

State Survey of Ambient Air Standards

No federal ambient air quality standards exist for hydrogen sulfide (H₂S); several states independently regulate ambient levels to protect the public from its adverse affects. Recognizing this the Air Quality Committee (AQC) requested a review of rules in other states. Division of Air Quality (DAQ) staff searched available literature and the Internet for standards. Interviews were also conducted with several states.

There are 32 different states with H₂S standards. They vary in averaging time from instantaneous to chronic one-year exposure. The Science Advisory Board (SAB) recommended three proposed Ambient Air Levels (AALs). Each of the AALs are designed to be protective of specific health affects and have varying averaging periods:

- 40 ppb – 1-hr standard, protective of human airway resistance,
- 23 ppb – 24-hr standard, protective of human-eye pain, and
- 83 ppb – 24-hr standard, protective of rat-nasal lesions.

There are 13-other states with 1-hour H₂S standards, ranging from 10 – 200 ppb. North Carolinas (NC) 1-hour proposal falls in the middle, with 6 rules more stringent and 7 less stringent. 12 states regulate with 24-hr standards. Likewise the NC proposals fall in the middle of the 0.6 – 200 ppb range. In Figures 1 and 2 the dashed lines represent the SAB proposal, a vertical bar represents each state regulation.

Table 1 shows a count and distribution of states H₂S averaging periods and their variability. There are eight different averaging periods, and some states have more than one. Tables 2 and 3 present the statistics contained in Figures 1 (1-hr averaging period) and 2 (24-hr averaging period).

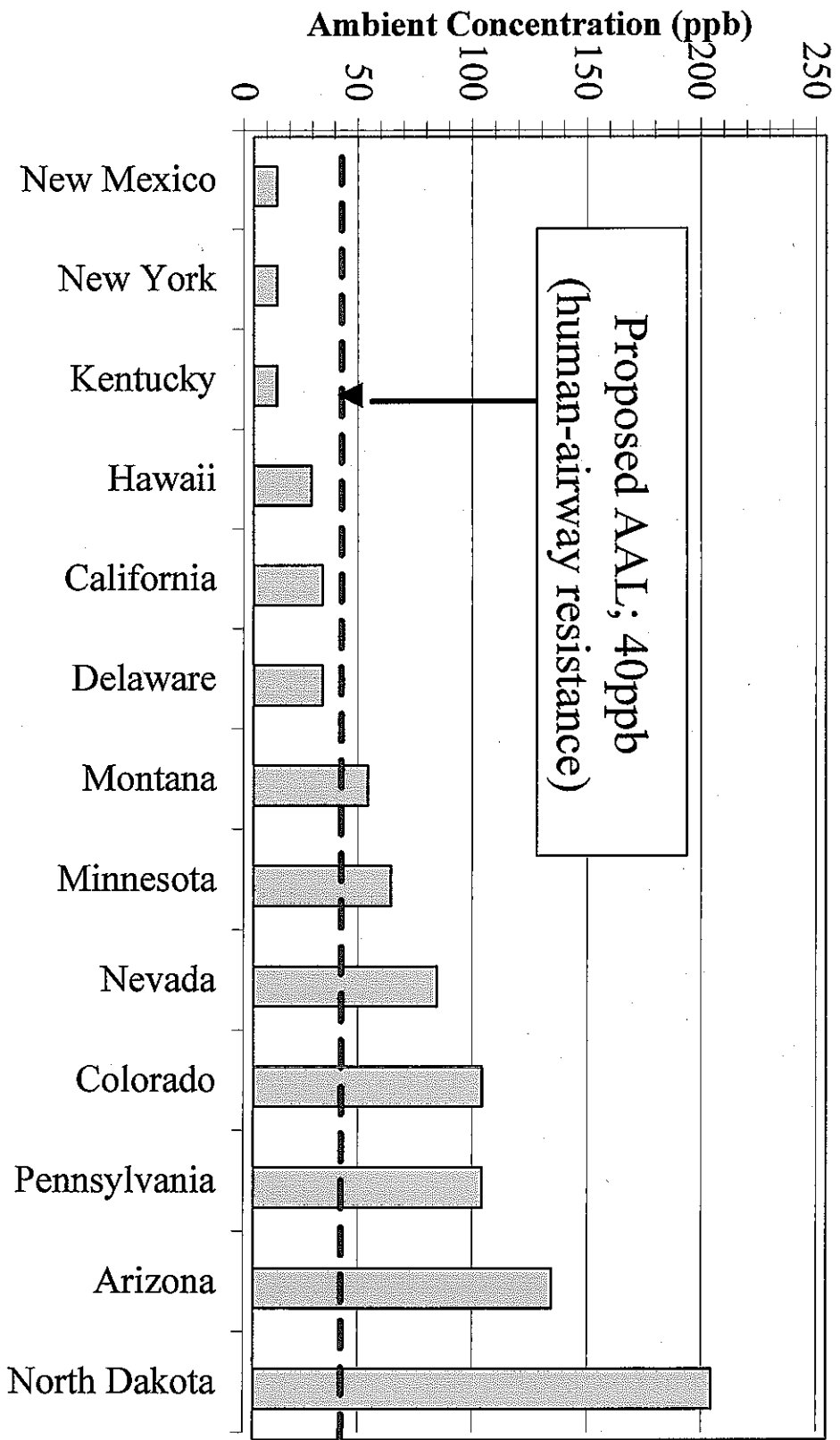


Figure 1. 13 Other States with 1-hr H₂S Standards

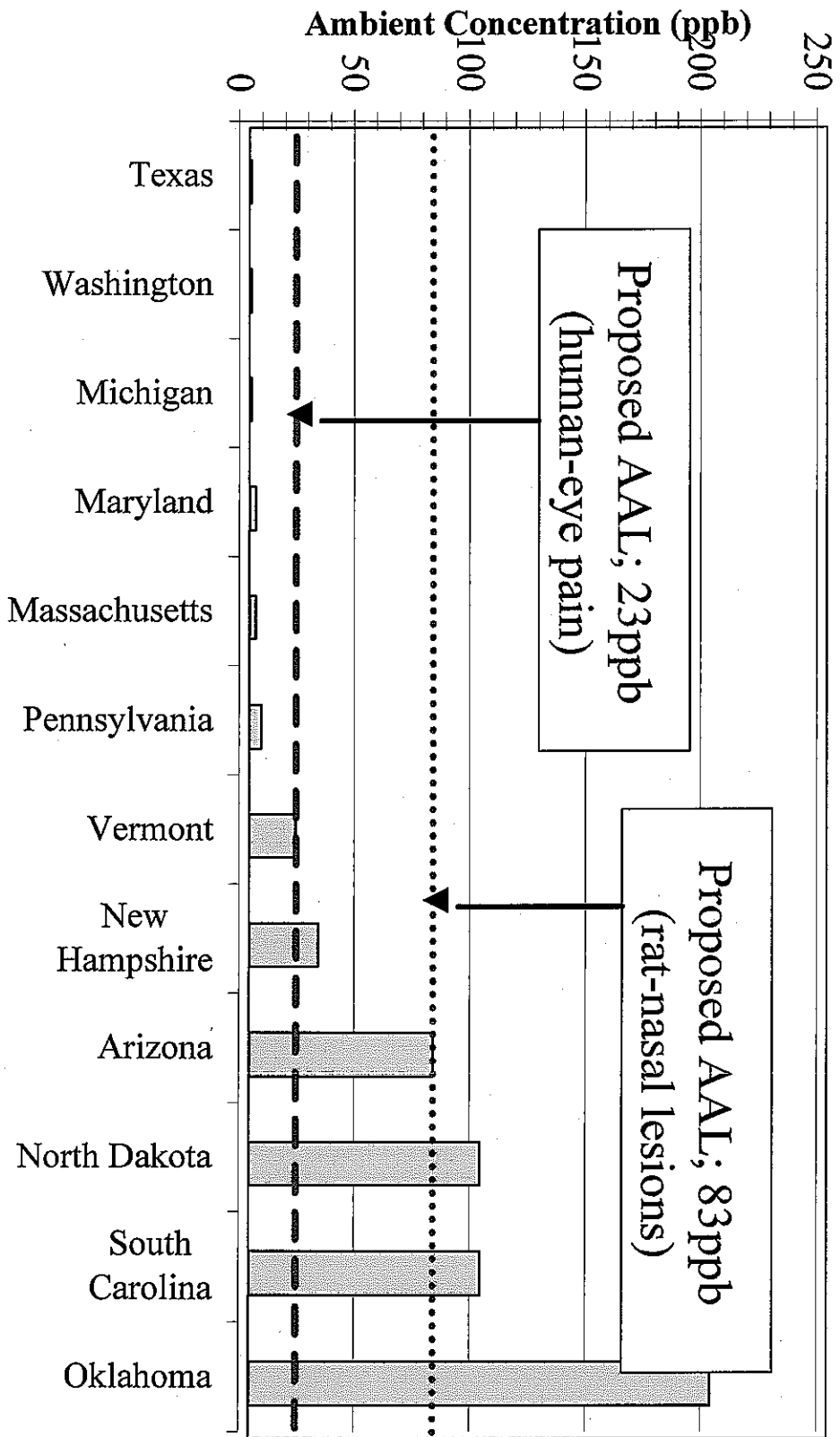


Figure 2. 12 Other States with 24-hr H₂S Standards

Table 1. All states with hydrogen sulfide regulations

Averaging time	Count
less than 15-min	5
30-min	12
1-hr	13
8-hr	5
12-hr	1
24-hr	12
90-day	2
1-yr	1

32 different states have regulations

Table 2. States with 1-hr standards.

State	Concentration (ppb)	Justification	SAB-proposal (ppb)
New Mexico	10	---	
New York	10	---	
Kentucky	10	---	
Hawaii	25	rat nasal lesions	
California	30	nuisance	
Delaware	30	public health-protection/comfort	40 (human-airway resistance)
Montana	50	---	
Minnesota	60	---	
Nevada	80	---	
Colorado	100	welfare,nuisance	
Pennsylvania	100	welfare	
Arizona	130	welfare-policy, not rule	
North Dakota	200	public health-protection/comfort	

--- =justification unknown

Table 3. States with 24-hr standards.

State	Concentration (ppb)	Justification	SAB-proposal (ppb)
Texas	0.6	---	
Washington	0.6	---	
Michigan	0.7	---	
Maryland	2.7	---	
Massachusetts	2.7	---	
Pennsylvania	5	welfare	
Vermont	20	health	23 (human-eye pain)
New Hampshire	30	---	
Arizona	80	welfare-policy, not rule	83 (rat-nasal lesions)
North Dakota	100	health-World Health Org.	
South Carolina	100	health-ACGIH TLV w/ safety (a)	
Oklahoma	200	---	

(a) = American Conference of Governmental Industrial Hygienists, Threshold Limit Value

--- =justification unknown