

INFORMATION SHEET

WASTE DISCHARGE REQUIREMENTS ORDER R5-2012-XXXX
DIAMOND PET FOOD PROCESSORS OF RIPON, LLC AND
RIPON COGENERATION, LLC
DIAMOND PET FOOD RIPON FACILITY
SAN JOAQUIN COUNTY

Background

Diamond Pet Food Processors of Ripon, LLC (hereafter Diamond) owns and operates the pet food processing facility and the associated wastewater treatment and disposal facility, as shown on Attachment A. Veresen, Inc. owns Ripon Cogeneration, LLC, whose neighboring power plant has historically discharged industrial wastewater to Diamond's wastewater treatment facility (WWTF). Diamond and Ripon Cogeneration, LLC are hereafter jointly referred to as "Dischargers" and are responsible for compliance with these WDRs.

The Diamond plant site was formerly a paper mill, which was owned and operated by the Neenah Paper Fox River, LLC. The paper mill was closed in May 2009 and there has been no discharge of process wastes from the paper mill since then. However, Ripon Cogeneration, LLC continued to discharge industrial process waste to the wastewater treatment facility. In October 2010, Diamond purchased the site and has refitted the industrial paper mill plant to manufacture pet food.

WDRs Order 5- 01-148, adopted by the Central Valley Water Board on 14 June 2001, prescribes requirements for the Neenah Paper Fox River LLC paper mill. The Order describes an average dry weather flow limit of 60 million gallons per month and a maximum daily flow limit of 2.5 million gallons per day (mgd). The purpose of this revision is to prescribe requirements for Diamond and Ripon Cogeneration, LLC and reduce the influent flow limit to 0.29 mgd as a monthly average. Therefore, Order 5- 01-148 will be rescinded and replaced with this Order.

Previous Facility and Discharge

Neenah manufactured several grades of fine papers from purchased pulps including virgin bleached pulp, deinked post-consumer waste, and waste paper. The paper mill's maximum daily production rate was 200 tons of paper. The wastewater generated from paper processing was applied to land on the mill property. Wastewater flows to the clarifier from Neenah and Ripon Cogeneration, LLC averaged 1.0 to 2.0 mgd.

Ripon Cogeneration, LLC has historically discharged cooling tower blowdown and reverse osmosis (RO) reject brine from the neighboring cogeneration plant to the paper mill's wastewater treatment system under a long-term agreement with Neenah Paper Fox River, LLC. Ripon Cogeneration, LLC's wastewater flows recently ranged between 0.2 and 0.3 mgd with an average TDS concentration of 1,000 mg/L. In the past, Ripon Cogeneration, LLC's wastewater was blended with paper mill wastewater in the clarifier before land application. The overall blended and treated wastewater had an average total dissolved solids (TDS) concentration of 812 mg/L in 2008 with a range between 682 mg/L and 928 mg/L. Since the paper mill closed in May 2009, Ripon Cogeneration, LLC's cooling tower blowdown/RO reject

brine has been diluted with low TDS groundwater before being discharged to the LAAs; the effluent had an average TDS concentration of 526 mg/L from May 2010 through June 2011.

The wastewater treatment facility consists of a solids separation system, a clarifier, two aeration stabilization basins (ASB-1 and ASB-2) operated in series, and 86 acres of percolation fields and orchards (Land Application Areas, "LAAs"). ASB-1 and ASB-2 are equipped with mechanical aerators. In addition, Ponds 1 through 4 are used only to contain excess wastewater in case of treatment system upset or to store storm water runoff during the wet seasons. Storm water collected in the ponds is applied to the LAAs and no storm water runoff is discharged to surface waters. There are two closed paper mill sludge disposal units onsite, which have inert paper sludge and are covered with a minimum of one foot thick vegetative soil graded for draining purposes. A site map is shown on Attachment B.

The LAAs consist of the east, and upper west and west percolation fields (43 acres), and east, west and north orchards (43 acres). There are no crops on the three percolation fields, but there are eucalyptus and redwood trees on the orchards. The wastewater in ASB-2 is applied to the LAAs via flood irrigation for disposal by percolation.

Changes in the Discharge

Diamond uses dry ingredients, oils, fats and fresh meat to manufacture 250,000 tons of pet food each year. Diamond proposed to start manufacture in April 2012 and to discharge wastewater into the onsite wastewater treatment system, and is currently operating at approximately 60 percent of production capacity. With the exception of the wastewater facilities, the paper mill manufacturing facilities have been removed and restructured for pet food manufacture. Diamond does not propose to improve the existing wastewater treatment facility. However, the projected wastewater flow rates and quality are different from the previous paper mill's discharge.

Diamond uses RO systems to improve the quality of the groundwater supply that is used for its processes. Diamond's wastewater consists of the RO reject brine, and process and sanitation wastewater. In addition, Diamond will continue to accept Ripon Cogeneration, LLC's cooling tower blowdown and RO reject brine. Diamond's process and sanitation wastewater is collected into a solids separation collection system and then the supernatant is pumped into a clarifier. The solids are hauled offsite to a permitted landfill.

The wastewater from both Ripon Cogeneration, LLC and Diamond is mixed in the circular clarifier, where wastewater is diluted with low TDS groundwater from the onsite production wells and distilled water purchased from Ripon Cogeneration, LLC. The wastewater flows into two ASBs in series from the clarifier and then is applied to the LAAs via flood irrigation. The wastewater treatment process schematic is shown on Attachment C.

The overall influent flow rate will average approximately 700,000 gallons per day (gpd), which includes wastewater generated from Diamond and Ripon Cogeneration, LLC, and dilution water. The wastewater generated by Diamond and Ripon Cogeneration, LLC will average approximately 283,000 gpd, which is approximately 40 percent of the total flow.

The projected overall influent TDS concentration of 684 mg/L for Diamond and Ripon Cogeneration, LLC is less than the paper mill's effluent average TDS concentration of 812 mg/L in 2008. In addition, the proposed TDS loading rate is approximately 61 percent of the paper mill's discharge. To address the sources of salinity discharged to the wastewater treatment system and the LAAs, this Order requires the Dischargers to submit a *Salinity and Nutrient Evaluation and Minimization Plan*.

Diamond will continue to manage the LAAs as Neenah did: the LAAs will be flood irrigated as needed to dispose of the treated wastewater by percolation. The RWD did not specify how the LAAs will be operated or how wastewater will be contained within the LAAs. This Order requires the Dischargers to appropriately operate the LAAs to prevent nuisance or wastewater runoff.

The RWD indicates that the WWTF has enough storage and disposal capacity for the storm water collected at the facility and approximately 700,000 gpd of the treated wastewater including dilution water. The application of 700,000 gpd of water over the 86-acre LAAs equates to a daily application depth of 0.3 inches. Therefore, the flow limitations of this Order are based on the daily influent flows excluding the dilution water provided in the RWD.

Groundwater Conditions

WDRs Order 5- 01-148 required that Neenah determine background groundwater quality to establish Water Quality Protection Standards (WQPSs). The WQPSs for the shallow zone were established based on the groundwater monitoring data in the wells OB-10, OB-14, OB-16, OB-17, OB-21 and OB-22, which are adjacent to the Stanislaus River. The WQPSs were approved in August 2006.

The discharges from Neenah and Ripon Cogeneration, LLC degraded groundwater quality, primarily with salinity constituents. In order to comply with the WDRs Order 5-01-148, Neenah planted the current orchard in a failed attempt to reduce the degradation by phytoremediation. In 2007 and 2009, Neenah applied low salinity fresh water to the percolation fields in order to improve groundwater quality and to meet the WQPSs. When the paper mill was closed in May 2009, the groundwater under portions of the paper mill site had not met these standards.

Groundwater quality at the site has been monitored since January 1992. Four aquifer zones beneath the site have been identified. Diamond has 36 active monitoring wells and five groundwater production wells. In addition, Diamond monitors six other monitoring wells that

are located at the Diamond site but owned by Nestlé USA, Inc. Therefore, Diamond is monitoring a total 47 monitoring and supply wells. .

Shallow groundwater is typically encountered approximately 35 feet below ground surface and the shallow groundwater flow direction is variable. The July 2010 groundwater elevation data show that mounding occurred in the vicinity of the Discharger's west percolation field and offsite north of the City of Ripon's WWTF ponds, which are immediately west of the Diamond site; however, the July 2011 groundwater elevation data show that the groundwater flow was away from the Stanislaus River and towards the northwest. In general, mounding occurs onsite and offsite in the vicinity of the City of Ripon's WWTF ponds. The City's WWTF treats up to 2.0 mgd and disposes of wastewater via percolation/evaporation ponds and land application area.

Shallow groundwater quality has been characterized by monitoring wells in the first aquifer zone since January 1992. Based on recent shallow zone groundwater monitoring data from February 2007 through October 2011, the groundwater average TDS concentrations ranged between 630 mg/L and 1,449 mg/L in the compliance wells. After the paper mill was closed in May 2009, Ripon Cogeneration, LLC continued to discharge and dilute the discharge with lower salinity fresh water. Since then, the groundwater TDS concentrations in wells OB-2, OB-08, OB-10, OB-18, OB-19 and OB-20 have slightly decreased. However, the TDS concentrations in other shallow zone wells have not changed significantly.

The predicted wastewater TDS concentration of 684 mg/L is less than the TDS concentrations in the groundwater monitoring wells at the site, except for the wells near the river (Wells OB-17 and OB-22). Based on the projected effluent quality, the method of disposal and existing groundwater quality, it is unlikely that the proposed discharge will significantly degrade the groundwater quality for TDS.

This Order requires the Dischargers to monitor certain monitoring wells in the first aquifer zone. Unused monitoring wells that are not required to be monitored in this Order and are not monitored by Nestle for remediation can be destroyed with the approval of the Central Valley Water Board. This Order requires the Dischargers to submit a *Groundwater Monitoring Well Destruction Plan*.

Discharge Prohibitions, Specifications and Provisions

Influent flows to the clarifier shall not exceed the following limits:

<u>Influent Flow Measurement</u>	<u>Influent Flow Limit</u>
Diamond	
Monthly Average Flow ¹	66,000 gpd
Daily Maximum Flow	87,000 gpd
Ripon Cogeneration, LLC	
Monthly Average Flow ¹	220,000 gpd
Daily Maximum Flow	310,000 gpd

¹ As determined by the total influent flow for the calendar month divided by the number of days in that month.

This Order prescribes groundwater limitations that implement water quality objectives for groundwater from the Basin Plan.

In addition, this Order prescribes effluent limitations for BOD, total nitrogen, TDS, chloride and pH.

The Provisions require submittal of the following technical reports: *Groundwater Limitations Compliance Assessment Plan, Groundwater Monitoring Well Destruction Plan, and Salinity and Nutrient Evaluation and Minimization Plan.*

The Monitoring and Reporting Program is designed to verify compliance with effluent limitations, groundwater limitations, and operational requirements of the WDRs.