29 July 2015

Michael Leggins
General Manager
Recology Yuba-Sutter
Delivered via email

Phil Graham
General Manager
Feather River Organics
Delivered via email

COMMENTS AND PROPOSED LATE REVISIONS ON TENTATIVE WASTE DISCHARGE REQUIREMENTS FOR RECOLOGY YUBA-SUTTER LANDFILL AND FEATHER RIVER ORGANICS COMPOSTING OPERATION, RECOLOGY YUBA-SUTTER AND FEATHER RIVER ORGANICS, YUBA COUNTY

On 17 July 2015, Central Valley Water Board staff received Recology Yuba-Sutter's additional comments on the tentative Waste Discharge Requirements (WDRs) and Monitoring and Reporting Program (MRP). Your comments are appreciated and upon careful consideration we have prepared responses to your comments and are proposing late revisions to the WDRS and MRP (see Attachments). Additional corrections/clarifications have been made to correct minor errors and/or to provide further clarification.

Our Board procedures require that you acknowledge receipt of the proposed late revisions prior to the public hearing scheduled for 30 and 31 July 2015 such that Central Valley Water Board staff can affirm to the Board that the proposed late revisions are being made with your knowledge and concurrence. Please provide your concurrence via email by close of business on 29 July 2015.

Please contact me at (916) 464-4630 or Marty.Hartzell@waterboards.ca.gov with any questions.

S/ M. Hartzell

Marty Hartzell, PG, CHG
Senior Engineering Geologist
Title 27 Permitting and Mining Unit

Attachments:

1. Response to Comments and Proposed Late Revisions
2. Revised WDRs with proposed late revisions
3. Revised MRP with proposed late revisions

cc (by Email): William A. Davis, Yuba County Environmental Health Department, Marysville

Regional Water Quality Control Board
Central Valley Region
Board Meeting – 30-31 July 2015

COMMENTS AND PROPOSED LATE REVISIONS
for
Tentative Waste Discharge Requirements
Recology Yuba-Sutter and Feather River Organics
Recology Yuba-Sutter Landfill
Class III Landfill and Composting Facility
Operation, Post-Closure Maintenance, and Corrective Action
Yuba County

At a public hearing scheduled for 30 and 31 July 2015, the Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) will consider adoption of Waste Discharge Requirements (WDRs) for discharges from the Recology Yuba-Sutter (RYS) and Feather River Organics (Discharger), Recology Yuba-Sutter Class III Landfill and Composting Facility (Facility).

This document contains responses to written comments received from interested parties regarding the tentative WDRs resulting in proposed late revisions to the tentative WDRs. The Discharger was the only interested party to submit comments.

Written comments from the Discharger were received on 17 July 2015 are summarized below, followed by the responses of Central Valley Water Board staff. Based on the Discharger's comments, Central Valley Water Board staff revised the tentative WDRs where necessary resulting in late revisions, and also made minor changes to correct typographical errors and to improve clarity.

RECOLOGY YUBA-SUTTER (DISCHARGER) COMMENTS

Comment on Findings #9(d), #55, #56, #93 & #94 and Provision H.7-Task C: As indicated in our prior submittals, RYS recognizes staff's position on revising the site's existing groundwater detection monitoring network, but RYS and its consultants believe that the existing system is adequate and complies with the applicable regulations. In the interest of moving towards a cooperative resolution of this matter, RYS will not dispute the findings and provisions on this issue in the tentative WDRs, except as noted below for the newly added text to revised Finding #94. RYS will work with Regional Board staff during the development of the revised system to define the appropriate scope and implementation of the modifications.

Response: Comment noted. See response for finding #94.

Finding #21: RYS respectfully maintains that the newly added footnote should be deleted. The last sentence of this finding describes the Section 13267 Order issued by Regional Board staff on December 9, 2014. That Order did not state that "consecutive days" means "up to and including." As a result, RYS maintains that the new footnote does not represent an accurate characterization of the text of the Order. In addition, the new footnote does not appear to be necessary to support the adoption of the operative tasks and provisions in the tentative WDRs relating to the compost water management system.

Response: The late revision changes the footnote to read:

[1] "*Consecutive days*" later determined to means "*up to and including*"

Finding #35: Based on the response by Regional Board staff to the initial comments on this finding, RYS requests that the following sentence be added to the end of the finding: "There have been no detections of VOCs in LF-3 monitoring wells since December 2011."

Response: Late revision adds sentence to finding:

35. The 2 September 2002 *Engineering Feasibility Study* presented the results of the evaluation monitoring and included corrective action alternatives. The report concluded that the low-level VOC impacts to groundwater were limited to the area of well MW-8. The most likely source of impact was determined to be LFG migrating from LF-3. Some elevated inorganic results potentially indicative of LFG influence were also detected in groundwater samples from well MW-11. The primary corrective action recommended in the report targeted source control of LFG in LF-3 by constructing a passive, shallow horizontal interceptor trench, below the cover system and above the base liner system, along the northeast perimeter of LF-3. There have been no detections of VOCs in LF-3 monitoring wells since December 2011.

Finding #94: As noted above, in the interest of moving towards a cooperative resolution of this matter, RYS will not dispute the requirement in the tentative WDRs to revise the site's groundwater detection monitoring system. In light of the fact that this requirement is no longer in dispute, RYS respectfully maintains that the large block of text that has been added to this finding should be deleted. This new text does not appear to be necessary to support the adoption of the requirements in the tentative WDRs relating to the revision of the site's groundwater monitoring detection system.

Response: RYS challenged the tentative WDRs which determined that the RYS detection monitoring system did not comply with Title 27 requirements. In response to RYS's appeal, staff augmented the language in Finding #94 to support its determination. Therefore, staff does not agree with RYS request to delete the new text in Finding #94. The additional text provides additional support for requiring RYS to make appropriate changes to its detection monitoring system in order to bring it into compliance with Title 27 requirements that the detection monitoring system provide compliance points hydraulically downgradient of the WMUs at the edge of waste and that the monitoring system provide representative samples of groundwater quality.

However, during review of the tentative WDRs per RYS comments, it was noted that the boring log for MW-4 indicated that the static water elevation was lower than the first encountered water and staff proposes the following late revision to correct to the finding:

completely submerged and do not intersect the water table. The Discharger has stated in the past that it is inappropriate to place well screens that span the water table since the static water elevation is higher due to confined aquifer conditions. However, a review of the well borehole logs for the wells listed above shows that in all the wells except MW-4 the first encountered water level in these wells was always higher than the static water level. This is an indication of an unconfined aquifer condition. Also, the well completion logs show that in all instances, the Discharger installed the well screens below the static water level. Thirdly, the hydrographs for each well indicates that if the Discharger had installed the wells screens at the static water table the Discharger would have spanned the water table including changes in groundwater elevation due to seasonal fluctuations. Finally, review of Table 4 of the Discharger's *2014 Second*

Finding #117, Financial Assurance Specification F.1 and Provision H.7-Task K: It likely will not be feasible to comply with the October 1, 2015 agency approval deadline for a revised cost estimate. In our experience, it typically takes CalRecycle a minimum of 90 days to review financial assurance estimates after they have been submitted. In addition, RYS has no control over the agency timeframe for approval. RYS therefore requests that the deadline in the WDRs specify the date by which RYS must submit the financial assurance estimates, rather than the date by which agency approval must be obtained.

Response: RYS indicated in June 2014 that there were errors in its post-closure maintenance cost estimate. It submitted a revised post-closure maintenance plan to CalRecycle in July 2014. In December 2014 CalRecycle notified RYS that its revised cost estimate for financial assurance did not comply with CalRecycle requirements. RYS will have had 7 months upon adoption of these tentative WDRs to resolve differences with CalRecycle and establish lower cost estimates for financial assurances.

However, the following late revisions are proposed changing the original due date of 1 October 2015 to 4 January 2016 allowing RYS additional time to work with CalRecycle to submit a cost estimate that complies with CalRecycle requirements such that CalRecycle can approve the revised cost estimate for financial assurances:

F. FINANCIAL ASSURANCE SPECIFICATIONS

1. The Discharger shall maintain assurances of financial responsibility with CalRecycle for post-closure maintenance for the landfill in at least the amounts of $4.7 million or an approved amount by 41 ~~1~~ January~~October~~ 2016~~5~~ (see Finding 117), and adjusted for inflation annually. A report regarding financial assurances for post-closure maintenance shall be submitted to the Central Valley Water Board by **1 June of each year**. This may be the same report that is submitted to CalRecycle for this purpose. If

K. **Submit an approved revised Post-Closure Maintenance Plan with revised cost estimates and financial assurances:** The Discharger shall submit a revised Post-Closure Maintenance Plan for all closed WMUs and post-closure operations with cost estimates and financial assurances that are approved by the appropriate regulatory agencies.	41 January~~October~~ 2016~~5~~

Composting Specification #15: RYS respectfully maintains that Regional Board staff may have misconstrued the initial comment on this provision relating to the high-intensity, short-duration storm event. In particular, RYS is requesting that the WDRs include a standard for the high- intensity, short-duration storm event (i.e., the 25-year, 10-minute storm) for the compost water

conveyance system, so that RYS would not be in violation in the event the conveyance system could not handle a short-duration storm that exceeded this standard. RYS previously has discussed this issue with Regional Board enforcement staff.

Regardless of any such standard for the conveyance system, the storage and disposal components of the compost water management system would be required to meet the standards that are set forth in this specification (i.e., "up to and including a 25-year 24-hour storm event of 3.16
inches" for 2015-2016, and meeting the requirements "in Title 27 section 20375(a) and 20375(b) according to an approved Operation Plan" after October 1, 2016). RYS would be pleased to discuss this issue further with you and your team.

> **Response:** The WDRs include a statement that the Discharger has made the determination that the 25-year 10-minute duration storm event produces maximum peak flow into its collection and distribution system. It is the Discharger's responsibility to determine what short term duration storm event (less than 24-hour duration) within a 25-year return period that produces the worst case scenario for their site specific conditions. The Discharger has indicated that the 10-minute storm event meets that criterion. Therefore, text was added to the specification to provide documentation to that finding. Therefore, no late revision is proposed for the specification.

Closure & Post-Closure Maintenance Specifications C.23 & C.24: Given that Regional Board staff have already approved the referenced work plans (the Southern Area Work Plan and the Compost Area Work Plan), RYS would like to clarify that meeting the requirements of the approved work plans would constitute compliance with the particular specifications outlined in the tentative WDRs. This approach is consistent with the language of the specifications. In particular, Specification C.23 states: "Post closure operation and maintenance over LF-1, Southern Area, shall be performed ***as described by the Southern Area Work Plan approved*** by Central Valley Water Board

staff on 29 April 2014." Similarly, Specification C.24 states: "Maintenance of the LF-1 Compost Area pad will be performed ***as described by the Compost Area Work Plan as approved*** by the Central Valley Water Board staff on 7 May 2014."

> **Response:** Current work plan requirements are documented in the WDRs. The WDRs are written to allow the work plans to be revised without requiring the WDRs to be reopened. Proposed late revisions add following language to Findings #C.23 and C.24 to indicate that approved revisions can be made to the work plans.
>
> 23. Post closure operation and maintenance over LF-1, Southern Area, shall be performed as described by the Southern Area Work Plan approved by Central Valley Water Board staff on 29 April 2014 or any approved revisions hereafter. Current post closure maintenance requirements for the Southern Area of LF-1 are:
>
> 24. Maintenance of the LF-1 Compost Area pad will be performed as described by the Compost Area Work Plan as approved by Central Valley Water Board staff on 7 May 2014 or any approved revisions hereafter. Current compost area maintenance requirements for the Compost Area of LF-1 are ~~and shall include~~ the following:

Closure & Post-Closure Maintenance Specifications C.23(f), (g): RYS respectfully requests that the requirement that cracks "must be repaired immediately" be changed to "must be repaired as soon as possible, and no later than 30 days after discovery of the crack(s) upon an inspection." RYS is concerned that compliance with a requirement for "immediate" repair may not be feasible.

> **Response:** The term "immediately" is used numerous times (at least 15 times) in Title 27 to describe when an action must occur. It is interpreted as "what a reasonable person would do under given circumstances." Therefore, no late revision is proposed.

Closure & Post-Closure Maintenance Specifications C.23(k): The approved Southern Area Work Plan sets out a specific standard for the repair of unpaved areas, including the following two provisions to ensure that the repaired area maintains permeability characteristics that are similar to the existing cover materials: (a) compacted fill will consist of a soil with a fines content equal to or greater than the underlying LF-1 soil and will be compacted to a density equal to or greater than the underlying LF-1 soil; and (b) aggregate base shall exhibit a fines content equal to or greater than the underlying aggregate base material and will be compacted to a density equal to or greater than the underlying aggregate base. RYS respectfully maintains that these approved standards and provisions should be incorporated into the WDRs, rather than a permeability standard of $1x10^{-6}$, which is not part of the approved work plan. As a historical note, RYS and Water Board staff discussed this issue during the CAO process and Water Board staff did not require this standard in Order #6 of the CAO. Adding this standard would be problematic as repairs might require deeper

excavations to replace existing cover to achieve a permeability standard of $1x10^{-6}$ when only a few inches of material may be needed to bring low areas to grade.

Response: Only material removed, replaced, or added needs to be with material that meets permeability standard of 1×10^{-6} cm/sec or less. The logic is the same is as used in industry and government when work is done on a system constructed under old standards. All new work must be performed to newer standards. The requirement is that if work is done on the old cover (e.g., trenching, grade restoration, etc.), the material and methods used will meet the current standards for closure covers (Title 27 section 21090(a)(2). The intent is to require a material to be used that has been tested to meet the hydraulic conductivity performance standard of $1x10^{-6}$ cm/sec when compacted. RYS has determined that the material used to construct the compost pad meets the performance standard. Therefore, late revisions are proposed to allow RYS to use material that has already been tested for hydraulic conductivity such that no further in-place hydraulic conductivity tests are required.

1. The compacted fill, if soil is used, will consist of fines content equal to or greater than the underlying WMU LF-1 soil and shall be compacted to a density equal to or greater than the underlying WMU LF-1 soil. The compacted fill soil used shall meet or exceed Specifications 24.a.3.i-iii in order to assure that~~shall have a~~ hydraulic conductivity does not ~~to~~ exceed 1×10^{-6} cm/sec in unpaved areas over WMU LF-1; and

2. Aggregate base if used as infill material shall exhibit fines content equal to or greater than the underlying aggregate base material ~~and shall have a hydraulic conductivity~~ and shall meet or exceed Specifications 24.a.3.i-iii in order to assure that hydraulic conductivity does not ~~to~~ exceed 1×10^{-6} cm/sec in unpaved areas over WMU LF-1~~. It shall be compacted to a density equal to or greater than the underlying aggregate base in order to achieve hydraulic conductivity of less than 1×10^{-6} cm/sec in unpaved areas over WMU LF-1~~.

Closure & Post-Closure Maintenance Specifications C.24(a)(3)(viii): RYS appreciates your consideration of our prior comment on this issue. RYS requests that the specification be changed to provide for lysimeters installed in the compost pad "where the monitoring point is at least 0.5 feet above the waste."

Response: The term "at least" could allow the lysimeter to installed anywhere from 0.5. feet above the waste up to a few inches below ground surface. It is advantageous for the Discharger to install the lysimeters as deep as possible. However, since the two currently installed lysimeters vary in depth above the waste a late revision is proposed to remove the 0.5 feet requirement:

viii. have fully functional lysimeters installed in the compost pad area where the monitoring point is ~~0.5 feet~~ above the waste.

Closure & Post-Closure Maintenance Specifications C.25(a)(xi): RYS appreciates your clarification of the requirement for a contingency plan for the compost water

management system. RYS understands that the contingency plan will document the types of emergency measures that RYS would use, as illustrated by the measures described in RYS's correspondence to Regional Board staff dated December 18, 2014.

> **Response:** Contingency plans as stated in Title 27 section 21760(b)(2) are required for "failure or breakdown of waste handling or containment systems". The regulations do not require a contingency plan for unforeseen weather conditions provided that the waste handling and containment systems are designed, constructed, operated, and maintained properly. Therefore a late revision is proposed to remove the requirement for a contingency plan for unforeseen weather conditions:
>
> xi. Contingency plan for containing compost wastewater that must be implemented if the compost wastewater containment system is likely to discharge due to failure or breakdown of waste handling facilities or containment systems ~~or due to unforeseen weather conditions~~.

Provision H.7-Tasks D & E: It appears that the newly added Attachment G is more directly applicable to monitoring wells and that some of the listed information is not applicable to landfill gas well installations. It is RYS's understanding that the work plans and reports prepared for LFG installations will not include information that is not pertinent to this work. Examples of information items listed in Attachment G that may not apply to LFG wells include a "brief description of local geologic and hydrogeologic conditions" (see Attach. G, Section A),
"methods of development to be used" (see Attach. G, Section D), and a groundwater sampling and analysis plan (see Attach. G, Section G). RYS would like to work with staff to clarify the specific informational requirements in Attachment G that apply to LFG wells.

> **Response:** Attachment G is taken directly from the CAO Attachment B and Attachment C. Portions that do not apply due to the nature of the well should be noted as "does not apply". Clarification as with the CAO can be done during submittal of work plans. Therefore, no late revision is proposed.

MRP Section A.2, A.7(b) & Table II: In its prior comments, RYS proposed an alternative sampling standard that included obtaining a TO-15 sample if there was greater than 1% methane in a perimeter probe. Thus, in cases where the methane exceeds 1%, the TO-15 protocol would be used, just as under the current version of the tentative WDRs.

To address situations where the methane is less than 1%, Golder Associates compared the VOCs detected in the landfill gas flare inlet sample with the VOCs detected using a PID with a krypton bulb (10.6 eV). Of the 19 VOCs detected in the landfill gas flare inlet sample, 15 are detectable using the specified PID. Golder Associates also compared the VOCs detected in landfill leachate with the VOCs detected using the PID. Of the 16 VOCs detected in landfill leachate in the

fourth quarter 2014, 14 are detectable using a PID. Further, for the two VOCs that are not detectable using a PID (chloroethane and 1,2-dichloroethane), in all five leachate sumps the total concentrations of these two VOCs were low (0.5 µg/l and 0.3 µg/l, respectively). In contrast, the total concentrations for each of the 14 detectable compounds were much higher, ranging up to 36.2 µg/l, with an average concentration of 8.5 µg/l. This comparison indicates that the PID is capable of detecting the vast majority of the VOCs, and the more prevalent VOCs, that may be present in the leachate.

RYS respectfully maintains that its proposed approach is reasonable and sufficiently protective, especially since the PID monitoring is a screening tool to determine whether obtaining a TO-15 sample is warranted. Therefore, it is not necessary for the PID monitoring to detect and quantify every possible VOC, only to identify if sufficient VOCs are present to trigger TO-15 sampling.

Response: **MRP Section A.7(b) and Table XIV** applies to corrective action monitoring points GP-6,-7,-8,-13,-14, and -15 that are monitored more frequently (semiannually) as well as VOC concentrations at the flare station to determine the effectiveness of the corrective action. The effectiveness can only be determined if the monitoring system is capable of showing a decrease in concentrations at the compliance monitoring points (e.g., perimeter probes and increase of VOC concentrations at the flare station). If the PID is capable of quantitatively showing such results, the use of the PID is a welcome substitute to the TO-15 method for analysis and quantification of VOCs. **MRP Section A.2 & Table II** monitoring requirement using TO-15 method is for detection monitoring and is only required around the perimeter annually. It is used to establish the presence of VOCs for detection monitoring in the proxy unsaturated zone monitoring system (e.g., perimeter probes GP-1 through GP-15 that are in detection monitoring). Based on a screening process used at other landfill sites a late revision is proposed to Table II requirement allowing for a prescreening process at each detection monitoring well in order to determine if further laboratory analysis is required.

SOIL-PORE GAS
Monitoring Parameters

Parameter	Geotracker Code	Units	Sampling Frequency	Reporting Frequency
Volatile Organic Compounds[1] [2](Use USEPA Method TO-15)	(See Table V)	ug/cm^3	Annual	Annual
Methane	CH4	%	Semiannual	Annual
Carbon Dioxide	CO_2	%	Semiannual	Annual
Oxygen	OXYGEN	%	Semiannual	Annual

[1] Particularly those VOCs historically detected in LCRS sumps S-1 through S-5 and in groundwater monitoring wells

[2] The Discharger may prescreen the gas sample to determine if the sample is required to be laboratory analyzed using Method TO-15 by using an approved gas analyzer to establish methane concentrations and an approved Photo Ionization Detector (PID) to establish total VOCs concentrations at the sampling point. If while using an approved sampling and analysis plan procedure the Discharger detects methane concentrations exceeding 1.0 percent by volume OR organic vapors (total VOCs) are detected with a PID at a concentration greater than 1.0 ppm then a gas sample shall be obtained and laboratory analyzed for specific VOCs using EPA Method TO-15. Both the screening results and laboratory analysis results shall be reported. Otherwise, the Discharger shall report the methane and total VOC screening results and no further laboratory analysis is required.

MRP Section A.3: Please note that the LF-2 and LF-3 LCRSs are not configured to perform the annual LCRS testing as prescribed in the tentative MRP. Rather than annual testing, the operation of the LCRSs is evaluated qualitatively, by comparing current leachate extraction volumes and rates to historical volumes and rates. In addition, leachate depth measurements can be obtained immediately after pumping to verify that the leachate pumping system is working. This information will be included in the site monitoring reports to demonstrate that the LCRSs are operating properly.

> **Response:** It is understood that some older systems were not designed specifically to aid in performing the annual test. The Discharger will have to work with Compliance and Enforcement Unit to determine an appropriate test or interpretation of leachate volumes that satisfies the requirements of Title 27 to ensure that the LCRS is not clogged. Therefore, no late revision is proposed.

MRP Section A.7(b): It is not possible to measure and report the VOC mass removed from the individual disposal modules. This is because the landfill gas extraction system piping is not exclusive to each module. For example, the landfill gas extracted from the western side of LF-1 is piped into the LF-2 extraction system and is separate from the LF-1 perimeter landfill gas extraction system on the highway side of the site.

As a result, RYS respectfully maintains that it is not possible to comply with the requirement to obtain individual landfill gas samples from each disposal module to perform the calculation of mass removed. Thus, RYS requests that the requirement for measuring and reporting the VOC mass removed should pertain to the landfill gas flare inlet sample, which is the combined flow for all three WMUs. This is also the location where the flow rate is measured and recorded, which would facilitate calculating the total mass of VOCs removed.

> **Response:** It is understood that the current system is not capable of quantifying the amount of landfill gas removed from each WMU. However, due to corrective actions required in LF-1 and LF-2 due to gas related VOCs in groundwater, the Discharger will need to evaluate the effectiveness of the corrective action implemented at each WMU. The Discharger has chosen active gas extraction as the corrective action to abate VOCs in groundwater. As part of their corrective action, the Discharger can install monitoring devices such as, but not limited to, thermal mass flow meters (TMFMs) and other devices to quantify the amount of

landfill gas removed from each unit as well as the relative amount of VOCs removed based on VOC concentrations (TO-15 method). It is understood that the Discharger will need to make changes to the current gas extraction system in order to quantify VOCs removed from each WMU as corrective action for gas related discharges of VOCs to groundwater. Therefore, no late revision is proposed.

MRP Section A.7(c)—Compost Facility Corrective Action Monitoring: RYS still is not clear on when the compost operations monitoring requirements in MRP Section A.6 apply, and when the compost facility monitoring requirements in MRP Section A.7(c) apply instead. RYS seeks clarification on when each of the two separate sets of monitoring requirements applies, and what the triggers are for moving from one set of monitoring requirements to the other.

Response: MRP section A.7 begins by stating that "*The Discharger shall conduct corrective action monitoring to demonstrate the effectiveness of corrective action…*" The Discharger is currently in corrective action for its compost facility's wastewater containment system since it has not yet demonstrated its ability to contain compost wastewater associated with storm events up to and including a 25-year 24-hour storm event of 3.16 inches for at least one wet season. The Discharger will remain in A.7 until they can demonstrate not only on paper but in the field that their waste containment system is designed, constructed, operated, and maintained to meet waste discharge requirements set forth in the Order. Therefore, no late revision is proposed.

Tables VIII & IX: These tables require semiannual reporting for the compost operations storage tank and sump monitoring and for the compost wastewater discharge monitoring. RYS proposes to submit this information on April 1 (the annual due date for the Compost Facility Annual Monitoring and Maintenance Report) and on October 1 (six months after the annual due date for this report).

Response: A late revision is proposed to change the annual due date for the Compost Facility Annual Monitoring and Maintenance Report to 1 February to correspond with the semiannual Monitoring Report due dates of 1 August and 1 February:

B.8	Compost Facility Annual Monitoring and Maintenance Report	31 December	1 February~~April~~