Tier 2 Review / Evaluation Procedures

The purpose of this document is to detail some of the factors that are reviewed and evaluated for the THPs submitted under the Elk River and Freshwater Creek WWDRs’ receiving water limitations zero discharge of sediment from harvest-related landslides (Tier 2 THPs). It also describes the submittal and review processes.

Regional Water Board staff review each Tier 2 THP unit enrollment application, requesting additional information and/or modifications of the THP when necessary to meet enrollment requirements and address concerns regarding potential harvest-related landslide discharge. It is an iterative process designed to address the factors commonly known to contribute to landsliding on the North Coast. As such, this document is guidance document for Palco for their development of Tier 2 THPs and submittal of information to substantiate a THP, and for the public to assist their review of the application materials.

THP review

The THP is examined to ensure it meets WWDRs requirements

- ECP is specific to the Tier 2 unit and appurtenant roads, up to date, and accurate. Any ECP that has over-wintered prior to submittal for a Tier 2 THP will be checked by Palco to ensure new sediment delivery sites and changes in the priority of sites are updated and current
- Non-concurrences are resolved (a THP with an unresolved nonconcurrence is not eligible for enrollment)
- Existing Orders are complied with. The Receiving Water Limitations in the WWDRs are based on compliance with other sediment minimization and remediation orders. The current compliance status may restrict the enrollment of Tier 2 acres.

Tier 2 Review

Tier 2 has a zero harvest-related landslide discharge requirement, both within and downslope of harvest units. This review is conducted to determine if this requirement can be met, given the sensitivity of the landscape, its response to previous harvesting activities, and the activities that are proposed.

Review available materials for completeness and evaluate in terms of the “Factors for Hillslope Stability” (the Factors) below

- PALCO’s Unit Review for Tier 2 Enrollment write-up including maps
  - Geologic summary
  - Summary of any changes resulting from the Tier 2 landslide hazard assessment
Factors for Hillslope Stability Analysis

GEOMORPHOLOGY
1. Geomorphologic units  Geomorphologic description
2. Existing landslides  Type, activity level, potential causative factors, estimated depth, dimension etc.
3. Drainage  Type, order, length, organization
4. Catchment areas  Order, size, proportion unit area
5. Precipitation  Rainfall (limited by lack of local differentiation)

TOPOGRAPHICAL ATTRIBUTES
6. Slope map  Slope angle classes
7. Slope direction map  Slope direction classes (aspect)
8. Slope length  Slope length classes
9. Slope shape  Concavity/convexity/planar

ENGINEERING GEOLOGY
10. Bedrock properties  Physical character, relative rock strength
11. Soil Properties  Material types, depth, classification, grain-
12. Structural geological map  
  size distribution, bulk density, relative  
  strength  
  Fault type, length, dip, dip direction, fold  
  axis, etc.  
  Proximity to faults (thresholds in MRP  
  Order) and activity level  

13. Seismic influences  

14. Timber harvest history (recent) and  
  landscape response  
  Roads, cut blocks, skid trails, yarding,  
  silviculture  

15. Infrastructure and landscape response  
  Road types, railroad grades  

16. Evapotranspiration  
  Evapotranspiration over time  

17. Subsurface hydrology  
  Preferential flow paths, based on  
  topography  

18. Springs/seeps  
  Presence of springs, seeps, wet areas  

Palco submits, along with the information listed above, a cover letter that summarizes  
any changes that were made to the Timber Harvest Plan units, or measures that were  
added, to eliminate the risk of landsliding. Attached to each package will be a  
“Professional Certification of Design” to be signed and stamped by California-licensed  
professionals in the employ of Palco.

**Analytical Review Procedures**

Applications for Tier 2 units will be evaluated in a watershed context, ensuring that  
disturbance is distributed over time and space and concentration of activity is avoided.  
Concentration of disturbance in time and space increases the potential for cumulative  
watershed effects.

Identify areas of concern (areas that had landslide activity or have potential for landslide  
activity). No harvest is allowed on active landslides. Harvest on dormant and inactive  
slides is evaluated on a case-by-case basis against the factors listed above.

Identify areas where ground-based yarding should not be considered. Generally, cable  
systems or helicopter yarding should be considered on slopes exceeding 35%.

Identify any inconsistencies and/or shortcomings in the available materials and require  
submittal of corrected or additional materials to address the shortcomings.

Identify areas, either on the ground or in the review materials, where further discussion or  
documentation is necessary.
Identify any necessary operational changes, for example, requiring wider stream buffers or a different yarding method.

Notify PALCO of any inconsistencies and/or shortcomings in the available materials, areas of concern or areas where further discussion or documentation is necessary. Require additional materials or modifications of the THP where deemed warranted. Review PALCO’s response for compliance.

Conduct field inspections where necessary to verify conditions detailed in Tier 2 Unit Review write-up, verify actual harvest methods, and verify monitoring by PALCO: preharvest, active, post-triggering events.

When any areas of concern are resolved (or removed from the unit), any inconsistencies are reconciled, and any further discussion or documentation has provided enough detail that staff agrees the plan can meet the zero landslide discharge requirements, then the unit is enrolled in Tier 2.

PALCO must amend the THP through CAL-FIRE procedures to reflect any operational changes resulting from the Tier 2 evaluation.

**Procedural**

Regional Water Board staff will make this procedure available to the public prior to enrolling any Tier 2 THP units by posting informational documents on the Regional Water Board internet web site.

Palco will submit a list of THPs proposed for enrollment. They must be categorized on the basis of the level of modifications and need for analysis. No enrollments will be considered for a calendar year on Tier 2 THPs that are submitted after October 15 of that year.

**Reference**