

**MEMORANDUM**

**TO**: Jennifer Snyder, US EPA

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**DATE**: February 14, 2019

**SUBJECT**: Summary of Revisions to the Nonpoint Oil and Gas Emissions Estimation Tool – 2017 NEI Version 1

The purpose of this memorandum is to summarize the changes that have been made to the Nonpoint Oil and Gas Emissions Estimation Tool (Tool) since the final 2014 NEI version of the Tool was released.

**Activity Updates**

2017 activity compilation is ongoing. As with the 2014 Tool, the primary source of activity data is the DI Desktop database, supplemented with data from RIGDATA, from various state oil and gas commissions, and directly from Tool users. To date, data has been provided for the following states:

* Ohio
* Kansas
* Oklahoma (pending)
* Pennsylvania (pending)
* Texas

**Emission Factor and Basin Factor Updates**

1) Emission factor references for Artificial Lifts, Lateral Compressors, and Wellhead Compressors have been revised to provide specific details identifying AP-42 Section and table number.

2) Added AP-42 emission factors for PM10-FIL, PM25-FIL, and PM-CON for Artificial Lifts, CBM Dewatering Pumps, Dehydrators, Heaters, Lateral Compressors, and Wellhead Compressors.

3) Added an emission factor of (736 MCF/completion) for unconventional oil well completions based on the CenSARA study average. No emission factor was used for this category for 2011 and 2014 as EPA was studying this source type under the NSPS OOOO/OOOOa revisions.

4) Emissions factors for non-road engines used in drilling and hydraulic fracturing have been updated using the MOVES model to represent the 2017 calendar year.

**Tool Updates**

1) Coalbed Methane Dewatering Pumps have been added as a new source category. There are currently no default data for this category, so no default emission estimates are generated from the Tool. To estimate emissions from this source category, the following data is needed:

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| --- | --- |
| **Data Field** | **Description** |
| CBM\_DEWATERING\_PUMPS\_ANNUAL\_ACTIVITY\_HOURS | Number of annual hours operated for dewatering pump engines (hr/yr) |
| CBM\_DEWATERING\_PUMPS\_ENGINE\_HP | Horsepower (HP) of a dewatering pump engine |
| CBM\_DEWATERING\_PUMPS\_FRACTION\_ELECTRIC | Fraction of dewatering pump engines that are electric |
| CBM\_DEWATERING\_PUMPS\_LOAD\_FACTOR\_LIFT\_ENGINES | Load factor of a dewatering pump engine |
| CBMWELLS\_FRACTION\_ NEED\_PUMP | Fraction of CBM wells with dewatering pump engines |

2) State/County FIPS codes were updated for several counties in South Dakota and Alaska.

3) Updated county-level average temperature to 2017.

4) Updated county-level ozone attainment status, as of 6/30/2018.

5) The single SCC previously used to categorize emissions from produced water has been disaggregated into 3 new SCCs, one each for CBM, Gas, and Oil wells.

|  |  |
| --- | --- |
| **SCC** | **Level 4 Description** |
| 2310000551 | Produced Water from CBM Wells |
| 2310000552 | Produced Water from Gas Wells |
| 2310000553 | Produced Water from Oil Wells |

6) Vapor Recovery Units (VRU) have been added as a control device for crude oil and condensate storage tanks. Previously, only combustion devices (flares, enclosed combustors) were considered. VRU prevalence on a county-level is expected to be available from data reported under GHGRP Subpart W.

**Pending Updates**

1) GHGRP Subpart W analysis and data incorporation.

2) Revised tool inputs based on EPA ORD study conducted in West Virginia.

3) Addition of controls for produced water tanks.