

1 NMAC. The differences between the Department's rule and the EPA's rules in Subparts A and C
2 (the two subpart applying to most facilities) are shown in legislative format in NMED-Musick
3 Exhibits 1A and 1B and summarized for the remaining subparts in NMED-Musick Exhibit 2.

4 The Department's reporting rule establishes the following elements:

- 5 • the emissions threshold for reporting;
- 6 • which GHG emissions are required to be reported by source category, unit type, process,
7 and GHG chemical species;
- 8 • which reported GHG emissions are covered under the Department's proposed cap-and-
9 trade regulation, 20.2.350 NMAC – *Greenhouse Gas Cap and Trade Provisions*;
- 10 • the methods that facilities must use to determine their GHG emissions, including
11 monitoring, metering, measurement, emissions factors, and calculation methods;
- 12 • report content;
- 13 • reporting schedule; and
- 14 • recordkeeping.

15

16 **A. SOURCE CATEGORIES**

17 Part 300 requires reporting of emissions from only the following source categories, as defined in
18 the EPA rule, except as noted:

- 19 • General Stationary Fuel Combustion (Subpart C)
- 20 • Electricity Generation (Subpart D)
- 21 • Cement Production (Subpart H)
- 22 • Hydrogen Production (Subpart P)
- 23 • Lead Production (Subpart R)

- 1 • Lime Manufacturing (Subpart S)
- 2 • Nitric Acid Production (Subpart V)
- 3 • Petrochemical Production (Subpart X)
- 4 • Petroleum Refineries (Subpart Y)
- 5 • Zinc Production (Subpart GG)
- 6 • CO2 emissions from acid gas removal (AGR) vent stacks (as defined in 20.2.300.107
- 7 NMAC).

8 The EPA rule considers two types of GHG emissions: 1) combustion emissions, and 2)
9 non-combustion, or "process", emissions. Combustion emissions result from the combustion of
10 fuel in either internal combustion units (e.g., engines and turbines) or external combustion units
11 (e.g, burners). Process emissions result from chemical or physical transformations other than fuel
12 combustion, including carbon dioxide released from calcining limestone, or vented and fugitive
13 emissions.

14 Combustion emissions from stationary units are addressed in Subpart C of the EPA rule.
15 This subpart, which applies to all industrial sectors, identifies a series of general methodologies
16 for calculating emissions. Process emissions or combined combustion and process emissions are
17 addressed in the remaining subparts of the EPA rule, which require process-specific
18 quantification methodologies for calculating emissions.

19 The Department's proposed rule incorporates some subparts of the EPA rule that apply to
20 source categories that currently do not exist within the Board's jurisdiction. The Department
21 proposes to include these subparts because New Mexico has the necessary raw materials for the
22 source categories, and it is possible that a facility in one of these categories could be constructed
23 in the foreseeable future.

1 **B. PETROLEUM AND NATURAL GAS SYSTEMS**

2 The EPA has proposed to adopt 40 CFR 98 - Subpart W to require GHG reporting for
3 petroleum and natural gas systems. 75 FR 18608 (April 12, 2010). Proposed Subpart W would
4 require several segments of the petroleum and natural gas industry, including onshore petroleum
5 and natural gas production, onshore natural gas processing plants, and natural gas distribution, to
6 report vented, fugitive, and other process emissions, in addition to their stationary combustion
7 emissions as currently required under Subpart C.

8 The Department does not propose to incorporate proposed Subpart W, except for one
9 emissions stream - carbon dioxide emissions from acid gas removal (AGR) vent stacks. This
10 emissions stream, which consists of carbon dioxide removed from coal bed methane,
11 significantly contributes to the state's total GHG emissions. The Department's most recent update
12 of the state GHG emission inventory estimates that carbon dioxide emissions from AGR vent
13 stacks constituted 4.75 million metric tons in 2007, or 27% of the total emissions from the fossil
14 fuel industry, and 6% of total state emissions. The Department anticipates that the emissions
15 quantification method for AGR vent stacks in the EPA's final Subpart W will be promulgated
16 later this year,¹ and will not differ significantly from its current proposal. If the EPA does make
17 any changes, the Department will return promptly to the Board to make the necessary
18 adjustments.

19 The Department is aware that some members of the oil and gas industry are concerned
20 that the Department's proposed rule will require reporting for upstream production facilities, such
21 as oil and gas wells, either individually or by aggregation of all production installations under
22 common control within a basin. For the record, the Department does not propose to adopt
23 reporting requirements for oil and gas wells or their vented and fugitive emissions, either

¹ The EPA is expected to finalize the subpart by October 2010.

1 individually or by aggregation with other oil and gas wells, compressor stations, or processing
2 plants. Specifically, the Department does not propose to adopt (1) the EPA's proposed definition
3 of "onshore petroleum and natural gas production facility", which, if retained in the final version,
4 would require the aggregation of well sites under common ownership and control within a
5 geologic basin; or (2) the EPA's proposed reporting requirements for vented and fugitive
6 methane emissions. Further, the Department's proposed rule does not automatically incorporate
7 these aspects of Subpart W when the EPA finalizes that subpart (see the introductory sentence of
8 20.2.300.100 NMAC), and would not do so without further review and consultation with the
9 affected industry, and after a separate rulemaking before the Board.

10 An individual well site or other upstream installation would be required to report
11 emissions under the Department's proposed rule only if the stationary combustion emissions
12 exceeded 10,000 metric tons CO₂e per year. It is extremely unlikely that any single well site or
13 other upstream installation would exceed this threshold. Typical wellhead compressors range
14 from 100-300 hp; it would take the full-time operation of a 2,200 hp compressor to emit
15 approximately 10,000 metric tons CO₂e.

16 The Department believes that EPA's final Subpart W should not be incorporated in Part
17 300 until it has been thoroughly reviewed to determine the adequacy of the emission
18 quantification methods to support a cap-and-trade program, and the methods have been modified
19 to ensure that the reported data are sufficiently accurate (i.e., similar to the process undertaken
20 for the source categories included in Part 300). Wholesale adoption of Subpart W without such
21 scrutiny could jeopardize the integrity of the market system. It is important to recognize that
22 excluding Subpart W for wells sites and upstream installations does not mean that the
23 Department and the public will lack suitable data for emissions inventory and policy planning

1 purposes, because the 2010 emissions data reported to EPA pursuant to the final Subpart W will
2 be publicly available.

3 4 **C. SOURCE CATEGORIES NOT INCLUDED**

5 The Department's rule does not include many source categories that are in the EPA's final
6 rule. Some source categories are not included because they have never been in New Mexico and
7 are highly unlikely to be in the foreseeable future, such as aluminum manufacturing, while other
8 source categories are not currently or anticipated to be within the scope of the WCI cap-and-
9 trade program, such as manure management and fugitive methane emissions from landfills.
10 Finally, the Department's rule does not require fuel suppliers to report the emissions that would
11 result from the combustion of supplied fuel, or industrial GHG suppliers to report the amount of
12 GHGs sold or transferred.

13 14 **D. REPORTING THRESHOLD**

15 The EPA's final rule establishes three separate reporting thresholds:

16 1) "All-In" Source Categories - There is no emissions threshold for facilities
17 containing these source categories, because EPA determined that such facilities will always
18 exceed the nominal threshold of 25,000 metric tons CO₂e per year, such as electric generating
19 units subject to 40 CFR 75.

20 2) "Summed" Source Categories - Facilities containing these source categories must
21 report if their emissions summed over these source categories exceed that amount.

22 3) "Combustion Only" Source Categories - For facilities containing only general
23 stationary fuel combustion, 25,000 metric tons CO₂e per year and an aggregate maximum heat

1 input capacity of the stationary fuel combustion units of 30 million Btu per hour. By including
2 this heat input capacity threshold, EPA provides a screening level based on equipment capacity
3 that enables facilities to readily determine whether they need to estimate their combustion
4 emissions. (Facilities that exceed the screening level can use the EPA's online Applicability Tool
5 to estimate their emissions. The Applicability Tool is easy to use because the only input required
6 is the annual fuel use for each fuel type.)

7 The Department's proposed rule uses the EPA's reporting thresholds with some
8 modifications.

9 1) "All-In" Source Categories - The Department's proposed rule is identical to the
10 EPA's rule.

11 2) "Summed" Source Categories - The Department's proposed rule lowers the
12 reporting threshold to 10,000 metric tons CO₂e per year.

13 3) "Combustion Only" Source Categories - The Department's proposed rule lowers
14 the reporting threshold to 10,000 metric tons CO₂e per year, and the screening level to 12
15 million Btu per hour. (The screening level is proportional to the lower emissions threshold.)

16

17 E. COVERED GREENHOUSE GASES

18 Although the Department's proposed rule includes the complete list of GHGs in EPA's
19 final rule (40 CFR 98, Subpart A, Table A-1), the Department follows the EPA rule in requiring
20 reporting only for a subset of these gases, as specified in the measurement and reporting
21 requirements for each source category. For example, the Department proposes that general
22 stationary fuel combustion units report only carbon dioxide, methane, and nitrous oxide
23 emissions.

1 **F. AFFECTED FACILITIES**

2 Based on 2009 emissions data reported to the Department under the current reporting
3 rules for Title V sources, the Department estimates that 65-70 facilities in New Mexico emit
4 more than 25,000 metric tons of CO₂e. NMED-Musick Exhibit 3. These facilities would be
5 required to both report and obtain third-party verification under the Department's proposed rule,
6 20.2.301 NMAC.

7 The Department also estimates that 70-80 additional facilities emit more than 10,000
8 metric tons of CO₂e. The Department reached this estimate by examining the Air Quality
9 Bureau's permitting database for internal combustion units at permitted facilities. These units are
10 expected to be the predominant type of stationary fuel combustion units at facilities not covered
11 by the "all-in" source categories. The Department assumed full capacity and year-round
12 operation. This estimate might be higher if combustion emissions from other units, such as
13 heaters, were included, and might be lower if internal combustion units operated at less than full
14 capacity or for less than full-time. Finally, the Department anticipates that a small number of
15 other facilities, such as gravel and asphalt plants, and institutional or commercial boilers, might
16 be included.

17
18 **G. PROPOSED AMENDMENTS TO THE EPA'S REPORTING RULE**

19 Since the EPA promulgated 40 CFR 98 in October 2009, it has proposed and finalized
20 various amendments. The Department's proposed rule incorporates some of these amendments.
21 For instance, the Department incorporated EPA's minor amendments to Subpart A (General
22 Provisions), which were finalized on July 12, 2010 (75 Fed. Reg. 39736), and intends to
23 incorporate the technical corrections proposed on June 15, 2010 (75 Fed. Reg. 33950). On the

1 other hand, the Department did not incorporate the EPA's new source categories, which were
2 added on July 12, 2010. Before the Department proposes to add these source categories, it must
3 harmonize the EPA's reporting requirements with the WCI Essential Requirements to ensure
4 consistent reporting in a regional cap-and-trade program.

5 6 **H. KEY PROVISIONS INCORPORATING EPA'S FINAL RULE**

7 The Department's proposed rule incorporates several key provisions without change from
8 the EPA's final rule.

9 • The definition of "facility" is identical in both the state and federal rules. No
10 modification of the definition of "facility" in 40 CFR 98.6 is listed in 20.2.300.102 NMAC
11 (listing modifications to Subpart A)

12 • Research and development activities, including bench-scale processes, are not
13 considered to be part of any source category. Compare 40 CFR 98.2(a)(5) and 20.2.300.102
14 NMAC (identifying no modifications to this paragraph).

15 • The following equipment, as defined 40 CFR 98.6, is exempt from reporting
16 under Subpart C (General Stationary Fuel Combustion Sources).

- 17 • Portable equipment
- 18 • Emergency generators
- 19 • Emergency equipment
- 20 • Irrigation pumps at agricultural operations
- 21 • Flares, unless specifically listed for a source category.

22 Compare 40 CFR 98.30(b) and 20.2.300.103 NMAC (identifying no modifications to this
23 section).

1 **I. QUANTIFICATION METHODS**

2 The EPA recognized that its final rule serves a limited purpose and might require
3 modification to serve other purposes. NMED-Norton Exhibit 7. Specifically, the emission
4 quantification methods for some source categories must be modified to yield data of sufficient
5 accuracy to support a cap-and-trade program. As a result, the Department's proposed rule in
6 Sections 20.2.300.102 through 20.2.300.106 NMAC reflects modifications to the EPA's methods
7 to enhance the accuracy of the reported data, such as increasing the frequency of fuel and
8 feedstock sampling and, for some emissions sources, requiring the use of a higher-tier method in
9 the EPA rule. NMED-Musick Exhibit 2. For example, the EPA rule allows the use of default
10 carbon dioxide emissions factors for estimating combustion emissions from a wide variety of
11 fuels, some of which are variable in composition. The Department's proposed rule limits the use
12 of these default factors to a subset of listed fuels which are relatively uniform in composition,
13 such as diesel fuel, and requires the measurement of fuel properties for the more variable fuels.
14 The Department does not propose modifications to the EPA quantification methods for other
15 source categories, such as Electricity Generation, Cement Production, Lead Production, Lime
16 Manufacturing, Nitric Acid Production, Petrochemical Production, and Zinc Production, because
17 those methods have been determined to be sufficient for cap-and-trade purposes.

18 The modifications to one source category, General Stationary Fuel Combustion, deserve
19 special mention. The EPA's final rule identified four methods for calculating carbon dioxide
20 emissions from general stationary fuel combustion, and further specified which sources may or
21 must use each method. Because the resulting requirements are complicated, the EPA provides a
22 flow chart to assist sources to understand their options. NMED-Musick Exhibit 3. The
23 Department's modifications to these methods are not extensive, but their effect can be difficult to

1 discern given the underlying complexity of the EPA's final rule. Therefore, the Department has
2 prepared a flow chart to reflect the modifications to the limitations on the use of these methods.
3 NMED-Musick Exhibit 4.

4

5 **J. DE MINIMUS EMISSIONS**

6 The Department's proposed rule reduces the reporting burden for de minimus emissions,
7 which are defined as three percent or less of a total facility emissions, up to a limit of 20,000
8 metric tons CO₂e. *See* 20.2.300.102.6 NMAC. The de minimus provision is a generous
9 allowance in light of the other exemptions described above. For these de minimus emissions, the
10 Department's proposed rule allows the affected facility to use any method authorized by the
11 EPA's final rule for de minimis sources or GHGs accounting.

12

13 **K. SPECIAL PROVISIONS FOR CERTAIN FACILITIES**

14 The Department's proposed rule establishes special provisions for non-cap facilities that
15 have only combustion emissions. *See* 20.2.300.102.P NMAC. These facilities may use any
16 quantification method in the EPA's final rule, and their reporting requirements are greatly
17 simplified. For those facilities using the common fuels listed in Table C-1 of the EPA's rule,
18 Tier 1 is the simplest method, requiring that facilities maintain records of fuel use (such as
19 billing records), and input the amount used of each fuel type into a simple equation.

20

21 **L. REPORT SUBMITTAL**

22 The Department expects reporters to submit their reports using the EPA's online reporting
23 tool and database. The EPA intends to support state GHG reporting programs by allowing

1 facilities required to report by a state to use the EPA's online reporting tool and database. The
2 EPA tool will incorporate additional data fields as required by the states. EPA also intends to
3 make non-confidential reported data available to states in a timely fashion through a data
4 exchange network. Accordingly, reporters that must report to both the Department and the EPA
5 can avoid entering the same data twice or submitting two reports. New Mexico will continue to
6 monitor the EPA's development of the online tool and database, and will make every effort to
7 ensure that the reporting burden is minimized through our ongoing participation with other air
8 quality agencies in the EPA's GHG emissions database planning team.

9

10 **M. REPORTING PHASE-OUT FOR FACILITIES BELOW THE**
11 **THRESHOLD**

12
13 The Department's proposed rule phases out reporting for a facility whose annual
14 emissions fall below the 10,000 metric ton CO₂e threshold. *See* 20.2.300.102.K NMAC. If the
15 facility did not previously verify emissions, it can submit a certified statement that annual
16 emissions were below the threshold in the previous year and does not have to report emissions in
17 detail. After three consecutive years of such statements, the facility is not required to make any
18 further submittals unless emissions increase above the threshold. On the other hand, if the facility
19 did previously verify emissions (e.g., annual emissions were greater than 25,000 metric tons of
20 CO₂e), but its emissions fall below the reporting threshold, the facility may discontinue
21 reporting after submitting emissions reports showing emissions less than 10,000 metric tons of
22 CO₂e for three consecutive years.

23

24

25

1 **N. TECHNICAL FEASIBILITY**

2 The Department's proposed rule does not impose any technical measures for monitoring
3 or measurement beyond the EPA's reporting rule, although for some facilities the applicability of
4 a particular technique is broadened. Accordingly, the Department relies upon EPA's
5 determination that the methods are technically feasible.

6
7 **O. ECONOMIC REASONABLENESS**

8 The cost for affected sources to implement the reporting rule should be evaluated as the
9 additional cost beyond the cost of compliance with EPA's existing reporting rule. This additional
10 cost primarily results from the Department's lower reporting threshold, as well as modifications
11 to the EPA reporting requirements.

12 The Department does not expect the cost of compliance resulting from the lower
13 reporting threshold to be significant. As described above in section II.G, the Department
14 estimates that approximately 70 to 80 facilities will emit between 10,000 and 25,000 metric tons
15 CO₂e. Only a few of these facilities must report emissions other than stationary fuel combustion.
16 Consequently, as long as their emissions remain below the verification threshold, these facilities
17 may quantify their emissions using any method in 40 CFR 98 Subpart C (*see* 20.2.300.102.P
18 NMAC). Moreover, the EPA flowchart on fuel combustion requirements may be used to
19 determine the simplest method for making this calculation. These smaller facilities rarely have
20 units with a rated heat input capacity greater than 250 mmBtu/hr. Assuming that these facilities
21 are combusting a common fuel listed in Table C-1 of Subpart C (*see* NMED-Musick Exhibit 1B,
22 pages C-43 and C-44), they could use the Tier 1 methodology (*see* NMED-Musick Exhibit 1B,

1 page C-2, Equation C-1). The only facility data required for the Tier 1 methodology is fuel use,
2 which can be determined from company records, which are defined in 40 CFR 98 Subpart A as:

3 *Company records* means, in reference to the amount of fuel consumed by a
4 stationary combustion unit (or by a group of such units), a complete record of the
5 methods used, the measurements made, and the calculations performed to
6 quantify fuel usage. Company records may include, but are not limited to, direct
7 measurements of fuel consumption by gravimetric or volumetric means, tank drop
8 measurements, and calculated values of fuel usage obtained by measuring
9 auxiliary parameters such as steam generation or unit operating hours. Fuel billing
10 records obtained from the fuel supplier qualify as company records.

11
12 Accordingly, the Department believes that the cost of compliance for facilities emitting between
13 10,000 and 25,000 metric tons CO₂e will be small.

14 For facilities subject to both the Department and EPA rules, the Department does not
15 expect the cost of compliance with modifications to the EPA reporting rule to be significant. The
16 Department's modifications of the EPA rule do not require the installation of new Continuous
17 Emissions Monitoring Systems (CEMS) on general stationary combustion sources. *Compare*
18 NMED-Musick Exhibits 3 and 4. Estimation of costs to comply with the increased requirements
19 for fuel use monitoring and fuel properties measurement might require facility-specific
20 engineering and other data not available to the Department. However, the aggregate cost of the
21 the Department's proposal should not be greater than the aggregate cost of the EPA rule, since
22 the Department has proposed more rigorous requirements for only a fraction of the affected
23 emissions. EPA estimated that the first-year cost of compliance per metric ton of CO₂e
24 emissions for Subpart C (General Stationary Fuel Combustion Sources) and Subpart Y
25 (Petroleum Refineries) would be \$0.12 and \$0.03, respectively. NMED-Musick Exhibit 5 (EPA,
26 *Regulatory Impact Analysis for the Mandatory Reporting of Greenhouse Gas Emissions Final*
27 *Rule (GHG Reporting, September 2009 – Table 5-2)*). Subsequent-years costs would be slighter

1 lower. Therefore, it is reasonable to conclude that the cost of the Department's proposal is lower
2 than the cost of the complete EPA requirements.

3

4 **P. PROPOSED MODIFICATIONS**

5

6 The Department proposed several modifications as set forth in the Notice of Intent to
7 Present Technical Testimony. The reasons for these modifications are straightforward as
8 described in the Notice and will not be repeated here.

9

10 **III. PART 87 REPEAL**

11 The Department proposes to repeal Part 87 (20.2.87 NMAC - *Greenhouse Gas Emissions*
12 *Reporting*). This part, which applies to electricity generating facilities, cement plants, and
13 refineries, duplicates the requirements of both the federal and state rules.

14 The Department does not propose to repeal or amend those sections of Part 73 (20.2.73
15 NMAC - *Notice of Intent and Emissions Inventory Requirements*) pertaining to GHG emissions
16 reporting. These sections authorize the Department to require sources to report their GHG
17 emissions not covered by the Department's proposed rule. This "gap-filling" role ensures that the
18 Department can obtain GHG data when necessary.

19

20 **IV. VERIFICATION**

21 **A. OVERVIEW**

22 Third party verification ensures the integrity of emissions data, which can be directly
23 translated into financial obligations or benefits. The Department's proposed verification rule
24 establishes the requirements for:

- 25 • which emissions reports (or portions thereof) must be third-party verified;

- 1 • the conduct of the verification process and applicable standards;
- 2 • the accreditation of verifier bodies; and
- 3 • the determination of conflicts of interest between verifiers and facility owners/operators.

4 The Department's proposed verification rule reflects the elements developed
5 cooperatively with other WCI jurisdictions. These elements ensure that emission allowances
6 allocated in each WCI jurisdiction can be traded within the regional system. Some commenters
7 have suggested that the EPA's verification system in 40 CFR Part 98 is adequate, but even the
8 EPA acknowledges that its approach - evaluating the internal consistency of production data and
9 reported emissions - is not designed for a cap-and-trade program. The Department and other
10 WCI jurisdictions have concluded that EPA's verification system is insufficient to support a cap-
11 and-trade program.

12

13 **B. THRESHOLD AND SCOPE**

14 Verification is required for each facility with capped emissions equal to or greater than
15 25,000 metric tons of CO₂e per year, as well as each facility that is otherwise obligated to
16 surrender compliance instruments under the Department's proposed cap-and-trade program.
17 Emissions designated in the reporting rule as "reporting-only" are not counted toward this
18 threshold and are excluded from verification.

19

20 **C. SCHEDULE**

21 Verification statements for 2011 emissions are due on August 1, 2012. This date is four
22 months after the emission report deadline of April 1. The delay provides extra time for facilities
23 to arrange for verification services and learn how the verification process works during the first

- 1 year of the reporting requirements. In subsequent years, verification statements will be due on
- 2 April 1, the same date as emission reports.