USDA

United States Department of Agriculture

June 11th, 2024 – STAC Meeting

Nevada Air Quality Planning and Implementation for FY2025

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USDA NRCS - Nevada

Natural Resources Conservation Service

nrcs.usda.gov/

Conservation Planning

- Is the agency's primary role.
- NRCS technical assistance is voluntary, at the client's invitation, confidential, and provided at no charge.
- Conservation Planning helps identify the resource concerns and the conservation practices available to address these concerns. "SWAPA+HE"
- Through conservation planning, financial assistance may be available to help implement conservation practices to improve the resource concerns.

NRCS Air Quality Resource Concerns

- Emissions of particulate matter & precursors
- Emissions of ozone precursors
- Objectionable odors
- Emissions of greenhouse gases
- Emissions of airborne reactive nitrogen

NRCS Financial Assistance

Environmental Quality Incentives Program (EQIP)

- Provides agricultural producers financial and technical assistance to address natural resource concerns and deliver environmental benefits

National Air Quality Initiative (NAQI)

- Initiative designed to help agricultural producers meet air quality compliance requirements and offer opportunities to reduce NOx, VOC, and PM emissions.

National Air Quality Initiative (NAQI)

- Reducing emissions helps achieve and maintain the health and welfare-based National Ambient Air Quality Standards (NAAQS)
- Prioritizes EPA designated non-attainment and maintenance areas for ozone, PM10, PM2.5.
- $20-35 million dedicated annually for the replacement of Tier 0-2 off-road mobile diesel engines. $37.5 authorized annually to address Air Quality Concerns

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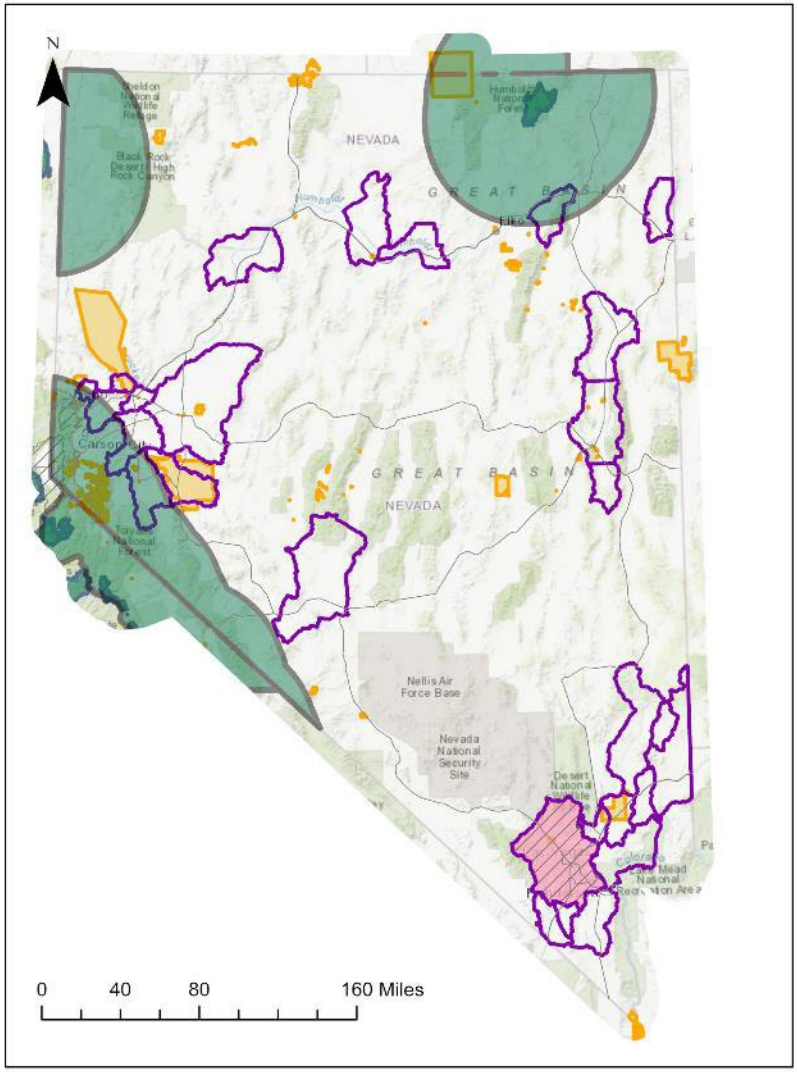
Nevada Air Quality Areas



PSD Areas*
CO Attainment (Maintenance area)
Class 1
Class 1 50 Mile Buffer
Major Roads
Nevada Tribal Lands

2015 8-hour ozone NAAQS designations

Nonattainment/Moderate

* Areas indicating Prevention of Significant Deterioration (PSD) where air quality is in attainment or unclassifiable with the National Ambient Air Quality Standards (NAAQS)

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Off-Road Mobile Diesel Engines

CPS 372 – Combustion System Improvement

L-R: Narcizo Guerrero, Ricardo Ortiz-Rios, and Allen Curry
Photo Credit: Ted Strauss, USDA NRCS

Sam Cobb, Blythe Field Office
Photo Credit: Ted Strauss, USDA NRCS

FY 2024 EQIP AQ Payment Rates

(372) Replace in-use mobile diesel-powered equipment

- 25-160 bhp: $517.85/bhp | >160 bhp: $806.60/bhp
  - Included electric engine replacement with same payment rates

(372) Repower irrigation pump engines (also includes stationary engines)

- New electric motor, in-lieu of IC: $1,409.08 to $37,465.27 per motor
- New diesel engine: Up to $148.73/bhp

Resource Concerns: NOx, Ozone & PM

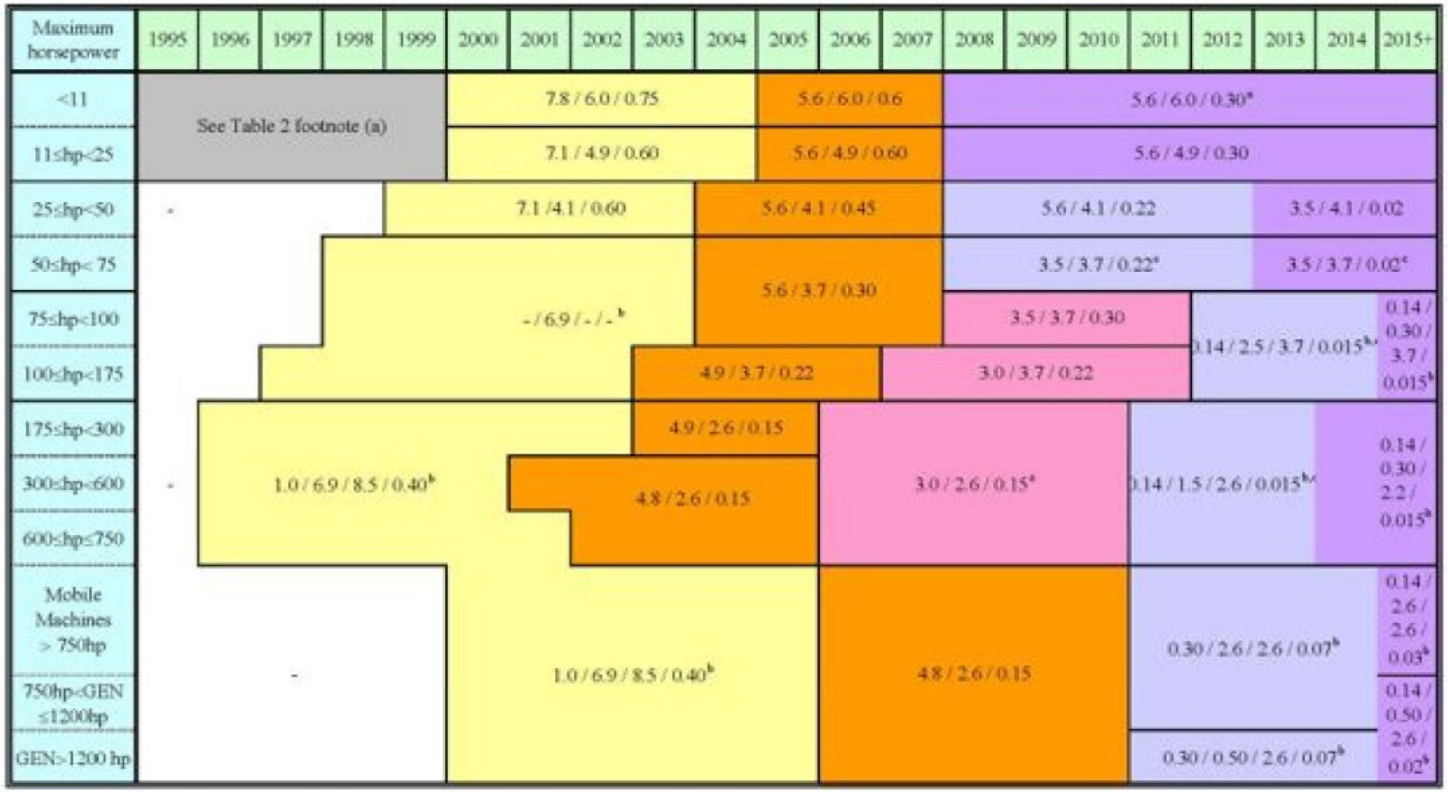
Baseline/In-use Equipment

- Must have proof of 2 years of ownership
- Equipment must be operational
- Provide maintenance logs
- Requires destruction of in-use equipment
- Must have minimum 30% emissions reduction
- Annual Hour reporting required for 10-years

FY 2025 EQIP AQ Payment Rates

- NRCS accepts applications year-round and establishes cutoff dates to batch applications for ranking and funding decisions.
- Estimated FY 2025 EQIP application dates…
  - First Sign up deadline –November 2024
  - Second Sign up – as funding allows

Engine Tier Chart



a) The PM standard for hand-start, air cooled, direct injection engines below 11 hp may be delayed until 2010 and be set at 0.45 g/bhp-hr.
b) Standards given are NMHC/NOx/CO/PM in g/bhp-hr.
c) Engine families in this power category may alternately meet Tier 3 PM standards (0.30 g/bhp-hr) from 2008-2011 in exchange for introducing final PM standards in 2012.
d) The implementation schedule shown is the three-year alternate NOx approach. Other schedules are available.
e) Certain manufacturers have agreed to comply with these standards by 2005.

Baseline Emissions:		NOx	ROG	PM10	
Max Rated Brake Horsepower(s):		425	425	425	bhp maximum
Annual Hours of Operation:	x	700	700	700	Hours/Year
Emission Factor(s):	x	3.790	0.290	0.088	g/bhp-hour
Load Factor(s):	x	0.700	0.700	0.700	
Conversion to Tons:	÷	**907,200**	**907,200**	**907,200**	grams/Ton
Annual Emissions (EE)	=	0.870	0.067	0.020	Tons/Year

New Engine Emission Calculations (Report as zero emissions if electric)

New Engine: Manufacturer: JOHN DEERE

Model Year Engine: 2021

Tier 4 Final Diesel — Equipment Type: Tractors, Diesel

Serial Number (if available) N/A

New Engine Emissions:		NOx	ROG	PM10	
Max Rated Brake Horsepower:		370	370	370	bhp maximum
Annual Hours of Operation:	x	700	700	700	Hours/Year
Emission Factor:	x	0.260	0.050	0.009	g/bhp-hour
Load Factor:	x	0.700	0.700	0.700	
Conversion to Tons:	÷	**907,200**	**907,200**	**907,200**	grams/Ton
Annual Emissions (NE)	=	0.052	0.010	0.002	Tons/Year

Calculation Results

	NOx	ROG	PM10	
Annual Emission Reductions: (EE)-(NE)=	0.818	0.057	0.018	Tons/Year
Percent Emission Reductions: [(EE-NE) / (EE)] x 100=	94.0	85.0	91.1	%

Destruction/Recycling

EQIP – NAQI Projects

(California - FY 2009-22)

Fiscal Year	No. of Projects	Projects Cancelled or Terminated	Total Projects	Completed Projects (Certified)	Obligations	Average Obligations per Project
2009	340	11	329	329	$17,138,590.15	$52,092.98
2010	480	10	470	470	$24,375,910.42	$51,863.64
2011	375	6	369	369	$22,350,828.80	$60,571.35
2012	367	9	358	358	$19,802,132.00	$55,313.22
2013	375	12	363	363	$16,509,390.60	$45,480.41
2014	495	27	468	468	$18,732,434.86	$40,026.57
2015	462	13	449	449	$16,646,578.47	$37,074.79
2016	384	14	370	368	$12,586,328.81	$34,017.10
2017	495	3	492	488	$19,997,987.16	$40,646.32
2018	477	10	472	465	$19,653,061.70	$41,637.84
2019	455	7	448	442	$23,755,973.80	$52,967.56
2020	426	7	419	346	$21,497,892.14	$50,425.77
2021	455	1	454	139	$21,467,686.81	$42,895.58
2022	394	0	394	248	$22,285,691.23	$56,562.00
Totals	5,980	**136**	**5,855**	5,054	$276,800,487.00	$47,190.67

California: 1,076,889 vehicle equivalency based on **3,561.14** tons NOx /year

Questions

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