

UNIVERSITY OF HAWAII

Environmental Center

Office of the Director

November 27, 1973

MEMORANDUM

TO: Walter B. Quisenberry, Director of Health
State of Hawaii

FROM: Michael J. Chun, Asst. Prof. of Public Health *WJC*
Gordon L. Dugan, Assoc. Prof. of Civil Engr. and WRRRC
Henry Gee, Research Assoc., Water Resources Res. Center
Jerry M. Johnson, Acting Director, Environmental Center
Reginald H. F. Young, Asst. Director, Water Resources
Research Center

SUBJECT: Public Hearing on the Proposed Public Health Regulations,
Chapter 46, Solid Waste Management Control

Although we will be unable to attend the upcoming hearings, we wish to have our testimony made part of the official record.

Section 1. DEFINITIONS

n. "Pyrolysis". The definition as presented is only partially correct in that although pyrolysis is a thermochemical process for converting solid wastes, it takes place in the absence of added oxygen. The definition as written in the proposed regulation does not mention that essential constraint and, in fact, would more appropriately describe the incineration process.

q. "Solid Waste". Suggest add the words "non-waterborne ^{and} non-airborne" between the words all and unwanted on the first line.

r. "Solid Waste Disposal Facility". Transfer stations, incinerators, composting plants and recycling reclamation facilities are not disposal facilities per se. A more appropriate title would be "Solid Waste Processing Facilities" since all the facilities listed including landfill are processes utilized in solid waste management systems.

s. "Solid Waste Disposal System". The title "Solid Waste Disposal System" is not technically correct in that the total system involves several other processes in addition to disposal. A more appropriate title would be "Solid Waste Management System."

t. "Transfer Station". The last sentence is awkward with respect to the word "reduce." We recommend the sentence be changed to read "Transfer stations are designed to make solid waste management systems more efficient by transferring"

Section 2. SOLID WASTE MANAGEMENT PERMIT SYSTEM

b. List of Exemptions

1. There should be regulations concerning the disposal of solid wastes on single family or duplex residential properties to be consistent with the purpose of Chapter 46 of preventing spread of disease and the creation of nuisances. As it is worded, it is possible for a homeowner to bury his own garbage and trash without any restrictions. Most cities have laws prohibiting the disposal of garbage by a homeowner who must subscribe to public collection services. Garden trimmings, paper and some organic matter can be composted, however, the process is regulated by health laws related to flies, rodents, odors and nuisance problems.

4. It is inadvisable to categorically exempt all small incinerator facilities from the permit requirement. We refer specifically to facilities that would or possibly could be used to dispose of hazardous wastes such as pathological wastes, organic pesticides, toxic combustibles, etc. Any facility that is used to dispose hazardous waste materials, regardless of design capacity, should be strictly controlled through a permit system.

Section 4. STANDARDS FOR SOLID WASTE DISPOSAL FACILITIES

b. Standards for Landfill

10(c). Disposal of toxic, caustic, volatile and flammable chemical wastes within seepage pits should be given careful consideration as they are appropriate only under certain environmental conditions and with specific kinds of wastes. If this method of disposal is sanctioned under the final regulations we recommend that a groundwater monitoring program be required for all such facilities as the possibility of groundwater contamination is a serious concern. A five foot minimum separation between these wastes and the anticipated high groundwater table, for example, would provide no assurance that the wastes would be excluded from the ground water. (We have attached for your information a copy of a paper by William H. Walker entitled "Where Have All the Chemicals Gone?" in which he discusses the issue of groundwater contamination through waste chemicals pit and sanitary landfill disposal techniques.)

Another major concern with this section is that it precludes other forms of landfill disposal which can be valuable techniques for disposing of hazardous wastes. Under proper environmental conditions landfills can be a valuable means of disposing hazardous wastes in the form of

sludges, slurries and liquids. The primary advantage of the landfill would be the liquid absorptive capacity of the solid wastes. To take advantage of the ultimate absorptive capacity of the receiving wastes, the hazardous chemicals would need to be applied uniformly throughout the landfill. The pit method of disposal would not take advantage of the solid waste's absorptive capacity. In fact it would rely on infiltration of the wastes into the underlying soil rather than absorption into the compacted wastes.

Special containers which would resist crushing and puncturing could also be used to safely dispose of solid and liquid chemical wastes at the sanitary landfill site.

10(f). Incineration and pyrolysis are not recommended procedures for all categories of pesticides. In fact the EPA Task Force on Excess Chemicals in their interim recommendations for excess pesticide disposal (See Attachment II) recommended the prohibition of inorganic pesticide disposal by incineration under any condition. Furthermore heavy metal constituents of organic pesticides would need to be removed before incineration or pyrolysis. Otherwise a potentially dangerous residual may have to be dealt with at the landfill sites. Incineration and pyrolysis are not ultimate disposal processes but rather material alteration and volume reduction processes. Unless a market is available for the final product of pyrolysis, that product would have to be disposed along with the residue from the incinerator.

cc: M. J. Chun
G. L. Dugan
H. Gee
R. H. F. Young