

ILLINOIS POLLUTION CONTROL BOARD
September 24, 1981

IN THE MATTER OF:)
)
PROPOSED AMENDMENT TO RULE 203.1) R78-7
OF THE WATER POLLUTION)
CONTROL REGULATIONS)

Proposed Rule. First Notice.

PROPOSED OPINION OF THE BOARD (by N.E.Werner):

This Opinion supports the Order entered herein on September 3, 1981, directing initiation of the first notice period in this matter.

General Motors Corporation ("GM") operates a foundry in Danville, Illinois ("foundry") which produces about 1,500 tons per day of iron castings for the automotive industry. The foundry has an industrial wastewater discharge at outfall 002 which flows through an unnamed ditch to the Vermilion River. GM must currently meet the Board's water quality limit of a maximum concentration of 1.4 milligrams per liter ("mg/l") of fluoride at the point of its discharge into the unnamed ditch. GM ordinarily can meet the current 1.4 mg/l fluoride standard except in the presence of high background river levels of fluoride resulting from upstream dischargers such as municipalities. The high background river levels of fluoride are entirely beyond GM's control.

GM's proposed site-specific amendment to Rule 203.1 of the Board's Water Pollution Regulations would allow fluoride levels in the unnamed ditch into which the foundry discharges (and subsequently amended to include the downstream segment of the Vermilion River to the Indiana state line) of up to 5 mg/l of fluoride (rather than the present standard of 1.4 mg/l of fluoride).

The record indicates that such a change in the Board's Water Pollution Regulations will have no adverse environmental impact on water quality and will not injure aquatic life, fish, or people.

On August 23, 1978, GM filed its initial regulatory proposal which requested that the Board amend Rule 203.1 of Chapter 3: Water Pollution Regulations ("Chapter 3"). On October 18, 1980, GM amended its original proposal. On March 4, 1981, GM filed a revised amendment to its regulatory proposal.

Hearings on the merits of the regulatory proposal were held on November 28, 1978 in Danville, Illinois and on February 7, 1979 in Chicago, Illinois. After the Illinois Institute of Natural Resources ("Institute") submitted an economic impact study (IINR Document 80-05) to the Board, economic impact hearings were conducted on June 30, 1980 in Danville and on August 4, 1980 in Chicago.

At the first merit hearing, Mr. A. Robert Jones, GM's environmental coordinator, testified that: (1) the presently used calcite limestone contains only minute amounts of fluoride which occasionally surface in the water; (2) no increase in the existing fluoride discharge levels at outfall 002 will occur; (3) the shallow, unnamed ditch that is located entirely on GM's property is knee-deep at its maximum point and is far too shallow, narrow, and winding for any recreational purposes; (4) the possible installation of a pipe from outfall 002 running directly into the Vermilion River is not a workable alternative because of its prohibitive cost; (5) no environmental harm will occur, and (6) GM makes an enormous economic contribution to the Illinois economy by providing jobs for Illinois workers, purchases from various Illinois suppliers, and tax revenue for Illinois government. (R. 15-49).

The substantial economic role that GM's foundry plays in Danville was brought out by Mr. Jones' testimony. In 1977, the average number of employees on the foundry's payroll at Danville was 2,310 people and the total payroll was \$48,000,000. Currently, the foundry provides employment for more than 2,650 individuals (most of whom have families and dependents). The foundry spent \$71,200,000 in 1977 on goods and services purchased from Danville area suppliers and local Danville firms. Moreover, GM also pays property taxes, sales taxes, income taxes, and numerous other taxes which provide local, state, and federal governments with revenues to fund extensive governmental programs and services. In addition to benefiting the local Danville community and providing an economic base for the Danville economy, General Motor's foundry was a "substantial factor" in the \$520,200,000 contribution by GM to the economy of the State of Illinois in 1977. (R. 27).

Dr. James E. Etzel, P.E. of Purdue University then testified that: (1) no alternative process materials or treatment methods are technically feasible or economically reasonable; (2) "meeting a fluoride level of 1.4 mg/l is impossible" because of the high fluoride levels that sometimes occur in the intake water of the Vermilion River, and (3) actual environmental damage "from production of chemicals used in fluoride removal and by sludges resulting from the removal" would be greater than any potential harm from the original fluoride. (R. 65-127; Grp. Ex. K).

At the second merit hearing, Dr. Michael E. Bender, Ph.D., stated that two research studies conducted by his environmental firm demonstrated that a 5 mg/l fluoride concentration would not harm any aquatic life in the unnamed ditch and the Vermilion River. (R. 173-204; Ex. N).

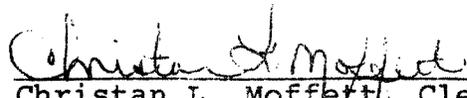
Dr. William F. Sigler, Ph.D., a fisheries biologist, then demonstrated that the proposed 5 mg/l standard for fluoride would not be injurious to fish or people. (R. 254). The few, small, warm-water fish to be found in the ditch are less sensitive to fluoride than larger, cold-water fish, and the high calcium and magnesium levels in the ditch substantially reduce any conceivable fluoride toxicity. (R. 234-295; Grp. Ex. O and P).

At the first economic impact hearing, the authors of the Institute's economic impact study answered various questions pertaining to the study.

At the second economic impact hearing, GM presented testimony in support of a suggested amendment, developed at the request of the Agency, which requested that the 5 mg/l fluoride standard be applied to the downstream segment of the Vermilion River as well as the unnamed ditch. The length of the downstream river segment is about 5 to 8 stream miles (i.e., from the confluence of the ditch with the Vermilion River down to the Indiana state line). Mr. Jones, Dr. Etzel, and Dr. Sigler all indicated that their prior testimony pertaining to the unnamed ditch was totally applicable to the downstream river segment in question and stated that no adverse environmental impact on water quality or aquatic life would occur. (Ex. J, O, and P). Dr. Etzel stressed the obvious fact that there would be added dilution of the Vermilion River downstream below the confluence with the unnamed ditch and fluoride levels would thus be lowered.

In evaluating the proposed change in Chapter 3, the Board notes that the record clearly indicates that allowing fluoride levels in the shallow, unnamed ditch and downstream segment of the Vermilion River of up to 5 mg/l (rather than the present standard of 1.4 mg/l of fluoride) will have no adverse environmental impact on water quality and will not injure aquatic life, fish, or people. Accordingly, the Board will grant GM's requested site-specific amendment to the Board's Water Pollution Regulations.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion was adopted on the 24th day of September, 1981 by a vote of 4-0.



Christan L. Moffett, Clerk
Illinois Pollution Control Board