

RESPONSES TO QUESTIONS OF THE SUBCOMMITTEE ON SCIENCE, RESEARCH,
AND DEVELOPMENT BY MR. BERTRAM C. RAYNES, RAND DEVELOPMENT
CORP.

Question 1: In your testimony before the Subcommittee on Science, Research, and Development, Committee on Science and Astronautics, on July 28, in answering questions about the coal process in treating sewage, you made reference to the increased efficiency possible with this process when the coal could be burned after use and the energy of the coal recovered. You mentioned that this step was only feasible in the larger size plants; how is the coal to be disposed of after use in smaller plants if it is not to be burned? If it has to be buried or otherwise disposed of on land, does this not add to the pollution of the soil? In the larger plants where the used coal is burned does not this process merely transfer the polluted material absorbed by the coal from water into the atmosphere?

Answer: My reference is to increased economy possible when the coal-sewage solids mixture is burned with recovery of the thermal energy it possesses. Plant effluent quality remains the same regardless of the fate of this material. Incineration is the disposal means we favor. Incineration can be carried out regardless of the size of treatment plant involved and at some scale of operation (perhaps for a plant serving 25,000 to 50,000 persons), recovery of the energy becomes economically attractive in-plant. If the plant is situated near an already existing boiler it is entirely possible the coal mixture from even a very small plant can be used economically.

By no means are we interested in substituting one pollution problem for another. We do not want to pollute the air in the process of helping to control pollution of surface waters. Sewage treatment plants which produce sludges—both primary and secondary treatment plants—often incinerate those sludges for disposal. The coal-based sewage treatment process does not eliminate the air pollution problem, but it can decrease it because higher incineration temperatures and afterburner temperatures can be used than with sludge. I'd like to work on air pollution problems, but haven't yet.

Question 2: In your statement you made reference to the Federal Government forcing industry to take care of its wastes. Do you feel that if the Government does, through legislation, force this step to be taken, that the necessary technology will be produced by this action?

Answer: Necessity has always been the father of technology.

Question 3: In urging that the Federal Water Pollution Control Administration set up a troubleshooting group of experts to help work out the practical problems of operation of sewage treatment plants in smaller towns, does this not put the Federal Government in direct competition with sewage plant engineering firms?

Answer: I don't believe so. Engineering firms are not sewage plant operators. If equipment fails, engineering firms can help, or the