

# California's Oil and Gas Regulation District Rules 2260 and 3156

# COGR/2260 Requirements General

- Goals
  - Provide background for the COGR Regulation
  - Explain the requirements
    - Administrative
    - Applied
  - Clarify delineation from District requirements
  - Explain the District's role with inspections



# COGR/2260 Requirements

## General

- As part of implementing AB32, on March 23, 2017, CARB adopted a regulation to reduce greenhouse gas/methane emissions from oil and gas facilities
- 70 - 80% of the affected facilities are located in the San Joaquin Valley
- Affected facilities already subject to District VOC rules and permits
- Affected facilities
  - Crude oil or natural gas production
  - Crude oil, condensate, and produced water separation and storage
  - Natural gas underground storage
  - Natural gas processing plants
  - Natural gas transmission and compressor stations

# COGR/2260 Requirements

## General (cont'd)

- District staff actively participated in CARB regulation development process
  - Secured changes to state regulation to minimize and mitigate increases in NOx and toxic emissions
  - Common sense exemption for tanks operated by small producers consistent with District requirements
- CARB and affected facilities agree that the District is better able to implement the regulation
  - District has extensive permitting and inspection infrastructure in place for decades
  - District staff familiar with affected facilities and regulated equipment
  - District implementation will result in more effective and expeditious implementation at lower cost

# COGR/2260 Requirements General (cont'd)

- In order to implement CARB regulation District adopted Rules 2260 and 3156 in December 2017
  - Rule 2260 establishes and requires registration of equipment subject to CARB regulation
  - Rule 3156 establishes a fee schedule, to be used only if CARB does not fund the program.
- The CARB regulation and Rule 2260 make several requirements of subject facilities, including:
  - Administrative Requirements
  - Applied Requirements

# COGR/2260 Requirements

## Administrative

- Application for Registration
  - Specific to this regulation, separate from District permitting
  - Application in “Spreadsheet” format, link on last slide
  - Application due (per 2260) March 1, 2018
  - Update as equipment is modified (online portal in process)
- Inventory Submission
  - Part of state requirement
  - Inventory uses same “Spreadsheet” format as registration
  - Inventory due (per 2260) July 1, 2018
  - Update annually, due March 1, 2019 onward

# COGR/2260 Requirements Administrative (cont'd)

- Reporting Requirements – Electronic to ARB ([oil&gas@arb.ca.gov](mailto:oil&gas@arb.ca.gov))
  - Tank Flash Analysis Testing
  - Natural Gas Compressors
    - Reciprocating – LDAR and Flow Rates
    - Centrifugal – LDAR and Flow Rates
  - Natural Gas Powered Pneumatic Devices
    - LDAR and Flow Rates
  - Natural Gas Well Liquid Unloading (measured or calculated gas release)
  - Open Well Casing Vents (annual flow test for each well's vents)
  - Underground Natural Gas Storage (very detailed requirements)
  - Leak Detection and Repair
    - Results of quarterly inspections
    - Initial and final leak concentrations
- Most reports annual (July 1), Flash Testing is 90 days

# COGR/2260 Requirements Administrative (cont'd)

- Recordkeeping Requirements (must be available on request)
  - Separator and Tank Systems
    - Flash Analysis Results and Throughput (DOGGR Form 110s)
  - Circulation Tanks for Well Stimulation
    - BMP plan
  - Natural Gas Compressors
    - Flow measurements
    - Operation hours
    - Parts/Service Orders (for LDAR)
  - Natural Gas Powered Pneumatic Devices
    - Emissions flow measurements



# COGR/2260 Requirements Administrative (cont'd)

- Recordkeeping Requirements (must be available on request)
  - Liquids Unloading of Natural Gas Wells
    - Measured or calculated gas venting volume
  - Open Well Casing Vents
    - Flow rates from each well normally operating with open vents
  - Underground Natural Gas Storage
    - Very detailed records required
  - Leak Detection and Repair
    - Inspection Records
    - Leak and Repair Records
    - Proof of Parts/Services ordered

# COGR/2260 Requirements Applied Per Section 95668

- Separator and Tank Systems
  - Tank Flash Analysis Testing (annually 3 years, then every 5 years)
    - Test to determine if annual emissions are  $> 10$  Tons  $\text{CH}_4$
    - Tanks over 10 Tons  $\text{CH}_4$  must install Vapor Recovery System (requires District ATC)
  - Key Exemptions
    - Produced oil tanks with throughput  $< 50$  BOPD
    - Produced water tanks with throughput  $< 200$  BWPD in gas production
    - Tanks controlled (VRS or Gas Blanket)
    - Low use and Temporary Tanks
    - Gauge Tanks ( $\leq 100$  Bbls.)



# COGR/2260 Requirements Applied Per Section 95668 (cont'd)

- Reciprocating Natural Gas Compressors (production facilities)
  - Perform Leak Detection and Repair per Section 95669 (including Rod-packing seals)
  - Rod Packing Vent Stacks must be controlled with VRS or repaired per LDAR (1/1/2019)
- Reciprocating NG Compressors (gas proc., trans., boosting facilities)
  - Perform Leak Detection and Repair per Section 95669 (except Rod-packing seals)
  - Flow Rate from Rod Packing Vent Stacks must be measured annually
  - Rod Packing Vent Stacks must be controlled with VRS or repaired per LDAR if > 2 scfm (1/1/2019)
- Exemption
  - Compressors that operate < 200 Hours/Year

# COGR/2260 Requirements Applied Per Section 95668 (cont'd)

- Centrifugal Natural Gas Compressors (all facilities)
  - Perform Leak Detection and Repair per Section 95669 on Wet and Dry Seals
  - Flow Rate from Wet Seals must be measured annually
  - Vent Stacks must be controlled with VRS or repaired per LDAR if > 3 scfm (1/1/2019)
- Exemption
  - Compressors that operate < 200 Hours/Year

# COGR/2260 Requirements Applied Per Section 95668 (cont'd)

- Natural Gas Powered Pneumatic Devices and Pumps
  - By 1/1/2019 Continuous Bleed NG Pneumatic Devices must not vent gas and must comply with Leak Detection and Repair
    - These devices installed before 1/1/2016 may be used provided:
      - They are measured annually to prove they vent < 6scf/h (or repaired), tagged, and reported
  - Intermittent Bleed NG Pneumatic Devices must comply with Leak Detection and Repair as of 1/1/2018 when the device idle and not venting
  - By 1/1/2019 NG Pneumatic Pumps shall not vent NG and shall comply with Leak Detection and Repair
  - Continuous Bleed NG Powered Pneumatic Devices or Pumps requiring replacement or retrofit shall either:
    - Collect vented gas to a Vapor control system, or,
    - Use compressed air to operate

# COGR/2260 Requirements Applied Per Section 95668 (cont'd)

- Well Casing Vents
  - Beginning 1/1/2018 operators must measure the gas flow volume from each well that operates with open casing vents. These measurements are to be submitted annually and records kept
  - This is not a control requirement
- Circulation Tanks for Well Stimulation Treatments (Not registered in 2260)
  - By 1/1/2018, each operator shall submit a Best Management Practices Plan to reduce methane emissions from well stimulation practices. The plan is to be reviewed by CARB. The District has no role in this approval. We may ask if your plan has been approved during the inspection

# COGR/2260 Requirements Applied Per Section 95668 (cont'd)

- Liquids Unloading of Natural Gas Wells (not registered by Rule 2260)
  - By 1/1/18 collect all vented NG to a control system, or
  - Measure the volume of the vented NG, or
  - Calculate the volume of the vented NG
  - Annually Report volumes vented, or calculated, and venting method to CARB
- Natural Gas Underground Storage Facility Monitoring Requirements
  - These facilities are registered and will be inspected annually
  - Extensive monitoring requirements included in plan submitted to and approved by CARB. The District does not have authority over the plan, but will ask if it is being followed during our inspection.
- Control Devices If Required
  - Sales, fuel, disposal well (DOGGR), VR. New must be non-destructive or Low NO<sub>x</sub>, and will require a District permit



# COGR/2260 Requirements Applied Per Section 95669 - LDAR

- By 1/1/18 all subject components, including those found on tanks, separators, wells, and pressure vessels, shall be inspected and repaired according to the timelines specified
  - All components, including hatches, PRVs, well casings, stuffing boxes, and pump seals shall be inspected audio-visually daily (if site visited daily), or weekly (at sites not visited daily). Inspect unsafe to monitor or inaccessible components annually
  - Leaks detected this way must be repaired, or inspected according to EPA Method 21 within 24 hours (by the end of the next business day if detected after hours, on a weekend or holiday)
  - Leaks detected via M 21 shall be repaired according to regulation timelines

# COGR/2260 Requirements

## Applied Per Section 95669 – LDAR (cont'd)

- By 1/1/18 all subject components, including those found on tanks, separators, wells, and pressure vessels, shall be inspected and repaired according to the timelines specified
  - All components must be inspected on a quarterly basis using EPA M 21 (in ppm)
  - You may not use a PID for this work
  - You may use Optical Gas Imaging (such as a FLIR Camera) as a screening device, **but this not in lieu of quarterly inspections with EPA M 21**. Leaks detected by OGI shall be inspected via EPA M21 within 2 calendar days of detection (14 calendar days for inaccessible or unsafe to monitor)
  - Leaks detected via M 21 shall be repaired according to regulation timelines
  - Inaccessible and Unsafe to Monitor must be inspected annually via EPA M 21
  - OEL must be capped or sealed in 14 days. If leaking, repair per timelines

# COGR/2260 Requirements

## Applied Per Section 95669 – LDAR (cont'd)

- Key Exemptions

- Components specifically subject to District LDAR (Rules 4401, 4409, 4623), as of 1/1/2018
  - Exemptions to District LDAR mean subject to CARB LDAR (4401)
- Components, including those found on tanks, separators, wells, and pressure vessels used exclusively for the production of crude (and associated water) with gravity < 20° API
  - This exemption does not apply to gas lines coming from tanks that move the gas to sales, as fuel, or to disposal, and TEOR systems
- Buried components (this exemption does not include well casings)
- Open casing vents (subject to testing under 95668)
- Closed casing vents serving wells with gravity < 20° API



# COGR/2260 Requirements

## Applied Per Section 95669 – LDAR (cont'd)

- Facility LDAR Requirements
  - Inspect all subject components as required (daily, weekly, quarterly, annually)
  - Repair leaks in timeframes specified
  - Keep records of LDAR inspections, record review part of inspection
  - Submit annual LDAR summary to CARB (Tables A4 and A5)
- Additional Repair Time
  - Repairs that require parts, equipment, or crews can be extended 30 days (where proof of ordering the parts, equipment, or crews is provided)
  - Components considered by CARB to be “Critical” have up to one year
- How Does This Affect Tanks?
  - Unless specifically exempt, tanks are subject. P/Vs per Rule 4623

# COGR/2260 Requirements Applied Per Section 95669 – LDAR (cont'd)

**Table 1 - Allowable Number of Leaks  
January 1, 2018 through December 31, 2019**

<b>Leak Threshold</b>	<b>200 or Less Components</b>	<b>More than 200 Components</b>
10,000-49,999 ppmv	5	2% of total inspected
50,000 ppmv or greater	2	1% of total inspected

**Table 2 - Repair Time Periods  
January 1, 2018 through December 31, 2019**

<b>Leak Threshold</b>	<b>Repair Time Period</b>
10,000-49,999 ppmv	14 calendar days
50,000 ppmv or greater	5 calendar days
Critical Components and Critical Process Units	Next scheduled shutdown or within 12 months, whichever is sooner

Per components inspected, tagged leaks found during facility inspection not counted in District inspection

# COGR/2260 Requirements Applied Per Section 95669 – LDAR (cont'd)

**Table 3 - Allowable Number of Leaks  
On or After January 1, 2020**

<b>Leak Threshold</b>	<b>200 or Less Components</b>	<b>More than 200 Components</b>
1,000-9,999 ppmv	5	2% of total inspected
10,000-49,999 ppmv	2	1% of total inspected
50,000 ppmv or greater	0	0

**Table 4 - Repair Time Periods  
On or After January 1, 2020**

<b>Leak Threshold</b>	<b>Repair Time Period</b>
1,000-9,999 ppmv	14 calendar days
10,000-49,999 ppmv	5 calendar days
50,000 ppmv or greater	2 calendar days
Critical Components and Critical Process Units	Next scheduled shutdown or within 12 months, whichever is sooner

# COGR/2260 Requirements

## Applied Per Section 95669 – LDAR (cont'd)

- For facility inspections the requirements are:
  - Conduct LDAR as required
  - Repair leaks per timelines
  - Keep records (5 years)
  - Report annually
- CARB/District will not enforce > allowable leaks found during operator inspection, even during 4<sup>th</sup> Quarter
- > Allowable leaks is enforceable during CARB/District inspection

# COGR/2260 Requirements

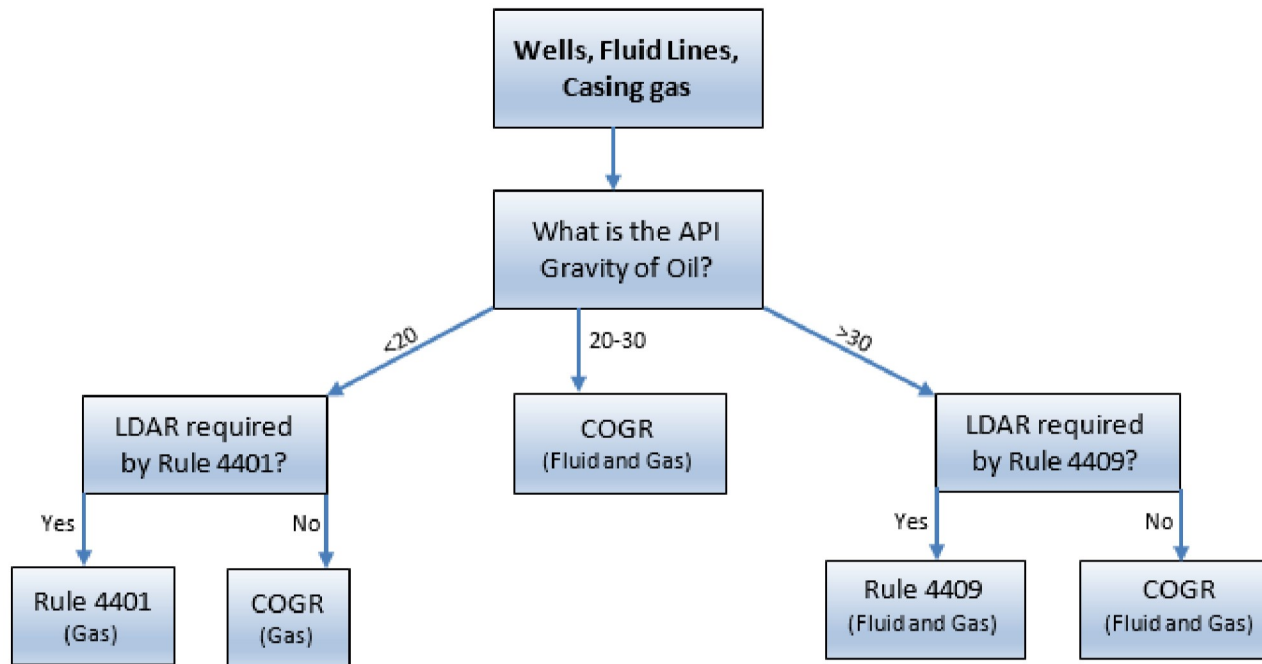
## Applied Per Section 95669 - LDAR (cont'd)

- The CARB regulation overlaps existing District Rules and this makes it difficult to determine which components are subject
- Key considerations:
  - Produced Oil Gravity
  - If LDAR is required by District as of 1/1/2018
    - This does not include 2201, or other agency requirements, the exemption is based on having to perform LDAR for a District Rule, 4401 is example
  - Definition of Component – ***Subject to LDAR unless specifically exempt***
    - Valve, fitting, flange, threaded-connection, process drain, stuffing box, pressure-vacuum valve, pressure-relief device, pipes, seal fluid system, diaphragm, hatch, sight glass, meter, open-ended line, well casing, natural gas powered pneumatic device and pump, or reciprocating compressor rod packing or seal



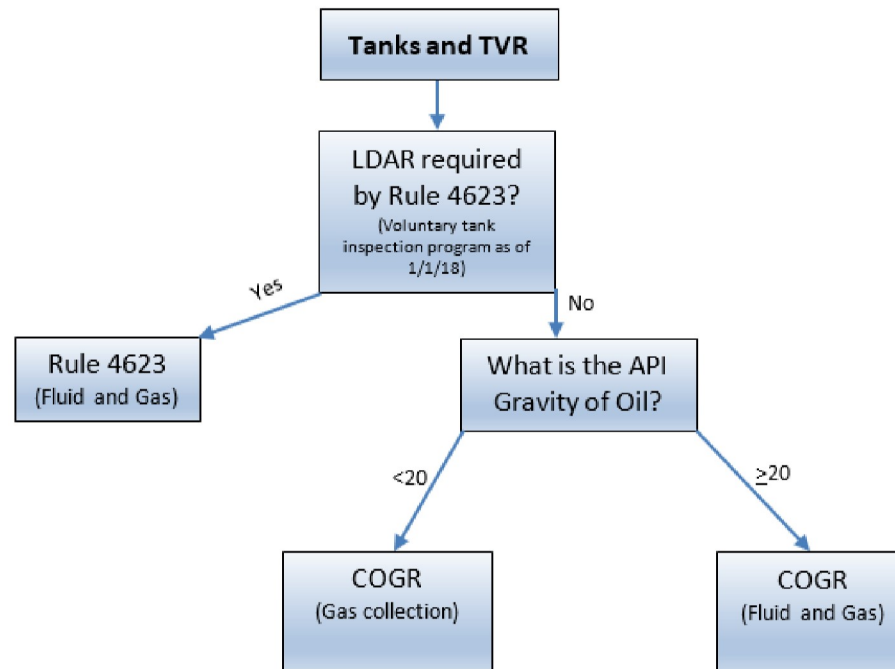
# COGR/2260 Requirements

## LDAR Required – Well Flowchart



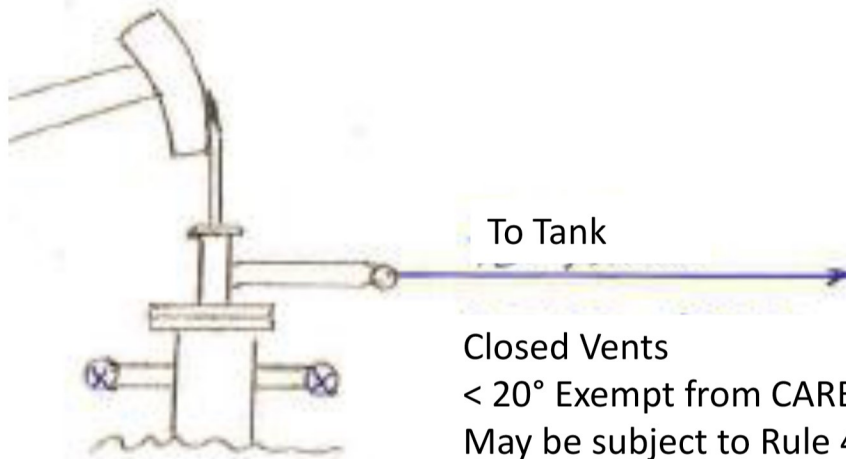
# COGR/2260 Requirements

## LDAR Required – Tank Flowchart



# COGR/2260 Requirements

## LDAR Simplified Diagrams - Wells



Closed Vents

< 20° Exempt from CARB LDAR

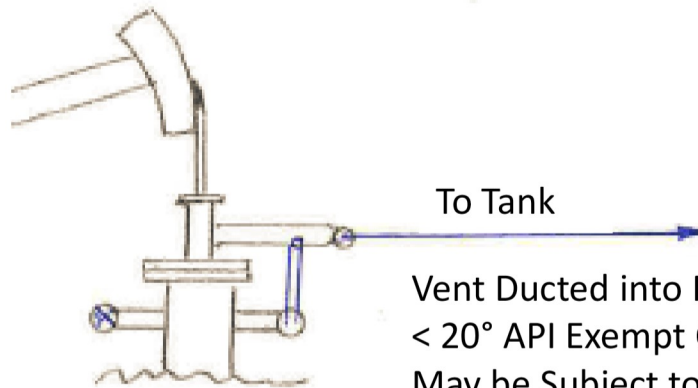
May be subject to Rule 4401

> 20° Subject to CARB LDAR

> 30° Subject to Rule 4409



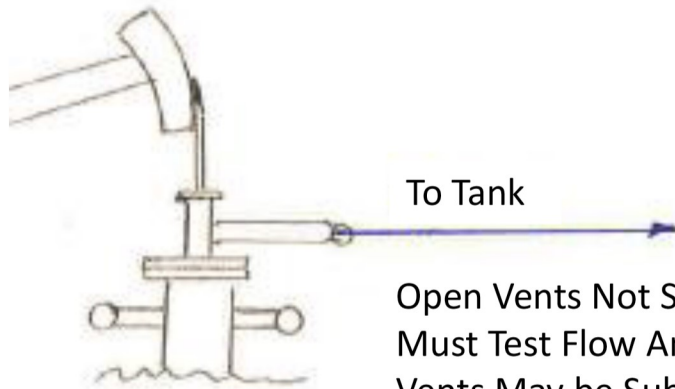
# COGR/2260 Requirements LDAR Simplified Diagrams - Wells



Vent Ducted into Production At Wellhead  
< 20° API Exempt COGR LDAR  
May be Subject to District Rule 4401  
≥ 20° API < 30° Subject to COGR LDAR  
> 30° API Subject to District Rule 4409

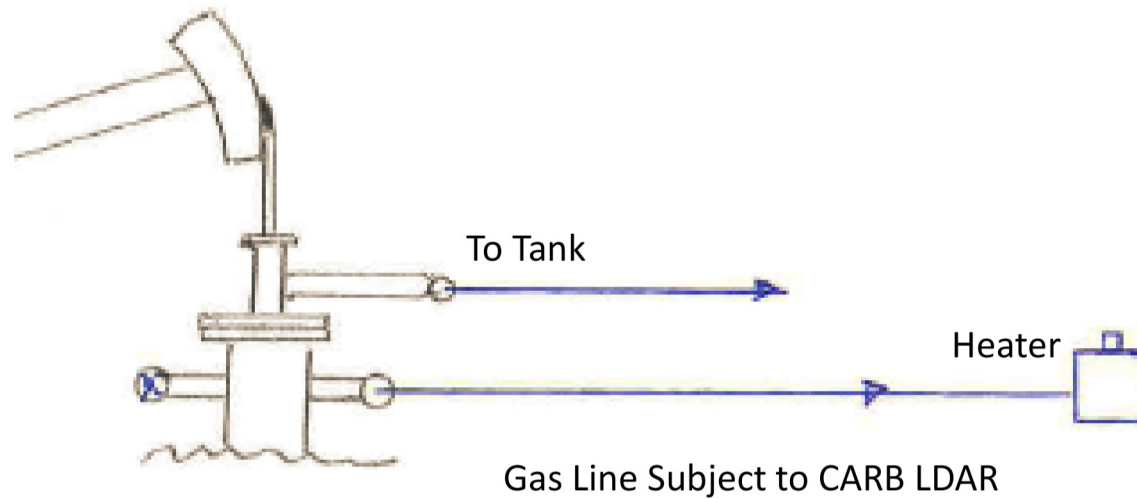
# COGR/2260 Requirements

## LDAR Simplified Diagrams - Wells

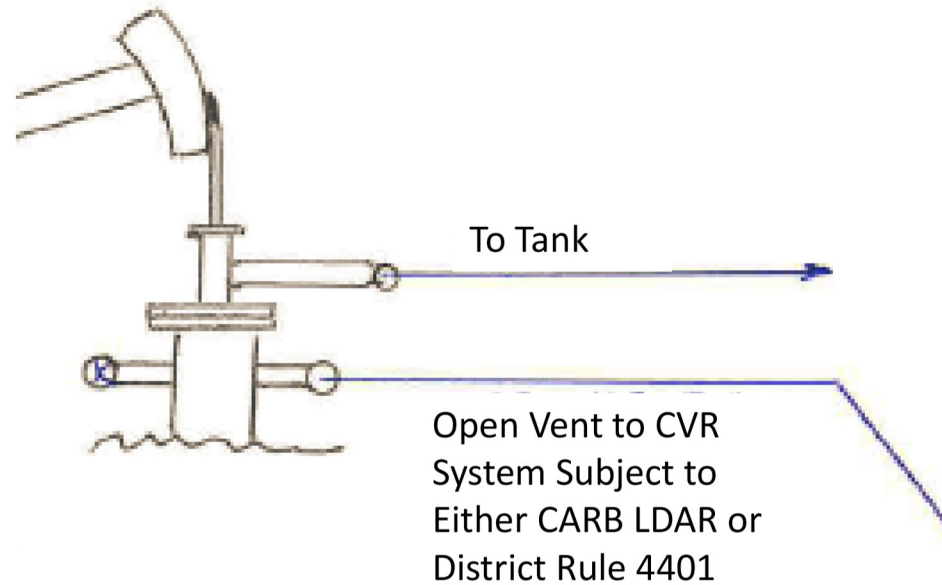


Open Vents Not Subject to CARB LDAR  
Must Test Flow Annually  
Vents May be Subject to District Rules 4401 or  
4409

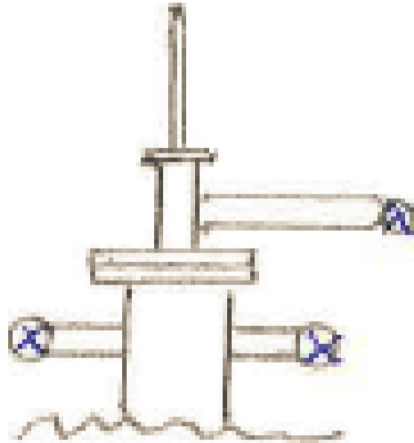
# COGR/2260 Requirements LDAR Simplified Diagrams - Wells



# COGR/2260 Requirements LDAR Simplified Diagrams - Wells

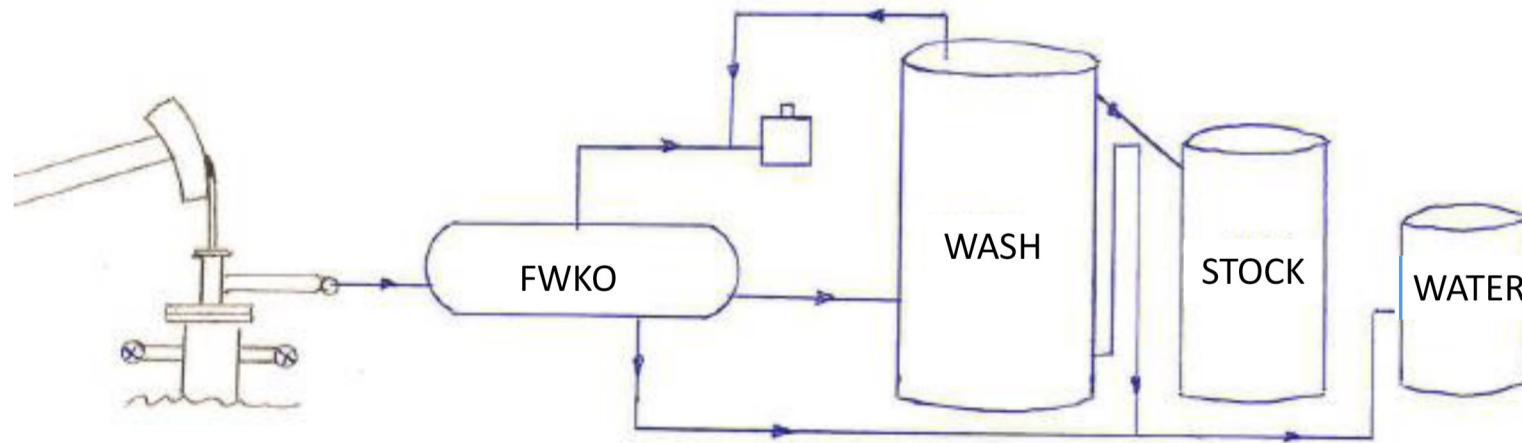


# COGR/2260 Requirements LDAR Simplified Diagrams - Wells



Idle Wells Not Exempt From CARB LDAR  
Or District LDAR Requirements

# COGR/2260 Requirements LDAR Simplified Diagrams - Tanks

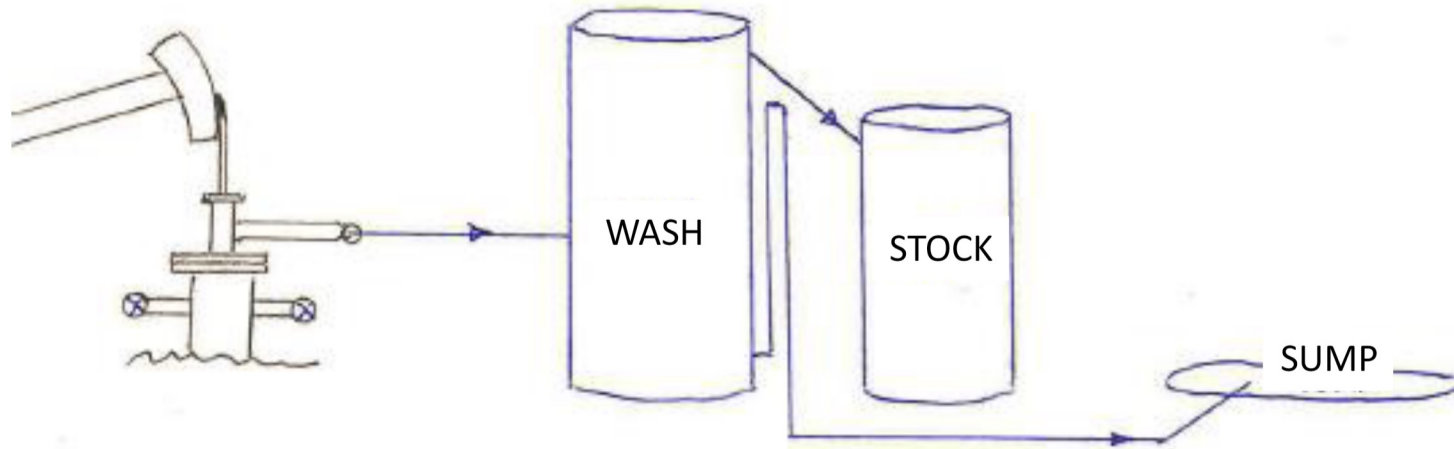


< 20° API All Gas Lines Subject to CARB LDAR

≥ 20° API Gas Lines, Flowlines, and Tanks are Subject to CARB LDAR

# COGR/2260 Requirements

## LDAR Simplified Diagrams - Tanks



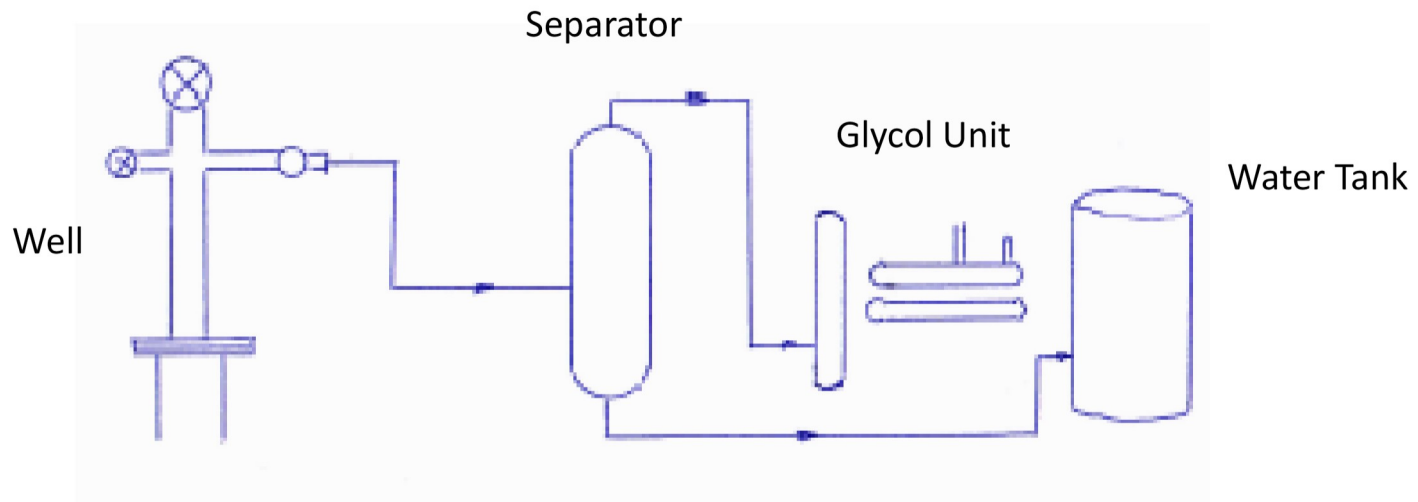
< 20° API All Gas Line Components Subject to CARB LDAR

≥ 20° API Gas Line, Flowline, and Tank Components are Subject to CARB LDAR

Do CARB LDAR or EPA M 21 apply to sumps? Not defined in Method, not defined in components, you do not have to sniff sumps. OEL do not have to be sealed during times requiring liquid flow.

# COGR/2260 Requirements

## LDAR Simplified Diagrams – Gas Prod.



Unless subject to Rule 4409, all gas production equipment subject to CARB LDAR  
Water tank may be subject to Flash Testing if > 200 BWPD



# COGR/2260

## District Inspections

- Purpose
  - To determine compliance with these new requirements as well as associated permitted operations
- Format
  - Each inspection will include record review (tests, flow rates, LDAR)
  - Each inspection will include equipment subject to the registration. Based on the registrations to date, this is primarily LDAR. We will check a portion for leaks using EPA M 21 (we may use a FLIR Camera for screening)
- Timing
  - To save facility time, to the extent possible, these inspections will coincide with facility inspections

# COGR/2260

## Questions? Contacts

District Website, COGR Page, Includes registration/inventory forms, A COGR FAQ document, and links to CARB regulation

<http://www.valleyair.org/busind/pto/ptoforms/oil-and-gas-registration.htm>

EPA Method 21

[https://www.epa.gov/sites/production/files/2017-08/documents/method\\_21.pdf](https://www.epa.gov/sites/production/files/2017-08/documents/method_21.pdf)

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