ILLINOIS POLLUTION CONTROL BOARD
September 21, 1995

IN THE MATTER OF:	)	
	)	
JOINT PETITION OF REYNOLDS	)	
METALS COMPANY and the	)	
ILLINOIS ENVIRONMENTAL	)	
PROTECTION AGENCY FOR AN	)	AS 91-8
ADJUSTED STANDARD FROM	)	(Adjusted Standard-Air)
35 ILL. ADM. CODE 218.980.	)	

RENATA MANZO, REYNOLDS METALS COMPANY, APPEARED ON BEHALF OF PETITIONER; and

SHEILA KOLBE APPEARED ON BEHALF OF THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY.

OPINION AND ORDER OF THE BOARD (by C. A. Manning):

This matter is before the Board on an Amended Co-Petition for an adjusted standard filed jointly by Reynolds Metal Company (Reynolds) and the Illinois Environmental Protection Agency (Agency) on June 9, 1995. The petitioners request that Reynolds be given an adjusted standard from the emission control requirements of 35 Ill. Adm. Code 218.980, *et seq*., for its hot and cold rolling mills located in McCook, Illinois.[1]

The Board's responsibility in this matter arises from the Environmental Protection Act. (Act) (415 ILCS 5/1 *et seq*.). The Board is charged therein to "determine, define and implement the environmental control standards applicable in the State of Illinois" (Section 5(b) of the Act) and to "grant...an adjusted standard for persons who can justify such an adjustment." (Section 28.1(a) of the Act.) Thus, the Board is charged with the authority to grant individual adjusted standards which are different from the Board's generally applicable regulations. Although usually granted as permanent relief, the adjusted standard is not adopted as a rule. Rather, the opinion and order serves as the regulatory and enforcement vehicle.

Based upon the record before us and upon review of the factors involved in the consideration of adjusted standards, the Board finds the petitioners have demonstrated that the adjusted standard sought is warranted, and accordingly, the

[1]Additionally, before the Board is a pending motion filed by the counsel for the Agency requesting certain corrections to the transcript of the hearing held before the Board. No response was filed by Reynolds Metals, therefore, the motion is hereby granted. The record shall include the transcript with the changes as set forth in the Agency's August 28, 1995 motion.

adjusted standard is granted.

ADJUSTED STANDARD PROCEDURE

Section 28.1 of the Act provides that a petitioner may request, and the Board may adopt, an environmental standard that is: (a) applicable solely to the petitioner, and (b) different from the standard that would otherwise apply to petitioner pursuant to a rule of general applicability. Such a standard is called an adjusted standard. The general procedures that govern an adjusted standard proceeding are found at Section 28.1 of the Act and within the Boards' procedural rules at 35 Ill. Adm. Code Part 106. Where, as here, the regulation of general applicability does not specify a level of justification required from a petitioner to qualify for an adjusted standard, the Act at Section 28.1 (c) specifies four demonstrations that must be made by a successful petitioner. They are:

(1) Factors relating to that petitioner are substantially and significantly different from the factors relied upon by the Board in adopting the general regulations applicable to that petitioner;

(2) The existence of those factors justifies an adjusted standard;

(3) The requested standard will not result in environmental or health effects substantially and significantly more adverse than the effects considered by the Board in adopting the rule of general applicability; and

(4) The adjusted standard is consistent with any applicable federal law. (415 ILCS 5/28.1(c).)

We will address each of these demonstrations in the opinion below:

PROCEDURAL HISTORY

This matter originally arose in 1988, when the Federal Implementation Plan (FIP) was adopted by the United States Environmental Protection Agency (USEPA) for certain counties in Illinois, including Cook, requiring volatile organic compound (VOC) control measures. Consequently, Illinois promulgated identical regulations governing volatile organic materials (VOM) emissions requiring reduction of VOM emissions by 81 percent prompting Reynolds to file the original adjusted standard petition in 1991. Reynolds also, at that time, sought a revision to the FIP from the USEPA which would allow for relief from the 81 percent reduction requirement and

instead allow Reynolds to use site-specific control practices and treatments.

We stayed action before the Board on Reynold's adjusted standard petition pending the USEPA's final decision on Reynolds' proposed FIP revision and on March 10, 1995, USEPA promulgated the site-specific reasonably available control technology (RACT) control measures for the Reynolds' McCook facility. (60 *Fed. Reg.* 13042.) The proposed adjusted standard pending in this matter mirrors the FIP revision approved by USEPA.

Subsequently, on March 22, 1995, the parties submitted a status report to the Board indicating that they were ready to resume the hearing process. The Board lifted the stay and directed the matter to hearing. Prior to the hearing being held, the parties filed an amended petition which contained, among other things, agreed changes to the adjusted standard language from the original petition. We accept those changes, which are set forth in the order section below.

Pursuant to proper notice, a hearing was held before chief hearing officer, Michael L. Wallace, on July 18, 1995, in the offices of the Board located in Chicago, Illinois. Reynolds and the Agency were represented by counsel. Reynolds presented both oral and written evidence; however, no post-hearing briefs were filed in this matter. No members of the public were present at the hearing.

RULE OF GENERAL APPLICABILITY

Petitioners seek an adjusted standard from the air emission control requirements of 35 Ill. Adm. Code Part 218. Reynolds is subject to the requirements in Subpart TT of the RACT rules, entitled "Other Emission Units." Pursuant to Section 218.980(b)(1), the applicability threshold for Subpart TT is potential to emit 25 tons per year. The applicable emission control requirements are set forth in Section 218.986, which states in pertinent part:

> Every owner or operator of an emission unit subject to this Subpart shall comply with the requirements of subsection
> (a),(c),(d), or (e) below.
>
> (a) Emission capture and control equipment which achieve an overall reduction in uncontrolled VOM emissions of at least 81 percent from each emission unit, or
>
> ****

(c) An alternative control plan which has been approved by the Agency and the USEPA in a federally enforceable permit or as a SIP revision.

PROPOSED ADJUSTED STANDARD

Rather than having to meet the requirement that Reynolds reduce its VOM emissions by 81 percent for each emission unit in Section 218.986(a), which Reynolds believes is not technically feasible or economically reasonable as applied to Reynolds, the co-petitioners have proposed an adjusted standard which consists of the control and treatment practices currently employed by Reynolds. The practices include the use of rolling lubricants of oil-in-water emulsions, rolling lubricants of low vapor pressure lubricants, and temperature controls to minimize VOM emissions. The proposed adjusted standard also includes additional monitoring and record keeping requirements.

According to the co-petitioners, these practices would satisfy Section 218.986(c) as an "alternative control plan" allowable under the Illinois' State Implementation Plan (SIP) and the FIP. Additionally, the control practices and treatment practices have been approved by the USEPA as part of a FIP revision (60 *Fed. Reg.* 13042) and the proposed adjusted standard is similar to that granted by the Board in *In the Matter of: Petition of Alumax, Inc. for an Adjusted Standard from 35 Ill. Adm. Code Part 218* (September 1, 1994) AS 92-13.

BACKGROUND AND REYNOLDS' COMPLIANCE EFFORTS

Reynolds originally acquired its McCook, Illinois site from the U.S. government in 1946. Today, the site is owned and operated by Reynolds as an aluminum sheet and plate manufacturing facility which produces coiled sheet and plate aluminum, and which employs 650 people. (Am. Pet. at 4.) Reynolds operates hot rolling mills and cold rolling mills at the facility producing coiled sheet and plate aluminum. (Tr. at 19.)

Operating at temperatures between 600 and 1000 degrees F. and at speeds of up to 800 feet/minute, four hot rolling mills reduce the thickness of cast aluminum ingots to produce aluminum sheets. During the hot rolling process, frictional heat is generated between the aluminum strip and the steel rolls and Reynolds uses coolants consisting of an oil and water emulsion, to cool the rolls and roll surfaces. Though the coolants are constantly recycled (Tr at 22), they are the primary source of VOM emissions.

The current emission control techniques for the hot

rolling mills include (1) blow-off controls to minimize the amount of coolant carried out on the work product and to minimize the amount of emulsion in contact with hot aluminum strop; (2) the emulsion itself serves as a control device by maximizing the amount of water, the oil content and potential for oil vaporization is reduced; (3) temperature control of the coolant. (Tr. at 25.)

Reynolds also operates two cold rolling mills, which are used to further reduce the thickness of the aluminum sheet. Cold rolling produces a superior finished product compared to hot rolling. (Tr. at 26-27.) Coolant is also used on the cold rolling mills to cool the rolls and control the friction between the strip and the rolls. Petroleum based products with additives are applied by a pressurized spraying system, recovered and reused. Similar to the hot rolling mills, emissions from the cold rolling mills are controlled by using the blow-off controls and a combination of coolant selection and temperature controls. (Tr. at 29.)

Reynolds presented RACT demonstrations for both the hot and cold rolling mills. (Am. Pet., Ex. #1 and #2.) Reynolds measured the VOM emissions at approximately 198 tons per year. On behalf of Reynolds, Beth Smith, Manager of Air Quality, testified that while there are USEPA reference test methods, there is no approved standard test method for testing VOM emissions from hot rolling mills (Tr. at 43) and that there is no adequate add-on VOM emission control systems for hot rolling mills. (Tr. at 35.) In reaching this conclusion, Reynolds examined several alternative compliance options: Thermal incineration, oil absorption (heavy oil scrubbers), carbon adsorption, and hoods. According to Reynolds and the Agency, thermal incineration is not feasible because pollutant concentrations are not high enough to produce complete combustion. Oil absorption was eliminated as an option because the only two vendors of an oil absorption system do not have one specifically designed for hot rolling mills. Carbon adsorption was ruled out because of high moisture and temperature, both of which affect adsorption efficiency. Hoods are costly and difficult to install and would cause visibility problems for operators. (Tr. at 35-37.) (*See also Alumax*, slip op. at 6-8.)

Regarding cold rolling mills, Reynolds estimates that annual VOM emissions for its mill #7, to be 85.3 tons. (Tr. at 38) Testing could not be performed for mill #1 due to hoods already in place at the facility which are serving as emission controls. Reynolds believes that a conservative estimate of VOM emissions from mill #1 would be the equivalent of mill #7. (Tr. at 38.)
Similar to the hot rolling mills, Reynolds evaluated several

alternative control technologies for the cold rolling mills. Reynolds considered thermal incineration, hoods, oil absorption and carbon adsorption. (Tr. at 39.) As with the hot rolling mills, Reynolds found that add-on control technologies were neither technically or economically feasible.

Specifically regarding economics, Smith testified that it estimates that the various add-on technologies would cost approximately $40,000 per ton to reduce VOM emissions. (Tr. at 40; *see also Alumax*, slip op. at 6-8.) According to Reynolds, other agencies have used $3500 per ton as a threshold figure for determining economic reasonableness and therefore, being 11 times higher, the $40,000 per ton figure is unreasonable. While the Agency agrees that the $40,000 is unreasonable and that other agencies may use $3500 per ton, the Agency itself uses a higher cost per ton calculation in performing RACT analysis depending on the operation. (Tr.at 41.)

HEALTH AND ENVIRONMENTAL EFFECTS

Although Reynolds and the Agency have not calculated the total combined difference in emissions between complying with the 81 percent standard and the proposed adjusted standard, the co-petitioners agree that there will be no significant adverse impact on the environment. The co-petitioners believe that the technology used in the proposed adjusted standard is protective of the environment and human health because it employs the best means currently available.

CONSISTENCY WITH FEDERAL LAW

Both the Agency and Reynolds agree that the proposed adjusted standard is consistent with federal law. The proposed alternative standard constitutes RACT for the McCook facility, and is therefore consistent with the federal Clean Air Act. Additionally, the proposed adjusted standard is consistent with the site-specific FIP revision approved by USEPA. (60 *Fed. Reg.* 13042.)

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

The Agency supports the granting of the adjusted standard and has concluded that the hardship resulting from the denial of the adjusted standard would outweigh the environmental impact from the grant of the adjusted standard.

DECISION

The Board finds that the joint petitioners have demonstrated that an adjusted standard is appropriate for the

Reynolds facility in McCook, Illinois. The co-petitioners have demonstrated that there is no other technically feasible and economically reasonable control technology, and have demonstrated that the proposed alternative standard will not significantly impact human health or the environment. Because petitioners have demonstrated that there is no add-on technology which can be applied as RACT to the Reynolds facility which would enable it to meet the 81 percent VOM emissions reduction set forth in Section 218.986(a), we find that petitioners have demonstrated that factors relating to Reynolds are substantially and significantly different from those relied upon by the Board in adopting the rule of general applicability, and that these factors warrant the granting of an adjusted standard. Furthermore, petitioners have demonstrated that the proposed adjusted standard will be consistent with federal law. The proposed adjusted standard is accordingly granted, subject to conditions as agreed to by the parties.

This opinion constitutes the Board's findings of fact and conclusions of law in this matter.

ORDER

Reynolds Metal Company is hereby granted an adjusted standard from 35 Ill. Adm. Code 218.980 et seq., pursuant to 415 ILCS 5/28.1, for its facility located in McCook, Illinois, subject to the provisions and conditions listed below:

A) The adjusted standard pertains to VOM emissions from the operation of Reynolds' aluminum hot rolling mills: specifically, the aluminum sheet and plate mills and the 120 inch, 96 inch, 80 inch and 145 inch mills. This adjusted standard also pertains to the aluminum cold rolling mills: Numbers 1 and 7.

B) The alternative control requirements proposed in the June 9, 1995 amended co-petition for adjusted standard, based upon the FIP revisions by USEPA in the Federal Register (60 Fed. Reg. 13042), represent Reasonable Available Control Technology (RACT) and no additional controls are required to meet the requirements of 35 Ill. Adm. Code 218.986.

C) Reynolds shall comply with the following requirements at each of its aluminum hot rolling mills:

    1) Rolling lubricants shall consist of oil-in-water emulsions, with formulations of no more than 15 percent, by weight, of petroleum-based oils and additives. Records shall be maintained of such emulsion formulations, with identification of all

oils and additives.

2) A grab sample of the as-applied rolling lubricant shall be taken on a monthly basis during any month that the mill is in operation and each such sample shall be tested, using ASTM method D95-83, to determine the percent, by weight, of petroleum-based oils and additives.

3) The inlet supply rolling lubricant temperature measured at or after the inlet sump but prior to the lubricant nozzles shall not exceed 200 degrees F and such temperature shall be monitored at all times that the mill is in operation by the use of thermocouples and measured values shall be automatically recorded at least every five (5) minutes by means of a chart recorder or electronic data system.

4) All records of emulsion formulations, percent oil tests, and rolling lubricant temperatures shall be retained at the Facility for a period of at least three (3) years and shall be available for inspection by the Agency upon request.

D) Reynolds shall comply with the following requirements at each of its aluminum cold rolling mills:

1) Rolling lubricants shall consist of low vapor pressure lubricants composed of organic lubricant and additives. Records shall be maintained of rolling lubricant formulations, with identification of all oils and additives.

2) a) The initial and final boiling points of oil shall be between 460 and 635 degrees F.

b) All incoming shipments of oils shall be sampled and a distillation range test shall be performed, using ASTM method D86-90, on each such sample to determine the initial and final boiling points.

c) A grab sample of the as-applied rolling lubricant shall be taken on a monthly basis during any month that the mill is in operation and a distillation range test, using ASTM Method D86-90, shall be performed on each such sample to determine the initial and final boiling points.

3) The inlet supply rolling lubricant temperatures

measured at or after the inlet sump but prior to the lubricant nozzles shall not exceed 150 degrees F and such temperatures shall be monitored at all times that a mill is in operation by the use of thermocouples and measured values shall be automatically recorded at least every five (5) minutes by means of chart recorder or electronic data system.

4) All records of rolling lubricant formulations, distillation range tests for incoming shipments of oils, and as-applied rolling lubricants, and rolling lubricant temperatures shall be retained at the facility for a period of at least three (3) years and be available for inspection by the Agency.

E) A written report shall be submitted to the Agency indicating any deviations from the requirements of paragraphs (C)(1)-(3) and (D)(1)-(5) above. The written report shall provide a description of the deviation, the date and time of the deviation, the measured or monitored data, the cause of the deviation, if known, and any corrective action taken. Unless more frequent or detailed reporting is required under other provisions, including permit conditions, such written report shall be submitted, for each calendar year, by May 1st of the following year.

F) This Adjusted Standard is effective upon granting by the Board. Reynolds shall comply with the provisions and conditions listed above within 60 days of the Board's Opinion and Order in this matter.

G) In the event that Reynolds ceases to own and operate this facility, the above requirements shall apply to any subsequent owners and operators of the facility.

IT IS SO ORDERED.

Section 41 of the Environmental Protection Act (415 ILCS 5/41 (1994) provides for the appeal of final Board orders within 35 days of the date of service of this order. The Rules of the Supreme Court of Illinois establish filing requirements. (See also 35 Ill. Adm. Code 101.246 "Motions for Reconsideration".)

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above opinion and order was adopted on the _____ day of_____, 1995, by a vote of _____.

Dorothy M. Gunn, Clerk
Illinois Pollution Control Board