

APPENDIX B

Statement of Basis, Specific Statutory Authority, and Purpose New Rules and Amendments to Current Rules of the Colorado Energy and Carbon Management Commission, 2 C.C.R. § 404-1

Cause No. 1R Docket No. 240500115

Deep Geothermal Rulemaking

This statement sets forth the basis, specific statutory authority, and purpose for amendments and additions (“Deep Geothermal Rulemaking”) to the Colorado Energy and Carbon Management Commission (“Commission” or “ECMC”) Rules of Practice and Procedure, 2 C.C.R. § 404-1 (“Rules”).

Unless otherwise specified, the new rules and amendments become effective twenty days after publication in the Colorado Register, per C.R.S. § 24-4-103(5).

In adopting amendments to the Rules, the Commission relied upon the entire administrative record for this rulemaking proceeding, which formally began on May 15, 2024, when the Commission submitted its Notice of Rulemaking to the Colorado Secretary of State for revisions to Rules. This record includes public comments, written prehearing statements, written prehearing testimony, and oral testimony and comments provided during public hearings and Commission deliberations.

Background

On May 22, 2023, Governor Polis signed into law Senate Bill 23-285 which, among other things, amended the Colorado Geothermal Resources Act granting the Commission exclusive authority to regulate Deep Geothermal Operations in Colorado. C.R.S. §37-90.5-106(1)(b)(I). Senate Bill 23-285 also authorized the Commission to adopt rules for such regulation. *Id.* The Commission instituted this Deep Geothermal Rulemaking to comply with the relevant provisions Senate Bill 23-285.

Statutory Authority

The Commission’s authority to promulgate new Rules and amendments to the existing Rules is derived from the following sections of the Colorado Geothermal Resources Act (“Geothermal Act”), C.R.S. §§ 37-90.5-101 - 111, and the Oil and Gas Conservation Act (“Act”), C.R.S. §§ 34-60-101 - 139:

- C.R.S. §37-90.5-102 (Legislative declaration);
- C.R.S. §37-90.5-103 (Definitions);
- C.R.S. §37-90.5-105 (Access—reasonable accommodation);

- C.R.S. §37-90.5-106 (Regulation of geothermal resource operations–reinjection–fees–rules);
- C.R.S. §37-90.5-107 (Permits for the use of geothermal resources–rules);
- C.R.S. §37-90.5-109 (Geothermal resource units–rules);
- C.R.S. §37-90.5-111 (Coordination between the commission and the state engineer);
- C.R.S. §34-60-103 (Definitions);
- C.R.S. §34-60-104.5 (Duties of the Director);
- C.R.S. §34-60-105 (Powers and authority of the commission);
- C.R.S. §34-60-106 (Specific powers and duties of the Commission);
- C.R.S. §34-60-108 (Procedural rules); and
- C.R.S. §34-60-121 (Enforcement).

Stakeholder Participation

The Commission began the informal stakeholder process in July of 2023 when ECMC Staff began meeting with stakeholder groups interested in providing guidance and feedback throughout the initial drafting process. These stakeholder groups included, but are not limited to, other state and federal agencies, experts, research organizations, universities, local government organizations, environmental organizations, wildlife organizations, and industry organizations and geothermal operators. On September 6, 2023, ECMC Staff presented a Deep Geothermal Regulatory Concept Paper to the Commission in which ECMC Staff described their proposed approach to an initial draft of the Deep Geothermal Rules. On October 18, 2023, the Commission published an initial “strawdawg” draft of the Deep Geothermal Rules on ECMC’s website. From October 18 through November 13, 2023, the Commission welcomed public comment on the initial “strawdawg” draft. At the Commission’s regular weekly public meeting on November 7, 2023, individual commissioners provided their feedback to ECMC Staff on the “strawdawg” draft. Based on the public comments and individual commissioner feedback, ECMC Staff revised the “strawdawg” draft.

Beginning in December of 2023 and continuing through April of 2024, ECMC Staff continued to revise the draft Deep Geothermal Rules while engaging with a wide range of stakeholders including local government coalitions, environmental groups, sister state regulatory agencies, the Environmental Protection Agency, and the regulated community. On May 15, 2024, the Commission filed with the Secretary of State its notice of rulemaking, draft Deep Geothermal Rules, and this initial draft Statement of Basis and Purpose.

Identification of New and Amended Rules

Consistent with its statutory authority and its legislative mandates, and in accord with the administrative record, the Commission added a new 1300 Series of Rules. The Commission also revised several definitions in its 100 Series Rules and added several new definitions to its 100 Series Rules. These changes include:

- 100-Series Rules: definitions of Allocated Geothermal Resource, Avoid Adverse Impacts, Beneficial Co-Production, Best Management Practices, Closed-Loop Geothermal System, Compensatory Mitigation Plan, Completed Well, Completion, Deep Geothermal Operation(s), Denver Basin Aquifers, Director's Recommendation, DWR, Exploration and Production Waste ("E&P Waste"), Facility, Flowline, Fluid, Geothermal Act, Geothermal By-Products, Geothermal Fluid, Geothermal Injection Well, Geothermal Resource, Geothermal Resource Unit ("GRU"), Geothermal Science Well, Hydraulic Fracturing Treatment, Inactive Well, Injection Zone, Location, Material Medium, Minimize Adverse Impacts, Nonconsumptive Geothermal Operation, Nontributary Groundwater, Oil and Gas Facility, Oil and Gas Location, Open-Loop Geothermal System, Operator, Orphaned Site, Owner, Pit, Correlative Rights, Productivity Test, Reclamation, Reference Area, Refile, Regulatory Compliance Program, Related Operators, Relevant Local Government, Responsible Party, SLP, Special Purpose Pits, Surface Owner, Surface Use Agreement, Unavoidable Adverse Impacts, Used or Useful, Well, Well Site, Wildlife Mitigation Plan, and Wildlife Protection Plan;
- The addition of new 1300-Series Rules 1301 through 1321; and
- The Commission also adopted conforming and clarifying changes, where necessary.

The Commission intends for its new and revised rules to be prospective—applying to new operations twenty days after publication in the Colorado Register—unless otherwise specified in the text of a Rule.

Incorporation by Reference

Certain 1300-Series Rules incorporate Rules from other series by reference. While some Rules from other series are written in an oil-and-gas specific context, the Commission intends that those Rules apply to Deep Geothermal Operations in a reasonable manner. For example, Rule 1313.e incorporates Rule 406 by reference. Rule 406.a. reads, "Operators will construct Oil and Gas Locations in conformance with the approved Form 2A and all applicable and approved Form 4s." The Commission expects that Deep Geothermal Operators will apply Rule 406.a. to Deep Geothermal Operations by

reading it as, “Operators will construct Deep Geothermal Locations in conformance with the approved Form 2A and all applicable and approved Form 4s.”

100 Series Rules–Definitions

The Commission revised or reorganized existing 100 Series Definitions, or adopted new definitions, of the following terms:

Allocated Geothermal Resource

Avoid Adverse Impacts

Beneficial Co-Production

Best Management Practices

Closed-Loop Geothermal System

Compensatory Mitigation Plan

Completed Well

Completion

Deep Geothermal Operation(s)

Denver Basin Aquifers

Director’s Recommendation

DWR

Exploration and Production Waste (“E&P Waste”)

Facility

Flowline

Fluid

Geothermal Act

Geothermal By-Products

Geothermal Fluid

Geothermal Injection Well

Geothermal Resource

Geothermal Resource Unit (“GRU”)

Geothermal Science Well

Hydraulic Fracturing Treatment

Inactive Well

Injection Zone

Location

Material Medium

Minimize Adverse Impacts

Nonconsumptive Geothermal Operation

Nontributary Groundwater

Oil and Gas Facility

Oil and Gas Location

Open-Loop Geothermal System

Operator

Orphaned Site

Owner

Pit

Correlative Rights

Productivity Test

Reclamation

Reference Area

Refile

Regulatory Compliance Program

Related Operators

Relevant Local Government

Responsible Party

SLP

Special Purpose Pits

Surface Owner

Surface Use Agreement

Unavoidable Adverse Impacts

Used or Useful

Well

Well Site

Wildlife Mitigation Plan

Wildlife Protection Plan

DRAFT

1300 Series - Deep Geothermal Operations

The Commission added a new 1300 Series to the Rules. The Commission intends for the 1300 Series to be the primary, but not exclusive, series applicable to Deep Geothermal Operations. Generally, the Commission intends for a Deep Geothermal Operator to look to the 1300 Series as a roadmap for regulatory obligations associated with Deep Geothermal Operations. The 1300 Series incorporates by reference Rules from other Series, therefore Deep Geothermal Operations are subject to such other Rules.

Rule 1301

The Commission added Rule 1301.a. to specify which 200-Series Rules' General Provisions are applicable to Deep Geothermal Operations. The Commission added Rule 1301.b. to specify that Rule 215, regarding Local Government Designees, also applies in the context of Deep Geothermal Operations.

Rule 1302

The Commission added Rule 1302 to provide general permitting requirements for Deep Geothermal Operations. More specific Rules associated with particular Deep Geothermal Operations and/or permits are included elsewhere in the 1300 Series.

Rule 1303

The Commission added Rule 1303 to address Local-Government siting authority for Deep Geothermal Operations. The Geothermal Resources Act specifies that the Commission will not issue a permit for Deep Geothermal Operations unless the Applicant has filed a siting application with the Local Government in whose jurisdiction the Operations will occur, or the Local Government does not regulate such siting. The Applicant must also provide evidence of the disposition of the Local-Government application. C.R.S. §37-90.5-106(2)(b)(I).

Rule 1303.a.

The Commission added Rule 1303.a. to incorporate those statutory provisions providing Local-Government siting authority over Deep Geothermal Operations found at C.R.S. §§ 24-65.1-101 et seq., 29-20-104, 30-15-401, and 37-90.5-106(2)(b)(I).

Rules 1303.b. through d.

The Commission added Rules 1303.b. and c. to specify the effect of a Local Government's approval or denial of a proposed Deep Geothermal Location within a permit application for Deep Geothermal Operations, Form 2A, or GRU permit. If a Local Government does not regulate siting of Deep Geothermal Locations, the Director will conduct a siting review (also referred to as a Location Assessment) pursuant to the relevant 1300 Series Rule(s). When a Local Government denies an applicant's proposed Deep Geothermal Location, the application must be subject to a full Commission

hearing, rather than Director approval or a hearing before an ALJ or a Hearing Officer. When a Local Government approves an applicant's proposed Deep Geothermal Location, the Director will defer to that Local Government's siting disposition.

Pursuant to Rule 1303.d., Applicants are also required to state whether their proposed Deep Geothermal Location is within an area designated as one of state interest under the provisions of C.R.S. § 24-65.1-108.

Rules 1303.e. and f.

Rule 1303.e. specifies how a Local Government may waive its right to notification required under the 1300-Series Rules. Rule 1303.f. specifies how and when a Relevant or Proximate Local Government may request consultation on a permit application for Deep Geothermal Operations.

Rule 1304

The Commission added Rule 1304 to provide for a comprehensive rule on all consultations required for permit applications for Deep Geothermal Operations. Pursuant to Rule 1304.a., an applicant will request a pre-application consultation with all entities entitled to a consultation pursuant to Rules 1303 and 1304. ECMC's current practice is for the applicant to contact ECMC planning and permitting staff to coordinate a meeting that will engage all relevant parties.

Rules 1308.b. through d. contemplate consultations with individuals who may be impacted by a permit application for Deep Geothermal Operations (i.e., surface owners, building unit owners and tenants, and schools, child care centers, and school governing bodies). Rules 1308.e. through j. contemplate consultations with other governing or regulatory entities (for example, CPW or the EPA).

Rule 1305

The Commission added Rule 1305 to provide Operators with a single rule specifying the required contents for permit applications for Deep Geothermal Operations. Rule 1305.b. lists the specific required components of a permit application. Rule 1305.c. specifies how and when an applicant can submit substantially equivalent information or plans in lieu of components required by Rule 1305.b. Rule 1305.d. addresses completeness determinations and ensuing public comment mechanisms and durations. Rule 1305.e. specifies how permit applications are considered and approved or denied. Rule 1305.f. specifies criteria which are unnecessary for permitting of Geothermal Science Wells. Geothermal Science Wells are intended to test the scientific viability of contemplated Deep Geothermal Operations in a particular area. They are not intended to conduct Deep Geothermal Operations. If an Operator later contemplates converting a Geothermal Science Well for Deep Geothermal Operations, the Operator is subject to Rule 1311.

Rule 1306

The Commission added Rule 1306 to grant the Director authority to suspend approved permits for Deep Geothermal Operations, along with any associated GRU permit(s), Form 2A, or Form 2 if the Director has reasonable cause to believe that any information relied upon in approving the relevant application or granting the relevant permits was materially incorrect. It also provides a process for Commission review of such decisions.

Rule 1307

The Commission added Rule 1307.a to clarify that the validity of approved permits for Deep Geothermal Operations are finite in duration. Rules 1307.b. and c. prohibit extensions of approved permits, but allow for refiling of such permit applications. Rule 1307.d. requires that a Deep Geothermal Operator must reclaim any built Deep Geothermal Location when the underlying Form 2A expires.

The Commission recognizes that a single Deep Geothermal Location can be permitted for use by multiple Geothermal Resource Units, and that an Operator may begin drilling operations associated with the first GRU within the three-year expiration deadline while failing to begin drilling as to the second (or other subsequent) GRU(s) within the deadline. In such a scenario, the Commission intends that the Form 2A associated with the Deep Geothermal Location will not expire as it is already in use by the first GRU.

Rule 1308

The Commission added Rule 1308 to specify the processes by which an Operator can request approval of subsequent operations on existing Well(s).

Rule 1309 and 1310

The Commission added Rules 1309 and 1310 to allow for the creation of Geothermal Resource Units (“GRUs”), as authorized by C.R.S. §37-90.5-109 of the Geothermal Resources Act. Section 109 authorizes the Commission to adopt procedures for the establishment of GRUs. In regulating GRUs, the Commission may control well-spacing and production rates, control the quantity of Geothermal Fluid extracted (including requirements to reinject), adopt a comprehensive unit plan that encourages sustainable use, and require equitable compensation to any impacted interest owner of an Allocated Geothermal Resource. Notably, Section 109 only authorizes the Commission to establish GRUs as to Allocated Geothermal Resources, and does not allow the creation of GRUs for Distributed Geothermal Resources, regardless of the depth at which the Geothermal Resource is found.

Rule 1309.a.

The Commission added Rule 1309.a. to provide Operators with the procedural requirements of applying for a GRU. At Rule 1309.a.(1), the Commission specifies that an application for a GRU can never precede the associated Deep Geothermal

Operations permit application. The Operator must apply for the GRU simultaneously with the Deep Geothermal Operations permit application, or after the Deep Geothermal Operations permit application is approved. This is intended to prevent Operators from abusing the GRU process to sew up Geothermal Resources without actually developing them.

The remaining provisions of Rule 1309.a. provide Operators with the required components of a GRU application. Notably, this includes a comprehensive unit plan required by Rule 1309.a.(2).J., in which the Operator will describe their plan for equitably compensating the impacted Allocated Geothermal Resource interest owner(s). The Commission intends the unit plan required by Rule 1309.a.(2).J to address the requirements of 37-90.5-109(1), C.R.S.

This plan may involve reference to the Operator's request to include unleased/nonconsenting Allocated Geothermal Resource interest owner(s), pursuant to Rule 1310, discussed below.

Rule 1309.b.

The Commission added Rule 1309.b. to specify the process by which GRU applications will be reviewed and approved or denied. Similar to Rule 1305.e. on consideration of a permit application for Deep Geothermal Operations, the Commission contemplates administrative approval or denial by the Director, except where the GRU application includes unique circumstances warranting a special hearing as described at Rule 1305.e.(4).

Rule 1309.c.

The Commission added Rule 1309.c. to specify the permitting pathway for GRUs.

Rule 1310.a.

The Commission added Rule 1310.a. to address equitable compensation of unleased Allocated Geothermal Resource interest owner(s) in GRUs. In C.R.S. §37-90.5-109, the General Assembly authorized the Commission to include unleased Allocated Geothermal Resource interest owners in a GRU by its use of the phrases, "to establish geothermal resource units" and "[r]equire the equitable compensation of an impacted owner of an allocated geothermal resource." To establish a GRU which includes unleased Allocated Geothermal Resource interest owner(s), the Operator must comply with the provisions of Rule 1310.

Rule 1310.b.

The Commission added Rule 1310.b. to establish the criteria by which an Operator can request inclusion of an unleased Allocated Geothermal Resource interest owner(s). Rule 1310.b.(1) requires that the Operator secure the written consent of owners of more than 45% of the geothermal interests to be included in the GRU. Notably, this does not mean more than 45% of the total number of Owners need to be impacted. This means

that the Owners from whom the Operator obtained written consent must collectively own more than 45% of the total Allocated Geothermal Resources to be included. If a single Allocated Geothermal Resource interest owner owns more than 45% of the total Allocated Geothermal Resources to be included, and that Owner has granted their written consent, the Operator has satisfied Rule 1310.b.(1)'s requirement.

However, pursuant to Rule 1310.b.(2), the Operator must have tendered good faith, reasonable offers for participation in the GRU to all unleased Allocated Geothermal Resource interest owners to be included in the proposed GRU. The Operator must also propose a plan for equitable compensation of those unleased Allocated Geothermal Resource interest owner(s) to be included in the GRU, pursuant to Rule 1310.b.(3).

Rule 1310.c.

The Commission added Rule 1310.c. to specify the minimum procedural requirements for inclusion of a nonconsenting Allocated Geothermal Resource interest owner in the GRU. This includes required information to be included in the offer to participate and the amount of time the Allocated Geothermal Resource interest owner(s) have to consider the offer. It also establishes that the burden of proving the applicant's offer is not reasonable and/or in good faith upon the owner of the Allocated Geothermal Resources to be included in the GRU.

Rule 1310.f.

The Commission added Rule 1310.f. to describe the process by which an applicant's request to include any nonconsenting Allocated Geothermal Resource interest owner(s) will be considered and approved or denied. The proposed means of equitable compensation will be considered concurrently with the evaluation of the GRU in all cases, either simultaneously with or subsequent to the permit application for Deep Geothermal Operations. The Commission intends Rules 1309 and Rule 1310 to work in tandem. When an applicant is aware that nonconsenting interest owners will be included in the proposed GRU, the applicant will submit their request under Rule 1310 concurrently with their permit application for GRU.

Rule 1311

The Commission added Rule 1311 to specify the processes by which an Operator can apply to convert an existing wellbore to a Deep Geothermal Well. The Commission intends that Rule 1311 is only applicable to converting existing wellbores to wellbores for the purposes of Deep Geothermal Operations.

The Commission intends, when an applicant applies to convert a Geothermal Science Well to a Deep Geothermal Well, the applicant will provide that information listed at Rule 1305.f.(1). The Commission also intends that if the applicant performed the pre-application consultations required by Rule 1304 prior to obtaining a permit for a Geothermal Science Well, such pre-application consultations are not required for conversion to a Deep Geothermal Well, unless the Director or Commission determine it

necessary. However, when applying to convert any other type of Well to a Deep Geothermal Well, the applicant will perform the pre-application consultations required by Rules 1303 and 1304 as part of its Rule 1311 application, unless the Director or Commission determine it unnecessary.

The Commission contemplates that all applications to convert a Well to Deep Geothermal Wells will be reviewed and approved or denied pursuant to procedures described at Rule 1305.e.

Rules 1312

Rule 1312.a.

The Commission added Rule 1312 to address Geothermal Injection Wells. The Commission contemplates that some Deep Geothermal Operations will involve reinjecting Geothermal Fluids previously extracted from Deep Geothermal Well(s). However, the Commission currently does not have authority to authorize injection into Geothermal Injection Wells. Such wells are subject to the provisions of the Safe Drinking Water Act (“SDWA”), 42 U.S.C.A. §300f., *et seq.* Therefore, the Commission requires, at Rule 1312.a., that an Operator who intends to reinject Geothermal Fluids as part of its Deep Geothermal Operations will obtain the necessary authorization under the SWDA.

Rule 1312.b.

The Commission added Rule 1312.b. to specify that Operators operating Geothermal Injection Wells pursuant to approved Deep Geothermal Operations will comply with Rules 805 (Analytical requirements for injection fluid analyses), and 806.a. and b. (Timing of injection fluid sampling and analysis). While the Commission does not currently have authority to authorize injection into Geothermal Injection Wells, the Commission requires that Operators of Geothermal Injection Wells perform sufficient sampling and analysis of reinjected Geothermal Fluids.

Rule 1312.c.

For the geophysical log requirement of 1312.c, the Commission intends that new Geothermal Injection Wells will have a suite of open-hole gamma ray, electrical resistivity, and density/porosity logs. In instances where open hole logs have not been or cannot be run, the Commission intends to allow operators to submit historic geophysical logs where available, so long as the log uses downhole measurement techniques to identify formation characteristics and fluid properties. The Director or Commission may require cased-hole pulsed neutron logs to fulfill this requirement. The requirement for gamma ray logging on a Geothermal Injection Well may be fulfilled by the requirements of Rule 408.r.

Rule 1312.d. through f.

The Commission added Rules 1312.d. through f. to address two forms of risk. The first pertains to fractures. The Commission requires an objective, performance-based standard for maximum allowable injection rates and pressures, by requiring that injection pressures not initiate any new fractures or propagate existing fractures. This standard will ensure that no fluids migrate out of the approved injection zone.

The second is the risk of induced seismicity. Building on the work done at the Mission Change Rulemaking in the 800-Series Rules, the Commission incorporated similar risk abatement measures as those found in the 800-Series—specifically at Rule 803.f. This includes seismic monitoring, furnishing seismic monitoring data, and potentially requiring traffic light protocols for seismicity. Further information can be found at the Rule 803.f. entry in the Mission Change Rulemaking Statement of Basis and Purpose on the Commission’s website:

<https://ecmc.state.co.us/documents/reg/Rules/Older/archive/Rules/2021/800%20900%201200%20Series%20-%20Mission%20Change%20SBP.pdf>

Rule 1312.g. and h.

The Commission added Rules 1312.g. and h. to restrict which types of Fluids may and may not be injected via Geothermal Injection Wells. In particular, the Commission intends that Rule 1312.g.(3) requires analysis of any proposed injectate prior to injection. To assure non-endangerment of aquifers used for Deep Geothermal Operations, the Operator will submit such analysis and obtain approval from the Director or other relevant authority prior to injection.

The Commission added Rule 1312.h. to specify when an Operator will provide an injected water analysis and injection zone analysis prior to injecting into a Geothermal Injection Well. To ensure non endangerment of the aquifer, the Commission intends that an Operator need only submit such analyses when an Operator proposes to inject any Fluids other than Geothermal Fluids from the same formation or fresh or recycled water.

Rule 1313

The Commission added Rule 1313 to provide Operators with geothermal-specific operations and reporting requirements. Rule 1313 also incorporates existing 400-Series operations and reporting requirements by reference.

Rules 1313.a.

The Commission added Rule 1313.a. to require monthly reporting on Deep Geothermal Wells, Fluids produced and injected, temperature and flow rate of Fluids, and, for Closed-Loop Geothermal Systems, Fluids lost to the subsurface.

Rule 1313.c.

The Commission added Rule 1313.c. to clarify that Form 4, Sundry Notices are applicable in the context of Deep Geothermal Operations. Rule 1313.c. incorporates Rules 404.a. and d. by reference. Rule 1313.a. through c. specify three, nonexclusive uses for a Form 4 in the the context of Deep Geothermal Operations.

Rules 1313.d. through s.

The Commission added Rules 1313.d. through s. to incorporate by reference various provisions of the 400-Series Rules regarding Operations and Reporting. The Commission intends to extend its general operating and reporting structure and informational requirements to Deep Geothermal Operations.

Rule 1314

Rules 1314.a. through d. and g. through k.

The Commission added Rules 1314 to provide Operators with geothermal-specific safety and facility operations requirements. Rules 1314.a. through d. and g. though k. also incorporate existing 600-Series safety and facilities requirements by reference. The Commission intends to extend its general safety and facility requirements to Deep Geothermal Operations.

Rule 1314.f.

Rule 1314.f. incorporates by reference specific provisions of Rule 604 regarding setbacks and siting requirements. However, the Commission recognizes that an intended end use of some Deep Geothermal Operations may necessitate the Deep Geothermal Well, Location, and/or Facility to be located near a building. For example, a Deep Geothermal Operator may demonstrate with technical evidence that, because an end use of the Deep Geothermal Operation is to heat building(s), the most beneficial design for the Operation may place the Deep Geothermal Well or Facility near the building(s) to be heated.

Rule 1314.l.

At Rule 1314.l., the Commission specifies that its permitting and enforcement jurisdiction over Flowlines associated with Deep Geothermal Operations ends at the point where the Flowline leaves the permitted Deep Geothermal Location. While the Commission recognizes that it does not have authority to regulate off-location flowlines, the Commission still intends to require that such flowlines will be registered with the Commission, by incorporating Rule 1101.b by reference.

Rule 1315

The Commission added Rule 1315 to provide Operators with geothermal reservoir monitoring requirements. The primary purpose of Rule 1315 is to ensure that Operators extract the Geothermal Resource at a sustainable rate. Therefore, Rule 1315.a. requires that Operators report the initial state of the Geothermal Resource upon Completion of a Deep Geothermal Well or a Geothermal Science Well. Rules 1315.b. and c. require regular reporting of the state of the Geothermal Resource. Rule 1315.d. authorizes the Director to require subsurface pressure measurements, when the Director deems it necessary. Rule 1315 is in line with the Geothermal Resource Act's requirement that the Commission encourage the maximum economic recovery of each Geothermal Resource, prevent its waste, and protect associated correlative rights. C.R.S. 37-90.5-102(b).

Rule 1316

The Commission added Rule 1316 to require Financial Assurance for Deep Geothermal Operations. As with Oil and Gas Operations, Deep Geothermal Operations present the state with risks of orphaned assets—including orphaned Deep Geothermal Wells. Further, it is prudent to require other forms of Financial Assurance such as general liability insurance and surface owner protection bonds. Rule 1316 is intended to accomplish this.

Rule 1316.a.

The Commission added Rule 1316.a. to specify that the Financial Assurance requirements of Rule 1316 apply to all permitted Deep Geothermal Wells in Colorado, except those Deep Geothermal Wells operated by Operators who qualify under Rule 702.d.(6). Rule 1316.a.(3) allows a Deep Geothermal Operator to demonstrate that, when operating a Deep Geothermal Well, Location, and/or Facility which is also subject to federal Financial Assurance, the Operator may demonstrate that the required federal Financial Assurance is substantially equivalent to the Operator's state-level Financial Assurance obligations. However, the Commission intends that the Commission and/or Director have broad discretion to determine whether the federal Financial Assurance is substantially equivalent.

Rule 1316.b.

The Commission added Rule 1316.b. to specify the process by which an Operator will submit its Financial Assurance. Notably, the Operator will submit a Financial Assurance Plan to begin the Financial Assurance submission process. This is accomplished through a Form 3G. This builds upon the Financial Assurance Rulemaking and extends it to Deep Geothermal Operators.

Rules 1316.c. and d.

The Commission added Rule 1316.c. to specify the contents of a Deep Geothermal Operator's Financial Assurance Plan. The Financial Assurance Plan will include the information requirements described at Rule 1316.c.(1).

The amount of Financial Assurance is set at Rule 1316.c.(2). Operators should note that, unlike Financial Assurance in the oil and gas context, all Deep Geothermal Wells will be secured by the Single Well Plugging and Abandoning Cost, as described in part c.(3) of the definition of Single Well Financial Assurance. Further, all Deep Geothermal Locations will be secured by the Location Reclamation Cost, as described in part c.(2) of the definition of Single Well Financial Assurance. In other words, the so-called "demonstrated costs" described at parts a. and d. of the definition of Single Well Financial Assurance are not applicable to Deep Geothermal Operations, Deep Geothermal Wells, and/or Deep Geothermal Locations. Rule 1316.b.(2) also specifies other forms of required Financial Assurance, such as Surface Owner Protection Bonds, when required by Rule 1316.c.(2).C., and Financial Assurance for remediation projects (pursuant to Rule 703.b.), seismic operations (pursuant to Rule 703.c.), and produced water transfer systems (pursuant to Rule 703.e.).

Rule 1316.d. requires Deep Geothermal Operators also comply with the general liability insurance requirements of Rule 705.

Rule 1317

The Commission added Rule 1317 to incorporate by reference various provisions of the 900-Series Rules regarding Environmental Impact Prevention. The Commission intends to extend its general environmental impact prevention requirements to Deep Geothermal Operations.

Rule 1318

The Commission added Rule 1318 to incorporate by reference various provisions of the 1200-Series Rules regarding Protection of Wildlife Resources. The Commission intends to extend its general requirements for protection of wildlife resources to Deep Geothermal Operations.

Rule 1319

The Commission added Rule 1319 to incorporate by reference various provisions of the 1000-Series Rules regarding Reclamation. The Commission intends to extend its general requirements for Reclamation to Deep Geothermal Operations.

Rule 1320

The Commission added Rule 1320 to incorporate by reference various provisions of the 500-Series Rules regarding Practice and Procedure. The Commission intends to extend

its general requirements for practice and procedure before the Commission to Deep Geothermal Operations.

Pursuant to Rule 1320.b., the Commission intends that the Director can refer any permit application for Deep Geothermal Operations or a Geothermal Resource Unit to the Commission when the Director determines that circumstances warrant a Commission hearing.

Rule 1321

The Commission added Rule 1321 to allow for the creation of Special Deep Geothermal Zones. The Commission envisions Special Deep Geothermal Zones to be areas where Local Governments can leverage zones of likely geothermal development in ways tailored to the local community's needs and priorities.

The Commission intends that only the Director, a Relevant Local Government, a Deep Geothermal Operator, or the Commission itself can apply to create a Special Deep Geothermal Zone.

At least one purpose of Rule 1321 is to allow Local Governments to exercise their siting authority, pursuant to 37-90.5-106(2)(b)(I), C.R.S., even if the Local Government has not established geothermal siting regulations.

At Rule 1321.c., the Commission specifies that no Special Deep Geothermal Zone will be established without agreement from the Relevant Local Government to every part of the application.

Rules 1321.d. through g. describe the procedural pathway for disposition of an application for a Special Deep Geothermal Zone.