# **H2S & TRS Ambient Air Quality Objective:**

# **Straw Dog for Discussion**

**Province-wide Guideline for TRS:**

|  |  |  |
| --- | --- | --- |
|  | **H2S (no change)** | **TRS1** |
| **24 – hour** | 3 ppb (health-based) | Health-based objective not needed2 |
| **1 – hour** | 10 ppb (odour emission management-based) | Not meaningful for odour |
| **30 – minute** | -- | 7µg/m3 (5 ppb)3 |

**AEP will follow-up to make sure the guideline will not be used for modelling but will be used for monitoring and reporting.**

1 Modelling of TRS by Alberta pulp mills based on Ontario air quality modelling guidelines. Additional details needed.

2 H2S used as a surrogate for a health-based TRS objective unless information is available to indicate TRS includes compounds of greater toxicity than H2S

3 As an odour based ambient air quality guideline, TRS concentrations should not exceed 5 ppb with a 30-minute averaging period (based on the WHO guideline for H2S).

The following criteria, which are consistent with the CAAQS determination of monitoring stations for PM2.5 and ozone, are to determine which monitoring stations are not to be used for the application of the TRS ambient guideline:

* sites within areas of industrial activity;
* sites which are very near to industrial activities except those near population centers.

**Table 1**: Air monitoring stations in Alberta which monitor H2S and TRS

|  |  |
| --- | --- |
| **H2S Stations** | **TRS Stations** |
| Ardrossan | Anzac |
| Beverly | Barge Landing |
| Brion MacKay River | Bertha Ganter - Fort McKay |
| Buffalo Viewpoint | Caroline |
| Calgary Southeast | CNRL Horizon |
| Edmonton East | Cold Lake South |
| Falher | Conklin Community |
| Firebag | Evergreen Park |
| Fort Saskatchewan-92 St and 96 Ave | Fort McKay South (Syncrude UE1) |
| Gold Bar | Fort McMurray-Athabasca Valley |
| Lamont County | Fort McMurray-Patricia McInnes |
| Lethbridge | Grande Prairie (Henry Pirker) |
| Lower Camp | Hinton |
| Mannix | Lancaster |
| Maskwa | Millennium Mine |
| Mildred Lake | PRAMP\_842 |
| Red Deer - Riverside | Smoky Heights |
| Scotford 2 | Stony Mountain (Conklin Lookout) |
| Sherwood Park (New) |  |
| ST. LINA |  |
| Valleyview |  |
| Wapasu |  |

**Table 2:** Air zones and CAAQS reporting stations in Alberta and whether they monitor H2S or TRS\*

|  |  |  |  |
| --- | --- | --- | --- |
| **Air Zone** | **Monitoring Station** | **TRS** | **H2S** |
| Peace | Beaverlodge |  |  |
| Evergreen Park | **x** |  |
| Grande Prairie (Henry Pirker) | **x** |  |
| Smoky Heights | **x** |  |
| Lower Athabasca | Anzac | **x** |  |
| Bertha Ganter - Fort McKay | **x** |  |
| CNRL Horizon | **x** |  |
| Cold Lake South | **x** |  |
| Fort Chipewyan |  |  |
| Fort McKay South (Syncrude UE1) | **x** |  |
| Fort McMurray - Athabasca Valley | **x** |  |
| Fort McMurray - Patricia McInnes | **x** |  |
| Upper Athabasca | Carrot Creek |  |  |
| Edson |  |  |
| Hinton | **x** |  |
| Power |  |  |
| Steeper |  |  |
| North Saskatchewan | Breton |  |  |
| Bruderheim |  |  |
| Caroline |  |  |
| Drayton Valley |  |  |
| Edmonton Central |  |  |
| Edmonton East |  | **x** |
| Edmonton Woodcroft |  |  |
| Edmonton South |  |  |
| Elk Island |  |  |
| Fort Saskatchewan |  | **x** |
| Genesee |  |  |
| Lamont County |  | **x** |
| St Lina |  | **x** |
| Tomahawk |  |  |
| Violet Grove |  |  |
| Red Deer | Red Deer Riverside |  | **x** |
| Lancaster | **x** |  |
| South Saskatchewan | Calgary Central |  |  |
| Calgary Southeast |  | **x** |
| Calgary Northwest |  |  |
| Medicine Hat - Crescent Heights |  |  |
| Lethbridge |  | **x** |

\*Information obtained from the *Alberta: Air Zones Report 2012 – 2014, 2013 – 2015* (Government of Alberta, 2018)