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Mike Kaputa, Director
Chelan County Department of Natural Resources
411 Washington St. Suite 201
Wenatchee, WA, 98801

Re: Mission Ridge Expansion Master Planned Resort Draft EIS

Dear Mike Kaputa,

As a founding member of the Wenatchee Valley Astronomy Club, I submit these comments to the Chelan County Department of Natural Resources regarding the Draft Environmental Impact Statement (DEIS) for the proposed Mission Ridge expansion. The purpose of this letter is to express concern about DEIS's limited assessment of lighting impacts, the absence of a comprehensive inventory of existing and proposed luminaires, and a mitigation strategy that relies primarily on baseline regulatory compliance rather than proactive, enforceable measures.

The DEIS does not fully examine the range of potential impacts from increased nighttime lighting. Effects on wildlife behavior and migratory routes, aquatic systems, visitor experience, roadway safety, and nearby research observatories are either omitted or insufficiently addressed. Light pollution is largely framed as an aesthetic issue, while increased illumination is promoted for safety without a balanced analysis of tradeoffs or evidence that safety benefits outweigh ecological and recreational consequences. Before any approval, the DEIS should expand its impact inventory to include direct and indirect ecological and cultural effects and adopt mitigation measures that are robust, enforceable, and capable of meaningfully limiting the project's light footprint.

Inventory of Proposed Lighting
In reference to the Light and Glare section from 4-56 thru 4-64, this portion of the DEIS lacks quantitative measurements of night sky illuminance and relies on assumptions about new lighting fixtures that are not supported by a documented inventory. To ensure reliable projections of light and glare impacts, a detailed inventory of current and proposed lighting should be provided. This inventory should include ski run lighting, commercial and residential fixtures, roadway luminaires, and parking lot lighting. Without this inventory, projections of increased skyglow and other effects cannot be independently reviewed or validated. The current analysis relies on applicant-provided images that have not undergone peer review, which limits its scientific credibility.

Scope of Impacts
Figures 4.3-7 and 4.3-8 on page 4-61 & 4-62 respectively suggest additional nighttime skyglow at KOP 4 and KOP 5. Additional skyglow may not enhance safety and could instead create a distracting halo that reduces visibility. White light scattering by aerosols can increase fog reflectivity, further degrading conditions under low visibility.

The DEIS acknowledges impacts on astronomy and night sky aesthetics but does not address broader ecological and recreational consequences. Forested areas near the expansion support overnight visitors, campers, and outdoor education programs. Studies show that 62 percent of nighttime campers engage in dark-sky–dependent activities (Beeco, 2023), and even those not focused on astronomy rely on natural darkness for a high-quality experience.

The DEIS does not address affects beyond the Wenatchee Valley to include professional astronomy research. The Manastash Ridge Observatory, home to a 30-inch research telescope and a training site for undergraduates, may experience increased skyglow, which was not addressed in the DEIS. Similar challenges are documented at observatories worldwide. Light from the expansion could extend beyond Mission Ridge, contributing to skyglow visible as far away as Methow Valley.

The DEIS does not address documented effects of light pollution on wildlife. Migratory mule deer may alter their routes, cougars could shift nocturnal hunting patterns, and salmonid navigation and predation rates may be affected by artificial light. Migratory birds using the Pacific Flyway also face increased collision risk under bright skies. These ecological impacts deserve careful consideration.

By focusing primarily on aesthetics and safety, the DEIS overlooks key figures and underrepresents both recreational and ecological consequences. A more comprehensive assessment is needed before any approval is granted.

Mitigation Strategy
In reference to Section 4.3.3.3, “Proposed Mitigation Measures,” beginning on page 4-63, the DEIS cites Chelan County Code (CCC) 11.88.08 as its primary mitigation strategy. While this code provides a baseline, it does not constitute a comprehensive standard for protecting nocturnal environments or visual landscapes. The DEIS itself notes that proposed mitigation measures cannot fully offset the project’s intent.

To uphold Mission Ridge’s “strong sense of place” and preserve its identity as a forested mountain landscape, additional mitigation strategies should be considered. Regulatory minimums are not sufficient in the context of ongoing expansion. Since 2022, the resort has added forty-two new lighting poles, contributing to a 78 percent increase in night skiing activity.

A social media post reported by NCW Life describes the resort's lighting as a feature, stating, "On clear nights, you'll have one of the most amazing night views in the state." Views now extend to Ellensburg, Ephrata, and beyond, illustrating the expanding light footprint and its visibility across the valley. This growth presents both a challenge and an opportunity.

Without meaningful policy restraints, light pollution may continue to increase, diminishing the natural night sky in the Wenatchee Valley. Prior to expansion approval, the following mitigation measures should be incorporated; a Light Management Inventory and Plan that reflects best practices in dark sky protection.

Residential and Commercial Zones

- Restrict lighting to wayfinding and safety purposes only.
- Require full cutoff or fully shielded fixtures with a maximum color temperature of 2800K.
- Use "Dark Sky Approved" lighting.
- Enforce timer- or motion-activated systems.
- Apply curfews with smart controls to reduce lumen output by 75 percent during non-active hours.
- Establish a maximum lumen-per-acre threshold.
- Prohibit uplighting and landscape illumination.
- Ensure overhang-mounted fixtures meet shielding and output requirements.

Ski Run and Operational Zones

- Utilize lower Kelvin fixtures to minimize glare and atmospheric scattering.
- Implement a lighting curfew, with exceptions for limited special events.
- Limit the number of operating lights at any one time to pre-expansion standards and rotate night skiing runs.
- Adopt ecologically sensitive technologies such as Sno-Brite systems.
- Cap special events to a defined annual count with strict time limits.

The Draft EIS should not support approval of the proposed expansion until key deficiencies are addressed. A complete lighting inventory and a quantified assessment of light pollution impacts are essential. A mandatory Light Management Plan should include clear limits on lumen output and color temperature, curfews, operational caps, technology standards, and measurable enforcement provisions.

These measures offer Mission Ridge a meaningful opportunity to grow responsibly while reducing its light pollution footprint. By embracing modern lighting practices, the resort can demonstrate leadership in community stewardship, ecological protection, and preservation of the night sky, a resource that is rapidly diminishing in Chelan County.

Cost should not be a barrier. Many effective retrofits and controls are modest in expense relative to the scale of the project and can be phased in strategically. With thoughtful planning and good faith implementation, Mission Ridge can become a regional model for practical and affordable dark sky protection.

If questions regarding quality mitigation measures are needed, the Wenatchee Valley Astronomy Club would be willing to provide consultation and input.

Thank you,

Paul Tomas
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Dark Sky Advocate

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