Comments on the Zeppelin Project Draft Environmental Assessment

I want to thank you for some of the improvements that you have made to the Zeppelin Project as defined in the draft EA. You reduced the new road construction as well as treatment acres for a variety of reasons. I still have concerns about the scale of steep slope logging that you propose.

In the **Proposed Action and Alternatives** section, under **Efficacy of Treatments**, you say *“The Forest Plan is the document directing management of the Black Hills National Forest. The Forest Plan was developed based on the best available science and has been upheld through appeals and litigation. This EA tiers to the Forest Plan and the analysis presented in Chapter 3 below relating to timber and fuels reflects the Forest Plan direction on reducing fire hazard and risk of insect infestation.”*

The current Forest Plan was signed in 1997 and amended in 2005. There are many things within the Forest Plan that no longer represent the best available science. If indeed, there is more current “best available science” you should be using that in your site-specific analysis such as the Zeppelin EA. I have found the following research paper that identifies the limitations of steep slope thinning for hazardous fuel treatment.

"Landscape-scale fuel treatment effectiveness: lessons learned from wildland fire case studies in forests of the western United States and Great Lakes region."

<https://fireecology.springeropen.com/articles/10.1186/s42408-022-00159-y>

"Fuel treatments on steep slopes were less effective in changing fire behavior or reducing fire severity than those on flatter ground, especially under high wind conditions (Harbert et al. 2007; Murphy et al. 2007). One case study (Henson 2007) found that areas previously treated with thinning and prescribed fire successfully slowed fire as it was backing downhill but did not impede rapid uphill runs. Fuel treatments strategically located along ridge tops, in which fuel reduction impacts coincide with topography-related reductions in the rate of spread, were considered particularly useful in facilitating fire suppression efforts (Harbert et al. 2007; Murphy et al. 2010) or reducing the probability that past fires reburned (Gray & Prichard 2015)."

You also say under **Steep Slope Logging** *“The impacts of logging on steep slopes are considered in Chapter 3, particularly as it relates to fuels and soils. The analysis of those impacts is based on examples from other forests as well as recent examples from the Black Hills.”* Indeed, there is some discussion of steep slope logging in the Soils Section, however, it is not mentioned at all under either the Fuels or Timber Section.

Considering that fuels treatment is a major rationale for the steep slope logging, I would expect at least some mention of its efficacy in treating hazardous fuels. During the scoping comment period, I requested that you justify the steep slope logging with research citations and modeling, but I don’t see where either of those occurred. Also, there is no mention on how the activity fuels created by steep slope logging will be treated. Since this will not be whole tree logging, cut-to-length logging will leave slash on site. You state that slash mats will be used to limit soil impacts, which is good, but you should also evaluate the impact of leaving them as is, on-site post logging. Is the expectation that prescribed burning, post-logging, going to address this slash? Is the expectation that the slash mats are not a risk? If so, what is that based on? Was any modeling of used to determine this?

Many of the stands proposed for thinning are fairly dense with little understory. It is reasonable to expect that post-thinning, there will be a flush of new growth where it did not exist before. Are you simply reducing one issue (with overstory thinning) and creating a new understory problem with a flush of ladder fuels? Shouldn’t there at least be some discussion of this? Once again, recurrent prescribed burning could help to address this problem but will this occur? Are you prepared to prescribe burn steep slopes?

The other major concern that I have with steep slope logging is the cost. The Topaz project was very expensive and I understand that slash treatment was a significant portion of that, which presumably, you will not have with the Zeppelin Project. During the scoping comments, I requested that you reveal the costs of steep slope logging and conduct an economic analysis. That did not occur.

Let’s just be frank here, a big reason why this steep slope logging is being planned is a result of the pressure from the timber industry. Much of the rest of the Forest has already been affected by beetles, fire or already been thinned or cut with a final harvest method. Now, the steep slopes are one of the few remaining areas to go into. Hence, many of the current timber sales being planned on the Forest now contain steep slope logging.

You should conduct an economic analysis for the Zeppelin Project. It is in the public’s interest to know how much this project will cost. Those clamoring for steep slope logging should know its cost and that should be revealed to the public. The public deserves to know how their tax dollars are being spent. $4,000-$6,000/acre for this type of logging is exorbitant. You should reveal the cost/benefit of steep slope logging especially given its somewhat dubious effectiveness on reducing fire severity. You also need to reveal the lost opportunity costs of spending large sums on this activity. What are the foregone treatments that will not occur, such as pre-commercial thinning, because limited funding is being spent on steep slope logging?

I know that you are trying to do your best under very difficult conditions. Believe me, I do sympathize with your situation. I know you are trying to do your best.

Thanks!

Dave Mertz