land areas such as strip mines and to reduce acid mine drainage pollution from these areas.

q. A technique for recovering and reusing chemical precipitants used in treatment for phosphate removal has been evaluated. The technique may lead to significant cost reductions for phosphate removal.

r. Exploratory research has shown that the hydrolysis of sewage sludge can recover amino acids and other dissolved nutrients which may be usable as a by-product from sludge disposal operations.

ACCOMPLISHMENTS IN INDUSTRIAL POLLUTION CONTROL PROGRAM

During FY 1967, studies were initiated to identify and analyze the problem areas and determine the status of treatment and control technology in selected industries. In addition, a major new program for industrial waste pollution control (authorized by Section 6(b) of the 1966 Act) was implemented. Under this authority, 10 grant projects amounting to $2.6 million in grants were awarded. These included eight full-scale demonstration facilities on control of pollution from industries in the fields of pulp and paper, meat-packing, potato and sugar beet processing, citrus fruit, etc. The ongoing FY 68 program currently has research and demonstration grants covering representative industrial pollution from such other major sources as metal and metal products, leather and tanning, chemical and allied products, etc. These grants now cover representative industrial pollution from sources encompassing a combined total of three-fourths the entire industrial pollution load in terms of volume and biochemical oxygen demand. This program through FY 69 also includes the top priority projects which resulted from the FWPCA studies on immediate needs for the river basins.

It is anticipated that approximately 25 grants will be awarded in FY 68, which will include new and novel physical, chemical and biological treatment processes for abatement of pollution from industrial sources.

National organizations, representative of the various manufactures, i.e., API, National Canners Association, TAPPI, National Metal Finishers Association, etc., have been contacted and their key committees on water pollution problems are being utilized to provide the required guidance on a program of mutual concern.

EUTROPHICATION

The complex problem of establishing the relationships between water pollution and the undesirable effects of eutrophication (enrichment) of lakes, streams, and estuaries is being attacked with increased effort. A joint government-industry task force to recommend a cooperative research program has been established. This task force has recently announced that it will attempt to develop a standardized procedure to determine the algal growth potential (AGP) of various chemicals and waters.

The proposed procedure would be designed to: (1) anticipate the effect on algal production of introducing various nutrients; (2) determine the extent to which nutrient levels must be reduced in a body of water to remedy eutrophication; (3) determine at what point along the time scale of progressing eutrophication a body of water lies; (4) evaluate the effectiveness of waste treatment processes in removing elements that support or stimulate the growth of algae; and (5) be adaptable for special problem purposes.

WATER QUALITY CRITERIA AND USE OF WATER

There have been a number of beneficial uses of water identified, including: public water suppliers; industrial water supplies; agricultural water supplies; fish, other aquatic life and wildlife; and recreation and aesthetics. For each of these uses, water quality criteria have been identified and selected. The reports of "National Advisory Committee on Water Quality Criteria to the Secretary of the Interior, June 30, 1967," and "Water Quality Criteria" by McKee and Wolf in 1963, contain the most complete information on water quality criteria as related to water uses.