



May 11, 2026

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Re: Public Comment on Proposed Regulation LCB File No. R093-25 — Chapter 534A of the Nevada Administrative Code (Enhanced Geothermal Stimulation)

Dear Administrator Ghiglieri and Members of the Commission on Mineral Resources:

We respectfully submit these comments on the proposed amendments to NAC Chapter 534A (LCB File No. R093-25), which would establish a regulatory framework for enhanced geothermal stimulation (EGS) in Nevada. We support the Commission's effort to create a clear permitting pathway for this emerging technology and appreciate the care given evident in the draft. Our comments focus on four provisions where we believe additional clarification from the Division would improve the rule's workability and reduce regulatory uncertainty for operators. Beyond that, we support all remaining provisions as technically sound and appropriate.

Our comments are organized by section and presented in priority order.

1. Section 12(2) — Magnitude Threshold Approval Process (High Priority)

The Provision

Section 12(2) requires each operator to submit an Induced Seismicity Monitoring Plan (ISMP) using a traffic-light protocol. The Division approves project-specific magnitude thresholds that determine when amber and red alerts are triggered. The structure of the protocol itself (reporting timelines, escalation steps, and response obligations) is fixed by the rule. The threshold magnitudes are not — they are set on a project-by-project basis at the Division's discretion.

Why This Matters

Magnitude thresholds are not a secondary technical detail — they are among the most consequential project design parameters an EGS operator faces. The amber threshold sets the practical ceiling on injection rate, because higher injection rates generate more seismic signals. A threshold set conservatively close to the region's natural seismic background could force operators to reduce injection



at signal levels that do not reflect problematic reservoir behavior, limiting productivity and potentially making projects uneconomic.

Nevada Basin and Range geology naturally produces frequent M 1–2 microseismic events and occasional M 2–3 events on the same fault structures that make the state’s geology promising for EGS. If thresholds are calibrated without accounting for this background, operators in geologically active areas may face routine amber alerts arising from natural seismicity rather than their own operations. Threshold setting therefore directly affects where within a prospective area a well can practically be sited.

For reference, active U.S. EGS projects operating under the 2012 DOE Induced Seismicity Protocol have generally converged on amber thresholds around M 2.0 and red thresholds around M 3.0 within a few-kilometer radius. We offer this as a benchmark for evaluating project proposals, not as a regulatory requirement.

Our Request

As currently drafted, Section 12(2) does not specify:

- (a) whether each threshold approval will be documented with a written technical rationale;
- (b) what technical factors the Division will weigh in evaluating a proposed threshold; or
- (c) whether and how an operator may provide input on a proposed threshold before it is finalized.

We ask the Division to clarify these points. Operators need to be able to design ISMPs against a known standard. If the Division has internal evaluation criteria, publishing them would allow operators to submit better-prepared plans and reduce back-and-forth during the permitting process.

2. Section 17(2) – Scope of the 5-Mile Enforcement Order Radius (High Priority)

The Provision

Section 17(2) authorizes the Administrator to order *any* owner or operator of a well within a 5-mile radius of a seismic event’s epicenter to immediately reduce injection or production pressure, or cease operations, if the Administrator finds that “conditions for induced seismicity following a seismic event may pose an immediate danger.” The provision does not expressly require a finding that the operator subject to the order caused or contributed to the event.



Why This Matters

A meaningful number of prospective EGS sites in Nevada are located near or co-located with existing conventional hydrothermal fields. In these settings, the plain text of Section 17(2) raises two distinct concerns.

First, a conventional hydrothermal operator with no ISMP requirement under Section 12 could receive an order under Section 17(2) following an EGS-related event for which it had no responsibility and over which it had no control. The reverse is also true: hydrothermal production and injection are documented to generate their own induced seismicity. If a neighboring hydrothermal field's seismicity triggers a Section 17(2) order against an EGS operator, that operator would be shut in for an event it did not cause.

Second, a single operator running both conventional hydrothermal wells and an EGS well under a hybrid project could, on a plain reading, face an order against its conventional operations following an event from the EGS portion of its project. A shutdown during stimulation halts a planned, time-bounded activity; a shutdown of a producing hydrothermal well interrupts continuous operations with a different cost structure. The rule does not distinguish between these two situations.

There is also a procedural gap in Sections 17(3)–5: operators receiving a Section 17 order must submit six months of prior ISMP data. For a conventional hydrothermal operator that has no ISMP, it is unclear how this requirement is satisfied.

Our Request

While we understand the scope of the rule through Section 17 applies to stimulated wells, the term “any owner or operator” creates minor inconsistencies.

We ask the Division to clarify:

1. Whether Section 17(2) authorizes an order against any operator within 5 miles regardless of whether that operator's activity contributed to the event.
2. Whether the provision applies to conventional hydrothermal operators that have no ISMP under Section 12, and to the conventional hydrothermal portion of a hybrid project.
3. What evidence the Administrator relies on to determine which operators within the 5-mile radius an order applies to.
4. How long a Section 17(2) order remains in effect, and whether any automatic review or expiration mechanism exists.
5. What pre-issuance notice or operator-input process exists, given that Section 34 hearing rights attach only after the order issues.



6. How the ISMP data submission requirement in Section 17(3)–5 applies to operators that have no ISMP.

3. Section 17(1)(a) – Definition of “Reduced” Pressure as a Trigger Condition (Medium Priority)

The Provision

Section 17(1)(a) establishes a second-strike mandatory shutdown trigger: it applies when a third amber alert occurs within two consecutive months “after the injection of fluids or the production of fluids were reduced” at the well. The trigger therefore presupposes that a prior pressure reduction has already taken place.

Why This Matters

The phrase “after the injection of fluids... were reduced” is ambiguous. It is unclear whether it refers only to formal pressure reductions taken pursuant to Section 12(3) – reductions logged and reported to the Division as part of the traffic-light protocol – or whether any reduction in injection rate, including routine operational tuning or a conservative voluntary adjustment an operator makes after a first amber alert, would also qualify.

This distinction has a meaningful behavioral consequence. The traffic-light protocol is designed to encourage operators to respond conservatively to early warning signals. If a routine voluntary reduction arms the Section 17(1)(a) trigger, operators have an incentive not to make prudent conservative adjustments after a first amber alert, because doing so would lower the threshold for mandatory shutdown. That is the opposite of the behavior the protocol is meant to produce.

Our Request

We ask the Division to confirm that “reduced” in Section 17(1)(a) refers specifically to formal pressure reductions logged under Section 12(3)(a)(2) or Section 12(3)(b), and not to voluntary operational adjustments. If the Division intends a broader reading, we ask that the rule be revised to avoid penalizing conservative operational response.

4. Section 11 – Definition of “Water Source” for Baseline Sampling (Additional Comment)

The Provision

Section 11 requires operators to collect baseline and post-stimulation water quality samples from available “water sources” within the area of review. Section 8 defines “water source” as “a water well or spring that is regulated by the Division of Water Resources of the State Department of Conservation and Natural Resources.”

Why This Matters

The current definition limits “water source” to regulated groundwater wells and springs. It does not expressly address surface water bodies — streams, ponds, or other surface water features that may be present within an area of review and that could also be affected by stimulation activities. This creates uncertainty for operators who must design their baseline sampling programs: it is not clear whether surface water sampling is required, permitted, or outside the scope of Section 11 altogether.

The application requirements in Section 10(1)(a) do separately require maps showing the location of “perennial streams” within the area of review, and Section 14(1)(a) requires wells to be sited at least 300 feet from any known perennial water source. Surface water bodies are therefore recognized as relevant to the regulatory program. The absence of surface water from the Section 11 sampling requirement may be intentional — surface water sampling involves different protocols and the contamination pathway from deep stimulation to surface water is indirect — but the rule does not say so.

Our Request

We ask the Division to confirm whether the Section 11 sampling obligation is limited to groundwater wells and springs regulated by the Division of Water Resources, or whether it also extends to surface water bodies within the area of review. If surface water sampling is not required, a brief explanatory note in the rule or accompanying guidance would help operators design compliant programs with confidence.

Conclusion

The seismic provisions of LCB R093-25 are broadly well-structured. The four items described above — threshold-setting transparency, the scope of the 5-mile enforcement order, the definition of a prior “reduction” for purposes of the second-strike trigger, and the scope of the water sampling obligation — are areas where clarification from the Division would materially improve operators’ ability to design compliant projects.