

California Regional Water Quality Control Board
North Coast Region

ORDER NO. R1-2018-0057

MODIFYING CEASE AND DESIST ORDER NO. R1-2013-0009

REQUIRING THE NORTH FORK LUMBER COMPANY – KORBEL SAWMILL
TO CEASE AND DESIST FROM DISCHARGING OR THREATENING
TO DISCHARGE EFFLUENT IN VIOLATION OF
WASTE DISCHARGE REQUIREMENTS FOR THE
CALIFORNIA REDWOOD COMPANY KORBEL SAWMILL

NPDES NO. CA005932
WDID No. 1B800200HUM

Humboldt County

The Regional Water Quality Control Board, North Coast Region (hereinafter Regional Water Board), finds that:

1. North Fork Lumber Company (NFLC), is the owner and operator of the newly remodeled Korbelt mill facility; however, California Redwood Company (CRC) remains the owner of the parcel. The Regional Water Board previously determined that it is appropriate to name NFLC and CRC as Co-Permittees (hereinafter Permittee) in the Permit and CDO. NFLC is operating a sawmill where mostly Douglas fir logs are milled into finished lumber products. The NFLC (Facility) is situated in the community of Korbelt, Humboldt County, California; and is located adjacent to the North Fork of the Mad River.
2. Historically, onsite operations included sawmilling operations, lumber planing, lumber drying in kilns with an associated boiler water system, lumber storage and shipping, wet and dry log decking and sorting, and byproduct generation and management. The California Redwood Company decommissioned the boiler and kilns in August 2014 and the sawmill and planing operations in February 2015. Between May 2016 and December 2017, NFLC completely modernized the mill; and full-time sawmill operations resumed in January 2018. Onsite operations now include decking and sprinkling logs; debarking and bucking; sawing, milling, and planing operations; lumber storage and shipping; and by-product generation.
3. Stormwater runoff and log-deck sprinkler water (process water) that has contacted raw materials are conveyed from approximately 42 acres of log-deck and scale yard area, through ditches and culverts into the primary catch basins. At the log-deck and scale yard areas, four primary catch basins are used to remove the larger woody debris and the heavier sediment contained in the commingled process water runoff. The stormwater commingled with process water then flows into a larger concrete settling/stilling basin, prior to overflowing to a constructed wetland. The large concrete settling/stilling basin can also receive storm water from Station 9, if needed.

4. Treated effluent from the constructed wetland discharges into a 5-foot diameter concrete culvert, which conveys the water into a three-foot diameter steel corrugated metal pipe, and then into a three-foot diameter perforated outlet tee that discharges into a large vegetated low area, situated adjacent to the North Fork Mad River (NFMR). The discharge location where the discharge enters into the NFMR is situated at $-40^{\circ} 52' 22''$ N latitude, and $-123^{\circ} 57' 35''$ W longitude.
5. The Facility has been regulated by Waste Discharge Requirements (WDRs), Regional Water Board Order No. R1-2013-0008, National Pollutant Discharge Elimination System (NPDES) No. CA0005932, WDID No. 1B800200HUM, adopted by the Regional Water Board on May 2, 2013.
6. Due to the Facility's inability to comply with copper and lead effluent limitations in their NPDES permit (Order No. R1-2013-0008), a Cease and Desist Order (CDO) was issued to California Redwood Company, Korbel Sawmill (CRC) on May 2, 2013 and became effective on July 1, 2013. The CDO provided a compliance schedule for CRC to develop, submit, and implement methods of compliance, including the development and implementation of pollution prevention activities, or the construction of necessary treatment facility upgrades to meet the new effluent limitations for copper and lead. The Facility was required to achieve full compliance with the copper and lead effluent limitations by July 1, 2018.
7. The Facility modifications completed in 2013, 2014, and 2015 effectively removed significant sources of copper and lead in the system, notably from the boiler blow-down and the accumulation of metals in the sludge and solids stored in the wetland and the log deck ditches and sediment basins. After eliminating the boiler discharge and removing the settled material, the effluent copper and lead concentrations at the wetland discharge location decreased significantly. During the second half of 2016, the Facility began renovation activities of the Korbel Sawmill. Table 1 below summarizes facility modifications completed since 2013, and includes the average copper and lead effluent concentrations for each year following modifications. Final average monthly and maximum daily effluent limits for copper at discharge point 001, are $4.9 \mu\text{g/L}$ and $9.7 \mu\text{g/L}$, respectively. The final average monthly and maximum daily effluent limits for lead at discharge point 0001 are $1.5 \mu\text{g/L}$ and $2.9 \mu\text{g/L}$, respectively.

Table 1			
Facility Modification Summary and Annual Average Concentration Comparison Korbel Facility, Humboldt County, California			
Date	Facility Modifications	EFF-001 Annual Average Concentration¹ (µg/L)²	
		Copper (Ave. Monthly limit 4.9 µg/L Max Daily Limit 9.7 µg/L)	Lead (Ave. Monthly limit 1.5 µg/L Max Daily Limit 2.9 µg/L)
August 2013	Constructed treatment wetland was emptied, and a large-scale excavation was conducted to remove sediment and restore the bottom elevation of the basin.	---	---
September 2013	Rock diversion dams were constructed in the CWL to route flows through the center of the basin.	---	---
August 2014	Operation of the facility boilers and kilns was discontinued.	12.1	3.1
February 2015	Active sawmill and planing operations were discontinued.	9.4	2.0
June 2015	Log deck sprinkler operations ceased. Log deck storage areas were cleaned up and re-rocked; ditches and sediment basins were cleaned out.	9.4	2.0
July 2016	Log deck sprinkler operations resumed.	4.3	0.9
October 2016	A silt fence barrier was constructed around the wetland outlet to prevent debris from building up around the outlet weir.	4.3	0.9
1. Average annual concentrations were calculated using J-flag values at the reported concentrations and non-detect values at the method detection limit. 2. µg/L: micrograms per liter 3. ---: not available			

8. On July 1, 2016, the Permittee submitted its fifth bi-annual assessment report. The findings of the report indicated that the boiler blow-down sump had been a significant source of high concentrations of copper and lead. The study also indicated that moderate background levels of copper and lead were present in the upstream surface waters as well as in soil samples collected from the banks of one of the upstream creeks.
9. To improve treatment efficiency of constructed wetland, the Facility installed twenty “floating islands” that contain wetland plants during the fall of 2017 and spring of 2018.
10. On May 1, 2017, in accordance with task 6 of their CDO, the Facility submitted a Copper and Lead Feasibility Study stating that despite operational modifications, including the implementation of improvements to their treatment wetlands, contributing to a reduction in effluent concentrations of copper and lead, natural variability of wetland systems would likely make it problematic for the Facility to consistently rely on the wetland for treatment to achieve compliance with effluent limitations established in their NPDES permit. As a result, the Permittee proposed to derive site specific water quality criteria for copper and lead by conducting a Water Effect Ratio (WER) study as their preferred alternative to achieving compliance with final limitations.

11. In its promulgation of aquatic life criteria for metals, the United States Environmental Protection Agency (EPA) recognized that the bioavailability of metals, and thus their toxicity, can vary substantially between site waters relative to the laboratory control waters used in the toxicity tests from which the aquatic life criteria were derived. A water-effect ratio (WER) accounts for this difference, and is expressed as the ratio of the effect threshold (e.g. EC50) for a metal in site water versus the effect threshold for the same metal in laboratory control water.
12. Preliminary results from an efficacy study (completed by Pacific EcoRisk) indicated that the predicated WER could alleviate future effluent limitations for both copper and lead. In May 2017, the Permittee submitted a WER study workplan for Regional Water Board staff approval. On June 28, 2017, Regional Water Board staff provided comments to the WER study workplan.
13. On June 26, 2018, the Permittee submitted their final WER report to the Regional Water Board. Results from the study concluded that the Facility's effluent has a WER value greater than one for copper and lead (a condition where the metals are effectively less toxic to the primary test species, *Ceriodaphnia dubia* or water flea, in site water relative to the laboratory-controlled water). Results from the study also provided supporting information for the Regional Water Board to authorize the use of WER values for both copper and lead to calculate site specific water quality criteria.
14. The adjusted WER values for copper and lead that were provided in the finalized WER report were used as multiplication factors in determining the acute and chronic freshwater California Toxics Rule (CTR) Water Quality Criteria. Using these site-specific fresh water quality criteria, the reasonable potential analysis (RPA) conducted on August 18, 2018, showed that both copper and lead do not exhibit reasonable potential to exceed the water quality objectives; therefore, the Facility's new proposed NPDES permit will not retain effluent limitations for copper and lead.
15. With the recent completion of the WER study as well as treatment modifications to their constructed wetlands, Regional Water Board finds that the Permittee has made progress in resolving the Facility's copper and lead discharge exceedances. Furthermore, when results from the finalized WER study and the resulting RPA analysis are weighed in, the Permittee can be considered to have completed task 7 of their CDO which requires achieving full compliance with final effluent limitations for copper and lead. However, until their new NPDES permit can be adopted, the Permittee needs interim limitations established for the 2018-2019 discharge season to avoid accruing mandatory minimum penalties (MMPs) for discharge(s) exceeding current effluent limitations established in their existing NPDES permit (R1-2013-0008).

16. Based on the Permittee's completion of tasks identified in CDO R1-2013-0009, including implementation of Facility modifications and upgrades, submission of the WER study workplan and all required assessment reports, the Regional Water Board finds that diligent progress has been made toward bringing the waste discharge into compliance with the final effluent limits and additional time is necessary to comply with the final effluent limit.

THEREFORE, IT IS HEREBY ORDERED that pursuant to Water Code section 13301, and 13267, CDO R1-2013-0009 be modified to retain the interim effluent limits for copper and lead until December 31, 2019 when the Facility's new NPDES permit would likely become effective. See modification to CDO R1-2013-0009 below; compliance date corresponding to task 7 has been modified from July 1, 2018 to December 31, 2019.

Table 2
CDO Compliance Summary¹
Korbel Facility, Humboldt County, California

Task	Task Description	Compliance Date	Completion Date
1	Submit a pollution prevention plan (PPP) that meets the requirements of Water Code section 13263.3(d)(3). The PPP shall be designed to identify and control pollution at the facility during the interim period until the facility achieves full compliance with final effluent limitations for copper and lead.	Aug. 1, 2013	Jul. 29, 2013
2	Submit copper and lead study work plan (including an enhanced monitoring program for copper and lead throughout the Facility) for Executive Officer approval (compliance schedule assumes Executive Officer approval within 30 days of work plan submittal).	Dec. 1, 2013	Nov. 11, 2013
3	Submit biannual assessment reports from enhanced monitoring program for copper and lead throughout the facility at key locations. The reports shall include: a) Summary of data collected to date b) Evaluation of the facility performance with regard to metals removal and compliance with effluent limitations c) Evaluation of the potential for operational modifications to achieve desired lead and copper removal d) Summary of any implemented operational modifications	Biannually (Jul. 1st and Jan. 1st of each year) with first report due on Jul. 1, 2014	Jun. 26, 2014 Dec. 29, 2014 Jun. 18, 2015 Dec. 30, 2015 Jun. 30, 2016 Dec. 30, 2016
4	Complete treatment wetland modifications and upgrades.	Nov 1, 2014	In Progress ²
5	Submit report of findings regarding the completion of the copper and lead study.	Dec 1, 2016	Jun. 30, 2016
6	If operational modifications and reductions are unsuccessful, submit a feasibility study for additional process infrastructure, alternative treatment and/or an alternative discharge proposal to achieve required metals removal. This evaluation shall include a comparison of alternative technologies, development of ranking criteria, and a recommendation for a preferred alternative to achieve compliance with copper and lead effluent limitations.	May 1, 2017	May 1, 2017
7	Achieve full compliance with final copper and lead effluent limitations	July 1, 2018¹ December 31, 2019	---

1. CDO: Cease and Desist Order No. R1-2013-0009
2. Treatment wetland modifications and upgrades were initiated in 2013 and then subsequently suspended when CRC shut down mill operations in February 2015.

¹ The compliance schedule table in CDO R1-2013-0009 incorrectly listed the final compliance date as May 1, 2018, the actual compliance date as specified in the Order was July 1, 2018.

CERTIFICATION

I, Matthias St. John, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, North Coast Region, on November 14, 2018.

Matthias St. John
Executive Officer