



Colorado Oil and Gas Conservation Commission

Changes to COGCC Noise Regulations

July 17, 2007

**David Dillon – COGCC Engineering
Manager**



CRS 25-12-103

Sound levels of noise radiating from a property line at a distance of twenty-five feet or more there from in excess of the db(A) established for the following time periods and zones shall constitute prima facie evidence that such noise is a public nuisance:

ZONE	7:00 am to next 7:00 pm	7:00 pm to next 7:00 am
Residential	55 db(A)	50 db(A)
Commercial	60 db(A)	55 db(A)
Light industrial	70 db(A)	65 db(A)
Industrial	80 db(A)	75 db(A)



OLD RULE 802

- a.1 If there are no occupied building units impacted, sound levels shall be measured at a distance of twenty-five (25) feet or more from the property line radiating the noise. Sound levels at occupied building units shall be measured as near as practicable to the exterior edge of the occupied building unit closest to the area radiating the noise.



OLD RULE 802

ZONE	7:00 am to next 7:00 pm	7 :00 pm to next 7:00 am
Residential	55 db(A)	50 db(A)
Commercial	60 db(A)	55 db(A)
Light industrial	70 db(A)	65 db(A)
Industrial	80 db(A)	75 db(A)



Noise Stakeholders Group

County Representatives

Tresi Houpt

Sheryl Ayers

Jacqueline Hatch

Agricultural Representatives

Wayne Buck

Harold Shaffer

Environmental Representatives

Carolyn Lamb

Dan Randolph

Industry Representatives

Ken Wonstollen

Gerald Jacob

Dave Brown

Staff Representatives

Mark Weems

David Dillon

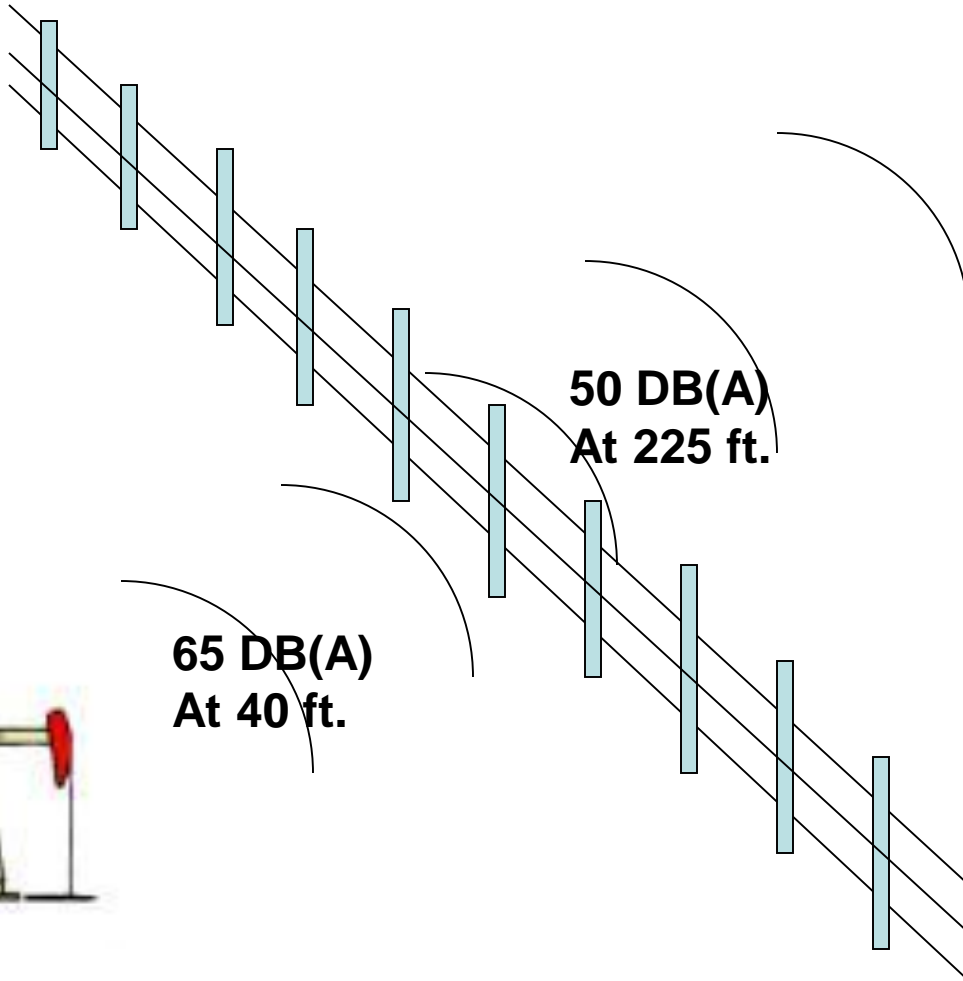
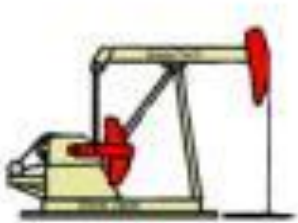
Noise measurements depend on location.



**45 DB(A)
At 400 ft.**

**50 DB(A)
At 225 ft.**

**65 DB(A)
At 40 ft.**





CURRENT COGCC NOISE RULE

802.a. The goal of this rule is to identify noise sources related to oil and gas operations that impact surrounding landowners and to implement cost-effective and technically-feasible mitigation measures to bring oil and gas facilities into compliance with the allowable noise levels identified in subsection c. Operators should be aware that noise control is most effectively addressed at the siting and design phase, especially with respect to centralized compression and other downstream “gas facilities” (see definition in the 100 series of these rules).



CURRENT COGCC NOISE RULE

802.b. Oil and gas operations at any well site, production facility or gas facility shall comply with the following maximum permissible noise levels. Operations involving pipeline or gas facility installation or maintenance, the use of a drilling rig, completion rig, workover rig, or stimulation shall meet the maximum permissible noise levels for industrial zones. The type of land use of the surrounding area shall be determined by the commission in consultation with the Local Governmental Designee taking into consideration any applicable zoning or other local land use designation.



CURRENT COGCC NOISE RULE

802.c. In the hours between 7:00 a.m. and the next 7:00 p.m. the noise levels permitted below may be increased ten (10) db(A) for a period not to exceed fifteen (15) minutes in any one (1) hour period. The allowable noise level for periodic, impulsive or shrill noises is reduced by five (5) db(A) from the levels shown.

<u>TYPE OF LAND USE</u>	<u>ALLOWABLE NOISE LEVEL (NIGHT / DAY)</u>
Residential/Agricultural/Rural	50/55 db(A)
Commercial	55/60 db(A)
Light industrial	65/70 db(A)
Industrial	75/80 db(A)

In remote locations, where there is no reasonably proximate occupied structure or designated outside activity area, the light industrial standard may be applicable.



CURRENT COGCC NOISE RULE

Pursuant to commission inspection or upon receiving a complaint from a nearby property owner or Local Governmental Designee regarding noise related to oil and gas operations, the commission shall conduct an onsite investigation and take sound measurements as prescribed herein.

The following provides guidance for the measurement of sound levels and assignment of points of compliance for oil and gas operations:



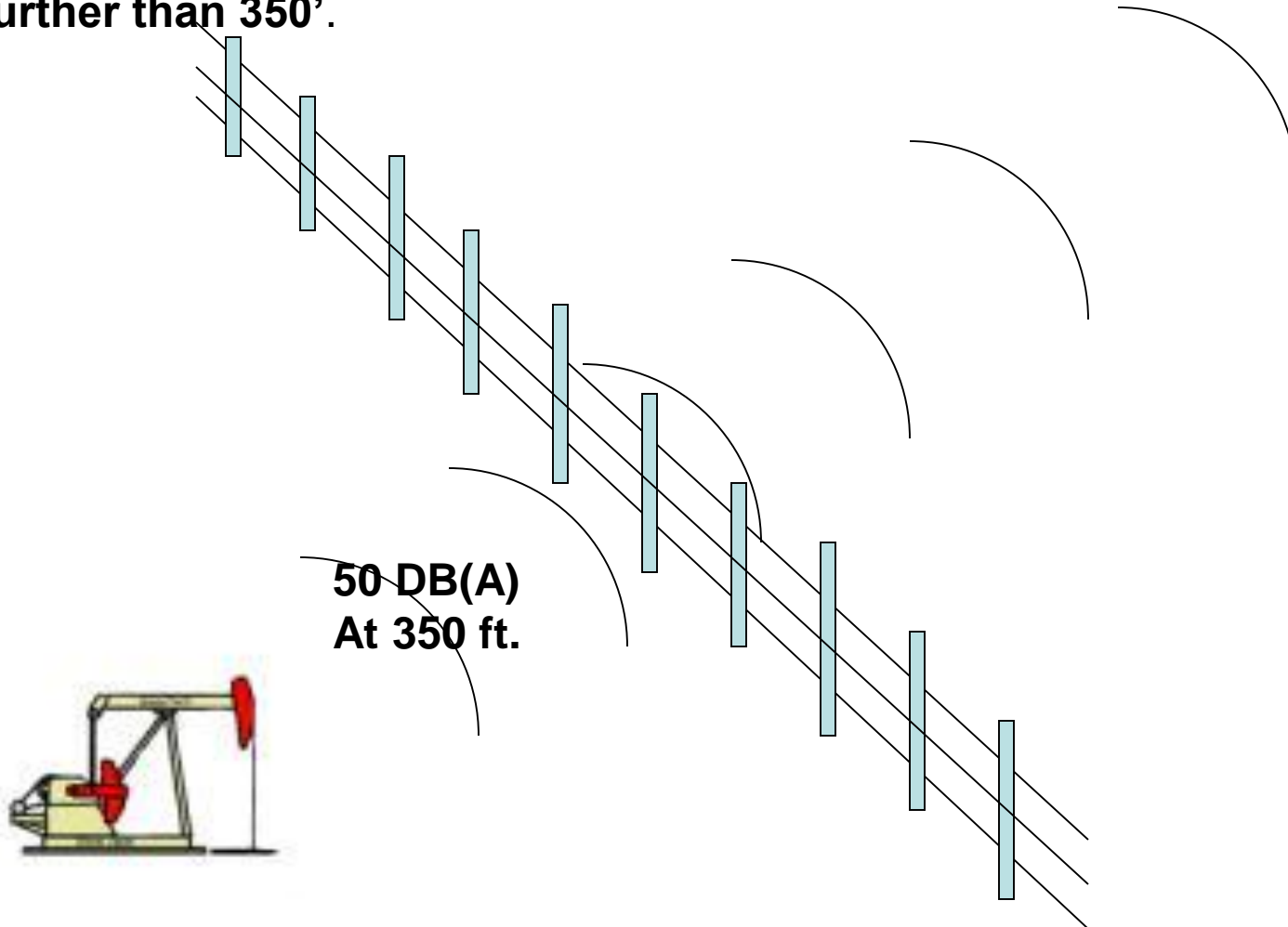
CURRENT COGCC NOISE RULE

802.c(1) Sound levels shall be measured at a distance of three hundred and fifty (350) feet from the noise source. At the request of the complainant, the sound level shall also be measured at a point beyond 350 feet that the complainant believes is more representative of the noise impact. Sound levels shall be measured twenty-five (25) feet from an existing residence if the residence is less than three hundred and fifty (350) feet from the noise source. Noise levels from oil and gas facilities located on surface property owned, leased or otherwise controlled by the operator shall be measured at three hundred and fifty (350) feet or at the property line, whichever is greater.

Noise measurements will be at 350'.



**Noise measurement
at property line if operator
owns property and PL is
further than 350'.**



**50 DB(A)
At 350 ft.**



CURRENT COGCC NOISE RULE

In situations where measurement of noise levels at three hundred and fifty (350) feet is impractical or unrepresentative due to topography, the measurement may be taken at a lesser distance and extrapolated to a 350-foot equivalent using the following formula:

$$db(A)_{\text{Distance 2}} = db(A)_{\text{Distance 1}} - 20 \cdot \log_{10}(\text{Distance 2} / \text{Distance 1})$$



CURRENT COGCC NOISE RULE

- (2) Sound level meters shall be equipped with wind screens, and readings taken when the wind velocity at the time and place of measurement is not more than five (5) miles per hour.
- (3) Sound level measurements shall be taken four (4) feet above ground level.
- (4) Sound levels shall be determined by averaging minute-by-minute measurements made over a minimum fifteen (15) minute sample duration if practicable. The sample shall be taken under conditions that are representative of the noise experienced by the complainant (e.g., at night, morning, evening, or during special weather conditions).
- (5) In all sound level measurements, the existing ambient noise level from all other sources in the encompassing environment at the time and place of such sound level measurement shall be considered to determine the contribution to the sound level by the oil and gas operation(s).



CURRENT COGCC NOISE RULE

802.d. In situations where the complaint or commission onsite inspection indicates that low frequency noise is a component of the problem, the commission will obtain a sound level measurement twenty-five (25) feet from the exterior wall of the residence or occupied structure nearest to the noise source, using a noise meter calibrated to the db(C) scale. If this reading exceeds 65 db(C), the commission will require the operator to obtain a low frequency noise impact analysis by a qualified sound expert, including identification of any reasonable control measures that should be employed to mitigate such low frequency noise impact. Such study will be provided to the commission for consideration and possible action.



EXISTING NOISE SOURCES

The new noise regulations apply to all oil and gas noise sources.

Noise sources existing prior to the implementation of the new noise regulations are not “grand fathered” under the new rules.



A Noise Survey Was Requested By The COGCC Commissioners

- We requested all COGCC field inspectors to perform noise surveys during their inspection rounds.
- We requested they take dB(A) and dB(C) readings at 350 feet N/S/E/W for a variety of oil and gas installations.
- We requested they also note any noise mitigation they observed and the location and distance of the nearest residence.



Surveys Received

• From NW Colorado	68 Surveys
• From SW Colorado	12 Surveys
• From SE Colorado	40 Surveys
• From NE Colorado	17 Surveys
• From N Central Colorado	<u>57 Surveys</u>
Total Number of Surveys	200 Surveys



Installations Surveyed

• Ambient Noise Levels	10 Surveys
• Drilling Rigs	31 Surveys
• Producing Well (Ajax)	42 Surveys
• Producing Well (Multi-Cyl)	37 Surveys
• Producing Well (Electric)	18 Surveys
• Producing Well (Plunger)	5 Surveys
• Compressor Stations	39 Surveys
• Miscellaneous	18 Surveys



Summary Of Compliance

- Drilling Rig 93%
- Well Site (Ajax) 64%
- Well Site (Multi-Cyl) 68%
- Well Site (Electric) 100%
- Well Site (Plunger Lift) 100%
- Compressor Stations 13%
- All Sites Surveyed 56%



SUMMARY OF NOISE COMPLAINTS

Since 1/1/2003 to the implementation of new rule

- 35 Noise complaints
- 5 Complaints were violations
- 22 Complaints showed no violation
- 8 Complaints COGCC had no jurisdiction
(Tribal land, pipelines, ect.)



SUMMARY OF NOISE COMPLAINTS (Since rule revision)

- 4 Noise complaints received since rules were revised.
- 3 Complaints appear to be violations – NOAV's issued.
- 1 Complaint was found to be no violation.



Contacts and Information

David Dillon – COGCC Engineering Manager
303-894-2100 x 104

Internet Site: Oil-Gas.State.CO.US

Look for heading “RULES”.

Look for 800 Series Rules