MEMORANDUM

TO: Richard E. Marland
FROM: Jerry M. Johnson
SUBJECT: Environmental Center review of the EPA's proposed final effluent limitation guidelines for raw cane sugar processing

The Environmental Center staff has reviewed the "Development Document for Interim Final Effluent Limitations Guidelines and Proposed New Source Performance Standards for the Raw Cane Sugar Processing," February, 1975.

Our comments are as follows:

1. We have no objections to the Subcategory III Model Plant process features. We do question the accuracy of the projected waste loadings, however. According to the discussion presented on Page 117 of the EPA document, recent short-term data are in disagreement with the industry data with which the projections were calculated. The consulting firm of Sunn, Low, Tom and Hara, Inc. (SLTH) in their Technical Memorandum Number 2 discuss the difficulty in trying to obtain an accurate estimate of soil loading for two Hilo-Hamakua Coast Plants. For example, their recent studies, January to August 1974, indicate much lower soil loadings than do their earlier studies.

   If the waste loadings projected in the EPA document are inaccurate so too are the costs/benefits of alternative waste treatment and control technologies per unit ton of net cane processed.

2. The waste loadings and concentrations, whether or not they are accurate, represent a hypothetical average. Weather conditions along the Hilo Coast are extremely variable, geographically and temporally—day-to-day, month-to-month and year-to-year. Thus the actual waste loadings and concentrations per unit ton of net cane processed for individual plants may be quite different from the hypothetical average loadings, even if all plants utilize the Model Plant process features.
Waste treatment and control technologies have to be designed for individual plant waste loads and concentrations rather than on the basis of hypothetical averages. Additionally, to meet the very stringent proposed effluent limitations guidelines, individual processing companies will have to design their treatment facilities on the basis of their worst possible waste loadings and concentrations. Thus the actual cost of these technologies per unit ton of net cane processed may vary considerably. If so the cost benefit figures shown for the various alternative waste treatment and control technologies do not represent the actual costs that will be incurred by individual Hilo-Hamakua Coast raw cane sugar processors per unit ton of net cane processed.

3. The rationale and justifications for the subcategory III waste treatment and control technology alternatives are clearly documented. Our concern here has to do with the projected levels of waste reduction projected for alternatives C through H. Although the levels of BODs and TSS reductions projected for the clarifier, lagoon system and activated sludge process may be technologically feasible, we query what percentage of the time these levels of reduction will be attained under actual operating conditions—considering expected day-to-day and plant-to-plant variations in waste loadings and concentrations and treatment process efficiencies.

4. The rationale for the selection of pollutant parameters appears to be based solely on conceivable adverse effects on receiving waters of BOD, TSS and PH and also for such related pollutants as may be controlled by the control of those three. No documentation of the adverse effects is presented in some cases—indeed available documentation indicates the lack of adverse effects. According to criterion number 4, presented on page 135 of the document, consideration was given to "the pollutant possibly being a problem on an individual-case basis but not on an industry-wide basis... However, the available data do not indicate that these potential pollutants are of sufficient significance on an industry-wide basis to warrant their inclusion as controlled parameters." In spite of this disclaimer, the limiting parameters are presented on an industry wide basis.

From a case-specific standpoint, the three most extensive investigations on coastal water quality along the Hilo-Hamakua coast\(^1\) dealt with coastal waters receiving raw cane sugar processing wastes. According to these studies the major changes in water quality were due to settleable and suspended solids and coliform bacteria. BOD, according to the EPA study, could be a problem if discharged into areas of limited circulation. Such areas do not apply to Hilo-Hamakua mill discharges. PH was not mentioned as an important pollution parameter and seems quite unlikely to be one.


Therefore, we question EPA's rationale for proposing effluent limitations guidelines for these two pollutants, either on an industry-wide basis or as applicable to the Hilo-Hamakua coast.

cc: James Kumagai, DOH
    Gordon Dugan, Civil Engr.

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