

## MEMORANDUM

**To:** Stakeholders in COGCC Rulemaking

**From:** Dave Neslin, DNR Assistant Director, COGCC Acting Director

**Date:** November 27, 2007

**Re:** Initial pre-draft rulemaking proposal to implement HB 1298 and HB 1341

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The following memorandum describes the initial, pre-draft rulemaking proposal prepared by the Colorado Oil and Gas Conservation Commission (COGCC) in consultation with the Colorado Department of Public Health and Environment (CDPHE) and the Colorado Division of Wildlife (CDOW) to implement House Bill (HB) 1298 and HB 1341. The purpose of this pre-draft proposal is to focus and facilitate early public input and comment on the rulemaking, which will be used to develop draft rules. The draft rules then will be subject to public notice, comment, and a hearing pursuant to the Colorado Administrative Procedures Act. The COGCC expects to adopt the final rules by July 1, 2008.

We are informally circulating the initial, pre-draft proposal to all stakeholders at this time in order to gain the benefit of stakeholder participation and feedback early in the rulemaking process. To this end, we ask that all stakeholders review this memorandum and provide us by Tuesday, December 11 with any initial comments that they wish us to consider before the proposal is posted to the COGCC website for public comment. We will review all such comments, make any appropriate revisions to the proposal, and then expect to post the proposal by Friday, December 14.

Thank you for your assistance in this important process.

**Initial Pre-Draft Rulemaking Proposal  
to Implement HB 1298 and HB 1341**

**Stakeholder Review Draft**

**November 27, 2007**

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## **I. INTRODUCTION**

In 2007, the Colorado legislature enacted House Bill (HB) 1298 and HB 1341. HB 1298 directs the Colorado Oil and Gas Conservation Commission (COGCC) and the Colorado Wildlife Commission to “take into consideration cost-effectiveness and technical feasibility” as it “establish[es] standards for minimizing adverse impacts to wildlife resources affected by oil and gas operations” through various actions, including developing rules by July 1, 2008, that address:

- “developing a timely and effective consultation process with the [Colorado Division of Wildlife (CDOW)] governing notification and consultation on minimizing adverse impacts, and other issues relating to wildlife resources”;
- “encouraging operators to utilize comprehensive drilling plans and geographic area analysis strategies to provide for orderly development of oil and gas fields”; and
- “minimizing surface disturbance and fragmentation in important wildlife habitat by incorporating best management practices” in orders and approvals.

HB 1341 similarly provides that the production of oil and gas must be “consistent with the protection of public health, safety, and welfare, including protection of the environment and wildlife resources” – a set of values hereafter collectively referred to as “public welfare and wildlife.” It directs the COGCC to promulgate rules in consultation with the CDPHE “to protect the health, safety, and welfare of the general public in the conduct of oil and gas operations,” and to “provide a timely and efficient procedure in which the [CDPHE] has an opportunity to provide comments during the [COGCC]’s decision-making process.” The rules must be enacted by April 1, 2008, but this date may be extended by bill to July 1, 2008, and the COGCC must coordinate its rulemaking under both statutes.

Since late July 2007, the COGCC staff has consulted with the CDOW and the CDPHE to develop an initial rulemaking proposal to implement these statutes. This consultation process has included over two dozen meetings and has involved the participation of more than 30 staff members, including staff members with substantial experience in geology, hydrogeology, engineering, environmental management, information technology, mapping, wildlife biology, water quality, air quality, waste management, and epidemiology. The COGCC staff members in this process have more than 100 years of combined experience with oil and gas regulation, and many of the CDOW and CDPHE participants also have extensive prior experience with this subject and with the design and development of regulations.

As part of this process, representatives of the COGCC, CDPHE, and CDOW met in August and September with a broad range of stakeholder groups to solicit their input and participation. The stakeholder participants have included:

- Oil and gas groups and interests, including the Colorado Oil & Gas Association, the Colorado Petroleum Association, the Independent Petroleum Association of Mountain States, as well as various individual companies, such as EnCana Oil and Gas (USA),

Inc., Noble Energy, Inc., El Paso Corporation, Plains Exploration and Production Company, Chevron USA, Inc., Anadarko Petroleum Corporation, Bill Barrett Corporation, K.P. Kauffman Company, Inc., and Pioneer Natural Resources, USA, Inc.;

- Environmental and wildlife groups and interests including the Colorado Environmental Coalition, Grand Valley Citizens Alliance, San Juan Citizens Alliance, Colorado Wild, Oil and Gas Accountability Project, The Nature Conservancy, Western Colorado Congress, National Wildlife Federation, Colorado Wildlife Federation, Colorado Mule Deer Association, and Trout Unlimited;
- Agriculture groups and interests, including the Colorado Cattlemen's Association, Colorado Farm Bureau, Rocky Mountain Farmers Union, Colorado Association of Conservation Districts, and the Colorado Department of Agriculture's State Conservation Board;
- Local government groups and interests, including Colorado Counties, Inc., the Colorado Municipal League, Garfield County, and Weld County; and
- Federal and state land managing agencies, including the U.S. Bureau of Land Management, the U.S. Forest Service, and the Colorado State Land Board.

Several of these participants have submitted written comments and suggestions, which the staffs of the COGCC, CDPHE, and CDOW have considered.

Based upon this work, the staffs of the COGCC, CDPHE, and CDOW have developed an initial, pre-draft proposal for the new rules. This proposal is intended to inform and facilitate initial public comment, which will be used to develop the actual draft rules. Although this initial proposal reflects considerable effort and careful consideration by the agencies involved, it will be subject to revision and refinement based on the initial public comment. It is intended to begin public dialogue regarding the scope and substance of the new rules, not to dictate the terms of those rules.

As part of this process, the COGCC will accept written and electronic comment on the proposal through at least January 31, 2008, and will hold at least one public meeting on the proposal in each of the five major oil and gas producing regions in Colorado during January 2008. The time and place for these meetings will be posted on the COGCC website. The COGCC may hold additional public and stakeholder meetings to discuss the proposal and may convene work groups to address particular issues as appropriate and as time and resources allow.

Based upon the initial public comment that is received, the COGCC in consultation with the CDOW and CDPHE expects to prepare and publish draft rules in March 2008. These draft rules will initiate the formal rulemaking process under the Colorado Administrative Procedures Act and will be subject to additional public comment and a public hearing during the Spring of 2008.

## **II. DETAILED DESCRIPTION**

### **A. Proposed New Approval Process for the Location of Oil and Gas Facilities**

First, the proposal would establish a new approval process for locating oil and gas facilities, which would involve a new permit, known as a Form 34 permit. Pursuant to HB 1298 and HB 1341, the Form 34 permit process would provide an effective and efficient system for addressing the site-specific surface impacts to public welfare and wildlife from oil and gas facilities in Colorado. The benefits of such a process would include: allowing operators to address the impacts on public welfare and wildlife from multiple wells in a single location; enabling the COGCC to review and address the effects of ancillary oil and gas facilities, such as tanks, compressors, access roads, gathering systems, and other pipelines; focusing the involvement of CDOW and CDPHE on those proposals with impacts of particular importance to those agencies; incorporating early protections for surface owners; increasing transparency and opportunities for public input; and expediting the issuance of drilling and waste management permits.

The proposed rules would also establish a discretionary new operator-initiated tool, known as a Comprehensive Development Plan. Such plans could be developed on a larger geographic scale and involve information that is more conceptual than a Form 34 permit, such as addressing all of the operator's anticipated development in a ten square mile area over a five year period. Informal discussions between operators COGCC, CDPHE, and/or CDOW would identify potential mitigation and avoidance measures, as well as appropriate practices and procedures for such development. If operators and consulting agencies arrive at appropriate mitigation measures, then these provisions would be included in subsequent Form 34 applications for that area and would be presumed sufficient to protect public welfare and wildlife unless new information indicates that additional or alternative mitigation is appropriate. Where an operator does not agree to the agencies' recommended mitigation measures, the mitigation would be resolved on a location-by-location basis through the Form 34 process. This process would help to expedite and simplify the Form 34 application process, allow cumulative effects to be addressed proactively, and enable mitigation measures to be developed at a larger geographic scale. By identifying sources of cumulative impacts and measures to address development impacts on a larger geographic scale, agencies and operators alike would enjoy expedited consideration of site-specific applications for permits to drill or other oil and gas operations.

Finally, the proposal would include provisions for the COGCC to initiate larger Geographic Area Plans where practicable. Where Comprehensive Development Plans would be driven by an individual operator's actions and are likely to cover a geographic area of limited size, Geographic Area Plans could be much broader in scope, covering entire gas fields or geologic basins. These Geographic Area Plans would therefore encompass the activities of multiple operators, in multiple sub-basins or drainages, over a period of ten to twenty years. It is anticipated that these Plans would lead to COGCC-driven, basin-specific rules adopted pursuant to the COGCC's rules of Practice and Procedure. This too could result in the proactive identification of cumulative impacts and mitigation measures on a larger geographic scale.

Form 34 permits, Comprehensive Development Plans, and Geographic Area Plans are described in more detail below. These processes would apply to all oil and gas activities regulated by the COGCC, but would not supersede or otherwise limit other applicable law, regulation, or requirements of the CDPHE, CDOW, and other governmental authorities.<sup>1</sup> These processes would apply to oil and gas activities occurring on both private and federal land, though the procedures for activities on federal land may be modified to avoid regulatory duplication or inefficiency.

### **1. Form 34: Application for Permit to Locate an Oil and Gas Facility**

Operators would be required to submit a Form 34, Application for Permit to Locate an Oil and Gas Facility (Form 34 permit) and obtain the COGCC's approval before constructing a location for oil and gas operations. A "location" would be a definable area where an operator intends to disturb the land surface in order to locate an oil and gas facility. An "oil and gas facility" would mean all equipment used or installed at a location for exploration, production, and/or processing oil or natural gas, including a site for drilling a well or conducting drilling operations, access roads, infield oil, gas, and water pipelines, and reclamation activities.<sup>2</sup>

The Form 34 permit process would be designed to evaluate surface resources and address potential impacts to public welfare and wildlife from oil and gas development activities. Although operators would still be required to file applications for permits to drill (APDs), the COGCC's review of APDs would be limited to issues such as downhole engineering, safety, and correlative rights. Thus, APD issuance and other COGCC permit approvals should be substantially streamlined and expedited. As with the current process for obtaining an APD permit from the COGCC, the Form 34 permit requirement would apply to oil and gas activities occurring on State, federal, or fee lands in Colorado.

Review and approval of Form 34 applications should help to minimize the surface impacts of oil and gas development by consolidating information about proposed locations in one application, applying a set of minimum operating standards to protect public welfare and wildlife, and providing for consultation with COGCC, CDPHE, CDOW, Local Government Designees, and property owners (surface and adjacent) in certain circumstances, as described below. COGCC intends the Form 34 process to be thorough, transparent, inclusive, predictable, and efficient, in order to balance the need for energy development with the protection of public welfare and wildlife.

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<sup>1</sup> For example, oil and gas operations would remain subject to various existing CDPHE environmental standards and permitting requirements.

<sup>2</sup> The COGCC is not planning to change the definition of "oil and gas operations." See COGCC Rules, 100 Series ("OIL AND GAS OPERATIONS means exploration for oil and gas, including the conduct of seismic operations and the drilling of test bores; the siting, drilling, deepening, recompletion, reworking, or abandonment of an oil and gas well, underground injection well, or gas storage well; production operations related to any such well including the installation of flowlines and gathering systems; the generation, transportation, storage, treatment, or disposal of exploration and production wastes; and any construction, site preparation, or reclamation activities associated with such operations.").



Before submitting a Form 34 application, operators would be encouraged to meet or confer with COGCC staff to discuss the planned oil and gas location and identify any issues or concerns. The subsequent application requirements and review process are described below.

### **a. Application Requirements**

The Form 34 application would include the site-specific information necessary to identify the issues associated with the proposed location, enabling the COGCC to assess all operations and their procedures, consultation requirements, and approval conditions. It would be accompanied by additional information on site conditions, access roads, waste management, production infrastructure, operations and maintenance, and bond coverage, as summarized in Appendix A. In addition, the applicant would certify that it has sent a copy of the application and the COGCC's informational brochure for surface owners to the surface owner of the location and the surface owner's lessee, if known, the record surface owners of property adjacent to and within 500 feet of the proposed location or their lessees, if known, and the Local Government Designee.<sup>3</sup>

A Form 34 application that is submitted without the necessary attachments or the required information would be deemed incomplete. The COGCC staff would notify the applicant of any inadequacies within 30 days of receiving the application. If the applicant fails to correct and/or supply the requested information within 30 days of that notice, the application would be considered withdrawn. After a Form 34 permit is issued, non-substantive revisions could be submitted on a Sundry Notice, Form 4. An amended Form 34 would be required for any substantive changes and for expansion of the location after interim reclamation. Such substantive amendments to a Form 34 permit would undergo the full review and approval process.

### **b. Notice and Comment**

Operators could file Form 34 applications either electronically or on paper, but electronic filing would be encouraged. Within one week of determining that a Form 34 application is complete, the COGCC would distribute the application and all attachments to CDPHE and CDOW. In this same time period, the COGCC would post the application on the COGCC website. This would constitute public notice of the application and would initiate a 30-day public comment period. The website notice would include a link to the Form 34 application, notation of the date by which comments are due, and a link to a public comment form. All comments on a Form 34 application would be posted on the COGCC website, but the COGCC would not be required to acknowledge or respond to comments received. This comment process would not give rise to a separate final agency action which might form the basis of administrative or judicial appeal. Rather, such comments would be intended to assist the COGCC, CDPHE, and CDOW in identifying issues and concerns.

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<sup>3</sup> This brochure would contain the rules pertaining to notice of oil and gas operations and opportunities for consultation, as well as the rules of procedure for filing complaints and applying for hearing. It would provide contact information for the COGCC's main office, field offices, and website, and it would also describe the services and information available to the public, including access to a listing of Local Government Designees.

### **c. Consultation**

Under limited circumstances, the operator may need to consult with other parties on its proposed location. Consultation would occur between the operator, COGCC, CDPHE, and/or CDOW where an operator seeks an exception from a provision in the rules for the protection of public welfare or wildlife, or where a proposed location is in an area of high-density development, an area delineated as containing important wildlife values, or an area that could present a risk to human health or welfare. Consistent with current policy, consultation would also occur with surface owners and the Local Government Designee where the location is not subject to a surface use agreement, and such consultation would be extended to include the owners of property adjacent to and within 500 feet of the location. In all instances where consultation was required, it would occur within a 60-day period that begins on the date public notice is posted on the COGCC website. During this period, the consulting party would review the application and other pertinent information and would confer with the operator and COGCC to discuss potential impacts and mitigation measures.

#### **i. Consultation with CDPHE and CDOW**

Before an operator submits a Form 34 application, it would initially determine whether the proposed location is in an area requiring consultation with CDPHE and/or CDOW by reviewing a GIS database by quarter-quarter section, township, and range. Where consultation is required, the agency would have 60 days from the date of public notice to consult, and specific personnel would be designated for this purpose. Where a Form 34 application involves a location that is a part of an approved Comprehensive Development Plan, the consultation period would be materially shorter than 60 days, because the Comprehensive Development Plan will have established presumptive mitigation measures for public welfare and wildlife.

After reviewing the application and public input and conferring with the applicant, the consulting agencies would submit any recommended mitigation measures to the applicant and the COGCC. The applicant would indicate its acceptance or rejection of these mitigation measures. Where anyone with standing (the operator, CDPHE, CDOW, Local Government Designee, surface owner, or adjacent landowner who is directly and adversely affected) does not agree to the conditions of approval included on the Form 34 permit, any of these parties may request a hearing before the COGCC.<sup>4</sup> The parties to the dispute would have 15 days in which they are to confer either in person or telephonically and attempt to resolve the dispute informally. If they are unable to reach agreement, the matter would be set for consideration at the next COGCC hearing at which such matter may be heard. The COGCC would issue an order establishing conditions of approval for the application after the hearing.

Consultation between COGCC, CDPHE and/or CDOW would be required in all instances where an operator seeks an exception from a provision in the rules designed for the protection of public welfare or wildlife. Because the rules would have been determined to represent minimum

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<sup>4</sup> The COGCC's rules provide that "only persons who can demonstrate that they are directly and adversely affected or aggrieved by the conduct of oil and gas operations or an order of the [COGCC] and that their interest is entitled to legal protection under the act may be an applicant [for a hearing]." See COGCC Rule 503(b)(7).

standards for the protection of the public welfare and wildlife, exceptions to them could only occur after consultation with the COGCC, CDPHE, and CDOW.

Consultation between the operator, COGCC, CDPHE, and CDOW would also be required where a location is proposed in an area of high-density development. We are currently evaluating several potential benchmarks that could trigger consultation in this instance, and we seek public input on this subject. For example, existing rules provide that a “high density area” for building units is determined on a well-by-well basis by calculating the number of occupied building units within the 72-acre area defined by a 1000-foot radius from the wellhead or production facility, while for other facilities high density area rules apply when occupied buildings are located within 1,000 feet of a wellhead or production facility. See COGCC Rule 603(b), (c). The term could be defined to apply to areas where surface-density thresholds exceed 1 well pad per 160 acres, to an area in which more than 120 active wells exist within a 10 square mile area surrounding the intended new location or within a radius of 1.75 miles of the location, or areas where these thresholds would be reached by a combination of existing development and the proposed location. It is foreseeable that high-density areas would already be the subject of a Comprehensive Development Plan, discussed below. If so, field-wide mitigation measures might already be established as presumptive conditions of approval for Form 34 applications in that area.

Additionally, consultation between the operator, COGCC, and CDOW would be required for locations in areas delineated as containing important or significant wildlife values. The CDOW has initially identified those areas in which sensitive species (e.g., endangered, threatened, or candidate species) or species with important economic values (e.g., elk, mule deer, grouse) might be particularly vulnerable to impacts likely to result from oil and gas activities. Using a species ranking process similar to that used historically during the county land use planning process, and more recently used in developing High Priority Habitat maps and in evaluating U.S. Forest Service roadless areas, the CDOW has endeavored to assess the vulnerability of various species to disturbance. We seek public input on this subject and suggestions for potential areas that would be subject to consultation for this purpose.

Finally, consultation between the operator, COGCC, and CDPHE could occur when it appears, based on CDPHE’s review of a Form 34 permit application, that a proposed location could present a particular risk to human health or welfare. Generally, consultation with CDPHE for proposed oil and gas locations is intended to be the exception, not the rule, occurring primarily where oil and gas activities are taking place near residences or communities. The CDPHE is likely to be involved primarily where exploration and production are occurring near residences or schools, where surface density of development puts the environment at risk, or where the potential for harm to public health is otherwise heightened. As above, we are evaluating several potential situations under which CDPHE consultation could occur and seek public input on this subject.

## **ii. Consultation and Onsite Inspection with Surface Owners and Local Government Designees**

Since January 2005, the COGCC has required notification of, and consultation and onsite inspection with, landowners and Local Government Designees prior to COGCC approval of APDs, Form 2.<sup>5</sup> These existing procedures would be codified in the COGCC rules and applied during the Form 34 process rather than during the APD process. This will not increase the overall timeline for Form 34 approvals. Instead, it will ensure that any consultation with these parties occurs in conjunction with any consultation between the operator, COGCC, CDPHE, and/or CDOW. These provisions for consultation with affected surface owners would not apply on federal or Indian-owned surface lands.

Consistent with existing requirements, an operator would supply the surface owner and the Local Government Designee with a copy of the Form 34 permit application, and this requirement would be extended to apply to the owner of property adjacent to and within 500 feet of the proposed location as well. Where the location is not subject to a surface use agreement, the operator would use its best efforts to consult in good faith with the affected landowners when locating surface facilities included in a Form 34 application, and also in preparation for reclamation and final abandonment. This consultation would allow surface and adjoining owners to express preferences for the timing of oil and gas operations and reclamation activities, for example, as well as preferred locations for wells and associated facilities. The rules would provide that the requirement to consult with the landowners may be waived at any time. Local governments who have appointed a Local Government Designee would also be entitled to consultation.

Also consistent with existing requirements, a surface owner could request that the COGCC Director conduct an onsite inspection after consulting in good faith with the operator. A surface owner would be required to submit a request for onsite inspection within 10 days of the consultation described above, including proposed dates for the inspection, a description of the unresolved issues, and the surface owner's preference for having the Local Government Designee invited to participate. The surface owner would also send the request for onsite inspection to the CDPHE and CDOW, and representatives from these agencies could participate in the onsite inspection, at their election. The purpose of this inspection would be to determine whether technical or operational conditions of approval should be attached to the Form 34 permit to address crop loss or damage, as well as any potential public welfare or wildlife concerns within COGCC's jurisdiction. The onsite inspection would not address matters of surface owner compensation, property value, future property use, or any contractual issues between the operator and the surface owner.

Following the onsite inspection, the COGCC Director could apply appropriate site-specific conditions of approval to address surface owner concerns. These conditions of approval would be consistent with COGCC spacing orders and rules, and they would take into account cost-effectiveness, technical feasibility, protection of correlative rights, and prevention of waste.

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<sup>5</sup> See Colorado Oil and Gas Conservation Commission, Policy For Onsite Inspections On Lands Where The Surface Owner Is Not A Party To A Surface Use Agreement or Other Relevant Agreement, *available at* <http://oil-gas.state.co.us/>.

#### **d. Approvals of Applications**

The COGCC Director could withhold approval for any Form 34 application where the COGCC has sought to establish drilling units or to designate any tract of land as a high-density area. In such a case, the hearing would be held at the next meeting of the COGCC where the matter could be heard. The Director could also withhold or deny approval where he or she has reasonable cause to believe the proposed facility is in material violation of the COGCC's rules, regulations, orders, or statutes, or otherwise poses an imminent threat to public welfare or wildlife. Likewise, the Director could withhold approval when a valid request for a hearing is received, or based on information supplied in a written complaint submitted by a party with standing.<sup>6</sup> Any such withholding of approval would be limited to the minimum period of time necessary to investigate and resolve the complaint.

Where approval of a Form 34 application has been withheld or denied, an operator could ask the COGCC to issue an emergency order rescinding the Director's decision. Any hearing under these provisions would be expedited and heard at the next scheduled COGCC hearing. If, prior to the commencement of construction, the Director learned that any information submitted on the Form 34 application was false, the Director could suspend the approval.

#### **e. Permit Appeals**

The following parties may request a hearing to appeal a decision by the COGCC Director on a Form 34 permit: the operator, CDPHE and/or CDOW where consultation was required or where it occurred, the Local Government Designee, surface owners, and owners of property adjacent to and within 500 feet of the proposed location with standing. The party requesting the hearing and the operator, or the operator and the COGCC Director, as applicable, would have 15 days in which they are to confer either in person or telephonically and attempt to resolve the dispute informally. If they are unable to reach agreement, the matter would be set for consideration at the next COGCC hearing at which it could be heard. The COGCC would resolve the disputed issue at the hearing.

#### **f. Permit Duration**

It is anticipated that Form 34 applications would be filed for locations that would be constructed in less than three years. For actions that are on a longer time horizon, the applicant could group several locations and develop a Comprehensive Development Plan (see below). For this reason, where an operator fails to commence operations within 3 years from the date it obtained a Form 34, that permit would expire. This deadline could not be extended.

#### **g. Facility Inventory**

Within 30 days of installation of an oil and gas operating facility, the operator would submit a facilities inventory, Form 35, with the details of each piece of ancillary equipment on the location, including make, model, and serial number where applicable. The Form 35 facility

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<sup>6</sup> For the definition of standing, *see supra* note 4.

inventory would include a scaled drawing showing the as-built layout of facilities and equipment on the location. Operators would be required to report any changes to the use of or equipment at an oil and gas location within 30 days of the modification. The removal or installation of such equipment would be reported on a Form 35. Within 30 days after the sale or change of the operator of an oil and gas facility, the change would be reported on a Form 10. Each location would be included in the list of wells and facilities transferred to the new operator.

#### **h. Self-Certification of Compliance with Conditions**

All operators holding Form 34 permits would be required to file with the COGCC an annual certification that the operator is in compliance with the terms of the permit, including all conditions of approval and all applicable COGCC rules and requirements. The regulation would identify the specific requirements for which self-certification is required, rather than an open-ended certification that all requirements are met. For example, self-certification of compliance may be required for stormwater management requirements, wildlife mitigation measures, or provisions for the protection of public welfare or water quality.

#### **i. Reclamation Bonding for Oil and Gas Locations**

The rules would require reclamation bonding for oil and gas locations covered by a Form 34 permit. The financial assurance could be satisfied by a financial assurance already in place for a facility such as a well or downstream gas processing facility, or it could be in the amount of \$10,000 per location or \$100,000 for all locations statewide. The financial assurance would remain in place until the location has been inspected and meets the reclamation standards set out in the 1000 Series rules. A certification of bond coverage would be among the items to be attached to a Form 34 application.

### **2. Comprehensive Development Plans**

Multiple oil and gas operations in particular areas have the potential to impact cumulatively public welfare and wildlife, jeopardizing the quality of life and healthy wildlife populations on which Coloradans have come to rely. Such cumulative impacts are best addressed through advance planning on a broader geographic and temporal scale than is possible when permitting a single location.

For this reason, the proposal would include and the COGCC would encourage the submission of Comprehensive Development Plans. The Comprehensive Development Plan process would not be a public regulatory process, but rather an opportunity for operators to identify all of their anticipated development and infrastructure in an area, and then work with the COGCC, CDPHE, and CDOW to identify potential cumulative impacts and develop avoidance, minimization, and mitigation measures that address these impacts. This would be a voluntary process that is intended to facilitate discussions between agencies and operators that lead to agreement on measures that would be presumptively included in subsequent Form 34 permit approvals for locations within that area. By proactively identifying potential cumulative impacts and determining responsive mitigation measures on a larger geographic scale, agencies and

operators alike would enjoy expedited consideration of site-specific applications for Form 34 permits.

### **a. Content of Comprehensive Development Plans**

Operators would be encouraged to submit Comprehensive Development Plans early in the process and on the broadest geographic scale on which reasonable forecasts of specific surface activities might be made. We foresee an operator submitting a Comprehensive Development Plan covering its plans in an area for a three to five year timeframe, but the temporal scope and geographic extent would largely be left to the operator. A Comprehensive Development Plan may not be necessary or appropriate for small-scale operations such as wildcat wells or for operators developing a small number of wells.

A Comprehensive Development Plan would include baseline data concerning the resources present in the area sufficient to guide siting and other decisions. For example, the Comprehensive Development Plan could include a site-specific survey for species of special concern, and it could delineate critical habitats or species occurrence. It might also include baseline water quality data, as well as baseline vegetation status on the area to be disturbed or reclaimed. The Comprehensive Development Plan could describe the operator's proposed actions in the area, including all anticipated pads, access roads, pipelines, compressors, gathering stations, and other oil and gas infrastructure that is likely to be constructed in the area. It could also identify all infrastructure and development within the plan area. This baseline information would be useful to the operator and consulting agencies alike in reviewing the Comprehensive Development Plan. A Comprehensive Development Plan containing detailed information about anticipated activities and resource values present in the area is likely to be more useful in determining appropriate measures to avoid or minimize impacts to public welfare or wildlife.

### **b. Procedure for Comprehensive Development Plans**

The operator's submission of a Comprehensive Development Plan to COGCC would trigger an informal consultation process between the operator, COGCC, CDPHE, CDOW, and the Local Government Designee. This consultation would be aimed at identifying measures that would avoid or minimize habitat disturbance, as called for in HB 1298, and that would minimize threats to public health, safety, and welfare, as called for in HB 1341. With the forecasts of development provided in Comprehensive Development Plans, the COGCC, CDPHE, and CDOW could better assess the likely cumulative impacts. For example, multiple drilling pads located in core wildlife areas could displace animals to areas with less favorable conditions, potentially causing long-term disturbance to species populations. In response, reviewing agencies could suggest mitigation measures that would minimize the possibility of cumulative impacts, such as consolidating surface facilities to minimize disruption of wildlife habitat. Likewise, they might suggest hard surfacing of roads in watershed areas, special setbacks for facilities, or seasonal timing limitations. They could also suggest mitigation to offset impacts to wildlife, such as offsite mitigation, habitat restoration, or land conservation, for those adverse impacts that cannot be avoided or minimized.

A cooperative process would be used for developing Comprehensive Development Plans, with the goal of sharing information and identifying mitigation measures that address potential cumulative impacts. It is possible that the Comprehensive Development Plan consultation process could be flexible enough to accommodate and even encourage multiple companies to come forward and share plans for an area with a goal of working together to consolidate facilities and thereby minimize costs and surface disturbance. The outcome of this consultation and negotiation would be a set of practices and conditions that would be included in and presumptively applied to Form 34 applications for locations within the Comprehensive Development Plan area where the operator agrees to the practices.<sup>7</sup> Where an operator does not agree to the agencies' recommended mitigation measures, the mitigation would be resolved on a location-by-location basis through the Form 34 process. Notwithstanding this consultation process for Comprehensive Development Plans, the COGCC, CDPHE, and CDOW would continue to be formally consulted parties where provided in the rules for individual Form 34 applications, but there would be a rebuttable presumption that the mitigation set forth in the Comprehensive Development Plan is sufficient to address public welfare and wildlife concerns.

### **3. Geographic Area Plans**

Another tool for addressing cumulative impacts from oil and gas activities would be Geographic Area Plans. Unlike Comprehensive Development Plans, which are likely to cover a geographic area like a stream drainage, Geographic Area Plans would cover entire gas fields or geologic basins. Geographic Area Plans would therefore encompass the activities of multiple operators, in multiple sub-basins or drainages, over a period of ten years or more.

The Geographic Area Plan process would be initiated by the COGCC. The use of Geographic Area Plans would enable the COGCC to adopt basin-specific rules that address unique geologic or hydrologic features.<sup>8</sup> These new basin-specific rules would be adopted pursuant to the COGCC's Rules of Practice and Procedure, particularly Rule 529, applicable to rulemaking proceedings. That rule directs the COGCC to hold a formal public hearing before promulgating any rules or regulations, and it sets out other established procedures for the adoption of rules.

It is anticipated that the COGCC would initiate a Geographic Area Plan for a basin by publishing notice of its intent to do so. In the rulemaking process, the COGCC would require the submittal of information from both companies currently operating in the area and any companies who may seek to do so in the future. The COGCC would initiate a public participation process, including the formal public hearing required in COGCC Rule 529, and it would consult with other agencies and local governments. It is anticipated that this consultation would involve CDPHE, CDOW, appropriate Local Government Designees, county commissions, and any other agency that might appropriately bring expertise and experience to the rulemaking process.

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<sup>7</sup> The burden would be on the reviewing agency or others with standing to establish that mitigation measures contained in a CDP are insufficient to protect public welfare and the environment due to new information or changed circumstances occurring after the CDP was developed.

<sup>8</sup> Similar measures currently exist for the Wattenberg Field (see COGCC Rule 318A: Greater Wattenberg Area Special Well Location, Spacing, and Unit Designation Rule) and for the Yuma & Phillips County area of northeastern Colorado (see COGCC Rule 318B: Yuma/Phillips County Special Well Location Rule).



The consultation and public process would lead to the development of one or more scenarios for future oil and gas development in that area. These alternative scenarios would take into consideration the operators' reasonable plans for development as well as unique features, uses, or resource values found in the area. Based on the reasonably foreseeable development, the COGCC might designate units, adopt spacing orders, implement sampling or monitoring plans, or require consolidation of facilities within the area covered by the Geographic Area Plan. These measures could be included as mitigation measures for future development in that area or attached as conditions of approval on future individual Form 34 permits.

## **B. Collection of Data and Initiation of Health and Air Quality Studies**

The COGCC anticipates entering into one or more Memoranda of Understanding (MOU) with the CDPHE in the next 90 days to initiate new studies regarding the potential direct and cumulative impacts of oil and gas activities on public health and air quality. These MOUs would address oversight, management, and joint and other funding options for these studies. One MOU would initiate a public health study that would review available literature and data in order to assess the need for follow-up toxicology and epidemiology studies of the potential risks associated with long-term, constant exposure to emissions from high-density oil and gas development. This study would begin no later than 2008. Any follow-up toxicological and epidemiological study would be managed by CDPHE in collaboration with COGCC, and the agencies would seek project partners, including The Centers for Disease Control and Prevention and the U.S. Environmental Protection Agency, to assist in its development. Information gathered as part of any such follow-up study might include: baseline health conditions; trends in health indicators and assessments of convergence of health outcomes data with plausible health impacts, based on risk evaluation of potential hazards; existing oil and health studies to identify data gaps and priority data collection needs; oil and gas complaint logs to better understand health issues for impacted populations; protocols for data-driven responses to complaints that can be used to develop meaningful health indicators through collection of individual level exposure data; and data-driven responses to complaints in order to support improved feedback and reporting to affected people. Such a large-scale human health risk assessment would help identify indicator chemicals and exposure pathways for continued health-risk based environmental monitoring.

A second MOU would initiate a cumulative air quality impact analysis for a geographic area based on anticipated regional oil and gas development and associated impacts, such as the Piceance or the DJ Basin. For example, the COGCC, in consultation with the CDPHE, other appropriate local and federal agencies, air quality modeling experts at the University of Colorado and Colorado State University and with input from stakeholders, could complete or directly support completion of a Regional Air Quality Modeling analysis to understand current and projected cumulative air quality impacts. Such modeling could reflect current baseline air quality and thereby provide a robust tool for analyzing air quality impacts from future growth and various infrastructure change scenarios. The modeling analysis could inform how various future scenarios (demographics, business growth, oil and gas development, etc.) might affect air quality and thus provide a more complete air impact analysis which illuminates the cumulative effects of all activity rather than just what is proposed by a single operator or project. The

CDPHE would manage this study, and all efforts would be made to tier the analysis to air quality impacts analyses completed or being conducted by Federal land management agencies (i.e. those associated with Resource Management Plans).

In addition, the rules would be amended to confirm the COGCC's authority to gather information needed to assess and manage cumulative effects on public health and the environment associated with oil and gas operations and to share such information with CDPHE, CDOW, and other state or local officials as appropriate. Specifically, the COGCC would have authority to collect or require the submittal of data to assist it in assessing and responding to potential effects of oil and gas exploration and production on public welfare and wildlife. Such data could include the sources, quantity, and chemical composition of products used during oil and gas operations, the fate and transport of chemicals used in oil and gas operations, produced water discharges, potential exposure pathways for human health impact evaluation, toxicity of fracturing fluids and/or their individual components, and health impacts of chemical releases to the environment. All such information obtained that is entitled to protection as a trade secret under Federal or Colorado law would be kept confidential and protected against disclosure.

As mentioned, the COGCC intends to enter into an MOU with the CDPHE to ensure effective and efficient implementation of those portions of these regulations that govern the protection of public health, welfare, and the environment. The MOU could include, among other items, procedures for responding to complaints about impacts of oil and gas operations and sharing of information.

### **C. Other Proposed Changes to the COGCC Rules**

A number of existing COGCC rules need to be updated to reflect new issues, additional regulatory experience, and changed circumstances. In addition, several new measures to protect public welfare and wildlife would be proposed in direct response to the mandates contained in HB 1298 and HB 1341. Many of these measures are already being implemented by operators in Colorado, and we believe that they are therefore practicable and feasible.

#### **1. Changes to 100 Series: Definitions**

The 1000 Series would be amended to include definitions for several of the terms used in the new approval processes described above for Form 34 permits, Comprehensive Development Plans, and Geographic Area Plans. In addition, the proposal would define other new terms associated with other new provisions that would be added, as well as several existing undefined terms. For example, "stormwater runoff" would be defined to mean rain or snowmelt that flows over land and does not percolate into soil, including stormwater that flows onto a site or facility and off of a site or facility. Likewise, "solid waste" would be defined to include discarded material, including refuse or sludge from a waste treatment plant, water supply plant, or air pollution control facility. Also, several existing definitions would be revised. For example, the current definition of "multi-well pits" provides that the term includes pits used for treatment or disposal of exploration and production waste that is generated from more than one well. This definition would be revised to clarify that it applies to exploration and production waste from wells from a commonly-owned or operated lease. The definition would also clarify that

“emergency pits” are those used to contain liquids not only from process upset conditions, but also from the initial phase of emergency response operations related to a spill or release.

## **2. Changes to 200 Series: General Rules**

The COGCC would revise only a few of the 200 Series rules.<sup>9</sup> Entities involved in the production or transport of oil and gas may be required to maintain an inventory, by well or facility, of the types and quantities of all chemicals, products, and materials used or stored onsite during site preparation, well drilling, construction, completion, stimulation, and production, and to update these inventories regularly throughout the life of the well or facility. This inventory would include all substances released into the environment. Material safety data sheets, product information sheets, and other records describing chemical constituents of each product would also be maintained. The rules may also include provisions for the labeling of tanks, requiring all tanks to be labeled with the name of the operator, an emergency contact number for the operator, the tank’s containment capacity and contents, and other identifying information. These new provisions would apply to any stationary vessel that is used to contain fluids, constructed of non-earthen materials such as concrete, steel, or plastic, that provides structural support.

## **3. Changes to 300 Series: Drilling, Development, Producing and Abandonment**

Some current rules in the 300 Series (e.g. Rule 305 for Notices of Oil and Gas Operations, or Rule 306 for Consultation) would be eliminated because their subject matter would be addressed in the new provisions for Form 34 permits discussed above.

A new rule would provide for monitoring during well stimulation operations. This rule would require that all stimulation fluids be confined to the objective formations during treatment, and that bradenhead annulus pressure be monitored continuously and recorded during stimulation operations on all wells being stimulated. If intermediate casing has been set on the well being stimulated, the operator would also monitor and record the pressure in the annulus between the intermediate and production casings. If the bradenhead annulus pressure increases more than 100 PSIG during stimulation, the operator would notify the COGCC within 24 hours. The operator would be required to submit a Sundry Notice giving all details of the incident, including the corrective actions taken. Other changes to the 300 Series would include requiring an operator to run a cement bond log on all production casing or, in the case of a production liner, the intermediate casing, when these casing strings are run.

## **4. Changes to 400 Series: Unit Operations, Enhanced Recovery Projects, and Storage of Liquid Hydrocarbons**

The 400 Series would be amended to require all wells used for an underground gas storage facility to be permitted and regulated by the COGCC. The proposal would set forth

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<sup>9</sup> In May 2007, Governor Ritter signed HB 1180, which directs the COGCC to adopt rules to ensure accurate wellhead oil and gas measurement. Pursuant to this requirement, the COGCC is developing other regulatory amendments for this purpose. When proposed, these amendments will be the subject of a separate rulemaking process from that for HB 1298 and HB 1341.

requirements for the operation, construction, monitoring, and reporting for underground gas storage fields. COGCC approval would be required prior to drilling, repairing, or plugging and abandoning any well used for the purpose of injecting, producing, or monitoring gas contained in an underground gas storage facility.

The rules would establish that the maximum allowed storage reservoir pressure, measured in PSIG, would be no greater than 75% of the fracture gradient of the formation, and that the underground gas storage reservoir is not to be subjected to operating pressures in excess of the calculated fracture pressure. If a gas storage well fails to demonstrate mechanical integrity, the well operator would be required to isolate immediately any leaks and demonstrate that the well does not pose a threat to public welfare or wildlife. Natural gas leak detectors would be required at all gas storage wells located within 1/4 mile of an occupied residence, commercial building, assembly building, school, field office or enclosed compressor site. These natural gas leak detectors would be integrated with automated warning systems and be tested at least annually. All wells used to inject, produce, or monitor gas contained in an underground gas storage facility would be configured to provide access to the annulus between the production and surface casing to allow for the monitoring of bradenhead pressure. Bradenhead pressure for each individual well would be measured and recorded three times per week. A bradenhead pressure test would be performed at least annually during the period of maximum storage reservoir pressure on all existing gas storage wells within the boundaries of a gas storage field. Should bradenhead pressure exceed established standards, the operator of the well would immediately isolate the injection zone to contain the natural gas and demonstrate that the well does not pose a threat to the public welfare or wildlife.

Operators would submit monthly reports of the volume of gas placed into and removed from storage. The operator would also develop a storage facility safety plan including current emergency response procedures and natural gas release detection and prevention measures used by the facility. All records of natural gas leak detector testing and monitoring would be maintained for at least five years. Moreover, the operator would provide the COGCC with copies of any approval from the Federal Energy Regulatory Commission, as well as copies of any applications or reports it files with that federal agency concerning the gas storage facility or its operation.

### **5. Changes to 500 Series: Rules of Practice and Procedure**

The Colorado Oil and Gas Conservation Act establishes that any person who violates any provision of the Act, any rule or order of the COGCC, or any permit is subject to a penalty not exceeding \$1,000 per day that such violation continues. C.R.S. 34-60-121(1). COGCC's 500 Series includes a rule setting out a base fine schedule for violation of rules listed. See COGCC Rule 523. These rules would be amended to update this schedule, increasing fines, where appropriate, to reflect inflation and increased attention to the need to comply with COGCC rules in order to protect public welfare and wildlife. In addition, rules to include the CDPHE and CDOW would be proposed, such that these agencies would be given standing to participate in the COGCC hearing process for appeals to establish drilling and spacing units and to allow increased well density.

## **6. Changes to 600 Series: Safety Regulations**

We anticipate changes to this series to reflect provisions in HB 1341. In addition to codifying provisions for testing sampling of coalbed methane wells and monitoring activities near coal outcrops that are already applicable in the San Juan Basin, the proposed rules would include new provisions to address odor issues associated with the siting of certain types of oil and gas facilities, resource conservation, stormwater management, and water quality protection and coalbed methane.

### **a. Odor Management**

The proposed rules would include setbacks and control equipment for production equipment and produced water pits. For example, glycol dehydrators located within 1/2 mile residences and schools would be required to utilize a control device achieving a minimum 98% reduction in VOC emissions. Also to protect the public from odors, produced water pits within 1/2 mile of a residence or school would be required to be enclosed in a tank, and produced water and other production tanks located within 1/2 mile of a residence or school would be required to use an emission control device achieving 98% reduction in VOCs. The rules would also require that flared gas be directed to a controlled flare or other combustion device capable of 98% destruction efficiency. These control devices and operating parameters would be reflected in a duly-authorized emissions permit issued by the CDPHE Air Pollution Control Division.

The rules would also provide that oil and gas operations must be in compliance with the CDPHE Air Quality Control Commission regulation concerning odor emissions. More specifically, the rules may state that no oil and gas operation may cause or allow the emission of odorous air contaminants from any single source such as to result in detectible odors which are measured in excess of established objective limits. For example, for areas used predominantly for residential or commercial purposes, it would be a violation if odors are detected after the odorous air has been diluted with seven or more volumes of odor-free air. For other land use areas, it would be a violation if odors are detected after odorous air has been diluted with 15 or more volumes of odor-free air. The rules would further provide that rule violations may not be cited provided that the best practical treatment, maintenance, and control measures are being utilized in order to maintain the lowest possible emission of odorous gases. In determining the best practical control methods, the COGCC would not require any method which would result in an arbitrary and unreasonable taking of property, or in the practical closing of any lawful oil and gas operation, if such method would be without corresponding public benefit. The rules would also provide that COGCC technical staff be odor certified, and that odor complaints would be investigated by COGCC staff, odor-certified county or local health inspectors, or odor-certified CDPHE inspectors.

### **b. Resource Conservation**

The proposed rules would require that well drill operations and well workovers utilize green completion practices where power supply and process flow lines and associated equipment or devices are reasonably available for such purpose. For this purpose, green completion practices means the process of directing initial flow during flow drilling and well completion to

specifically designed surface equipment, and by using a sand separator to reduce flaring and venting at the well site. In addition, the rules would require operators to use low-bleed or no-bleed pneumatic valves (or natural gas activated valves) in all new relevant gas service associated with oil and gas operations.

### **c. Stormwater Management**

The new rules would reiterate that an oil and gas construction site that disturbs more than one acre, or that are part of a larger common plan for development exceeding one acre, must be in compliance with the State of Colorado Water Quality Control Division stormwater regulations and any applicable CDPHE stormwater construction permit.

The new rules would also require oil and gas facilities to establish Facility Spill and Runoff Control Programs during post-construction operations. These provisions would apply to well facilities, roads, culverts/stream crossings, pads, pipelines, compressor stations, etc. during the post-construction operation and reclamation of the exploration and production facilities. The programs would be implemented through plans that would include commitments to use mitigation measures to control pollutants associated with the facility. The Facility Spill and Runoff Control Program would include a description of the potential pollutant sources that may reasonably be expected to affect the quality of discharges associated with the ongoing operation of oil and gas facilities during the post-construction operation and reclamation of the facilities. Various pollutant sources would be addressed, including transport of chemicals, fueling of vehicles or equipment, disposal of waste, erosion and vehicle tracking from well pads, and unanticipated leaks and spills. The Facility Spill and Runoff Control Program would identify and describe appropriate operating practices that would be implemented at the facility to reduce the potential for pollution from the sources identified above. Measures could include:

- 1) Covering materials and activities and stormwater diversion:** Operators would minimize contact of precipitation and stormwater runoff with materials, wastes, equipment, and activities with potential to cause stormwater pollution;
- 2) Materials handling and spill prevention:** Operators would implement procedures and practices for material handling and spill prevention for materials used, stored, or disposed of that could result in stormwater pollution;
- 3) Erosion prevention:** Operators would prevent erosion from unpaved areas, including well pads and road surfaces;
- 4) Preventive Maintenance:** Operators would implement a preventive maintenance program that includes inspection and maintenance of operations, facilities, and operating practices to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters;
- 5) Good Housekeeping:** Operators would implement a good housekeeping program for maintenance of clean, orderly operations and facilities. This program would include and address cleaning and maintenance schedules and waste disposal practices;

**6) Spill Response Procedures:** Operators would implement procedures for responding to and cleaning up spills; and

**7) Vehicle Tracking Control:** Operators would implement practices to control potential sediment discharges from vehicle tracking. These practices could include designing and maintaining roads and pads to minimize rutting and tracking, minimizing site access, street sweeping or scraping, tracking pads, washing racks, educating employees, or other management practices for sediment control.

The rules would also include provisions applicable to Primary Facilities such as vehicle maintenance facilities, facilities located in or within a tributary of State Water designated as an “Outstanding Water” by the Colorado Water Quality Control Commission, or facilities located in an area determined and identified by the COGCC where additional protection of the water resource is necessary to maintain the quality of surface waters within the tributary watershed.

**d. Sampling and Monitoring for Coalbed Methane Development**

The proposed rules would provide for statewide application of monitoring requirements currently contained in various COGCC orders (e.g. Order 112-156, 112-157) that are specific to coalbed methane development in the San Juan Basin. These orders are available on the COGCC website. The rules would thus include provisions requiring water well sampling, coal outcrop and coal mine monitoring, and bottomhole pressure monitoring.

**7. Changes to 700 Series: Financial Assurance**

The proposed rules would contain various amendments to refine the 700 Series for financial assurance. For example, the rules would require a financial assurance in an amount equal to the estimated cost to ensure proper reclamation, closure, and abandonment of a centralized exploration and production waste facility. Elsewhere, the rules would increase specific dollar amounts needed for financial assurance, as reflected below.

	<b>Current Amount</b>	<b>Proposed Amount</b>
For soil protection and plugging & abandonment for wells less than 3,000’ in depth	\$5,000 per well	\$10,000 per well
For soil protection and plugging and abandonment for wells more than 3,000’ in depth	\$5,000 per well	\$20,000 per well
Statewide assurance if operator has fewer than 100 wells in Colorado	\$30,000	\$60,000
Statewide assurance if operator has more than 100 wells in Colorado	\$100,000	\$200,000
Natural gas gathering, processing, or underground storage facilities	\$50,000 statewide	\$50,000 per facility
Small gas gathering, processing, or underground systems (gathering or processing less than 5 MMSCFD)	\$5,000	\$25,000 per facility
Operators of Class II Underground Injection Control wells		\$50,000 per facility

The proposed rules would provide that these increases would be prospective only.

The proposed rules may clarify provisions for the statewide “emergency reserve” of unobligated funds. For instance, they could provide that the two year average of the unobligated portion of the statewide Environmental Response Fund be maintained at a level not to exceed \$4 million dollars, and that the COGCC ensure that there is an adequate balance in the fund to address environmental response needs.

### **8. Changes to 800 Series: Aesthetic and Noise Control Regulations**

The proposed changes to the 800 series would require operators to employ management practices for the control of fugitive dust if located within 1/4 mile of a residence, an educational facility, assembly building, hospital, nursing home, board and care facility, jail, or designated outside activity area. Management practices to control fugitive dust could include speed restrictions, regular road maintenance and watering, and restriction of construction activity during high wind days. The Director, through the Form 34 permit process and also as a result of consultation with CDPHE and CDOW, could require additional BMPs such as road surfacing, wind breaks and barriers, and automation of wells to reduce truck traffic. The rules would additionally provide that any oil and gas operator engaged in clearing or leveling land, or any owner or operator of more than five acres of land that has been cleared in attainment areas, or one acre in non-attainment areas, and from which fugitive particulate emissions will be emitted, would be required to use all available and practical methods which are technologically feasible and economically reasonable in order to minimize such emissions in accordance with the requirements of Section iii.d of the DPHE Air Quality Control Commission Regulation No. 1 emission control for particulate matter 5 CCR 1001-3.

Finally, the rules would provide that the Director, through the Form 34 permit process and consistent with the operator’s right to conduct operations, may require operators to employ site-specific mitigation practices to protect aesthetic and visual resources. Such practices could include selecting paint colors that allow long-term facilities to blend in with the natural landscape background; siting of roads, well locations, and production facilities to minimize visual impacts; reducing unnecessary disturbance; modifying production facility or well pad shape or size; using low-profile pumping units and low-profile tanks; and completing interim reclamation of disturbed lands.

### **9. Changes to 900 Series: Exploration and Production Waste Management**

The 900 Series would be amended to expand the resources to be protected from oil and gas exploration and production waste to include public welfare and wildlife. At this point, the COGCC is likely to focus on engineering matters regarding individual exploration and production pits, rather than addressing permitting matters more generally for centralized or commercial waste management facilities.

The rules would be amended to eliminate reference to the Sensitive Area Determination Decision Tree currently found in Rule 901(e), replacing it with directives to use geologic and hydrogeologic data to evaluate the potential for impact to ground water and surface water,



including percolation tests that demonstrate that seepage will not reach underlying ground water or waters of the state. In addition to the current prohibition on drilling pits constructed on fill material, the proposed rules would state that unlined pits may not be constructed in areas where pathways for communication with groundwater or surface water are likely to exist.

In conformity with revisions of definitions in the 100 series, the rules would clarify that multi-well pits include those used for treatment or disposal of exploration and production waste generated from more than one well from one commonly owned or operated lease. The rules would also provide that a Form 15 permit application must be submitted to the COGCC for production pits, certain special purpose pits, and drilling pits designed for use with fluids containing concentrations exceeding 10,000 ppm total petroleum hydrocarbon or chloride concentrations at total well depth exceeding 15,000 ppm. The rules would provide for the lining of drilling pits meeting these criteria.

The rules would include a provision requiring that flared gas must be directed to a controlled flare or other combustion device capable of 98% destruction efficiency, as discussed above. They would also include a new measure stating that well stimulation flow back operations must implement reduced emission completion technologies where they are cost effective and technically feasible.

#### **a. Pit liners**

The rules would be amended to provide that production pits must be lined, unless the operator supplies substantial evidence that the quality of the produced water is equivalent to that of the underlying aquifer, or the operator can clearly establish by substantial evidence (such as percolation tests) that seepage will not reach the underlying aquifer or waters of the state. Moreover, drilling pits designed to be used for drilling and completion of three or more wells would be lined. The rules would double the thickness required for soil liners from six to twelve inches after compaction, and they would increase from twelve to twenty mils the minimum thickness for synthetic liners.

The rules would retain the provision that emergency pits constructed during initial response to mitigate spills or releases are not subject to the lining requirements; however, they would add provisions stating that these pits must be closed and remediated as soon as the initial phase of emergency response is complete or process upset conditions are controlled. The rules would also contain provisions for the closure of tank batteries, multi-well pads, compressor stations, gas plants, and underground injection control facilities.

#### **b. Spills and Releases**

For all reportable spills from exploration and production pits, the operator would be required to make good faith efforts to notify and consult with the affected surface owner or the surface owner's appointed tenant prior to commencing remediation operations. The rules would also set out a new table of soil standards to which operators must remediate spills or releases. To control the extent of releases, the rules would provide that secondary containment must be

constructed sufficient to contain the contents of the largest single tank in the bermed area plus sufficient freeboard to contain any precipitation.

### **c. Waste Management**

The rules would be amended to provide that records of the transportation and disposal of waste must be kept for at least five years, and that they must be signed by the generator, transporter, and receiving facility. The rules may also prohibit the roadspreading of produced water if TDS levels exceed 3,500 mg/l. The rules would additionally state that flowback fluids may not be used for dust suppression. Finally, the rules would include a provision for the disposal of exploration and production waste not covered by existing categories. This “other” exploration and production waste would include workover fluids, pit sludge, tank bottoms, pigging wastes from gathering and flow lines, and natural gas gathering, processing and storage wastes.

### **10. Changes to 1000 Series: Reclamation Standards**

The 1000 Series would be amended to shorten the time period after operations cease for an operator to complete interim reclamation on non-crop land. The amendments would also provide that areas needed for continuing production operations be compacted, covered, paved, or otherwise stabilized in such a way as to minimize dust and prevent erosion. Drilling pits would have to be reclaimed no later than three months after the conclusion of drilling and completion activities. For areas no longer in use, interim reclamation would be considered complete when all ground surface disturbing activities at the site have been completed, and all disturbed areas have either been built on, compacted, covered, paved, or otherwise stabilized in such a way as to prevent erosion. Alternately, interim reclamation would be considered complete when a uniform vegetative cover has been established with an individual plant density of at least 70% of pre-disturbance levels, excluding noxious weeds. Reseeding alone would not be sufficient to demonstrate completion of interim reclamation.

The COGCC also proposes to modify provisions for the final reclamation of well sites and associated production facilities. First, removal of all equipment, supplies, and waste material from the site would be required, and the burning or burial of such material would be performed only in accordance with applicable local, county, state, or federal solid waste disposal regulations. Final reclamation would be considered complete when a uniform vegetative cover has been established with an individual plant density of at least 70% of pre-disturbance levels, excluding noxious weeds.

### **11. Proposed 1200 Series: Wildlife Operating Standards**

As described more fully in Appendix B, the new rules would contain a set of detailed Standard Operating Practices (SOPs) for the protection of wildlife that would be applicable to Form 34 permits. These SOPs would be designed to address potential surface impacts of oil and gas activities on wildlife resources, and they would be applicable to every Form 34 location and apply for the life of a facility. Many of these SOPs would apply to all locations in the state, while some would apply only to locations in certain geographic areas. These SOPs would be

minimum requirements that must be employed during location, construction, operation, and reclamation of all oil and gas facilities that they cover. It is anticipated that different measures may apply to different stages of oil and gas development. For instance, some SOPs may apply at to pre-development planning, others may apply to the drilling and production stage, and still others may apply to post-development reclamation.

Because SOPs would have been determined by rule to represent minimum standards for the protection of the public welfare and wildlife, an operator seeking an exception to an SOP must demonstrate either that the operating standard is not necessary to protect public welfare or wildlife, or that it may achieve equivalent protections for these values with an alternative measure. As described above, the rules would provide that requests for such an exception from SOPs would trigger consultation between the operator, COGCC, CDOW, and/or CDPHE.

In addition, the rules are likely to contain a set of detailed Best Management Practices (BMPs) designed to minimize or mitigate the impact of oil and gas activities on wildlife resources. These BMPs would be recommended for all oil and gas locations, in order to minimize the potential for adverse impacts to resources from oil and gas activities. Moreover, BMPs could be required on a site-specific basis for an oil and gas location as a result of consultation between the operator, COGCC, CDOW and/or CDPHE, as described above. In these circumstances, the BMPs would be used to minimize or mitigate potential impacts associated with the proposed oil and gas development that are not adequately addressed by the SOPs.

## APPENDIX A

### Requirements for a Form 34 Application

In addition to a completed Form 34 application form, operators seeking approval to construct a location for oil and gas operations would be required to submit:

- 1) A current 8 1/2" x 11" scaled drawing of the section (or sections) containing the proposed facility location including:
  - Dimensions on adjacent exterior section lines sufficient to describe the quarter section containing the proposed facility, along with field-measured distances of the proposed facility to the nearer section lines, measured at 90° from the section line to the well location;
  - Ground elevation and legal land description by section, township, range, principal meridian, baseline and county;
  - A complete description of any monuments or collateral evidence found, with description of all aliquot corners used;
  - A site plan and construction layout drawing, showing layout during construction, operation, and post-operation phases; proposed drainage patterns; any diversion or containment structures; any roads, fencing, tanks, pits, buildings, or stock piles proposed on the site;
  - All visible improvements within a specified distance of the proposed facility, with a horizontal distance and approximate bearing from the proposed facility location. This is to include all buildings, roads, utility lines, pipelines, mines, oil or gas wells, water or injection wells, standing bodies of water, and natural channels; and
  - All surface uses within a specified distance of the proposed facility;
- 2) An aerial photo showing the proposed location and a 3-mile radius;
- 3) A USGS 1:24,000 topographic map with at least a three-mile radius from the proposed facility and access roads which shows the route of all access roads from public roads;
- 4) A location cross-section plot, showing both the original slope and the cut-and-filled slope of the proposed location during construction, operation, and post-operation phases;

- 5) If the location is to be used as a multiple well pad, a multi-well wellbore trajectory drawing with bottom-hole locations;
- 6) An Access Road Construction Plan, showing:
  - a) Type and size of all roads;
  - b) Drainage and stream-crossing details; and
  - c) Scaled construction drawings;
- 7) A vegetative analysis, including:
  - a) NRCS map unit vegetation analysis of all disturbed areas;
  - b) Baseline vegetative transect of all disturbed areas;
  - c) Wetlands/Riparian delineation, including:
    - i) Map (800-meter buffer);
    - ii) Jurisdictional wetlands survey; and
    - iii) Corps of Engineers 404 permit, if required;
- 8) An NRCS soil map unit description;
- 9) A wildlife survey (800-meter buffer)
- 10) A detailed description of any off-site mitigation
- 11) A Waste Management Plan, including a detailed plan for:
  - a) Exploration and production waste;
  - b) Hazardous/solid waste; and
  - c) Human waste;
- 12) A detailed list of all production infrastructure to be located at the site;
- 13) A Construction and Ongoing Operations and Maintenance Plan, including:
  - a) Reclamation and Monitoring Plan;
  - b) Noxious Weed Control and Monitoring Plan;
  - c) List of Proposed BMPs (by media) and BMP Inspection Schedule;
  - d) Access Road Maintenance Plan; and
  - e) SPCC Plan and Inspection Schedule;
- 14) A certification of bond coverage;
- 15) A certification that the operator has sent a copy of the Form 34 application to the owner of the surface estate underlying the proposed location, the owners of land adjacent to the proposed location, and the LGD;
- 16) A determination of whether the location is in an area of high-density development or in an Environmentally Sensitive Area;

- 17) If a variance from Standard Operating Practices would be requested, a basis for the request; and
- 18) Other information required by the regulations or otherwise included by the operator at its discretion (e.g. a Comprehensive Development Plan and/or associated informally development protection and/or mitigation measures);

## APPENDIX B

### **Operating Standards for Protection of Wildlife and its Habitat**

The Colorado Division of Wildlife (CDOW) is evaluating a variety of operating standards to implement HB 1298 and its mandate to “establish standards for minimizing adverse impacts to wildlife resources affected by oil and gas operations.” C.R.S. 34-60-128(3)(d).

#### **A. Standard Operating Practices**

The first set of operating standards would be Standard Operating Practices (SOPs), which would function as management measures applicable to large geographic areas. These SOPs would be incorporated by rule and applied to locations just as any other applicable provision in the rules. The term “Standard Operating Practices” would be defined in the rules to reflect that they are technologies, tools, and procedures that, when applied, avoid or minimize the impacts of oil and gas on public welfare and wildlife, and particularly on wildlife habitat. The SOPs in the rules would be applicable to every Form 34 location, both in areas where CDOW is to be consulted and in areas where consultation is not triggered. The proposal would provide that SOPs are mandatory unless they are modified by an exception granted by the COGCC after consultation with COGCC and CDOW, and they would apply for the life of the facility.

It is envisioned that many SOPs would apply to locations in all areas of the state, while others would apply only to certain geographic resource areas. The rules may provide that each river basin in Colorado would be a defined geographic area for purposes of certain SOPs, or it may use another method of delineating geographic boundaries. These geographic resource areas would be identified on a map available on the COGCC and CDOW websites.

Three categories of SOPs are likely to apply to various geographic resource areas in the proposed rule: general operating standards, seasonal timing limitations, and no surface occupancy areas. Each of these categories would identify minimum requirements that apply to various stages of the oil and gas development process: pre-development planning, drilling and production, and post-development reclamation.

The rules are likely to include a set of general operating standards for various stages involved in drilling for and production of oil and natural gas. For example, during pre-development planning, operators could be required to maintain a geospatial database or other method of tracking ongoing activities and outlining the status of reclamation efforts. They could also be required to map critical habitats within a certain distance of planned facilities to identify and properly permit those sensitive resource areas. They could also be required to stabilize all exposed road surfaces in order to control or prevent

erosion or siltation, as well as maintain the normal flow of water in all streambeds or drainage channels. During the drilling and production phase, operators could be required to control the spread of noxious weeds by developing and implementing weed management plans and sanitizing the undercarriage of vehicles on the site. They could also be required to develop a food and waste management plan for each facility, incorporating measures that will minimize conflicts with wildlife. At the post-development phase, operators could be required to immediately reclaim all roads not to be retained for future use, including closing the road to traffic, removing all bridges and culverts, restoring natural drainage patterns, reshaping cut and fill slopes, replacing topsoil, and revegetating disturbed surfaces.

The rules could also include various seasonal timing limitations as SOPs necessary for the protection and sound management of certain species as well as restrictions on surface occupancy in certain areas in order to protect important wildlife habitat. The precise contours of these measures would be determined by COGCC and CDOW after further study and consultation with stakeholders and the public.

## **B. Best Management Practices**

The rules are also likely to contain a set of detailed Best Management Practices (BMPs) that would be designed to further minimize or mitigate the potential impacts to wildlife beyond the protections afforded by the SOPs discussed above. These BMPs would be recommended for all oil and gas locations, in order to minimize the potential for adverse impacts to resources from oil and gas activities. Application of BMPs would be strongly encouraged for inclusion as management measures in Comprehensive Development Plans. They could also be recommended on a site-specific basis for an oil and gas location as a result of consultation between the operator, COGCC, CDOW and/or CDPHE. In these circumstances, the BMPs would be used to minimize or mitigate any impacts associated with the proposed oil and gas development that are not adequately addressed by the SOPs.

The BMPs would also include measures more specific to individual stages of oil and gas development. For instance, while planning for projects in areas of sensitive wildlife habitat, operators should plan to consolidate production facilities so as to minimize impacts to wildlife, and, where geologically and technically feasible, maximize the number of wells from the same pad. Operators should also plan to minimize noise from their activities by equipping vehicles with mufflers or other noise suppression systems and by enclosing and insulating compressors. Once they have entered the drilling and production phase, operators should endeavor to use pitless drilling or “closed-loop” systems, where drilling fluids are stored in tanks rather than in earthen pits. Operators should also take steps to minimize vehicle trips on roads to minimize the adverse impacts on wildlife from road construction and use. Operators could also partner with resource agencies and local user groups to identify existing and potential wildlife-related recreation activities in areas of production and development. Once development is completed, operators should conduct interim reclamation on all disturbed areas not needed for active support of production operations in order to control erosion and non-



native plant invasion. With regard to vegetation, operators should evaluate a two-stage approach in which they first establish native grasses for weed competition and erosion control and then establish forbs. They should also work closely with CDOW or affected landowners to establish and implement a monitoring program to assess the impacts of development activities and mitigation and reclamation efforts.

The BMPs could also include several species-specific mitigation prescriptions which address the specific needs of key species of concern and their habitats. These prescriptions could include operational practices such as gating roads to reduce traffic disruptions, using bear-proof trash receptacles and dumpsters, or limiting seismic or construction activities during certain periods of the year. As above, these measures would be determined by COGCC and CDOW after further study and consultation with stakeholders and the public.

Included in the BMPs would be general mitigation measures that offset unavoidable or non-negotiable impacts. For example, operators unable to avoid impacts on wetlands may participate in funding wetland banking programs. Operators may also voluntarily offer to fund off-site habitat mitigation projects or prescriptions to improve big game forage away from development sites, or they may use off-site mitigations such as relocating or repairing trails.