

August 18, 2020

California Board of Forestry and Fire Protection

Attention: Eric Hedge, Regulations Program Manager
P.O. Box 944246 Sacramento, CA 95814

SUBJECT: Proposed Rulemaking Regarding “Draft Tethered Operational Amendments, 2020”

Dear Chairman Gilles and Members of the Board:

It is understood that the Board of Forestry Management Committee held a workshop on May 29, 2020 regarding the rule language in the Draft Tethered Operational Amendments rule making. The California Geological survey (CGS) participated with the recent workshop. It is further understood that the proposed rule language was discussed and reviewed in the May and June 2020 Joint Committee workshops. In the June 2020 full Board of Forestry meeting the rule language was recommended to be posted for a 45-day comment period.

CGS Comments:

- Public comment conducted during the joint committee workshops and during the full board meetings contained suggested proposed changes to the rule language. This memo is commenting on the rule language version that is posted on the Board of Forestry website in June 2020.
- CGS agrees that the tethered logging method, while new in California, appears to be an innovative method that could potentially allow a safer and more economically feasible method to conduct harvesting operations on steep slopes.
- CGS has participated in consultations of the tethered logging method in Sierra and Calaveras County during the spring and summer months of 2019 and 2020, and areas of proposed tethered logging in Humboldt County in 2020. During these consultations we observed that the method generally appears to have a “light touch” on slope ground surfaces and drainage. We did observe, in certain circumstances, some potential for disturbance that could possibly lead to the potential for surface erosion and fill failure.
 - a. Those circumstances are where an existing skid trail network must be crossed or traversed in order to access slopes. In those instances, it was observed that the outside edge of the skid trails were disturbed by the tethered equipment tracks.

- b. We also observed that the method is sometimes conducted differently in different areas. For example, in one area the tethered equipment tracked on top of fallen trees (leading to less ground disturbance) and in other areas the equipment tracked on ground slope surfaces.
- c. In some instances, we observed logs being skidded up the slopes behind the tethered forwarder due to an inability to effectively manipulate the logs onto the trailer, due to both size and inaccessible felling locations. This activity appeared to result in fairly defined linear furrows which would need to be effectively mitigated to prevent excessive erosion.
- d. There appears to be a potential for downslope equipment paths to establish new hydrologic discharge points. This may occur where the linear downslope equipment path is dissecting a legacy skid/road surface that is hydrologically connected to a relatively large drainage area. These new discharge points may increase rates of erosion and potential sediment delivery if they are located in unfavorable geomorphic or geologic settings.
- e. There were various discussions during our consultation about the steepness of slope where safe operations could occur, where soils saturation could affect the potential for conditions that could possibly cause future erosion, and where post-fire conditions should be considered in suitability for tethered logging operations.
- f. Scientific literature findings would be a benefit if provided in the rule justification. For example, during our consultations we observed that Tethered Logging produces much slash to be left on the ground or within the unit. Has the effects of fuel loading and a possible increase in greenhouse gases (methane produced by degrading organics) been considered in the rule making? Has the Air Resources Control Board been included in this discussion?

Specifically, we recommend the following rule language changes or additions:

914 (line 14) by minimizing disturbance that could lead to erosion and soil loss.

914.2 (c) Existing tractor roads on slopes greater than 50 percent gradients that are proposed for re-use shall be identified.

914.2 (f) The following limitations apply:

(1) Except for Tethered Operations, heavy equipment shall be prohibited where any of the following conditions are present:

(A) Slopes steeper than 65%

(B) Slopes steeper than 50% where the Erosion Hazard Rating is high or extreme

(2) Ground-based Tethered Operations shall be prohibited on slopes steeper than 85% .

914.2 (i) Where waterbreaks would not be effective at minimizing the potential for erosion and soil disturbance, other erosion controls shall be installed as needed.

914.6 c Waterbreaks shall be constructed concurrently with the construction of firebreaks.

Skid trails, slopes and paths upon which Tethered Operations are conducted that are furrowed or disturbed in such a way that the potential for soil disturbance can lead to erosion, fill failure and sediment delivery, shall contain erosion control measures. Because tethered equipment does not necessarily contain the ability to mechanically construct waterbreaks and because use of non-tethered heavy equipment that can mechanically construct waterbreaks could lead to additional and unnecessary disturbance, waterbreaks or other erosion control measures shall be constructed via hand labor, or be packed with Slash or other vegetative material concurrently with Timber Operations in a manner which minimizes the potential for soil disturbance and erosion from those Tethered Operations and achieves the goals of 14 CCR § 914[934, 954].

914.7 **(c)** *In lieu of a winter period operating plan, the RPF can specify the following measures in the THP:*

(1) All Tractor Yarding Operations (including Non-tethered and Tethered Operations) *or the use of tractors for constructing Logging Roads, Landings, Watercourse crossings, layouts, firebreaks or other tractor roads shall be done only during dry, rainless periods and shall not be conducted on saturated soil conditions that may produce significant sediment discharge.*

We recommend consideration of the following concerns:

1). Mapping Requirements

Mapping of both, the planned tethered equipment access routes (or areas that are not favorable) and existing linear features to be impacted could aid in the identification and assessment of the level of risk associated with the potential hydrologic and slope impacts.

Potentially impacted linear features to be mapped within proposed Tethered Logging units may include:

- g. Confined legacy skids, landings, and roads to be intercepted by Tethered Logging pathways. Particularly alignments that have not been disconnected via modern Forest Practice Rules waterbreak standards.
- h. Class IV alignments
- i. Swales
- j. Planned Tethered Logging access routes, both downslope and lateral.
- k. Unstable areas and landslides.

2). Post-Fire Conditions.

The application of tethered logging in post-fire settings should be addressed specifically. We suggest that there needs to be some consideration for burn severity. We discussed during one of our pre-consultations that depending on the severity of the burn, there may not be enough slash present to sufficiently mulch the tether pathways.

3). Need for monitoring, science review and a sunset date.

We recommend that a monitoring program in conjunction with a science review be conducted before adoption of the rule package.

Are there scientific concerns or data that could and should be included in the rule justification? For example, because the Tethered Logging method utilizes a changed silvicultural method, should the way greenhouse gases are calculated be updated to accommodate for these changes? We think answering questions such as these would be a benefit to the rule justification.

We note that our observations have only occurred during the dry spring and summer months of 2019 and 2020 and we therefore do not have the observational knowledge of what effects the tethered logging method may hold following several years of wet winters. CGS would like to be involved in some sort of interagency monitoring and scientific review of the tethered logging method that is conducted over several seasons in order to document the effects of winter rains.

It is understood that it is unlikely a monitoring program would be incorporated into the rule making language. As such we recommend that a sunset date be included in the rule making language (if adopted without monitoring or science review) such that any observations or research gained from a monitoring and scientific review effort could be introduced and incorporated into a revised rule plead after the sunset date.

Respectfully Submitted,
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