

Update on California Dairy Air Quality Regulations

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Topics

- Brief SJ Valley dairy facts
- Emission Sources at a Dairy
- Permitting
 - Senate Bill 700
 - Existing Dairies
 - New and Modifying Dairies
- How it's working
- Summary

Dairies in the San Joaquin Valley

- 1500 dairies with 1.5 million cows
- ~ 30 new dairies proposed
- ~40 expansions
- Proposals range from 2,000 to 14,000 head
- New regulatory program in place
- Still some surprises

Emission Sources at a Dairy

- Milking Parlor
- Cow Holding Area
- Enteric Emissions*
- Feed Lanes
- Silage Piles*
- Mechanical Separator
- Settling Basin(s)
- Lagoon(s)
- Storage Pond(s)
- Land Application*
- Processing Pit
- Flush Lanes*
- Freestalls
- Open Corrals*
- Calf Hutches
- Bedding Material
- Manure Piles
- Emissions From Manure Disturbance
- Composting
- Separated Solids
- Feed Bunks*

Air Permitting

- Air permitting regulations in California are have been around for 35+ years
 - In SJV, over two lbs/day VOCs needs permit
- But dairies were exempt from permits
 - State law exempted all ag, incl. dairies
 - Feds said CA ag exemption must go, or else
- Senate Bill 700 (Florez) – Removed exemption in November 2003

SB 700 (Florez) Agriculture and Air Quality

- Effective January 1, 2004
- Resolve Conflict Between State and Federal Law
- SB700 Entirely Eliminated Existing Permitting Exemptions
- Made All Farms Subject to District Permits
- Generally Requires Farms to be Treated like Other Industries
- District by District Permit Requirements Vary

Permit Requirements for Existing Sources

- Permits Required for Ag Sources w/ Actual Emissions > 50% of Major Source Threshold
 - Equates to approximately 1,190 total head (or milk cow equivalent)
- Conservation Management Practices Plan (Rule 4550)
- Confined Animal Facility (CAF) – Rule 4570

Conservation Management Practices (CMP) Plans - Rule 4550

- Applies to dairies with over 500 mature Cows (Milk and Dry cows)
- Applies to Feedlot Cattle with over 190 head
- Requires dust controls on four areas of dairy
 - Corrals/Manure
 - Feed Processes
 - Cropland
 - Unpaved roads, vehicle travel areas
- Litigation pending

Examples of CMPs

- Feeding near dusk
- Wet feed during mixing
- Place wet feeds in feed wagon before mixing
- Downwind shelterbelts/boundary trees
- Speed limits
- Dust suppressants

Confined Animal Facility (CAF) Rule 4570

- Best Available Retrofit Control Technology
- Applies to dairies with more than 1,000 milk cows
- Mitigation practices from an extensive list of control options like CMP rule
 - Manure Handling, Diet Manipulation, Bedding Options, Moisture Control, Lagoon Controls, many others
- Option to provide alternative mitigations
- Supported by court decision – appeal pending

How are New and Modifying Dairies Affected?

- Submit Authority to Construct (ATC) application prior to any construction
- Subject to New Source Review Rule – District Rule 2201
 - Best Available Control Technology
 - Public Notice
 - Health Risk Assessment (HRA) & Ambient Air Quality Analysis (AAQA)
- California Environmental Quality ACT (CEQA)
- CAF Rule and CMP Rule

Authority to Construct

- New dairy construction
- Expand herd size
- Install Shades
- Install new Emissions Unit (milk parlor, lagoon, mechanical separator, etc.)
- Convert open corrals to freestalls
- Changes to inventory or place emitted

Best Available Control Technology

- Required by an EPA Approved Rule
- Detailed Review of Controls
- Evaluate Alternatives
- Promotes New and Improved Technology
- BACT Guidelines for Dairies not yet final
- Case by case for now

Ambient Air Quality Analysis (AAQA)

- Required when the project goes through public notice
- Assesses PM10 concentrations at the facility boundaries
- Project fails if there is an exceedence above the established Federal & State standards
- Project can move forward if:
 - Emissions are mitigated through controls &/or
 - Emission Reduction Credits provided (PM10 offsets \$80 K per ton – 1 cow = 1.37 freestall, 5.46 corral)

Summary

- Permits required for any Dairy with greater than 1,190 head (or milk cow equivalent)
- Authority to Construct permit required for any new construction or modification
- CMP Plan required as of December 31, 2004
- CAF Rule (4570) application by Dec 15, 2006
- Practices implemented by May 2008

So How's it Going?

- Actually pretty well
- Joint workshops by CDQAP
- Reasonable CMPs
- Dairy operators part of CMP identification
- Enhanced awareness
- Compliance Checklist looks good
- Active inspections help get the word out

Rough Spots

- Emergency generators – fail to include
- Permit forms hard to read as issued
 - Need to have CMPs reprinted on 1 page
- Best Available Control Technologies
 - Controversial
 - Guidelines lacking – will be tough to agree (\$\$)
 - Major permitting hangups
- Still some procedural surprises

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