

**LATE REVISIONS**  
**PACTIV CORPORATION**  
**MOLDED PULP MILL**  
**TEHAMA COUNTY**  
**NPDES Permit Renewal (NPDES No. CA0004821)**  
**and**  
**Time Schedule Order**  
**Regional Water Quality Control Board, Central Valley Region**  
**Board Meeting – 10 June 2011**  
**ITEM # 22**

**Changes to Proposed NPDES Permit Renewal**

1. **NPDES Permit, Findings.** Section II, Finding B. Page 4.  
Modify as shown in underline/strikeout format below:

The Discharger may plans to discontinue use of Ponds 1 through 3 and modify Pond 4 for wastewater treatment during this permit term. Modification of Pond 4 will entail dividing it into three ponds—two of which will be used as settling ponds and one which will be repurposed as an aeration pond.

2. **NPDES Permit, Findings.** Section II, Finding K. Page 7.  
Modify as shown in underline/strikeout format below:

Where a compliance schedule for a final effluent limitation exceeds 1 year, the Order must include interim numeric limitations for that constituent or parameter, interim milestones and compliance reporting within 14 days after each interim milestone. The permit may also include interim requirements to control the pollutant, such as pollutant minimization and source control measures. This Order includes a compliance schedule for final groundwater limitations and exemption from Title 27 for treatment of process wastewater in the operational pond ~~Ponds 1 through 4 and the aeration pond~~. A detailed discussion of the basis for the compliance schedule is included in the Fact Sheet.

3. **NPDES Permit, Effluent Limitations.** Table 6, Final Effluent Limitations, Section IV.A.1.a.  
Modify as shown in underline/strikeout format below:

**Table 6. Final Effluent Limitations – Discharge Point No. 001**

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
<i>Conventional Pollutants</i>					

Biochemical Oxygen Demand (5-day @ 20°C)	mµg/L <sup>1</sup>	--	11.4	--	--
	lbs/day <sup>1</sup>	138	264	--	--
pH	standard units	--	--	6.5	8.5
Total Suspended Solids	mµg/L <sup>1</sup>	--	28.5	--	--
	lbs/day	348	648	--	--

4. **NPDES Permit, Provisions.** Section VI, Provisions. 2.B. Page 21.

Modify as shown in underline/strikeout format below:

- b. **Groundwater Monitoring.** To determine compliance with Groundwater Limitations V.B, the Discharger shall monitor groundwater in accordance with section VIII.B of the MRP (Attachment E) and ensure there are one or more background monitoring wells and a sufficient number of designated monitoring wells down gradient of the operational pond ~~every treatment, storage and disposal unit that does or may release waste constituents to groundwater, including Ponds 1 through 4 and the aeration pond.~~ All monitoring wells shall comply with the appropriate standards as described in California Well Standards Bulletin 74-90 (June 1991) and Water Well Standards: State of California Bulletin 74-81 (December 1981), and any more stringent standards adopted by the Discharger or County pursuant to CWC section 13801.

5. **NPDES Permit, Provisions.** Section VI, Provisions. 7.a. Page 23.

Modify as shown in underline/strikeout format below:

- a. **Compliance Schedules for Final Groundwater Limitations and Exemption from Title 27 for Treatment of Process Wastewater in the Operational Pond ~~Ponds 1 through 4 and the Aeration Pond~~.** This Order requires compliance with the final groundwater limitations by **<(DATE ) 23 years after permit adoption>**. Compliance with the groundwater limitations will result in the treatment of process wastewater in the operational pond ~~Ponds 1 through 4 and the aeration pond~~ meeting the preconditions for an exemption from Title 27. Therefore, this compliance schedule temporarily exempts the Discharger from compliance with Title 27 requirements to allow time for the Discharger to meet all preconditions for an exemption from Title 27. The Discharger shall comply with the following time schedule to ensure compliance with the final groundwater limitations and to demonstrate the infiltration of process wastewater from the operational pond ~~Ponds 1 through~~

~~4 and the aeration pond~~ to groundwater is in compliance with the Basin Plan:

<u>Task</u>	<u>Compliance Date</u>
i. Submit Method of Compliance Workplan/Schedule	<b>Within 3 months</b> following Order effective date adoption
<del>ii. Complete modifications to Pond 4, commence use of Pond 4 for wastewater treatment, and discontinue discharges of process wastewater to Ponds 1 through 3 and the aeration pond</del>	<b>Within 1 year</b> following Order adoption
iii. Submit Technical Report summarizing groundwater monitoring results for <u>the operational pond Ponds 1 through 4 and the aeration pond, and provide proof of Title 27 exemption analysis evaluating the effectiveness of implementation of Task i, and recommending additional measures as necessary to achieve full compliance by the final compliance date</u>	<b>Within 21 months 4 year</b> following implementation of Task ii
<del>viii. Complete implementation of recommendations made under Task ii and achieve full compliance</del>	<b>&lt;DATE 3 years following Order adoption&gt;</b>
<del>vi. Submit Final Compliance Report documenting full compliance</del>	<b>&lt;DATE 1 month after Task viii&gt;</b>

**b. Compliance Schedule for Assessment of Previous Pond Discharges.** The Discharger shall submit a Workplan/Schedule for assessing the previous pond discharges to determine if they have impacted groundwater. This Workplan/Schedule should describe the methods that will used to determine if groundwater has been impacted from past discharges, and recommendations. Any remedial actions required to address any impacts must be completed in accordance with a subsequent work plan and time schedule approved by the Central Valley Water Board Executive Officer. The Discharger shall comply with the following time schedule to ensure compliance with this assessment:

<u>Task</u>	<u>Compliance Date</u>
i. <u>Submit Method of Compliance Workplan/Schedule</u>	<b>Within 1 year</b> following Order effective date
ii. <u>Submit Technical Report summarizing investigation report, and recommending additional measures as necessary</u>	<b>Within 2 years</b> following implementation of Task i

6. **Attachment A, Definitions.** Definitions, Page A-4.

Revise language to read as follows:

**Operational Pond.**

A pond that will be utilized for storage and/or treatment of wastewater during the permit cycle.

7. **Figure C-1 and C-2.** Page C-1 and C-2.  
 Replace flow diagram box titled "Settling Ponds #1, 2, 3 and 4" with the name Operational Pond.
  
8. **Attachment E, Monitoring and Reporting Program.** Monitoring Locations, Section VI, Provisions. 7.a. Page E-4.  
 Modify as shown in underline/strikeout format below:

**Table E-1. Monitoring Station Locations**

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	GW-001	Groundwater monitoring well downgradient of <u>the Operational Pond Pond 4 and identified as MW-6 in Appendix F of the Report of Waste Discharge.</u>
--	GW-002	Groundwater monitoring well upgradient of <u>the Operational Pond Pond 4 and identified as MW-7 in Appendix F of the Report of Waste Discharge.</u>
--	GW-003	Groundwater monitoring well downgradient of <u>the Operational Pond Pond 4 and identified as MW-8 in Appendix F of the Report of Waste Discharge.</u>

9. **Attachment E, Monitoring and Reporting Program.** Receiving Water Monitoring Requirements, Table E-5, Page E-10.  
 Modify as shown in underline/strikeout format below:

**Table E-5. Receiving Water Monitoring Requirements**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
<u>Copper</u>	<u>ug/L</u>	<u>Grab</u>	<u>1/Month</u>	<u>1.3</u>
<u>Zinc</u>	<u>ug/L</u>	<u>Grab</u>	<u>1/Month</u>	<u>1.3</u>

10. **Attachment E, Monitoring and Reporting Program.** Monitoring Locations GW-001 through GW-003, Section VIII.B., Page E-11.  
 Modify as shown in underline/strikeout format below:
  1. Prior to construction and/or sampling of any new groundwater monitoring wells, the Discharger shall submit plans and specifications to the Regional Water Board for approval. Once installed, all new wells shall be added to the monitoring network (~~which currently consists of Monitoring Well Nos. GW-001 through GW-003~~) and shall be sampled and analyzed according to the schedule below. All samples shall be collected using approved USEPA methods. Water

table elevations shall be calculated to determine groundwater gradient and direction of flow.

Prior to sampling, the groundwater elevations shall be measured and the wells shall be purged of at least three well volumes until temperature, pH, and electrical conductivity have stabilized. Depth to groundwater shall be measured to the nearest 0.01 feet. Groundwater monitoring at ~~GW-001 through GW-003~~ and any new groundwater monitoring wells shall include, at a minimum, the following:

11. **Attachment F, Fact Sheet.** Planned Changes, Section II.E., Page F-8. Modify as shown in underline/strikeout format below:

#### **E. Planned Changes**

Order No. R5-2004-0124 required the Discharger to submit a *Process Wastewater Evaluation and Treatment Report* identifying best practicable treatment and control (BPTC) to prevent the infiltration to groundwater of pollutants that could impact groundwater. The Discharger conducted a pond liner assessment on Ponds 1 through 4 and determined that all of the ponds were constructed with a clay liner and were capped with gravel, presumably to provide a working surface for heavy equipment during removal of solids. Ponds 1 through 3 have been utilized for several years, and have been emptied many times. These excavations may have likely impinged on the clay liners of these ponds. Pond 4, however, has never been used, and the pond liner assessment found that the clay liner in Pond 4 is of much higher quality than the liners in Ponds 1 through 3. Therefore Dischargers may plan to modify Pond 4 for wastewater treatment and discontinue use of Ponds 1 through 3 and the unlined aeration pond. Modification of Pond 4 will entail dividing it into three basins—two of which will be used as settling basins and one which will be repurposed as an aeration basin. The Discharger anticipates that use of Pond 4, with the high quality clay liner, will be more protective of groundwater than the use of Ponds 1 through 3 and the unlined aeration pond.

12. **Attachment F, Fact Sheet.** Planned Changes, Section III.E., Page F-11. Modify as shown in underline/strikeout format below:

In order to qualify for an exemption from Title 27 under section 20090(b), the Discharger must demonstrate compliance with the Basin Plan, which includes meeting BPTC and complying with water quality objectives for groundwater. Groundwater monitoring data has not been obtained to

determine whether any attenuation beneath Ponds 1 through 3 or the aeration pond has occurred. The Discharger has conducted groundwater monitoring around Pond 4 since 2007; however, compliance with the Basin Plan for the underlying groundwater cannot be determined since Pond 4 has never been utilized. Until the Discharger provides further information (e.g., groundwater monitoring data) and meets BPTC, the Regional Water Board cannot determine whether the wastewater treated in the Operational Pond ~~Ponds 1 through 4 and the aeration pond~~, and thus the underlying groundwater, complies with the applicable water quality control plan, as required by the exemption at Title 27 section 20090(b). Therefore, this Order includes a compliance schedule requiring the Discharger to implement BPTC ~~(i.e., cease discharges to Ponds 1 through 3 and the aeration pond and commence discharges to a modified Pond 4)~~ and requires the Discharger to collect groundwater monitoring data to discern whether discharges to the Operational Pond ~~Ponds 1 through 4 and the aeration pond~~ are degrading water quality.

13. **Attachment F, Fact Sheet.** Determining the Need for WQBELS, Section IV.C.3.d.ii.(d), Page F-31.

Modify as shown in underline/strikeout format below:

**(d) Plant Performance and Attainability.** Analysis of the effluent data shows that the MEC of 6.91 µg/L is greater than the applicable WQBELS. At this time, the Discharger has ~~not~~ requested a compliance schedule for copper. ~~Therefore, the final effluent limitations are effective upon the effective date of this Order.~~

14. **Attachment F, Fact Sheet.** Determining the Need for WQBELS, Section IV.C.3.d.vi.(d), Page F-35.

Modify as shown in underline/strikeout format below:

**(d) Plant Performance and Attainability.** Analysis of the effluent data shows that the MEC of 14 µg/L is greater than the applicable AMEL. At this time, the Discharger has ~~not~~ requested a compliance schedule for zinc. ~~Therefore, the final effluent limitations are effective upon the effective date of this Order.~~

15. **Attachment F, Fact Sheet.** Determining the Need for WQBELS, Section IV.D.4.b, Page F-41.

Modify as shown in underline/strikeout format below:

Groundwater monitoring has not been conducted to evaluate the impacts to groundwater from the use of Ponds 1 through 3 and the aeration pond. Groundwater monitoring has been conducted in the vicinity of Pond 4.

Although use of Pond 4 for wastewater treatment is expected to provide BPTC, the pond has never been utilized and thus it is uncertain if its clay liner will be more protective of groundwater. This Order requires the Discharger to monitor groundwater quality ~~continue groundwater monitoring~~ in the vicinity of the Operational Pond Pond 4 ~~and install a system of groundwater monitoring wells around Ponds 1 through 3 and the aeration pond~~ and conduct quarterly groundwater monitoring to determine if the use of the ponds has degraded the underlying groundwater. This Order also contains a compliance schedule requiring compliance with groundwater limitations within 23-years following Order adoption. Prior measures to reduce flow and solids loading to the treatment system in conjunction with the planned modification of the treatment system, as described in section II.E of this Fact Sheet, is expected to provide BPTC.

**16. Attachment F, Fact Sheet.** Compliance Schedules, Section VI.B.7, Page F-54.

Modify as shown in underline/strikeout format below:

- a. As discussed in section III.E of this Fact Sheet, the Regional Water Board cannot determine whether the wastewater treated in the Operational Pond Ponds 1 through 4 and the aeration pond, and thus the underlying groundwater, complies with the applicable water quality control plan, as required by the exemption at Title 27 section 20090(b). ~~Furthermore, as described in section IV.D.4.b, the Discharger has not yet implemented BPTC (i.e., ceasing discharges to Ponds 1 through 3 and the aeration pond and commencing discharges to a modified Pond 4). The Discharger indicated during a 25 May 2010 site visit that the planned changes to provide BPTC, as described in section II.E of this Fact Sheet, would be completed within 1 year.~~ Therefore, this Order includes a compliance schedule requiring the Discharger to provide BPTC within 1 year following permit adoption and to demonstrate achievement of the pre-conditions for an exemption at Title 27 section 20090(b) within 2 years following permit effective date implementation of BPTC.
  
- b. **Compliance Schedule for Assessment of Previous Pond Discharges.** The Discharger shall submit a Workplan/Schedule for assessing the previous pond discharges to determine if they have impacted groundwater. This Workplan/Schedule should describe the investigative methods that will used to determine if groundwater has been impacted from past discharges, and a final report with recommendations within 3 years following permit effective date. Any remedial actions required to address any

impacts must be completed in accordance with a subsequent work plan and time schedule approved by the Central Valley Water Board Executive Officer.

**17. NPDES Permit, Provisions.** Section VI.C.1.a.ii, Page 18.  
Modify as shown in underline/strikeout format below:

- ii. When new information, that was not available at the time of permit issuance, would have justified different permit conditions at the time of issuance, such as completion of the anticipated revised mixing zone study for zinc, copper and chronic whole effluent toxicity.

**18. NPDES Permit, Provisions.** Section VI.C.1.f, Page 19.  
Modify as shown in underline/strikeout format below:

- f. **Dilution/Mixing Zone Study.** In order to allow a mixing zone for chronic whole effluent toxicity, zinc and copper, the Discharger must submit an approved Dilution/Mixing Zone Study, in accordance with a workplan submitted to and approved by the Regional Water Board, which meets all of the requirements of Section 1.4.2.2 of the SIP. Should the Discharger submit an approved Dilution/Mixing Zone Study that meets the requirements of Section 1.4.2.2 of the SIP, the Regional Water Board may reopen this Order to modify chronic whole effluent toxicity requirements, zinc and copper limits based on an appropriate dilution factor.

**19. NPDES Permit, Attachment A. Definitions,** Page A-4.  
Modify as shown in underline/strikeout format below:

**Operational Pond**

A pond that will be utilized for storage and/or treatment of wastewater during the permit cycle after the compliance period in Section VI.C.7.a.

**20. NPDES Permit, Attachment B,** Page B-1.  
Modify as shown in underline/strikeout format below:

The Legend has been modified to indicate that the Groundwater Monitoring Wells locations are approximate.

- 21. NPDES Permit, Attachment E, Table E-1, Page E-1.**  
Modify as shown in underline/strikeout format below:

The table has been modified for locations LND-001 – LND-005 to read:

Location where ~~a representative sample of wastewater can be collected~~  
monitored in Pond 1.

- 22. NPDES Permit, Attachment E, Table E-7, Footnote #3, Page E-12.**  
Modify as shown in underline/strikeout format below:

<sup>3</sup> Standard minerals shall ~~include~~ consist of the following: boron, calcium, iron, magnesium, potassium, sodium, chloride, manganese, phosphorus, total alkalinity (including alkalinity series), and hardness, and include verification that the analysis is complete (i.e., cation/anion balance).

- 23. NPDES Permit, Attachment F, Table F-2, Page F-6.**  
Modify as shown in underline/strikeout format below:

Include 14 ug/L zinc in the Highest Average Monthly Discharge column.

- 24. NPDES Permit, Attachment F, Section II.E., Page F-8.**  
Modify as shown in underline/strikeout format below:

~~These excavations may have likely impinged on the clay liners of these ponds.~~

- 25. NPDES Permit, Attachment F, Section III.E., Page F-10.**  
Modify as shown in underline/strikeout format below

This Order serves as WDRs for the discharge and the discharge does not need to be managed as hazardous waste. The Facility contains four clay-lined settling ponds and an ~~unlined~~ aeration pond where a determination has been made by the Regional Water Board whether the facilities meet the exemptions from Title 27.

- 26. NPDES Permit, Attachment F, Section III.E., Page F-10.**  
Modify as shown in underline/strikeout format below

~~These excavations have likely impinged on the clay liners of these ponds. The aeration pond is unlined. Therefore, wastewater contained in Ponds 1~~

~~through 3 and the aeration pond may percolate to the underlying groundwater.~~

27. **NPDES Permit, Attachment F**, Section IV.C.2.d., Page F-26  
Modify as shown in underline/strikeout format below

Order No R5-2004-0124 allowed Pactiv a mixing zone for zinc corresponding to a dilution credits of 8:1. The Basin Plan water quality objective for zinc in the Sacramento River above Hamilton City is 17 µg/L. Based on monthly receiving water monitoring between May 2007 and April 2010, the receiving water exceeded the Basin Plan objective for zinc twice out of 37 samples at concentrations of 31.8 µg/L on 13 January 2010 and 136 µg/L on 4 January 2008. The SIP requires the maximum background concentration, based on representative samples also unaffected by significant storm events, be used when calculating the ECA. Because the background exceeds the criteria, there is no assimilative capacity for zinc and effluent limitations cannot be calculated with dilution credits. Therefore effluent limitations for zinc were calculated without credit for dilution pending review of information to determine if these samples were representative.

The 2004 study and 2009 update do not address constituents other than zinc or cadmium, such as copper added for the first time in this Order. ~~The, and the Discharger has not requested dilution credits for additional constituents zinc and copper.~~ Thus, effluent limitations for all other constituents will be calculated without credit for dilution pending review of Dischargers Dilution Study.

28. **NPDES Permit, Attachment F**, Section IV.C.2.d., Page F-27  
Modify as shown in underline/strikeout format below

This Order includes a reopener provision to reopen the permit to allow an appropriate mixing zone for chronic whole effluent toxicity, zinc and copper and revise the numeric monitoring trigger if the necessary information is provided.

29. **NPDES Permit, Attachment F**, Section IV.C.3.b.i., Page F-28  
Modify as shown in underline/strikeout format below

Because monitoring data for pentachlorophenol is limited to one estimated value at an internal monitoring point, ~~and the source of pentachlorophenol has not been detected~~ in the effluent ~~is unknown~~, the Regional Water Board is unable to determine if the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criterion for protection of human health for pentachlorophenol.

**30. NPDES Permit, Attachment F, Section IV.C.3.b.ii, Page F-28**  
Modify as shown in underline/strikeout format below

- ii. **2,3,7,8-TCDD and TCDD-Equivalents.** 2,3,7,8-TCDD was not detected in any of the samples collected in the Facility effluent or in the downstream receiving water. TCDD-equivalents was detected in the effluent from the clarifier prior to commingling with non-contact cooling and sealing water at  $4.2 \times 10^{-8}$  µg/L based on one sampling event on 5 December 2008. Monitoring data for TCDD-equivalents in the non-contact cooling and sealing water is not available. The maximum observed upstream receiving water TCDD-equivalents concentration was  $3.8 \times 10^{-8}$  µg/L based on one sampling event on 5 December 2008. In the internal clarifier effluent and receiving water, two of the congeners (1,2,3,4,6,7,8-HpCDD and OCDD) were reported as detected, however, each of the detected values were estimated values (i.e., j-flagged).

**31. NPDES Permit, Attachment F, Section IV.C.3.d.ii.(d), Page F-31**  
Modify as shown in underline/strikeout format below

- (d) **Plant Performance and Attainability.** Analysis of the effluent data shows that the MEC of 6.91 µg/L is greater than the applicable WQBELs. ~~At this time, the Discharger has requested a compliance schedule for copper.~~

**32. NPDES Permit, Attachment F, Section IV.C.3.d.vi.(d), Page F-34**  
Modify as shown in underline/strikeout format below

- (d) **Plant Performance and Attainability.** Analysis of the effluent data shows that the MEC of 14 µg/L is greater than the applicable AMEL. ~~At this time, the Discharger has requested a compliance schedule for zinc.~~

**33. NPDES Permit, Attachment F, Section VI.B.6, Page F-46**  
Modify as shown in underline/strikeout format below

As discussed in Section IV.C.3.b.ii of this Fact Sheet, two dioxin congeners (i.e., 1,2,3,4,6,7,8-HpCDD and OCDD) were detected, but not quantified, at in internal sampling point in the effluent on 5 December 2008, but never in the final effluent.

**34. NPDES Permit, Attachment F, Section VII.B.1.d., Page F-50**  
Modify as shown in underline/strikeout format below

**Dilution/Mixing Zone Study.** Order No. R4-2004-0124 allowed a mixing zone for chronic toxicity and zinc corresponding to a dilution ratio of 8:1. However, as described further in section IV.C.2.d of this Fact Sheet, the Discharger's 2004 mixing zone study and the 2009 update did not address mixing zones for chronic whole effluent toxicity, but specifically addressed mixing zones for individual pollutants (i.e., cadmium and zinc). Sufficient information demonstrating supporting a mixing zone for chronic whole effluent toxicity, copper and zinc has not been provided yet; therefore, this Order does not allow a mixing zone for chronic whole effluent toxicity, copper and zinc.

### **Changes to Proposed Time Schedule Order**

**35. Time Schedule Order.** Section 6, Page 2.

Modify as shown in underline/strikeout format below:

6. In accordance with CWC section 13385(j)(3), the Regional Water Board finds that, based upon results of effluent monitoring, the Discharger is not able to consistently comply with the new effluent limitations for copper and zinc at Discharge Point No. 001. These limitations are based on new requirements that become applicable to the Order after the effective date of the waste discharge requirements, and after 1 July 2000, for which new or modified control measures may be ~~are~~ necessary in order to comply with the limitation, and any ~~the~~ new or modified control measures cannot be designed, installed, and put into operation within 30 calendar days. In addition, the Discharger needs additional time to submit a revised mixing zone study for copper, zinc, and chronic toxicity to support their position for a higher final effluent limit.