11.2

Site: Norwood
Break: 11.12.b
Other:

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April 15, 1988

BY HAND

Mr. Thomas C. McMahon, Director
Division of Water Pollution Control
Department of Environmental Quality Engineering
One Winter Street
Boston, Massachusetts 02108

RE: Application for Anti-Degradation Variance pursuant to 314 C.M.R. 4.04(6); NPDES Application No. MA 0029262

Dear Mr. McMahon:

I am writing on behalf of Grant Gear Works, Inc. ("Grant Gear"), the applicant for the above-referenced NPDES permit, to request a variance pursuant to 314 C.M.R. 4.04(6). This variance would permit Grant Gear to discharge storm water run-off, annual boiler blowdown, and non-contact cooling water into Meadow Brook, which is classified as an anti-degradation stream under 314 C.M.R. 4.04(3).

The subject discharge consists primarily of storm water, which collects on the roof of the building. This water is channeled into roof drains, which in turn feed into manholes around the perimeter of the building, and is then then discharged into Meadow Brook. At the time tests in connection with this application were conducted, little or no rain had fallen, making a measurement of this component of the discharge difficult.

The discharge also consists of blowdown from the on-site boiler. Water in the boiler is obtained from the Town of Norwood's municipal water supply. Once every year, the water from the boiler is pumped out using a small sump pump and discharged through Grant Gear's drainage system into Meadow Brook.

Finally, the discharge also contains non-contact cooling water, which is used to cool the plant's compressor. This water also is obtained from the municipal water supply. The water collects in the sump tank in the plant's boiler room, and

is pumped out through the outfall only when a certain level is exceeded. As it gathers in the sump tank, this water discharges heat into the plant before discharge. Because the discharge level was not reached at the time of the testing and therefore there was no significant discharge of cooling water to be tested, Grant Gear artificially caused a discharge of that water by activating the sump pump in the tank. According to Certified Engineering and Testing Co., Inc. ("CETCO"), which was engaged to test the discharge in connection with this variance application, the volume of water discharged during dry weather is approximately one half gallon per minute, or approximately 240 gallons during the eight hours per day during which the plant is in operation.

A variance to authorize discharges into waters designated for protection under 314 C.M.R. 4.04(3) may be allowed by the Division of Water Pollution Control if:

(a) the proposed degradation will not result in water quality less than specified for the class;

(b) the adverse economic and social impacts specifically resulting from imposition of controls more stringent than secondary treatment to maintain the higher water quality are substantial and widespread in comparison to other economic factors and are not warranted by a comparison of the economic, social and other benefits to the public resulting from the maintenance of the higher quality water; and

(c) alternative means of disposal are not reasonably available or feasible.

See 314 C.M.R. 4.04(6). The discharge proposed by Grant Gear meets all three requirements.

I. The proposed degradation will not result in water quality less than specified for the class.

Meadow Brook is classified as a Class B body of water. See 314 C.M.R. 4.05, Table 20. Therefore, any discharges into Meadow Brook must meet the general minimum criteria applicable to all surface waters, 314 C.M.R. 4.03(4)(A), and the specific

criteria for Class B waters as to the dissolved oxygen content, temperature, pH and fecal coliform bacteria content of the discharge, 314 C.M.R. 4.03(4)(B). These general criteria are addressed by the discharge limits to be imposed by the NPDES permit.[1] We, therefore, address the specific criteria for Meadow Brook as a Class B stream. As the attached report (the "Report") prepared by CETCO demonstrates, even under a worst-case scenario, the subject discharge will not result in water quality less than specified for Class B waters.

As set forth in the Report, temperature readings of the water in Meadow Brook were taken on two separate occasions ten (10) feet upstream of the outfall and ten (10) feet downstream of the outfall. The temperature of the discharge itself was also measured. The downstream and upstream temperatures were identical or nearly identical (change of 0.1° F.) on both occasions. The temperature of the discharge water was less than one degree cooler than the water in Meadow Brook on one occasion, and four degrees cooler on the other. The Report thus indicates that the discharge has an imperceptible effect on the temperature of Meadow Brook, and that it certainly does not cause "a rise resulting from artificial origin [that] exceed[s] 4.0°F." 314 C.M.R. 4.03(4)(B).

The dissolved oxygen content of the discharge was 10 mg/l. This result also fully complies with the regulations for Class B waters, which require only that the dissolved oxygen content "shall be a minimum of 5.0 mg/l in warm water fisheries and a minimum of 6.0 mg/l in cold water fisheries." Id.

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1 As you know, a Remedial Investigation/Feasibility Study ("RI/FS"), pursuant to the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §9601 et seq., is ongoing at the Grant Gear site. To the extent that any of the discharge into Meadow Brook contains pollutants or contaminants that may be found in the sediment in the Grant Gear drainage system, this component of the discharge is being considered as part of the RI/FS and will be addressed as part of any remedial action undertaken at the site, and any action taken by Grant Gear to comply with applicable discharge limits.

As noted, the discharge into Meadow Brook from the Grant Gear outfall consists primarily of storm water. Since that water would find its way into Meadow Brook in any event, the storm water component of the discharge should not actually alter the water quality of Meadow Brook.

The Report discloses that the fecal coliform bacteria count in the single sample of water tested at the outfall was 1,600 per 100 ml. According to the engineer, however, this result is highly misleading. CETCO believes that this level of bacteria was due to the presence of bird droppings on the roof, which were washed off the roof by the slight amount of rain which fell during the twenty-four hours which preceded the test. According to the engineer, if more rain had fallen in the period preceding the testing, the bird droppings would have been more diluted, resulting in a much lower fecal coliform bacteria content. In any event, this single result is not dispositive under the regulations, which require only that fecal coliform bacteria count should not exceed a log mean for a set of samples of 200 per 100 ml and that not more than ten percent (10%) of the total samples should exceed 400 per 100 ml. during any monthly sampling period (emphasis added). If the Division requests further testing of the discharge to determine its actual fecal coliform bacteria content, Grant Gear will promptly undertake such testing. Since the discharge consists only of rain water and of municipal drinking water, and nowhere comes into contact with sanitary sewage, this criterion is not expected to present a problem under the regulations.

The discharge also consists of Grant Gear's annual boiler blowdown. Boiler blowdown takes place in the summer, when the boiler has had a chance to cool down, and the temperature of the water discharged into Meadow Brook is the same as that of the ambient air. Since no boiler blowdown could take place during the recent testing, the pH of the water in the boiler itself was tested by CETCO and the result is set forth in the Report. (Again, since the water in the boiler comes from the municipal water supply and has no contact with any sanitary sewage, this water would not be expected to contain any fecal coliform bacteria.)

The pH of the one sample of boiler water tested was 11.46. According to the engineer, it is expected that the pH of the

discharge during an actual boiler blowdown event (as opposed to the water in the boiler itself) would be lower since the boiler water would then be diluted by the other waters in the drainage system (including the slightly acidic water in the sump tank; see infra). The fact that the water would remain standing in the boiler for a considerable time after the boiler was turned off before being discharged would also tend to reduce its alkalinity. In any event, if the Division requests it, Grant Gear will treat the water in the boiler prior to discharging it in order to lower its pH.

Finally, the pH of the discharge water at the outfall was 6.03, or slightly less than the 6.5 imposed by the regulation. The pH of water ten (10) feet upstream from the outfall and ten (10) feet downstream from the outfall was 7.09 and 7.24, respectively, indicating that the slight acidity of the discharge itself had absolutely no effect on the waters of Meadow Brook. These results are if full compliance with 314 C.M.R. 4.03(4)(B). If the Division finds the slight acidity of the discharge water itself objectionable in any way, Grant Gear will take steps to ensure that these waters are made more alkaline before being released into Meadow Brook.

II. The adverse economic and social impacts resulting from the imposition of controls more stringent than secondary treatment to maintain higher water quality would be substantial and widespread.

It must be noted that the discharge from the Grant Gear outfall into Meadow Brook consists only of water and contains no sanitary sewage or process wastes. The discharge regulations, on the other hand, to the extent they focus on the fecal coliform bacteria content of the proposed discharge and on the imposition of "controls more stringent than secondary treatment," appear to concern themselves primarily with discharges of sanitary sewage or other wastes. Thus, the balancing of harms test set forth in 314 C.M.R. 4.04(6)(b) appears not to be applicable to the subject discharge.

Nevertheless, it is clear that the adverse economic and social impacts that would result from disallowing the discharge into Meadow Brook would be substantial and widespread and are not warranted by a comparison of the economic, social and other

benefits to the public resulting from the maintenance of the higher quality water. To disallow this discharge pursuant to 314 C.M.R. 4.04(6) in effect is to say that Grant Gear, a company which has been in existence for more than 100 years and provides jobs for more than 60 people, cannot operate. The adverse economic and social impacts caused by the plant's closing outweigh the virtually nonexistent impact of the discharge on the waters of Meadow Brook with respect to the criteria for Class B waters.

III. Alternative means of disposal are not reasonably available or feasible.

Finally, it is quite clear that alternative means of disposal are not reasonably available or feasible at the Grant Gear site. Even if the construction of an alternative discharge system were normally economically feasible, the site's current environmental condition effectively prohibits such construction on any reasonable basis, particularly for storm water run-off. Quite simply, there is nowhere else for the discharge to go but into Meadow Brook.

As the foregoing demonstrates, Grant Gear meets the requirements for the issuance of a variance pursuant to 314 C.M.R. 4.04(6) to allow it to discharge storm water, boiler blowdown and non-contact cooling waters into Meadow Brook. If you should have any further questions or comments in connection with this application, however, please do not hesitate to contact me.

Very truly yours,

Cameron F. Kerry

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Enclosure
cc: Mr. Robert J. Hurley
Ms. Joanne A. Robbins
Mr. Kenneth Chin (EPA)
Ms. Judith Perry (DEQE)
Mr. Richard G. McAllister (EPA)
Ms. Margaret Sheehan, Assistant Attorney General