCR 66266). RCRA “listed” waste includes four lists or categories of waste that EPA considers hazardous to human health or the environment. These include the “F”, “K”, “U” and “P” waste (40 CFR 261). A waste identified on one of these lists is considered hazardous regardless of the concentrations of hazardous constituents in that waste.

In addition, a waste can be considered a RCRA hazardous waste if it meets the characteristics of a hazardous waste (40 CFR 261). These include ignitability (D001), corrosivity (D002), reactivity (D003), toxicity (D004). If there is reason to believe a waste may meet one of these characteristics, the waste must be analyzed per EPA methodologies to determine if it is RCRA waste.

The toxicity characteristic is determined by using an analytical test called the Toxicity Characteristic Leaching Procedure (TCLP). If a waste is a liquid, the liquid itself forms the analytical sample. If the waste is a solid, the sample is ground to a specified size, agitated in a liquid, and the leachate liquid from the sample is analyzed.

In addition to the EPA RCRA waste classifications, there are the California non-RCRA waste classifications. DTSC regulations are similar to the EPA characteristics for waste definitions; however, they are much broader than the RCRA characteristic waste (22 CCR 66261). The California analytical methods for determining whether a waste is hazardous include the following:

- *Waste Extraction Test (WET)*. The solubility of a toxic constituent is determined analyzing the waste itself using the WET test. WET is similar to the federal TCLP but more rigorous. A waste might pass the TCLP but fail the WET analysis. The waste is defined as hazardous if the concentration within the extract from the WET procedure exceeds the Soluble Threshold Limit Concentration (STLC).



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- *Total Concentration.* The total concentration of a toxic constituent is measured in a waste and compared to its respective Total Threshold Limit Concentration (TTLC). The waste is defined as hazardous if any constituent exceeds the TTLC.
- *Acute Aquatic Bioassay, 96-hr LC50 (fish test).*

Both EPA and DTSC have defined small groups of hazardous waste that have additional requirements associated with them because they are considered especially dangerous. These include EPA's acute hazardous waste (AHW) and DTSC's extremely hazardous wastes (EHW). For example, there are lower threshold quantities for meeting the definition of a small quantity generator (1 kilogram (kg) AHW vs. 100 kg hazardous waste). Similarly, EHW generation of 12 kg per year triggers the requirements of Senate Bill (SB) 14 regarding source reduction compared with a non-EHW trigger of 12,000 kg per year. Only 1 quart (qt) of an AHW/EHW may be stored in a satellite accumulation area versus 55 gals of a hazardous waste.

2.2.2 Small and Large Quantity Generators

If less than 1,000 kg (2,200 lbs) of hazardous waste and 1 kg of AHW is generated each month, then the facility is considered a small quantity generator (SQG) (22 CCR 66262.34). This designation qualifies the facility for longer waste accumulation times and other less stringent regulatory benefits. If these levels are exceeded, the facility is considered a large quantity generator (LQG) and is fully regulated under RCRA and HWCL (22 CCR 66265.51 et seq). Federal EPA has a classification for Conditionally Exempt Small Quantity Generator (CESQG) for generators that generate no more than 100 kg of hazardous waste (40 CFR 261.5); however, the California EPA only recognizes CESQG for generators of silver-only hazardous waste.

2.2.3 General Record Keeping and Reporting

DTSC requires facilities to keep a written operating record at the facility. This annual operating record must include, at a minimum, the following information (22 CCR 66262.40):

- Nature and quantity of each hazardous waste;
- Location of each hazardous waste;



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- Waste analysis and monitoring records;
- Manifests /Land Disposal Restrictions (LDR) Forms;
- Biennial reports; and
- Estimated closure costs.

Submitting a biennial report is required for a generator who ships any hazardous waste to a TSDF. The report is due by March 1 of each even-numbered year and covers the previous year of hazardous waste activity. Copies must be retained for three years (22 CCR 66262.40 – 41).

2.2.4 EPA and BOE Identification Numbers

Small and large generators of hazardous waste must have an identification number. A hazardous waste generator must file a Notification of Regulated Waste Activity with EPA/DTSC (22 CCR 66262.12) and the facility must obtain a hazardous waste fee number from the Board of Equalization (BOE). These numbers are site specific.

2.2.5 Hazardous Waste Storage

Hazardous waste may be temporarily stored at locations within the facility provided that certain standards are met (22 CCR 66262.34). LQGs may store up to 90 days and SQGs may store up to 180 – 270 days without a permit [22 CCR 66262.34(d)]. A brief summary of the storage requirements include the following:

- Accumulation date (22 CCR 66262.34);
- Proper labels regarding the nature of the hazardous waste (22 CCR 66262.34);
- Proper containment (22 CCR 66265.171 – 177); and
- Inspections and procedures to confirm compliance (22 CCR 66265.174).

Containers storing hazardous waste must meet certain standards (22 CCR 66265.170 et seq). Empty containers must be managed in accordance with certain requirements (22 CCR 66261.7)



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Facilities may store up to 55 gallons of hazardous waste or 1 quart of AHW/EHW in satellite accumulation areas [22 CCR 66262.34(e)] without a permit, and without complying with all the storage standards provided the following conditions are met:

- Verify the containers are in good condition, compatible, and closed (22 CCR 66265.171 – 173);
- Containers are clearly marked with the initial date of waste accumulation [22 CCR 66262.34(e)(1)(C)];
- Containers are labeled as hazardous waste and information on the hazardous properties is provided, plus name/address of generator [22 CCR 262.34(e)(1)(E), 262.34(f)(3)];
- [The area is maintained under the control of the operator [22 CCR 6626.34(e)(1)(A)]; and
- Procedures for ensuring waste is transferred within 3 days of exceeding limit and transferred offsite within 1 year or 90 days after exceeding limit.

2.2.6 Inspections

Hazardous waste container storage areas must be inspected weekly (22 CCR 66265.174). The inspection record for container storage areas need not be written, but keeping written records is considered good management practice (GMP). Emergency equipment must be routinely inspected as part of a maintenance program (22 CCR 66265.33).

2.2.7 Emergency Preparedness and Prevention

Facilities that manage hazardous waste must meet certain requirements for emergency preparedness and prevention (22 CCR 66262.34(a)(4), 66265.30-37). These requirements include, but are not limited to, the following:

- All operations must minimize the possibility of a fire, explosion or any unplanned release of hazardous waste (22 CCR 66265.31).
- The generator's site must be equipped with emergency response equipment, including but not limited to, internal communication or alarm system, telephone or



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similar device capable of summoning emergency response assistance, portable fire extinguishers, and spill control equipment (22 CCR 66265.32).

- Routine inspection and testing of emergency equipment (22 CCR 66265.33).
- Immediate access to communication devices (22 CCR 66265.34).
- Appropriate aisle space to allow unobstructed movement of emergency equipment (22 CCR 66265.35).
- Arrangements with emergency response teams (22 CCR 66265.37).

SQGs are exempt from the requirement to have a written contingency plan, but they must meet certain requirements for emergency planning [22 CCR 66262.34(d)(2), 40 CFR 262.34(d)(5)]. SQGs must meet the following requirements:

- At all times one employee available to respond to an emergency (40 CFR 262.34(d)(5)(i)).
- Emergency contact and response information posted (40 CFR 262.34(d)(5)(ii)).
- If an emergency situation could threaten human health outside of the facility or reach surface water, the generator must contact the National Response Center at 800-424-8802 (40 CFR 262.34(d)(5)(iv)).

In addition to the requirements for a SQG, LQGs must prepare and retain a written contingency plan and at all times there must be at least one employee, either on the premises or on call with the responsibility for coordinating all emergency response measures. In addition, that person must have the authority to commit resources needed to carry out the contingency plan (22 CCR 66265.51 -55).

2.2.8 Transportation of Hazardous Waste/Manifest/LDR

A facility must prepare a manifest prior to the transportation of hazardous waste to an offsite treatment, storage or disposal facility (TSDF) (22 CCR 66262.20 et seq.). Before transporting hazardous waste, the waste must be packaged in accordance to certain requirements (22 CCR 66262.30 – 66262.33, DOT regulations 49 172, 173, 178, 179). In accordance with the LDR, hazardous waste may not be disposed of into landfills unless the waste has been treated to specified levels. The generator must either alert



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the TSDf of the necessary treatment standards or certify that the waste is not restricted from land disposal [22 CCR 66268.7(a)].

2.2.9 Training

All personnel who are involved in the handling of hazardous waste or emergency response procedures must receive certain training (22 CCR 66262.34, 66265.16, 29 CFR 1910.120, 8 CCR 5192). SQGs have different requirements from LQGs. SQGs must provide training to ensure that all personnel involved with hazardous waste are familiar with procedures for proper waste-handling and emergency procedures that are relevant to their responsibilities [22 CCR 66262.34(d)(2), 40 CFR 262.34(d)(5)(iii)]. Written procedures and training documentation are not required for SQGs, but is considered GMP. LQGs must comply with 22 CCR 66265.16. These requirements include the following:

- Personnel must successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their hazardous waste management duties;
- This program must be directed by a person trained in hazardous waste management procedures and knowledgeable in the relevant positions of the employees;
- Records must be maintained that identify the employee's names, positions, a written job description including requisite skill, education or other qualifications and duties of employees assigned to each position;
- A written description (training plan) of the amount of both introductory and continuing training that is provided to the employees;
- Records that document the training; and
- Training records on current personnel must be kept until closure of the facility and former employees for at least three years.



2.3 TREATED WOOD WASTE (TWW)

Assembly Bill (AB) 1353 added sections 25150.7 and 25150.8 to the Health and Safety Code. This law required that DTSC adopt regulations specifying alternative management standards (AMSs) for treated wood waste (TWW). The AMSs went into effect on July 1, 2007. TWW as defined in 22 CCR 67386.4 when managed as specified in chapter 34 is exempt from the hazardous management requirements of title 22 chapters 12 through 20 (These include the standards applicable to generators of hazardous waste (22 CCR 66262)).

The AMSs lessen storage requirements, extends accumulation periods, allow shipments without a hazardous waste manifest and a hazardous waste hauler and allow disposal at specific non-hazardous waste landfills. The AMSs simplify and facilitate the safe and economical disposal of TWW.

Generators of TWW are subject to generators fees and must contact either DTSC's Fees Unit at (916) 322-2448 or the Environmental Fees Division of the Board of Equalization (BOE) at (916) 323-9555.

TWW is wood that has been treated with preserving chemicals such as creosote. Because the preserving chemicals are known to be toxic or carcinogenic, TWW has the potential of being considered hazardous waste. Although hazardous waste generators are required to properly identify their waste through knowledge or laboratory analysis, generators of TWW can presume their TWW is hazardous waste and avoid expensive laboratory testing. Generators can then manage their waste in accordance with the AMSs, (as an alternative to 22 CCR 66262) including disposal at certain non-hazardous waste landfills. TWW becomes non-hazardous waste at the point of landfill acceptance (HSC 25150.8).

A sampling and analysis study on TWW was conducted by DTSC in September 2008. The purpose of the study was to further evaluate the toxicity characteristics of copper-based and creosote treated wood. Representative samples were taken and prepared and analyzed per specified methods and procedures. The following are the results for creosote treated railroad ties:



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- TCLP PCP & cresols were well below the toxicity characteristic level.
- PCP (total) was not detected in the used ties.
- Oak creosote ties had LC50 >500 mg/L (fish test).
- Douglas Fir (DF) creosote ties had LC50 < 500 mg/L.

The conclusions of the study stated that only used oak creosote treated railroad ties have the potential to be hazardous because these were the only type of railroad ties that failed one of the hazardous waste characteristic tests (acute aquatic 96-hr LC50 bioassay (fish test)). Because only this one type of railroad tie showed one characteristic for hazardous waste in one of the multiple tests that were conducted, it is not definitive that used creosote treated railroad ties are hazardous. It is therefore up to the generator to determine waste classification.

According to Li Tang of DTSC (916-322-2505), the railroad industry is currently discussing with DTSC the issue of whether or not treated railroad ties should be considered TWW or be considered as unregulated non-hazardous waste. The issue was not yet resolved as of August 2009.

Businesses that generate, handle or accumulate more than 1,000 lbs of TWW in 30 days and/or are engaged in activities that are expected to routinely generate this quantity of TWW in 30 days must meet the AMS requirements. The following provides a summary of these requirements:

- Get prior confirmation that a solid waste facility will accept TWW (22 CCR 67386.7(b)).
- Store TWW off the ground by placing it on blocks, concrete surfaces or in containers. Bailing and palletizing is also considered to prevent ground contact (22 CCR 67386.6(a)).
- Do not store TWW beyond the allowed limits (block and tarp – 90 days, containment pad – 180 days, container/storage building – 1 year) (22 CCR 67386.6(a)(2)).
- Cover TWW during inclement weather (22 CCR 67386.6(a)(2)).



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- Accumulate TWW away from public access (22 CCR 67386.6(a)(1)).
- Do not burn TWW without a permit from DTSC (22 CCR 67386.3(a)(1)).
- Contact DTSC if planning to reuse TWW (22 CCR 67386.3(c)).
- Keep TWW from mixing with other waste (22 CCR 67386.3(a)(3)).
- Label all TWW bundles/shipments as required per 22 CCR 67386.5(b)).
- Keep shipment records for three years (22 CCR 67386.8(a) and (e)(1)).
- Notify DTSC within 30 days if generating more than 10,000 lbs per calendar year. If you generate more than 10,000/lbs the business must submit a TWW Notification form and obtain an Identification Number by calling 800-618-6942 (22 CCR 67386.9).
- Ship TWW only to authorized facilities (22 CCR 67386.11).
- Train employees involved in TWW handling and keep training records for three years. The training shall include applicable requirements of Cal/OSHA, hazardous waste regulations and TWW requirements (22 CCR 67386.12(a)).

TWW may be recycled only under the following conditions:

- Reuse on-site,
- At the time of reuse, reuse is consistent with FIFRA approved use, and
- Prior to reuse, the TWW is handled per the AMSs.

2.4 SPENT LEAD-ACID BATTERIES

Because spent lead-acid batteries contain lead and sulfuric acid, lead-acid battery disposal is fully regulated as a hazardous waste management activity; however, when recycling intact lead-acid batteries the handling requirements are less stringent. Processing of lead-acid batteries for recycling (i.e.: draining the electrolyte, crushing or other physical methods) is a fully regulated hazardous waste activity that requires a hazardous waste treatment permit from DTSC.

Spent lead-acid batteries are regulated under 22 CCR 66266.80 – 81. These batteries are equivalent in size and type to common vehicle batteries, including utility batteries



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and those used in emergency power supplies. Small sealed lead-acid “gel-cell” type batteries and large utility batteries, such as fork lift batteries are regulated as “universal waste” per 22 CCR 66273.2.

Undamaged batteries must be stored upright on a covered pallet over a non-reactive, curbed and sealed surface such as coated concrete or asphalt. Damaged batteries (cracked, broken, or missing caps) must be stored and transported in non-reactive, structurally secure, closed containers such as polyethylene buckets or drums. Containers must be properly labeled and dated with the accumulation start date.

Less than one ton of batteries may be stored up to one at any single location. If more than 10 batteries are shipped at a time, a hazardous waste manifest or bill of lading must accompany the shipment in accordance with DOT regulations.

Records must be kept for three years if more than 10 batteries are managed per year or more than 10 batteries are transported at a time. DTSC no longer requires the submittal of an annual battery report (22 CCR 66266.81(a)(7)(c)).

2.5 ASBESTOS AND LEAD-BASED PAINT

State agencies regulating the management of asbestos include Cal/OSHA, the air districts, California Division of Occupation Safety and Health (DOSH), and DTSC. State and federal regulations require that asbestos containing materials subject to damage during demolition or renovation be abated in accordance with air quality requirements. Regulations pertaining to demolition and renovation of non-housing structures containing lead-based paint (LBP) are promulgated by DTSC, and DOSH. In California, regulation for the protection of workers involved in lead abatement activities are promulgated by OSHA (29 CFR 1926.62), DOSH and the California Department of Health Services (DHS).

Naturally occurring asbestos (NOA) includes fibrous minerals found in certain types of rock formations. NOA can take the form of long, thin, separable fibers. Natural weathering or human disturbance can break NOA down to microscopic fibers, easily suspended in air. California State Air Resources Board Section 93105: Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and



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Surface Mining Operations, require specific control measures when any of the following conditions are present:

1. Any portion of the area to be disturbed is located in a geographic ultramafic rock unit.
2. Any portion of the area to be disturbed has naturally-occurring asbestos, serpentinite, or ultramafic rock as determined by the owner / operator, or the Air Pollution Control Officer (APCO).
3. Naturally-occurring asbestos, serpentinite, or ultramafic rock is discovered by the owner / operator, a Professional Geologist, or the APCO in the area to be disturbed after the start of any construction, grading, quarrying, or surface mining operation.

Depending on the site activities and area of the site to be graded or otherwise disturbed, these measures may include an Asbestos Dust Mitigation Plan that must specify dust mitigation practices which are sufficient to ensure that no equipment or operation emits dust that is visible crossing the property line. The regional air districts must be notified if soil containing NOA will be re-used off-site in accordance with the state and federal regulations. In addition, NOA is also regulated by Cal/OSHA where workers may be exposed to any level of asbestos.

2.6 UNIVERSAL WASTE

Universal waste is a designation which includes certain hazardous wastes that are commonly generated and pose a relatively lower risk than other hazardous waste. Universal wastes are regulated based on a relaxed set of standards which is more appropriate for the specific hazards they pose (22 CCR chapter 23). Universal waste that might be associated with railroad operations include the following items when they are no longer useful or discarded:

- Cathode ray tubes (CRTs). Waste CRTs also known as picture tubes are found in televisions and computer monitors.
- Batteries. Universal waste batteries include rechargeable nickel-cadmium batteries, silver button batteries, mercury batteries, small sealed lead-acid



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batteries (not spent automotive-type lead-acid batteries), most alkaline batteries, carbon-zinc batteries and any other batteries that exhibit a characteristic of hazardous waste.

- Lamps. Universal waste lamps include fluorescent tubes and bulbs, high intensity discharge lamps, sodium vapor lamps and any other type of lamp that exhibit a characteristic of hazardous waste. Also, any electric lamp that contains added mercury.
- Electronic devices. These include any electronic device without a CRT, such as cell phones, telephones, computer CPUs, printers, VCR and portable DVD players.
- Mercury thermostats.
- Non-empty aerosol cans. These are universal wastes if they contain an ignitable or toxic propellant or if the contents exhibit any hazardous waste characteristics.
- Mercury switches. These include such things as motor vehicle switches containing mercury, and non-automotive mercury switches and products that contain them (portable heaters, silent wall switches, etc.).
- Mercury thermometers.
- Pressure or vacuum gauges that contain mercury.
- Rubber flooring that contains mercury. Older flooring that was poured in place for indoor tracks are an example of this waste.
- Mercury-added novelties.
- Gauges. Vacuum and pressure gauges that contain mercury.

All generators of universal waste must send their universal waste to one of three types of destinations. Universal waste can not be sent to a municipal solid waste landfill or to a non-hazardous waste recycling center. Disposal at any unauthorized site such as in ditches is illegal and a serious crime. Acceptable destinations for universal waste include the following three types of facilities:

- A universal waste consolidation facility,



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- A “destination facility” such as a hazardous waste recycling facility, and
- A foreign destination that is authorized to handle the specific universal waste.

The following universal waste must be recycled in order to be managed under the streamlined universal waste handler standards:

- CRT;
- Lamps; and
- Mercury containing devices.

If these universal wastes are not recycled they must be managed as hazardous waste.

A SQG of universal waste accumulates less than 5,000 kilograms of universal waste at one place at one time. A SQG of universal waste must manage the waste according to the following requirements (22 CCR 66273.10 – 21):

- Send all universal waste to an authorized facility.
- Do not dispose of universal waste in the trash.
- Do not store universal waste for longer than one year after generating the waste.
- Document the length of time you have accumulated the waste.
- Label or mark universal waste, or containers of universal waste to identify their type.
- Do not treat universal waste.
- Clean up any releases such as leaking batteries or broken fluorescent tubes. Repackage the damage waste and manage it as universal waste. Manage any other material generated during the release/clean up of universal waste, such as cleanup supplies, contaminated soil, as hazardous waste if they are identified as hazardous waste.
- Train employees in proper universal management.
- Determine whether the universal waste is a hazardous waste under DOT regulations (49 CFR 171 – 180).



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- Prepare proper shipping papers such as a bill of lading (a hazardous waste manifest is not required for universal waste).
- You are not required to use registered hazardous waste haulers to transport universal waste.
- Keep records of all shipments and receipts of universal waste for three years.

2.7 ENVIRONMENTAL CONSENT DECREE

NCRA and their contract operator is required to be in compliance with an Environmental Consent Decree (ECD) that was signed by the North Coast Regional Water Quality Control Board (NCRWQCB), Department of Toxic Substance Control (DTSC), and DFG on July 14, 1999. The purpose of the ECD is to prevent environmental impacts associated with the past, current and future operations of the railroad. The ECD is a mandated non-discretionary action.

In general, the ECD requires NCRA and/or its operator to perform a variety of actions in four general areas:

1. Remove illegally stored or discarded hazardous material, wastes, and other regulated substances from the rail line;
2. Prevent illegal discharges of earthen materials and wastes into the waters of the State;
3. Investigate and remediate potential soil and groundwater contamination at former maintenance facilities; and
4. Prepare and implement work plans for the handling, storage, transportation, and disposal of hazardous materials and waste during the operation of the rail line.

Activities that fall under the ECD include the following:

1. Manage storm water to minimize the threat to surface water resources.
2. Prevent spills to soil, groundwater, or surface water resources.
3. Inventory and manage petroleum and hazardous materials and waste.
4. Characterize and properly recycle or dispose of waste.



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5. Maintain flange lubricator units.
6. Establish maintenance control practices and protocols to prevent a threat to surface and groundwater.
7. Prepare and implement environmental operations plans and a monitoring and reporting compliance program.

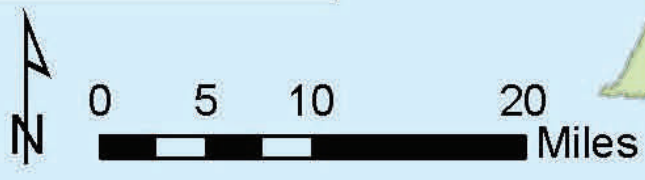
The ECD requires the implementation of environmental operations plans and BMPs to avoid environmental impacts associated with the operation of the railroad and light maintenance facilities. These requirements include regular monitoring, inspection and reporting of activities involving the use, transport, storage, and disposal of hazardous materials and wastes related to operations. The purpose of the plans and monitoring is to assure that the railroad operates in compliance with the ECD.

2.8 ADDITIONAL RAILROAD SAFETY REQUIREMENTS

In addition to the environmental regulations identified above for the management of hazardous materials and waste, NCRA and their operator shall comply with all appropriate Federal Railroad Administrations (FRA) and California Public Utilities Commission (CPUC) regulations.



Legend
 — Rail Line



PROJECT NO.	78207
DRAWN:	9/08/09
DRAWN BY:	IPM
CHECKED BY:	SEK
FILE NAME:	Figure 1

RAIL CORRIDOR AND LOCATION OF MAINTENANCE AREAS

NORTH COAST RAILROAD AUTHORITY
 RUSSIAN RIVER DIVISION
 FREIGHT RAIL PROJECT

FIGURE
2-1



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3.0 SUMMARY OF HAZARDOUS MATERIALS AND WASTE MANAGEMENT ACTIVITIES

3.1 RAIL OPERATIONS

NCRA provides general freight service to the communities within the rail corridor. Solid waste may also be transported to landfills beyond the four-county area, eventually replacing the diesel trucks currently used for this service. The freight service does not accept for transport hazardous waste, dangerous, highly flammable or explosive material.

The rail line within the RRD consists of one mainline track and sidings. The existing sidings are strategically placed along the mainline for train meets (train passing), temporary rail car storage, and to provide a means to transfer freight cars between the NCRA operator and Cal Northern at Lombard.

Major repairs or major maintenance activities will not be conducted within the RDD right-of-way. The operator will contract with existing facilities outside the RRD right-of-way for these activities. The following facilities are the only locations where light running maintenance and light repairs will routinely be conducted:

- Willits yard,
- Cloverdale maintenance facility, and
- Schellville maintenance area.

Light running maintenance and light repairs include minor servicing activities such as brake repair, minor engine repair, oil changes, and other standard scheduled servicing tasks. It is anticipated that the hazardous waste generated by these activities will be below LGQ thresholds. All work will be conducted in accordance with NCRA's BMPs.

3.1.1 Grade Crossings

There are 104 wood, asphalt, gravel, or concrete road crossings along the rail line between Willits and Lombard. These crossing will be maintained and repaired as necessary for the safe operations of the railroad.



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Signals and gates are present at major crossings and intersections, and these will also be repaired or replaced to meet FRA and CPUC standards. Some of the signals use lead-acid batteries which will periodically require replacement.

3.1.2 Track Work

This activity includes work that may be associated with the maintenance of the track including the rail, rail ties and ballast. The work typically involves rail removal and replacement, removal and replacement of deteriorated ties, grading and replacement of lost ballast and soil substructures and removal of vegetation (brushing) that has encroached onto the railroad.

Brushing is conducted in accordance with NCRA's Vegetation Management Plan.

As discussed in Section 2.3, used railroads are considered hazardous waste if they meet the toxicity characteristics; however, they if properly managed, used railroad ties can be regulated under the AMS for TWW. If the used railroad ties are managed per the AMS, the quantity is not included in the overall amount of hazardous waste used to determine generator status (SQG versus LQG thresholds).

The track work is typically conducted from the rail with rail-mounted equipment or from within the railroad right-of-way or access. If work is required in wetlands, Waters of the U.S. or State of California, or other environmentally sensitive areas, the appropriate approvals and permits shall be obtained from the regulatory agencies.

3.1.3 Culvert Work

Culverts of various sizes carry storm water either through or off of the railroad right-of-way. The culverts will be inspected and maintained on a routine basis. Culverts may require repair or replacement due to storm damage and normal wear and tear.

The culverts range in size from eighteen to forty-eight inches in diameter. Work on the culverts typically occurs in the dry season, unless an emergency occurs, but may include the need to remove vegetation, soil and other debris that affects proper functioning.



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Excavation for removal and replacement of culverts typically occurs in already disturbed areas within the railroad right-of-way. If work is required in wetlands, Waters of the U.S. or State of California, or other environmentally sensitive areas, the appropriate approvals and permits shall be obtained from the regulatory agencies.

3.1.4 Bridge Work

There are 121 bridges located between Willits and Lombard. Most of the bridges are small wood trestle structures that span drainage channels or creeks (which typically are not flowing year round) feeding the Russian River, Petaluma River, and San Pablo Bay. Several steel bridges are present as well: the Russian River bridge at Healdsburg, the Haystack Landing bridge crossing the Petaluma River in Petaluma, the Black Point bridge crossing the Petaluma River near Black Point east of Novato, the Wingo Bridge crossing an inlet creek in the former town of Wingo, and the Brazos vertical lift bridge crossing the southern Napa River.

The bridges are inspected and maintained on a routine basis. Maintenance and repair work is (typically) minor in nature and involves the replacement of one or more bridge components such as decking, deck ties and timber guards, struts, bents, bracing, handrails and piles. Piles that have deteriorated are cut aboveground or above the waterline and spliced with a replacement pile. Work typically will be done from the rail with rail-mounted equipment. If possible, the work will be performed during the dry months out of the water.

If there is a need to repair a pier and the creek or river is flowing, especially for those bridges that are over creeks or rivers that do not experience a dry season, permits shall be obtained with the necessary agencies.

In addition to the structural maintenance and repair work, electrical and mechanical repairs and maintenance of the bridges operating systems will be inspected and maintained as necessary.

3.1.5 Tunnel Work

Five tunnels designated Tunnels 5 through 9 are located between Lombard and Willits. These tunnels were among the earliest constructed for the railway (approximately



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1889), excavated by drill and blast methods and initially left unsupported. Over time, several types of lining were installed in less stable tunnel segments including timber sets and lagging, concrete, and later steel sets and gunite. Tunnels will be inspected and maintained as necessary.

3.2 HAZARDOUS MATERIALS

Small quantities of hazardous materials are used in association with the operations, maintenance and repairs activities of the railroad. Typical materials that may be used include such things as grease, oil, water or oil based paint, solvents and cleaning solutions, gasoline and diesel.

The three maintenance facilities will have secured, self contained hazmat lockers for the storage of hazardous materials. Material Safety Data Sheets will be maintained at each of the maintenance facilities as well as at the NCRA office. Appropriate spill and emergency response equipment will be maintained near the hazmat lockers for easy access. Hazmat lockers will be inspected and maintained on a routine basis. Employees will be appropriately trained to safely manage the hazardous materials associated with their job requirements.

If the quantities of hazardous materials exceed the thresholds for Hazardous Materials Business Plans, NCRA will submit the plan to the appropriate CUPA. It is not anticipated that NCRA's management of hazardous materials will trigger other environmental hazardous materials regulations.

The management of hazardous materials will be conducted in accordance with NCRA's BMPs.

3.3 HAZARDOUS WASTE

Small quantities of hazardous waste may be generated at the three maintenance areas and during track repair activities. This waste shall be managed in accordance with the hazardous waste regulations discussed in the ECPP.



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3.0 SUMMARY OF HAZARDOUS MATERIALS AND WASTE MANAGEMENT ACTIVITIES

3.3.1 Small and Large Quantity Generator

The largest source of hazardous waste which may be generated by NCRA or its operator is used creosote treated wood railroad ties. At this point in time it has not been determined if used creosote railroad ties are considered hazardous waste.

Since NCRA and its operator shall either manage their used creosote treated railroad ties in accordance with the TWW requirements or as non-hazardous waste (if supported by analytical testing), the quantity of railroad ties will not be included in the monthly totals of hazardous waste generated by NCRA to determine whether NCRA is a SQG or LQG. Therefore, NCRA and/or its operator will most likely be considered a SQG of hazardous waste.

However, depending upon the quantity of railroad ties that are generated, NCRA and/or its operator may be a large quantity generator of TWW (>10,000/year). If this is the case, NCRA or its operator shall contact DTSC and submit the TWW notification form. NCRA and/or its operator shall also contact the DTSC Fees Unit or the BOE regarding the necessary generator fees. NCRA and its operator shall track the monthly accumulation of TWW, and other hazardous waste. These records are located in NCRA office.

3.3.2 General Record Keeping and Reporting

At the point the NCRA or its operator generates hazardous waste, they shall maintain a written operating record and submit biennial reports.

3.3.3 EPA and BOE ID Number

At the point the NCRA or its operator generates hazardous waste, they shall either obtain Identification Numbers and BOE numbers for the NCRA as a whole or for each of three maintenance sites. These numbers will be identified below:

- NCRA: _____.
- Willits yard: _____.
- Cloverdale maintenance facility: _____.



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- Schellville maintenance area: _____.
- NCRA's BOE Number: _____.

3.3.4 Hazardous Waste Storage

As a SQG, NCRA and/or its operator shall store hazardous waste in hazardous waste storage areas for no more than 180 days located at the following locations [22 CCR 66262.34(d)]:

- Willits yard;
- Cloverdale maintenance facility; and
- Schellville maintenance area.

Hazardous waste containers shall be appropriately labeled with the start date of accumulation and other required information [22 CCR 66262.34(f)].

Containers and areas that store hazardous waste shall meet the required standards (22 CCR 66265.170 et seq.).

Hazardous waste storage areas shall be inspected weekly to ensure that the requirements are met (22 CCR 66265.174). NCRA and/or its operator shall maintain the inspection logs (GMP for SQG) at the NCRA office.

3.3.4.1 Satellite Accumulation

NCRA and/or its operator may have satellite accumulation areas where up to 55 gal of hazardous waste or 1 qt of AHW can be temporarily stored [22 CCR 66262.34(e)]. Within three days of exceeding the 55 gal/1 qt limit the waste shall be transferred to one of the three secured hazardous waste storage areas or offsite to an approved TSDF. The containers shall be properly maintained (22CCR 66265.171 et seq.) and clearly marked with the initial date of waste accumulation [22 CCR 66262.34(e)(1)(C)]. The containers shall be labeled as hazardous waste, composition/physical state of the waste, hazardous properties of the waste and generator name/address [40 CFR 262.34(e)(1)(E)]. The areas shall be maintained under the control of the operator of the process generating the waste [22 CCR 66262.34(e)(1)(A)]. The areas shall be



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inspected to ensure that these activities are being appropriately conducted. Inspection logs shall be maintained (GMP for SQG) at the NCRA office.

3.3.4.2 Empty Containers

NCRA and/or its operator shall comply with the empty container management procedures (22 CCR 66261.7).

3.3.5 Hazardous Waste Inspections

NCRA and/or its operator shall conduct weekly inspections of the hazardous waste storage areas and daily inspections of satellite accumulation areas.

3.3.6 Emergency Preparedness and Prevention

NCRA has prepared a Contingency Plan and Emergency Procedures for the management of hazardous materials and hazardous waste which more than satisfies the SQG requirements for emergency planning (22 CCR 66262.31 - 35). A copy of the Contingency Plan shall be kept at each of the maintenance areas and at the NCRA office.

3.3.7 Transportation of Hazardous Waste

NCRA shall contract with approved hazardous waste haulers to transfer hazardous waste offsite. Prior to transporting hazardous waste offsite, NCRA and/or its operator shall ensure that the manifest has been properly prepared and that the waste has been appropriately packaged for shipment (22 CCR 66262.23, 30 – 33, DOT regulation 49 CFR 172, 173, 178, 179).

NCRA and/or its operator shall conduct random inspections to ensure that the containers and labeling are in compliance, and that the manifest has been appropriately completed. Records of these inspections shall be kept at the NCRA office.

Copies of the manifests shall be kept for three years at the NCRA office.

Exception reports shall be filed with DTSC if a manifest from the offsite facility is not received within 60 days (SQG) from the date of shipment [HSC 25123.3(h)(1) & (2)] or if



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the manifest received is not signed by the receiving facility. Exception reports shall be kept at the NCRA office.

NCRA and/or its operator shall conduct either periodic reviews or onsite audits of their transfer contractor and the offsite TSDf to ensure that they are being operated in compliance with the regulations (GMP for SQG).

Copies of the review documentation or audit reports shall be maintained at the NCRA office.

3.3.8 Training

NCRA and/or its operator shall provide training to ensure that all employees are familiar with all procedures for proper waste-handling and emergency response that are relevant to their responsibilities during normal operations and emergencies. [SQG) (22 CCR 66262.34(d)(2), 40 CFR 262.34(d)(5)(iii)]. Employees shall be trained within six months of hiring or transfer and annual refreshers are given (GMP for SQG). Training records (GMP) shall be kept at the NCRA office.

3.3.9 Treated Wood Waste

NCRA has BMPs which specify how used railroad ties shall be managed in order to be in compliance with the TWW AMSs. If DTSC determines that treated railroad ties are non-hazardous waste, then the BMPs will be adjusted accordingly. If DTSC determines that the treated railroad ties are TWW, then the AMS requirements will be implemented. Prior to DTSC making a determination, NCRA or its operator will conduct representative sampling and analysis to confirm whether the railroad ties are hazardous waste.

NCRA and/or its operator shall record the quantities of used railroad ties generated and taken off site. These records shall be maintained at the NCRA office. If more than 10,000 lbs are generated in a year, DTSC shall be contacted and a large quantity TWW generator form shall be submitted. Generator fees shall be paid as appropriate.



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3.3.10 Spent Lead-acid Batteries

Lead-acid batteries are used at some of the grade crossing signals. These signals shall be routinely inspected and as necessary the lead-acid batteries shall be changed out and managed accordingly as hazardous waste.

3.3.11 Asbestos and Lead Based Paint

During repair and maintenance of bridges, friable asbestos or damaged lead based paint may be encountered. If this is the case, the waste shall be managed accordingly as hazardous waste.

NOA may be encountered during significant repair work. If this is the case, the waste generated from the repair activities shall be managed appropriately.

3.3.12 Universal Waste

NCRA may generate the following types of universal waste:

- Batteries;
- Lamps;
- Electronic devices;
- Non-empty aerosol cans;
- Cathode ray tubes; and
- Devises containing mercury such as switches.

Universal waste storage areas shall be located only at the following locations:

- Willits yard;
- Cloverdale maintenance facility; and
- Schellville maintenance area.



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