

ILLINOIS POLLUTION CONTROL BOARD  
December 2, 1982

PEOPLE OF THE STATE OF ILLINOIS,	)	
	)	
Complainant,	)	
	)	
v.	)	PCB 75-80
	)	
UNITED STATES STEEL CORPORATION,	)	
	)	
Respondent,	)	
	)	
and	)	
	)	
ILLINOIS ENVIRONMENTAL PROTECTION	)	
AGENCY,	)	
	)	
Complainant,	)	
	)	
v.	)	PCB 75-141
	)	CONSOLIDATED
UNITED STATES STEEL CORPORATION,	)	
	)	
Respondent.	)	

MR. THOMAS R. CHIOLA, ASSISTANT ATTORNEY GENERAL, APPEARED ON BEHALF OF COMPLAINANTS.

MR. GLEN E. NELSON, ATTORNEY, APPEARED ON BEHALF OF RESPONDENT.

OPINION AND ORDER OF THE BOARD (by I. G. Goodman):

This matter is a consolidation of two enforcement cases brought against the United States Steel Corporation (U.S. Steel) alleging violations of Chapter 2: Air Pollution of the Board's Regulations at U.S. Steel's facility in Chicago, Illinois commonly referred to as "South Works." Docket No. PCB 75-80 was filed by the People of the State of Illinois on March 14, 1975 alleging violation of emission limitations and permit regulations. A substantially similar Complaint was filed by the Illinois Environmental Protection Agency (Agency) on April 2, 1975 in Docket No. PCB 75-141. The two actions were consolidated by Board Order on May 8, 1975.

Further action on these matters was effectively stayed by the First District Appellate Court on October 1, 1975 by an Order in United States Steel Corporation v. Pollution Control Board, 64 Ill. App. 3d, 34 (1st Dist. 1978), staying the application of certain air rules as to U.S. Steel pending final determination of

that case. On August 18, 1978, the Appellate Court decided the case and the Stay Order expired. On August 3, 1979, Complainants filed a Second Amended Complaint which enlarged the scope of the allegation of violation of the Illinois Environmental Protection Act (Act) and the Board's Rules.

In September of 1979, the Board adopted new regulations with respect to steel manufacturing processes which were subsequently presented to the United States Environmental Protection Agency (USEPA) as amendments to the State Implementation Plan. On September 3, 1981, USEPA took final action on the amendments, approving, conditionally approving, and disapproving certain sections of these regulations (46 F.R. 44172). This action is currently under appeal before the U.S. Court of Appeals. On October 12, 1982, the parties presented at hearing a proposed Settlement Agreement to the Board. Although Citizens for a Better Environment (CBE) had been granted leave to intervene in this matter in September of 1979, CBE withdrew as Intervenor in September of 1982, and is therefore not a party to the proposed Settlement Agreement.

The subject of these proceedings is the U.S. Steel South Works, an iron and steel plant whose facilities include a sinter plant, electric arc steel making furnaces, an Argonne-Oxygen Decarburization vessel (AOD), a basic oxygen process steel making shop, blast furnaces, a cast house, and numerous other facilities. During the iron and steel making process, U.S. Steel emits particulate matter as defined in Chapter 2: Air Pollution Control Regulations (Regulations). The facility is located in the southeast part of Chicago, Air Quality Control Region 67 (40 CFR 81.14). This area is very heavily industrialized and is designated as non-attainment for the primary and secondary standards of Total Suspended Particulate matter (TSP). The TSP standards of Rule 307 have been exceeded on an annual geographic mean basis in each of the years 1975 through 1981 and on a 24-hour concentration basis for certain days in that time period.

U.S. Steel's electric arc furnace shop contains two 200 ton and one 100 ton electric arc furnaces and the AOD. Although controlled with a wet scrubber control device, the furnaces emit particulate matter during charging and tapping operations and also suffer leakage around the electrode ports during meltdown and refining. The AOD apparently also suffers some leakage during operation. The sinter plant agglomerates small particulates of iron-bearing materials so that they may be recycled through the blast furnaces.

The basic oxygen process facility (BOP Shop) produces steel by refining molten iron produced by the blast furnaces. During this process, oxygen is injected into the BOP vessels containing

molten iron and steel scrap resulting in the evolution of a considerable amount of TSP. The problems at the BOP Shop are similar in nature to those discussed previously concerning the electric arc furnace shop. The flux handling system at the BOP Shop was also the subject of one of the complaints. However, the parties have agreed that the allegations concerning this system will be mooted by a control device that is to be installed to satisfy occupational safety and health requirements.

Emissions from the blast furnaces and blast furnace cast house have been and continue to be a very difficult subject with regard to TSP controls. Recognizing the difficulty of collecting such emissions, the Board, in PCB 77-327, found that emissions at South Works were considered fugitive in character due to the apparent inability of U.S. Steel to effectively collect them. Nonetheless, the new steel regulations adopted in 1979 specifically require that castings emissions be controlled (Rule 203(d)(5)(E)). This rule contemplates capture of emissions, but a reading of that rule reveals the struggle that the Board underwent trying to define a rule consistent with the available technology. In addition, that rule was disapproved by USEPA in September, 1981. Since the adoption of the steel regulations in 1979 by the Board, a new technology has been recognized which bypasses the capture problem simply by depressing the emission of TSP in the first place. It appears that this new technology holds great promise for the future control of emissions which are particularly resistant to the available forms of capture.

#### Proposed Settlement Agreement

During the seven year pendency of this matter, many changes have occurred both from a legal and a technical standpoint. New rules have replaced old rules, new facilities and processes have replaced the old, and new control technology has come on the scene. In recognition of these facts, and in order to bring about a solution to the TSP problem at South Works, the parties herein have proposed an innovative and far-ranging proposal for settlement of this litigation. The Settlement Agreement appears to be premised on a commitment by U.S. Steel to the overall compliance plan demanded by Rule 203(d)(5)(L). The parties note that certain commitments with respect to that compliance plan go beyond the scope of the complaints herein. U.S. Steel states that it nevertheless submits to the jurisdiction of the Board with respect to those commitments and waives any requirement of legal process with respect thereto. It is the avowed intention of the parties that the commitments, if approved by the Board, be submitted to USEPA as a revision of the Illinois State Implementation Plan (SIP).

Although the proposed Settlement Agreement appears to be a reasonable resolution of these proceedings and indeed a reasonable resolution of the TSP emissions at South Works, the Board is very concerned that some of the proposed limitations constitute a

site-specific regulation for South Works without the benefit of proceedings pursuant to Section 28 of the Illinois Environmental Protection Act (Act). Although the Board might well agree with the technology and the limitations proposed in the Settlement Agreement, Section 28 proceedings would have to be instituted in order for those limitations to be given the dignity of a permanent Board rule. With that caveat in mind, the Board will address the proposed compliance plan contained in the Settlement Agreement.

#### Proposed Compliance Plan

Although the Board's Steel Mill Rule (Rule 203(d)(5)) calls for compliance with a process weight rate limitation with respect to emissions from blast furnaces, or, in the alternative, a very loose capture equipment design limitation, the parties propose an opacity limitation for the cast house roof monitor and furnace shell emissions. It is proposed that the emissions shall not exceed 20% opacity on a six minute average basis beginning each minute during the casting period, observations to be made in accordance with a standard method (Reference Method 9) 40 CFR 60, Appendix A. This proposal is a reflection of the new non-capture control technology (particulate suppression) mentioned above. This technology apparently suppresses the evolution of particulate matter by denying in some manner the availability of oxygen to the hot metal. The oxidation of the hot metal by the ambient air is responsible, in great measure, for the production and emission of particulate matter. The state-of-the-art status of this process is evinced by U.S. Steel's request for confidential status of Exhibit A, which is a general illustration of how the process is addressed to South Works' facilities. The proposed Settlement Agreement also contains provisos for reevaluating the 20% opacity limitation after two years of experience, and dates of compliance and specific work rules with respect to certain equipment in the blast furnace shop.

The standard for allowable TSP emissions from the balance of the equipment, i.e., the AOD electric steel making furnaces, and the BOP furnaces, is proposed to be determined by a process weight rate equation contained in the Settlement Agreement. This equation is exactly the same as that contained in Rule 203(a) of the Rules, which is entitled Particulate Emission Standards and Limitations for Existing Process Emission Sources. This is the limit required by Rule 203(d)(5), Steel Manufacturing Processes, promulgated in 1979. It appears that the balance of the proposed Stipulation concerns Rule 203(d)(5)(L) compliance dates and Rule 104, Compliance Programs and Project Completion Schedules.

With respect to the AOD vessel, U.S. Steel proposes either to discontinue operation of the vessel or notify the Agency of its intent to install certain additional controls pursuant to a stated schedule with final compliance by June 30, 1984. Certain other work rules are noted and U.S. Steel agrees to utilize good

operating and maintenance practices at the existing baghouse collector during any period of construction. This constitutes a delay in final compliance from the December 31, 1982 date contained in Rule 203(d)(5)(E).

The proposed Settlement Agreement addresses the electric arc furnace steel making facility on a furnace-by-furnace basis, but generally calls for compliance with the process weight rate equation previously addressed or by establishing what appears to be a bubble-type limitation containing the AOD and the three electric arc furnaces.

With respect to the basic oxygen process shop, the proposed compliance plan is a combination of work rules, equipment installation (fume and particulate suppression), equipment replacement, compliance with Rule 202(b), opacity, and the aforementioned process weight rate equation. It appears that compliance for the BOP Shop will be attained prior to December 31, 1982.

The proposed compliance plan for the sinter plant contains certain work rules with respect to the operation of the facility. The plan also contains provisions for testing methodology to be used to demonstrate compliance by the control systems and calls for notice to the parties with respect to such tests and observations. In addition, there is a provision which calls for the Board or a court to determine whether or not compliance has been demonstrated in the event of a disagreement between the parties.

The proposed Settlement Agreement also recites certain standard provisions concerning reporting requirements, a force majeure agreement, the effect of cessation of operations, reservation of rights of the parties to seek regulatory changes through rulemaking procedures under Sections 27 and 28 of the Act, the requirement that U.S. Steel apply for and qualify for all construction and operating permits required for all sources at South Works, and finally a payment in the sum of \$100,000 to the State within ninety days of the date of the Board Order, such sum to be paid to the Environmental Protection Trust Fund. The proposed Settlement Agreement purports to settle and resolve any and all violations by the identified TSP emission sources of applicable air pollution regulations up to the date of the agreement.

### Considerations

As stated previously, the proposed Settlement Agreement appears to be a reasonable resolution to both of these proceedings and of the TSP emissions at South Works. The Board finds, however, that it may not promulgate site specific regulations by way of a Compliance Order in an enforcement action regardless of whether

or not USEPA might accept the Order as a SIP revision. The Board recognizes the advent of new technology in an area in which it is sorely needed. It likewise acknowledges the extremely poor economic situation that U.S. Steel finds itself in today. The Board also takes note of recent legislation passed by the Congress and signed by the President which allows a three year extension for the steel industry in meeting air pollution control standards from December 31, 1982 to December 31, 1985 ("the Steel Stretch-out Bill"). Nevertheless, the Board must reject the proposed Stipulation as it is presently constituted. It is within the Board's power, however, to issue a delayed compliance order in such a case as this. Such an order would allow U.S. Steel a limited length of time within which to come in compliance with Board regulations and would set interim limitations to be met by U.S. Steel during that period of time. This would allow U.S. Steel to develop the new technology and to propose amendments to the Steel Mill Regulations or a site specific regulation for South Works pursuant to Sections 27 and 28 of the Act. In the alternative, if U.S. Steel so determines, the extension of time can be used to come into compliance with the current regulations.

The Board shall make modifications with respect to the proposed Stipulation and Settlement Agreement. If the parties herein will accept such modifications of the Stipulation that construes the proposed Compliance Plan as interim limitations until December 31, 1985, the Board Order herein shall be considered the final resolution of these matters. The Board proposes this disposition of the proposed Stipulation and Settlement Agreement in order to expedite the resolution of this bewhiskered enforcement action.

If the parties herein accept the modification proposed by the Board to the proposed Stipulation and Settlement Agreement, this Opinion constitutes the findings of fact and conclusions of law in this matter.

#### ORDER

1. United States Steel Corporation is found to have violated Rules 103(b)(2) and 203(d) of Chapter 2: Air Pollution of the Board's Regulations and Sections 9(a) and 9(b) of the Illinois Environmental Protection Act at its South Works facility in Chicago, Illinois.
2. United States Steel Corporation shall pay the sum of \$100,000 to the State of Illinois within ninety (90) days of the date of this Order, such sum to be paid into the Environmental Protection Trust Fund for the purpose of elimination or mitigation of conditions which pollute or threaten to pollute the environment in Illinois. Within thirty (30) days of the date of this Order, United States Steel shall file with the Illinois Environmental Protection

Agency a waiver of any rights of recovery of these monies pursuant to Paragraph 1061 of Chapter 111½ of the Illinois Revised Statutes.

3. a.) The parties herein shall execute their duties pursuant to the Stipulation and Settlement Agreement filed October 12, 1982, which Stipulation and Settlement Agreement is hereby incorporated by reference as if fully set forth herein, except that the Settlement Agreement is hereby modified so as to terminate on December 31, 1985.
- b.) Within thirty (30) days of the date of this Order, the parties herein shall file with the Board an agreement to be bound by the modification noted in (a) above.
4. The Board retains jurisdiction in this matter for the purpose of reconciling disputes between the parties.

IT IS SO ORDERED.

Board Members J. Anderson and N. Werner concurred.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 24<sup>th</sup> day of December, 1982 by a vote of 4-0.

  
 Christan L. Moffett, Clerk  
 Illinois Pollution Control Board