



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
AIR AND RADIATION

Boyd A. Giles, Vice-President & Resident Manager
Mead Coated Board, Inc.
P.O. Box 940
Phenix City, AL 36868

Dear Mr. Giles:

This letter represents U.S. EPA's official determination of applicability under 40 CFR 72.6 of the Acid Rain Program for Mead Coated Board, Inc.'s ("Mead") generator #3 and its boilers and furnaces serving steam turbines #1 and #2. The facilities are owned and operated by Mead at the Mahrt pulp and paper mill ("the mill") near Cottonton, Alabama. This determination is made in response to Mead's July 31, 1998 submission requesting a formal applicability determination. U.S. EPA has determined that generator #3 and the boilers and furnaces serving steam turbines #1 and #2 are unaffected units under 40 CFR 72.6(b)(3) and (4)(ii), provided that they are operated in a manner consistent with the requirements of those regulations and the requirements and conditions noted below.

According to the description in the July 31, 1998 letter and supporting information, Mead produces electricity for the mill at steam turbines #1 and #2, which are not cogeneration units. Steam turbines #1 and #2 came on line in 1966 and 1990 and have nameplate capacities of 27.2 and 61.2 MWe, respectively. Both are served by two recovery furnaces, three wood waste boilers, and one gas-fired boiler. The boilers and furnaces combust fossil fuel alone or in combination with other fuels and so are "fossil-fuel fired" combustion devices and "units" under 40 CFR 72.2. Steam turbines #1 and #2 (and generator #3) are each connected: (i) to a separate distribution bus (one for each turbine or generator) that can distribute electricity to the mill; (ii) to a common synchronizing bus that can distribute electricity to any of the distribution buses or a bus ("bus P") that connects with the utility power distribution grid; and (iii) directly to bus P. See attached Figure 3. Under 40 CFR 72.6(b)(3), the boilers and furnaces that serve steam turbines #1 and #2 are not affected units since the steam turbines have historically produced, and are currently producing, electricity only for the mill and not electricity for sale. If the steam turbines produce any electricity for sale, the boilers and furnaces that serve them will become affected units.

Generator #3 commenced operation in January, 1998 and is a 25 MWe combustion turbine, which combusts natural gas or fuel oil. The exhaust from generator #3 is ducted into a

heat recovery steam generator (HRSG), in which natural gas or fuel oil is combusted through duct burners to increase steam production from the HRSG. Mead uses all steam produced by the HRSG at the mill and does not use the steam to produce electricity. The thermal energy produced by generator #3 is therefore used for two purposes: to produce electricity and to provide steam for the mill. Thus, while generator #3 is a “fossil-fuel fired” combustion device and a “unit” under 40 CFR 72.2, it also is a “cogeneration unit”, which produces “electric energy and forms of useful thermal energy (such as heat or steam) for industrial, commercial, heating or cooling purposes, through the sequential use of energy.” 40 CFR 72.2. Since heat produced at generator #3 in the production of electricity is in turn used to produce steam for the mill, the use of the energy is sequential. As noted above, like steam turbines #1 and #2, generator #3 is connected to a separate distribution bus, to a common synchronizing bus, and directly to the bus that connects with the grid.

While the total nameplate capacity of steam turbines #1 and #2 and generator #3 is approximately 113.4 MWe, the electrical needs of the mill vary from approximately 95 to 100 MWe when the mill is operating. Before generator #3 came online in January 1998, Mead was required to purchase additional power to meet the electrical needs of the mill. With the additional 25 MWe of electrical capacity provided by generator #3, Mead now has the ability to meet all its own electrical needs and to sell approximately 10 to 15 MWe of electricity not needed by the mill.

Under 40 CFR 72.6(b)(4)(ii), a cogeneration unit commencing construction after November 15, 1990 that supplies an annual average of no more than 219,000 MWe-hours of actual electric output or no more than one-third of its potential electrical output capacity (PEOC) to a utility power distribution system on an annual basis is not a utility unit and is therefore not an affected unit under the Acid Rain Program. Construction commenced on generator #3 in August, 1997. Generator #3 has a PEOC of 27.7 MWe.¹ One-third of the unit’s PEOC is therefore 80,884 MWe-hrs.² Since under 40 CFR 72.6(b)(4)(ii) a cogeneration unit may sell up to 1/3 of its PEOC or 219,000 MWe-hrs and be an unaffected unit, the 219,000 MWe-hr limit on electrical sales applies to generator #3. Therefore, if in the first year of operation, or for any three year calendar period on an annual basis thereafter, generator #3 provides more than 219,000 MWe-hrs of actual electrical output to a utility power distribution system for sale, then it will become an affected unit.

¹ PEOC for the combined cycle unit was calculated by multiplying the maximum design heat input capacity of 350×10^6 Btu/hr for the combustion turbine by 27% (the efficiency of the combustion turbine as asserted by Mead) and dividing by 3413 and again by 1000. See 40 CFR part 72, Appendix D and U.S. EPA guidance “Do the Acid Rain SO₂ Regulations Apply to You” (February 1994) for the explanation of how to calculate PEOC.

² This figure is calculated by multiplying the PEOC by 8760, the number of hours in a year, and then dividing by 3. See 40 CFR 72.6(b)(4)(ii).

According to the July 31, 1998 letter, Mead is considering entering into an interconnection and power sales agreement for the sale of electricity produced by generator #3. The agreement would contain the following conditions: (1) Mead would sell only power produced by generator #3 and would not sell power when generator #3 is not operating; (2) the power sold by Mead would not, on an hourly basis, exceed the power generated by generator #3; (3) Mead would not sell more than 25 MWe on an hourly basis; and (4) Mead would not sell more than 219,000 MWe-hrs on an annual basis.

Based on the foregoing facts, U.S. EPA makes the following determination about the applicability of the Acid Rain Program to generator #3 and steam turbines #1 and #2. Generator #3 and boilers and furnaces serving steam turbines #1 and #2 will remain unaffected units if Mead operates the units consistent with 40 CFR 72.6(b)(3) and (4)(ii) and sells any electricity at the generation facilities at the mill in accordance with an interconnection and power sales agreement that meets certain requirements, discussed below. U.S. EPA conditions this determination on Mead meeting certain additional requirements concerning the arrangement of Mead's facilities and data and recordkeeping, also discussed below. Because generator #3, steam turbines #1 and #2, the mill, and the grid have multiple interconnections, these requirements and conditions are necessary to ensure that Mead sells only electricity produced by generator #3 and only in an amount that does not exceed 219,000 MWe-hrs per year. Mead will bear the burden of demonstrating that it is meeting these requirements and conditions.

1. The interconnection and power sales agreement must state that:

(a) Mead will sell only electricity produced by generator #3 and will not sell any electricity when generator #3 is not operating.

(b) All electricity sold by Mead will be transferred through bus P and metered at breaker P-1. At any time, the amount of electricity metered at breaker P-1 and sold by Mead must not exceed either:

(i) the amount of electricity metered at breaker D-1 (through which flows only power produced by generator #3); or

(ii) the sum of the amount of electricity metered, as flowing to the synchronizing bus, at breaker C-15 (through which flows only power produced by generator #3 and directed to the synchronizing bus) plus the amount of electricity metered, as flowing to bus P, at breaker C-14 (through which flows only power produced by generator #3 and directed to bus P). In order to calculate this sum of the amounts metered at breakers C-15 and C-14, Mead must subtract any amount of electricity metered, as flowing to bus C, at breaker C-15 or C-14.

(c) Mead will not sell any electricity that is transferred through breaker AL-4 (through which flows all power produced by steam turbine #1 and directed to bus P) or breaker B-1 (through which flows all power produced by steam turbine #2 and directed to bus P).

(d) Mead will not sell electricity, at any time, in excess of 25 MWe or, during any year, in excess of 219,000 MWe-hrs.

2. As conditions for U.S. EPA's determination, Mead must arrange and maintain the lines, buses, and breakers as described in this letter and reflected in the attached Figure 3 and must meet the following data and recordkeeping requirements. Mead must meter continuously the electricity flows at breakers C-14, C-15, and D-1 and obtain continuous, metered data on the electricity flow at breaker P-1. Mead must keep records of such metered data for a period of at least three years from the creation or obtaining of the data and must ensure that such data is accessible for audit by EPA upon request.

If Mead makes any electricity sales and fails to demonstrate that all the electricity sales are in accordance with an interconnection and power sales agreement meeting the requirements in paragraph 1 above or that Mead meets the conditions in paragraph 2 above, then generator #3 or the boilers and furnaces that serve steam turbines #1 or #2 may become affected units subject to the Acid Rain Program under 40 CFR 72.6(a)(3)(i) or (iv). An affected unit must comply with all applicable requirements under the Acid Rain Program, including the requirements to apply for and receive an Acid Rain permit (under 40 CFR part 72), to hold allowances covering annual sulfur dioxide emissions (under 40 CFR parts 72 and 73), and to monitor and report emissions (under 40 CFR part 75).

EPA makes this determination based on the representations made in the July 31, 1998 submission and subsequent telephone conversations with Gary Becker and Tony Owens and in reliance on the accuracy and completeness of those representations. This determination is appealable under 40 CFR part 78. The applicable regulations require you to send copies of this letter to each owner or operator of the units discussed above (40 CFR 72.6(c)(1)). If you have further questions regarding this determination or the Acid Rain Program, please contact Robert Miller at (202) 564-9077.

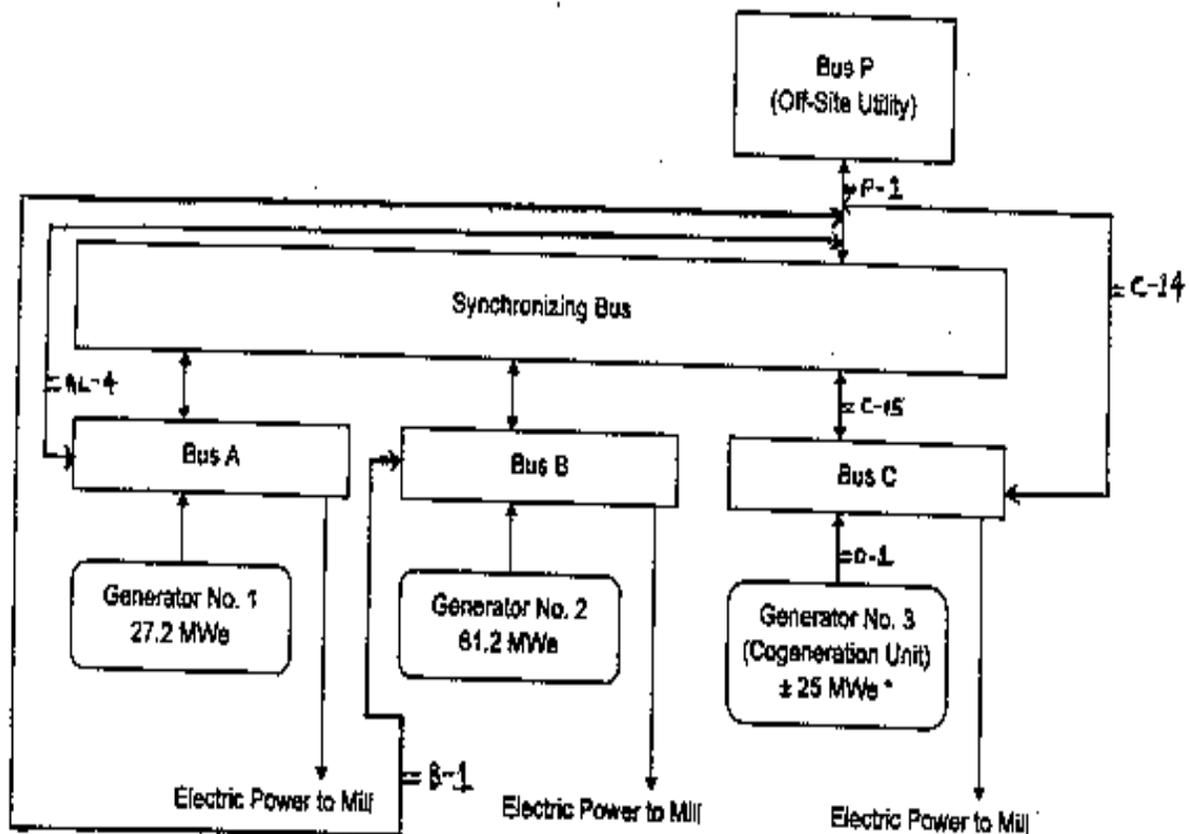
Sincerely,

/s/ (February 26, 1999)

Brian J. McLean, Director
Acid Rain Division

Attachment

cc: David Ousley, State of Alabama
Jenny Jachim, U.S. EPA Region 4



* Varies depending on ambient temperature.

FIGURE 3
MEAD COATED BOARD
 Electric Power Generation And Distribution System

