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POWERS OF THE STATE OF KENTUCKY IN IMPLEMENTING AN EFFLUENT
TAX AS A PART OF AN INTERSTATE OHIO RIVER BASIN WATER
POLLUTION CONTROL PROGRAM

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ABSTRACT

This report is intended to set forth some of the problems and solutions involved in financing and regulating water quality control. The purpose is to record some of the major problems confronting those who legislate water quality, those who espouse technological answers, and those who see the problem in terms of economic solutions. The limits placed by political and institutional constraints on solutions to these problems are frequently not understandable.

Within this report are contained separate investigations: a study of federal-interstate relations and the interstate compact; a study of Kentucky's common law approach to water rights; a study of financing water quality under Kentucky statutes; and a summary and analysis. Each of these areas touches on problems involved in the planning process; in this context, the following problems will be considered: (1) The availability of water. (2) Water and economic development. (3) Water and the environment. (4) Responsibilities for water resource development. (5) Legal framework for development. (6) Financing water resource development. (7) Political and institutional constraints.

KEY WORDS (Descriptors)

Legislation, Legal Aspects, Financing, Water Law, Water Policy, Water Resources Development

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A. INTRODUCTION

Kentucky is more than 120 counties, it is an entire state, shaped like a keyhole, that cuts across the mid-section of Southeastern United States. The major intrastate rivers flow, primarily, into the Ohio River; three percent, or the remainder, flow into the Mississippi River.¹ Water quality in Kentucky is an integral part of water supply, since pollution is a product of natural and man-made consequences, and any water-use will affect the quality of the water.² For our purposes, it is necessary to point out that the soil conditions, themselves, as well as the quantity of water available, contribute to the pollution of the waters, because of the limestone formations which contribute to the alkalinity of the water.³ However, the basic source of pollution affecting water quality is man-made; municipal, rural, industrial, or agricultural pollution caused by man's activities.⁴

Municipal pollution is the accumulation of domestic wastes. To this category can be added industrial wastes normally created in the washing, cooling, flushing, and chemical treatment processes employed by industry.⁵ Industrial processes can be made more costly

¹Kentucky. Department of Natural Resources. Division of Water. Kentucky Water Resources Program Summary, p. 5.

²Ibid., p. 11.

³Ibid.

⁴Ibid.

⁵Ibid., p. 12.

when domestic sewage deteriorates the quality of the water used in manufacturing; domestic water supplies, fishlife, and plant life may be harmed by the chemical and thermal pollution created by industrial wastes.⁶ In Kentucky, agricultural run-off and excessive use of chemical fertilizers add to the over-all water quality problem.⁷ Moreover, in certain parts of the state, mine drainage adds to the over-all water quality problem.⁸

It must be remembered that water resources control and development is a combination of supply, quality, flood control, navigation, power generation, and recreation.⁹ Water resources are a combination of precipitation, rivers and streams, and ground water supply, and the hydrologic cycle does not divide water into the neat legal categories based upon the classification or status of the user or of the water.¹⁰ In Kentucky, water resource development as a part of the planning process has been divided into numerous departments so that little can be done unless coordination and control is superimposed on the extra framework. The Kentucky Framework Water Plan lists seven major agencies as dealing with water resource problems; the Water Resources Authority of Kentucky, which maintains a planning function; the Department of Natural Resources; the Kentucky Water

⁶Ibid.

⁷Ibid.

⁸Ibid.

⁹Ibid., p. 23.

¹⁰Morse, "The Cost of Purity: Use of the Effluent Charge in Water Quality Control and Management," 7 Valparaiso U. Law Rev. 170 (1973).

Pollution Control Commission; the Department of Mines and Minerals; the Public Service Commission; the Department of Agriculture; and the Kentucky Port and River Development Commission.¹¹ To this list can be added the Department for Natural Resources and Environmental Protection and the Kentucky Pollution Abatement Authority.¹² The over-all structure of Kentucky water resources development has become a multilayered bureaucracy that vitally undercuts any attempt to seriously consider rationalizing the creation of a centralized water resources development and control program.

State development in the water resources area has been directed toward replacing multilayered bureaucracy and outdated legislation with an entire code that deals with water resources development and control in one package.¹³ One example of such a code is the Model Water Code authored by Maloney, Ausness, and Morris, and recently adopted by the State of Florida.¹⁴ The Code, itself, is based upon a number of existent state plans and covers every area of water

¹¹Kentucky. Department of Natural Resources. Division of Water. Kentucky Water Resources Program, p. 36-40.

¹²Governor Wendel Ford reorganized the environmental resources programs in 1973, creating a Department for Natural Resources and Environmental Protection. (The Courier-Journal, Thursday, January 4, 1973). Confirmed by Senate Bill 112, Section 15, 1974 Kentucky General Assembly, effective June 21, 1974.

¹³See, Morse, "A Model Water Code," Book Review, 62 Kentucky Law J. 289 (1973-74); Maloney and Ausness, "Administering State Water Resources: The Need for Long-Range Planning," 73 W. Va. Law Rev. 209 (1971).

¹⁴Maloney, Ausness, and Morris. A Model Water Code. Gainesville, Fla.; U. of Florida Press, 1972.

resources as well as creating a two-tiered administrative structure comprised of a State Water Resources Board and regional water management districts.¹⁵ Chapter one deals with the administrative structure; chapter two creates a permit system for regulating consumptive uses of water; chapter three provides for well construction standards and licensing; chapter four regulates dam construction, impoundments, and appurtenant works; chapter five covers water quality, including a water quality plan, construction and discharge permits, and enforcement tools; and the final chapter is on weather modification.¹⁶ The philosophy of the Model Code is expressed in the declaration of policy which is to plan and develop adequate water resources for the State.¹⁷

Our interest in this report is with Chapter 5, Water Quality; however, there is no denying the fact that dealing with the problem of water pollution control in a piecemeal effort without attacking the entire problem of water resource development and control is a wasteful and, perhaps, futile venture. Kentucky needs not only a permit system and a means for regional integration of pollution control facilities, it also needs a comprehensive structure of legal authority for development and enforcement. The imposition of two or three more laws onto an already overburdened bureaucracy will only serve as a

¹⁵Chapter 1. Administrative Structure and Operation; See, Morse, "Model Water Code," supra., at p. 292.

¹⁶The inclusion of weather modification and the omission of agricultural spraying is to be questioned; however weather modification is a little regulated activity while agricultural spraying receives both state and federal attention. See, Morse, "Model Water Code," supra., at 295.

¹⁷Sec. 102. Declaration of Policy.

temporary solution to a problem that demands an overhaul, not a repair job.

Water Quality Control Under a Permit System

The Federal Water Pollution Control Act Amendments of 1972 set forth two provisions applicable to the states that are relevant to this discussion. Title II--Grants for the Construction of Treatment Works¹⁸ and Title IV--Permits and Licenses.¹⁹ Title II, Section 201 (e) states, "The Administrator shall encourage waste treatment management which results in integrating facilities for sewage treatment and recycling with facilities to treat, dispose of, or utilize other industrial and municipal wastes, including but not limited to solid waste and waste heat and thermal discharges. Such integrated facilities shall be designed and operated to produce revenues in excess of capital and operation and maintenance costs and such revenues shall be used by the designated regional management agency to aid in financing other environmental improvement programs." Section 201 (g) allows payment to, "any state, municipality, or intermunicipal or interstate agency..." Section 204: Limitations and Conditions, Subsection (b) states, "(1) Notwithstanding any other provisions of this title, the Administrator shall not approve any grant for any treatment works under section 201 (g)(1) after

¹⁸P. L. 92-500. (October 18, 1972).

¹⁹P. L. 92-500. (October 18, 1972).

March 1, 1973, unless he shall first have determined that the applicant (a) has adopted or will adopt a system of charges to assure that each recipient of waste treatment services within the applicant's jurisdiction, as determined by the Administrator, will pay its proportionate share of the costs of operation and maintenance (including replacement) of any waste treatment services provided by the applicant; (b) has made provision for the payment to such applicant by the industrial users of ~~the treatment works of that portion of the cost of construction of~~ such treatment works (as determined by the Administrator) which is allocable to the treatment of such industrial wastes to the extent attributable to the Federal share of the cost of construction; and (c) has legal, institutional, managerial, and financial capability to insure adequate construction, operation, and maintenance of treatment works throughout the applicant's jurisdiction, as determined by the administrator. (2) The administrator shall, within one hundred and eighty days after the date of enactment of the Federal Water Pollution Control Act amendments of 1972, and after consultation with appropriate state, interstate, municipal, and intermunicipal agencies, issue guidelines applicable to payment of waste treatment costs by industrial and nonindustrial recipients of waste treatment services which shall establish (a) classes of users of such services, including categories of industrial users; (b) criteria against which to determine the adequacy of charges imposed on classes and categories of users reflecting all factors that influence the cost of waste treatment, including strength, volume, and delivery flow rate, characteristics of waste; and (c) model systems and rates of user charges typical of various treatment works serving municipal

industrial communities. (3) The grantee shall retain an amount of the revenues derived from the payment of costs by industrial users of waste treatment services, to the extent costs are attributable to the Federal share of the eligible project costs provided pursuant to this title as determined by the Administrator equal to (a) the amount of the non-Federal cost of such project paid by the grantee plus (b) the amount, determined in accordance with regulations promulgated by the Administrator, necessary for future expansion and reconstruction of the project, except that such retained amount shall not exceed 50 percentum of such revenues from such project. All revenues from such project not retained by the grantee shall be deposited by the Administrator in the Treasury as miscellaneous receipts. That portion of the revenues retained by the grantee attributable to clause (b) of the first sentence of this paragraph, together with any interest thereon shall be used solely for the purposes of future expansion and reconstruction of the project. (4) Approval by the administrator of a grant to an interstate agency established by interstate compact for any treatment works shall satisfy any other requirements that such works be authorized by Act of Congress."

It is apparent that under the F. W. P. C. A. charges are required and that those charges are to be based upon the services received by the users. This requirement will be discussed at length with references to Kentucky; however it is necessary first to point out the relationship of this provision to Title IV. Permits and Licenses. Section 402 of the 1972 amendments governs the national permit program which provides for state permit programs complying with

the requirements of Title IV; discharge of any pollutant without a permit is illegal, and the permits cannot be given unless the proposed permit holder agrees to comply with effluent limitations regarding point discharges, new sources, toxic substances, and pretreatment.²⁰

The permit system replaces the Refuse Act of 1899²¹ program; although enforcement authority under that Act for certain discharges has been maintained by the federal government.²² What is important to understand is the scope of the definition of navigable waters to which the permit program applies. Senate Report No. 92-1236 accompanying P.L. 92-500 stated that navigable waters should be given the broadest constitutional interpretation possible and cited Court history as moving from navigation in fact to a theory based on interstate commerce.²³ Subsequently the Environmental Protection Agency

²⁰Yannacone, Cohen, Davison. Environmental Rights and Remedies. 1973 Supp. Vol. 1 Rochester, N.Y.: Lawyers' Co-op Pub. Co., 1973.

²¹33 U. S. C. 407.

²²3 Environmental Law Reporter. Current Developments 1230 (Feb. 9, 1973) 40 C.F.R. Sec. 125.42 (a) 38 Fed. Reg. 13540 (May 22, 1973), states that discharges made without a permit issued under Sec. 402 of the FWPCA 1972 or in violation of permit terms and conditions may result in institution of proceedings under the Refuse Act. 40 C.F.R. Sec. 125.42 (b) states that mere filing of an application for a Sec. 402 permit will not preclude legal action for violation of the Refuse Act. The 1972 amendments to the FWPCA states that no new litigation under the Refuse Act will be instituted until Dec. 31, 1974, or until final administrative action has been taken on permit applications under 1972 Act, whichever is sooner. The 1972 amendments do not affect pending litigation under the Refuse Act. U.S. v. Pennsylvania Industrial Chem. Corp., ___ U.S. ___; 5 Environmental Reporter, 1332, 1333 n. 2 (1973) Kentucky had not yet submitted a program acceptable to the federal government as of this writing.

²³S. Report 92-1236 accompanying P.L. 92-500, p. 144.

released a "Memo to the Regional Offices on the Meaning of the Term 'Navigable Waters,'" which stated that the term referred to, "(1) all navigable waters of the United States; (2) Tributaries of navigable waters of the United States; (3) Interstate waters; (4) Intrastate lakes, rivers, and streams which are utilized by interstate travellers for recreational and other purposes; (5) Intrastate lakes, rivers, and streams from where fish or shellfish are taken and sold in interstate commerce; (6) Interstate lakes, rivers, and streams which are utilized for industrial purposes by industries in interstate commerce."²⁴ In fact, the definition covers, "the waters of the United States including territorial seas," and covers any activities, including sewerage facilities which might affect water quality.²⁵

The Environmental Protection Agency has issued guidelines stating the requirements for a state permit program under the national permit program.²⁶ Pursuant to these regulations, the Council of

²⁴4 Environmental Law Reporter 46318; 40 C.F.R. 125.1 (p); 38 Fed. Reg. 13527, May 22, 1973; as amended by 38 Fed. Reg. 17999, July 5, 1973, and 38 Fed. Reg. 19894, July 24, 1973.

²⁵S. Report 92-1236, p. 144.

²⁶Sec. 304 (h) (2) of the FWPCA of 1972 sets forth the procedures; 40 C.F.R. Part 124; 37 Fed. Reg. 28390 (Dec. 22, 1972); 3 Environmental Law Reporter. Current Developments 1266 (Feb. 16, 1973) amended 3 Environmental Law Reporter. Current Developments 1447 (March 30, 1973). See, "Memo of E.P.A. Deputy Acting Administrators Regarding the National Pollutant Discharge Elimination Systems Permit," 3 Environmental Law Reporter. Current Developments 339 (June 29, 1973); letter of E.P.A. Administrator to State Governors on legislation needed to carry out National Pollutant Discharge Elimination Systems, 3 Environmental Reporter. Current Developments. 985 (Dec. 22, 1972).

State Governments adopted a Model Law to Enable States to Participate in the National Discharge Elimination System.²⁷ (which will be discussed below)

The combination of the requirements in Title II for recovering user charges and the imposition in Title IV of a permit system upon discharges into all waters of the United States necessitates that Kentucky implement a Program acceptable to the E. P. A. to qualify for federal funding for construction of sewerage facilities. The existing state legislation provides for implementation of the programs, and it is only the utilization of these statutory powers to construct a program that is necessary, insofar as the user charges and financing is concerned. As for a permit system, it would appear that the Model State Law proposed by the Council of State Governments is an acceptable vehicle for bringing the state into compliance with federal legislation.²⁸

It is, of course, the contention of the writers that a major overhaul of Kentucky's natural resource legislation is the real solution and that serious thought should be given by the legislature to adopting a Model Water Code²⁹ in lieu of patchwork attempts to restructure the present legislative structure. Such a solution would enable the state to coordinate its water planning as to consumption, quality, and

²⁷"Model Law to Enable States to Participate in the National Pollution Elimination System Established Under the 1972 FWPCA," (Council of State Governments, Feb. 1973) Environmental Law Reporter. State Water Laws 611.0101.

²⁸Ky. Rev. Stat. 224. 060.

²⁹See, Maloney, Ausness, and Morris, supra.

uses for various conflicting alternatives such as domestic consumption, industry, recreation, navigation, and agriculture. However, it is obvious that total reform must give way to needed compliance within the existing framework. The user charges discussed below are applicable within Kentucky's existing legislation.³⁰ The model permit system could be implemented through Section 224.010 of the Kentucky Revised Statutes, as was Regulation WP-1 on Kentucky Waste Discharge Permit regulations issued on January 8, 1957.³¹

Integrating these efforts into regional or interstate programs could be accomplished through the existing interstate compacts³² and the regional organizations of an intrastate nature in Kentucky. Moreover, Section 204, quoted above specifically provides for approval by the administrator of grants to interstate agencies established by interstate compacts in Section 204 (b) (4).³³

This report cannot, however, stress too greatly the need for a thorough revision of Kentucky's entire water resource planning and recommend that (1) a thorough review be made of statutes that pertain to water resources; (2) responsibility for water resources be centralized and coordinated; (3) a state water plan be developed; (4) the legal status of users and the legal categories of water uses be re-defined; (5) a permit system for both the consumption and quality of

³⁰See, text, infra.

³¹Attached as appendix. (Regulation WP-1)

³²See, footnote 131, infra.

³³P.L. 92-500.

water be introduced; and (6) a codification of all laws pertaining to water resources be undertaken.³⁴

It is the limited purpose of this report to set forth a method of utilizing the Kentucky framework to implement certain programs necessary for compliance with federal legislation and to do so in an efficient manner that will best allocate available resources. Our contention is that the combination of user charges and the permit system within a regional organization involving both intrastate and interstate facilities will be the most economic and efficient method of undertaking compliance with the Federal Water Pollution Control Act. We will proceed to discuss the economics of user charge system within the Kentucky framework and then will proceed with a discussion of a possible model law and regulations to implement the system.

³⁴Kentucky. Department of Natural Resources. Division of Water. Kentucky Framework Water Plan, p. 1-21.

B. THE EQUITY AND ECONOMIES OF STATE
WATER POLLUTION CONTROL FINANCING

State Compliance With the Federal Water Pollution Control Act
Amendments of 1972: The Value of the Effluent Charge in
Kentucky.

At best, in attempting to solve the problem of water pollution politicians search for the right bureaucracy, bureaucrats persist in their seemingly endless quest for the "right" set of rules and regulations, while engineers continue their scientific hunt for that twentieth century American miracle: the technological fix. As important as government interdiction, efficient administration, and applied technology may all be in dealing with the problem of water pollution they are all bound by themselves to have disappointing results.

Politics, law, and technology can constitute by themselves only the framework and method by which any given solution is to be implemented. Although they are of course, the necessary flesh of any workable solution's bones, they are not the substantive bones of any solution. This basic fact, though, is too often overlooked and as a result the two primary and fundamental aspects of water pollution control are ignored in the process. The problem of water pollution control is in substance an economic problem³⁵ involving social costs.³⁶ This

³⁵See Hite, Macaulay, Stepp and Yandle, Jr., The Economies of Environmental Quality (1972); See also Kneese and Bower, Managing Water Quality: Economics, Technology, Institutions (1968).

³⁶Ruff, "The Economic Common Sense of Pollution," The Public Interest, Spring, 69 (1970).

study therefore considers the financing of water quality control and management systems with regard to these two key aspects of the pollution problem.

The framework for analysis is the passage of enabling legislation³⁷ by the Kentucky General Assembly in order that Kentucky might comply with the Federal Water Pollution Control Act Amendments of 1972.³⁸ In the role of "devil's advocate" this report takes a critical look at the newly created Kentucky Pollution Abatement Authority³⁹ and the financing scheme⁴⁰ it proposes to use in generating state revenue for procuring matching federal funds. These federal matching grants will be used for construction of sewerage treatment facilities by local water treatment districts in Kentucky in compliance with the Federal Water Pollution Control Act Amendments of 1972.⁴¹ Since this Act is undoubtedly the most ambitious and encompassing legislation in the area of water purity to date, enabling state legislation in compliance with federal law deserves to be carefully scrutinized. Under federal

³⁷Kentucky Acts 1972 ch. 329. Kentucky Revised Statutes (hereinafter referred to as K.R.S. ch. 224A. H.B. 560 effective June 21, 1974, amended K.R.S. 224 to include county and urban county governments, to make the reference to the water pollution control agency to the Department for Natural Resources and Environmental Protection, and to incorporate the necessity for compliance with the Federal Water Pollution Control Act Amendments of 1972; no substantive changes were made.

³⁸Pub. L. No. 92-500 (Oct. 18, 1972).

³⁹K.R.S. ch. 224A.

⁴⁰K.R.S. ch. 224A §§ 6, 19, 20.

⁴¹Pub. L. No. 92-500 (Oct. 18, 1972).

law great latitude in the substantive aspects of regulation and financing has been left to state discretion.⁴² It is hoped that this broad discussion of the equity and economics of water pollution control financing generally and the critique of the Kentucky case specifically will shed some light on how this discretion may be used wisely.

Federal Water Pollution Control Act Amendments of 1972

The Federal Water Pollution Control Act Amendments of 1972 require that the discharge of pollutants into the navigable waters of the United States be eliminated by 1985.⁴³ Provision is made in the Act for grants to the states for construction of waste water treatment works.⁴⁴ This provision states in part that:

waste water treatment management plans and practices shall provide for the application of the best practicable waste treatment technology before any discharge into receiving waters, including reclaiming and recycling of water, and confined disposal of pollutants so they will not migrate to cause water or other environmental pollution and shall provide for consideration of advanced treatment techniques.⁴⁵

States under the Act are required to submit for federal approval water quality standards and implementation plans based on point discharge effluent limitations.⁴⁶ Moreover, Title II of the Act requires that

⁴²Ibid., § 101 (b).

⁴³Ibid., § 101 (a)(1).

⁴⁴Ibid., §§ 201-12.

⁴⁵Ibid., § 201 (b).

⁴⁶Ibid., §§ 301-03.

a system of charges be included in any project whereby users pay an appropriate share of the costs of operation and maintenance of the system before any grant is approved.⁴⁷ These provisions acknowledge the integral problems of water quality and management,⁴⁸ accept cost-benefit criteria as a guideline for pollution goals⁴⁹ and require the internalization of costs by the imposition of charges on water users.⁵⁰ The Act, however, though it establishes minimum federal standards and guidelines that states must meet,⁵¹ leaves primary responsibility for implementation and administration of water quality control systems to the individual states. The impact of the Act depends then on continuing effective and functional state action.

State Financing of Water Quality Control Systems

A great variety of financing schemes are employed throughout the United States in water quality control and management systems. The user charge is by far the most prevalent method of water quality control financing to the extent that direct government appropriations

⁴⁶Ibid., §§ 301-03.

⁴⁷Ibid., §§ 201-12.

⁴⁸Senate Comm. on Public Works, Federal Water Pollution Control Act Amendments of 1972, S. Rep. No. 92-414, 92d. Cong., 1st Sess. (1972).

⁴⁹Ibid.

⁵⁰Ibid.

⁵¹Pub. L. No. 92-500 (Oct. 18, 1972) § 303 (e)(3).

are not considered a functional scheme of water quality control financing. The "user charge" has become more popular in recent years due no doubt to its flexibility in raising sufficient revenues to meet increasing expenditures for pollution control at the state and local levels.⁵² It is now estimated that over 70 percent of municipalities with populations of 5000 or over utilize such a system.⁵³ Moreover, as states enact legislation in order to comply with federal law both the extensiveness of its use and degree of reliance upon it are likely to increase substantially. This increase will no doubt result from the amount of additional revenue needed by state and local governments in remodeling existing water treatment facilities and in construction of new plants. Given these circumstances, the need arises for careful consideration of the varying ^{user} charge financing schemes now employed in order that a functional determination of their economic efficiency and effective cost impact can be made. The following discussion details the elements of various user charge financing schemes employed throughout the country.

User charges are based on varying formulae. Some municipalities

⁵²Federal Water Pollution Control Administration, The Cost of Clean Water And Its Economic Impact (1969). The report is in three volumes. Volume I updates the Department of the Interior's 1968 cost analysis. Volume II, appendix, provides summary data from the Federal Water Pollution Control Administration's municipal waste inventories of 1962 and 1968. Volume III, Sewerage Charges, discusses the financing of wastewater collection systems and the considerations pertinent to the selection of a user charge program by a local governmental unit as a means of raising revenue. [Hereinafter referred to as Cost of Clean Water.]

⁵³Volume III, 12-23.

charge a flat monthly rate with no user classification differential. Others employ a more complex formulae that might include not only a classification according to type of user (industrial--household) but also the number of plumbing fixtures and quantity of water purchased. The list below⁵⁴ outlines the most widely employed methods of calculating user charges.

1.) Flat rate method: This financing scheme is used by the majority of cities having a population of 5,000 or less; its advantage is simplicity and where industry is slight and water uses are generally uniform, as in small communities, it is greatly relied upon. User charges, however, show no functional correlation to pollution costs.⁵⁵

2.) Modified flat rate: This is a version of the flat rate charge in which charges are adjusted according to the type of water user. Usually users are classified into residential, business, municipal, and light and heavy industrial classes.⁵⁶

3.) Water use method: Here user charges are based on a percentage of the water bill, the volume of water used, or a combined formula that includes both a sewer and water charge. This financing scheme is frequently the method applied by large municipalities with industrial complexes.⁵⁷

⁵⁴The listing is taken from Morse, "The Cost of Purity: Use of the Effluent Charge in Water Quality Control and Management," 7 Valparaiso U. Law Rev. 169 (1973).

⁵⁵Volume III, at 21.

⁵⁶Ibid., at 22-23.

⁵⁷Ibid., at 16-18.

4.) Plumbing fixtures: Charges in this financing scheme are based on the amount and type of fixtures employed by users. It is not commonly used, and Texas may now be the only state where this formula is applied.⁵⁸

5.) Sewer connection and tap fees: Almost all municipalities have an initial minimal charge often labeled a connection or tap on charge. The method of calculating this charge varies with: (a) the size of the sewer connection or water meter, (b) the location of the customer, and (c) the condition of the street.⁵⁹

6.) Joint treatment and industrial surcharges: In recent years the joint treatment of municipal and industrial wastes has greatly expanded due to the growth of sanitary districts and industry's willingness to join municipal waste treatment systems. Here surcharges may be based on four different calculations: a constant rate formula, a quality-quantity formula, the California formula, and the Joint Committee formula.⁶⁰ The constant rate formula is usually based on water use or type of business and is similar to the user charge method of calculating rates. This financing scheme is often used because of the simplicity in administration.⁶¹

The quality-quantity formula is increasingly being employed by municipalities throughout the country. Taking into account the amount

⁵⁸ Ibid., at 19-20.

⁵⁹ Ibid., at 24-25.

⁶⁰ Morse, supra at 182-83.

⁶¹ Ibid.

and characteristics of the sewerage, costs are attempted to be allocated among the actual polluters.

The California formula employs both flat rate charges and quantity-quality charges and allows considerable geographical flexibility in charge plans.⁶²

The Joint Committee formula is based on nonuser fees collected through property taxes or special assessments and user fees assessable through quality-quantity formula.⁶³

The above listed financing schemes are in many respects meaningless in and of themselves. In the abstract they tell little of their effectiveness in solving either the "economic problem" of pollution or the equitable problem of distributing social costs. It is to the former question that this paper now turns.

The Economic Problem of Pollution

Pollution, as stated earlier, is essentially an economic problem involving social costs.⁶⁴ As an economic problem pollution results from a market imperfection in the pricing system. Economists

⁶²Ibid.

⁶³Volume III, at 32.

⁶⁴See Ostrom, "The Water Economy and Its Organization," in Politics, Policy, and Natural Resources 376-96 (D. Thompson ed. 1972).

have long noted this imperfection which they refer to as an "external economy." ⁶⁵

The Salton Sea in Southern California for instance ⁶⁶ is one of the most productive inland fisheries in the country. Being fed by water that flows through the heavy fertilized Imperial Valley, its aquatic life is enhanced considerably as a result of the amounts of plant nutrients deposited therein. This situation represents an example of "external economy." ⁶⁷ The fishers in the sea reap the benefits of fertilizer payed for by farmers in the valley. The economic problem is that the price system does not provide for payment to the farmers by the fisherman.

While this may be a pleasant by-product of agriculture from the fisheries viewpoint, the situation leads to a misallocation of resources. ⁶⁸ Farmers, acting economically, apply fertilizer until the last 1 dollar worth of fertilizer produces 1 dollar worth of crops. Farmers do not take into account the effect of the fertilizer on the yield of the fisheries. Even though the next 1 dollar worth of fertilizer would increase the yield of the fisheries by say .05 cents and increase the farmer's crop yield by .98 cents and thereby contribute more to the national output than it costs, it would still not be applied by the farmer. Less of the resource is

⁶⁵ See Dorfman, Robert, The Price System, Englewood Cliffs, N.J.: Prentice-Hall, 1973.

⁶⁶ Ibid.

⁶⁷ Ibid.

⁶⁸ Ibid.

employed than would be ideal from the point of view of national output. This situation seems to hold generally wherever external economies exist.⁶⁹

Oysters of the Chesapeake Bay and the clam beds of Long Island are, on the other hand, being endangered by polluted waters from the cities and industries of the East.⁷⁰ This situation is an example of an "external diseconomy." Unfortunately, external "diseconomies" seem to be far more prevalent than "economies." Traffic congestion and air, noise, and water pollution are all instances of external "diseconomies." In all these cases, private economic actions have deleterious side effects for which the perpetrator is not charged but which nevertheless sometimes results in serious social costs.

The defect is inherent in the price system where the guiding principle is that each enterprise should bear the cost of the resources it employs, and no others, and should receive the benefits of the goods it produces, and no others. However, where external diseconomies exist the price system does not in some cases transmit the proper information or motivation for this principle to be able to operate. No charge is imposed by the price system on the firms and cities for their damages to the coastal waters, or the industries and activities dependent on pure water.

⁶⁹Ibid.

⁷⁰Ibid.

Moreover, efficiency of the price system in resource allocation depends on the identity of private and social costs. So long as every producer compensates somebody for every cost imposed by his production, his profit-maximizing decisions about how much to produce, and how, are also socially efficient decisions of resource allocation. Private and social costs are identical in such an instance. The water polluting producer, however, is charged for some of the natural resources he consumes, the capital he wears out, and the labor that he employs but not for the cost of his polluting use of water. Since his polluting use harms others, the social cost is not zero as is the private cost of the producer's polluting use as an "unpaid for factor"⁷¹ in production. The polluting use of water being cost free to the polluter, the cost of the polluter's benefits derived therefrom are externalized on to society. The producer's market price is left unaffected by the cost of the polluting use.

The price system cannot take such effects into account.⁷² Without prices to convey the needed information the polluting use as an "unpaid for factor" in production results in profit-maximizing allocation of resources. What appears to be needed is a regulatory system whereby the resulting external cost of the polluting use is internalized. If each polluting user were made to bear the cost of his own pollution, private and social costs would cease to be divergent and the polluting user's decisions would in addition be socially efficient decisions. Moreover, polluters would seek out every available means

⁷¹Ibid.

⁷²Ibid.

to reduce their polluting use in order to reduce their own costs. This can be accomplished by putting a price on "polluting use."

A price-based pollution control system would differ from the ordinary transaction system only in that a regulatory agency would set the prices, instead of their being set by demand-supply forces, and that the state would force payment.⁷³ Under this system anyone could emit pollution so long as the price set by the regulatory authority, which would be the marginal social cost of that polluting use, was paid. Private decisions in this instance, though based on self-interest, would be socially efficient decisions.

Since pollution is of many types and in varying degrees there would naturally be different prices for different kinds and levels of pollution. Extremely dangerous polluting uses would have an extremely high price, and in principle at least, the prices would vary with geographical location, season of the year, and even day of the week, although too many variables might entail a prohibitive administrative cost.⁷⁴ However, once these prices were set polluters could adjust to them any way they chose to. Acting out of self-interest they would reduce pollution by every means possible and since everyone would be charged the same price for the same type of pollution the marginal cost of abatement would be the same everywhere.⁷⁵

This self-regulating system necessitates the creation of a

⁷³Ruff, supra at 78.

⁷⁴Ibid. at 79.

⁷⁵Ibid.

public administrative authority. Its job would be to measure the output of pollution from all sources, set the prices for pollution costs, and serve as a central coordinating authority for cost-standards and federal-state relations.

In such a water pollution control and management system private and social costs are identical. Furthermore, the market would now be effectively self-regulating enabling socially efficient maximization of resources. In this system, where the cost of the "polluting use" is internalized by the polluter, incentives are not destroyed but rather enhanced since the development of new pollution control methods will reduce the cost of pollution payments. It might also be easier to agree on a simple schedule of pollution prices than on a complex set of administrative regulations. This regulatory price-system would also seem to insure a flexible and easily applicable means for financing water pollution control and management systems.

Economies and User Charges

In considering the variety of financing schemes employed throughout the United States it becomes apparent that most do not operate so as to functionally internalize pollution costs. User charges as outlined earlier generally tend to charge not according to the cost of polluting use but for use of water per se. Charges based on water use, flat rate, plumbing fixtures, and even modified flat rate formulae are not functionally calculated so as to internalized pollution costs.

In the joint treatment financing scheme where regulations

normally control the types of waste that are acceptable in the treatment system, non-acceptable waste must be given pretreatment. However, it appears that such regulations are not vigorously enforced⁷⁶ with the result that industrial users are not charged full costs. As a consequence, some municipalities incur large costs which are passed on to local taxpayers and other users.

In all the user charge schemes of financing only the quality-quantity formula seeks to internalize the cost of the "polluting use". Since this formula takes into account both the amount and characteristics of sewerage and allocates costs among the actual polluters, it serves as an inducement to pretreatment and to reducing the quantity of waste load. Criteria for determining the kind and degree of pollution in this financing scheme, however, are often crude classifications founded on no more than perhaps the old reliable "logical guess." As one author states, "the method involves a total administrative scheme of testing, enforcement and calculation of treatment charges which impedes its implementation in areas with inadequate technical competence."⁷⁷ Even in areas where such technical expertise is available it is usually either ignored or underutilized.

Having suggested the internalization of costs in creating a self-regulating price system as the "economic solution" to water pollution this study now considers the non-economic question of

⁷⁶Cost of Clean Water, Vol. I, supra at 10.

⁷⁷Morse, supra at 182.

equity or fairness in distributing the social cost of pollution.

Equity in Water Pollution Control Financing

Theories of cost assessment vary in proportion to the degree of emphasis placed on diverging or similar goals. The theories of cost assessment summarized below⁷⁸ represent the major theories of allocating costs in financing water pollution control and management systems in the various states.

1.) Public utility theory: Sewage service is conceived as a commercial enterprise such as the production of electricity. Rates are computed on the metered amount of water the user consumes and the most common method of assessment is a modified flat rate based on the classification of the user (residential, industrial, business, municipal) and on the amount of use (not pollution).⁷⁹

2.) Diffused benefits theory: This theory assumes a "right to pollute" and states that benefits are derived by all individuals, inside and beyond the municipality, from the collection and treatment of sanitary sewage and industrial waste. It takes all responsibility away from the polluter and allocates costs among the federal, state and local levels of government by general tax levies.⁸⁰

3.) Added expenditure theory: This theory holds that the

⁷⁸The Listing is taken from Morse, supra at 183-85.

⁷⁹Cost of Clean Water, Vol. II, supra at 38.

⁸⁰Ibid.

additional cost, once the primary function of the sewage system is determined (whether it be storm sewage or sanitary and business sewage), should be charged to ^{the} user. It operates functionally much like the public utility theory mentioned above.⁸¹

4.) Alternative revenue theory: This procedure arrives at the same result again as the public utility theory; it states that user charges are more acceptable than increased property taxes. The theory looks toward the availability of revenue and the ability to impose the cost burden on the general public; it concludes that user charges are more economically efficient than traditional methods of taxation as well as being more acceptable to the public.⁸²

5.) Capital and operation cost theory: This theory assigns capital costs to nonusers (property owners who benefit from enhanced property values) and operating costs to users (those who discharge wastes into the system).⁸³

6.) Differential benefits theory: Here cost is divided in proportion to benefits derived from the service (not from the polluting use). The theory would take away any direct responsibility for pollution control from the creator of the waste. It also involves numerous complex evaluations, such as assessing the cost of recreational benefits or the hypothetical loss incurred if there were no service.⁸⁴

⁸¹Ibid at 39.

⁸²Morse, supra at 184.

⁸³Ibid.

⁸⁴Cost of Clean Water, Vol. III, supra at 40-41.

7.) Relative use theory: The system is divided into parts such as the collection system and the treatment plant system. Costs are then allocated on the basis of the volume of sewage flowing through each part. Nonusers would then be responsible for collection costs (storm and infiltration water) and users would be responsible for treatment of sewage.⁸⁵

8.) Joint Committee theory: This theory was formulated by representatives of eight national committees on water resource control. It divides cost between property owners and users based on annual fixed and operating costs. Fixed costs are divided into collection, interception, pumping station and plant categories. The costs are then allocated to user, storm water, future growth and infiltration categories on the basis of volume and characteristics of sewerage. Property is allocated the cost for future growth, infiltration and storm water. The same accounting methods are used for calculating operating costs. The property share is payable through special assessments or property and the user share by user charges.⁸⁶

There are important distinctions to be drawn in dealing with the economic question of pollution as opposed to the political question of equity or fairness in distributing social costs. A situation is said to be economically efficient if it is not possible to rearrange things so as to benefit one person without harming another.⁸⁷ Simply stated,

⁸⁵Ibid. at 41.

⁸⁶Ibid. at 41-45.

⁸⁷See, Dorfman, Robert and Dorfman, Nancy., eds. Economics of the Environment, (New York, Norton, 1972) for a number of definitions of Pareto Optimality. All created to suit the writer's particular point of view.

that is the economic equation for efficiency. But as Lawrence Ruff points out "Politically, this equation can be solved in various ways: though most reasonable men will agree that efficiency is a good thing, they will rarely agree about which of the many possible efficient states, each with a different distribution of 'welfare' among individuals, is the best one."⁸⁸

Although economics itself has nothing to say about which efficient state is best from the standpoint of equity and fairness, this science can suggest ways of achieving efficient states that in themselves functionally work towards resolving a specific "economic" problem. In the end, the issue of equity is a matter of personal and philosophical values destined to be resolved in the socio-political process. But economics can often quite accurately describe the equity considerations involved in any suggested policy attempting to resolve what is fundamentally an economic problem. Water pollution control financing is an economic problem. As noted earlier, it results from market imperfection in the price system. Concisely stated, the problem is that the "polluting use" of water is considered a "free-good." And as the first principle of economics dictates, society must pick up the tab for the polluters' "free lunch." Polluters to some extent merely pass on their internal "private costs" to society as a whole by externalizing them as "social costs." The economic solution lies in simply requiring that those who benefit by the polluting use bear the burden of the cost of their polluting use.

This economic solution (internalization of costs) clearly

⁸⁸Ruff, supra at 73.

illustrates the equity considerations that are necessarily involved in determining cost allocation when financing water pollution control systems. In fact, when considering this economic solution, it becomes apparent that perhaps no more equitable method of cost allocation could be devised. What could be fairer than those who benefit from the polluting use pay for cost of their polluting use?

Many of the cost allocation theories earlier discussed already demonstrate in some degree a preference for placing the burden of financing waste water treatment on polluting users. Theories of cost assessment that seek to distinguish between users and non-users on the basis of classifications which separate, for instance, storm and infiltration water from user sewerage per se, are in this respect drawing reasonable distinctions in allocating costs. Often such theories of cost assessment (relative use; capital and operation, etc.) rightly finance operations on the basis of both property taxes and user charges. Sewer connection and tap fees also correctly attempt assessment financing when functionally related to actual fixed as opposed to operating costs. All of these functional distinctions attempt in various ways, though some more successfully than others, to assess the cost of water treatment on the basis of benefits to polluting users.

User charge financing schemes also fall, at least conceptually, into this particular cost allocating category. User charges, however, in most cases fail to functionally correlate the "cost of the polluting use" with the "amount of the charge" levied on the polluting user.

The "flat rate" user charge scheme for instance exhibits little functional correlation since it is based solely on a percentage of the total amount of water used rather than on the actual clean up cost of

polluting use. It thus considers only one of the several factors that determine the cost of polluting use. Moreover, the sole factor of "water quantity" that it considers may often be of minor importance in the actual polluting use cost calculation.

The "modified flat rate" user charge scheme embodied in the "public utility" theory of cost assessment suffers to a lesser extent from this same deficiency. Like the "flat rate" scheme it places direct responsibility on the users of water but goes further in calculating rate charges by classifying users into general and thus dis-functional categories. It fails because it bases its rate charges on broad classes of users instead of specific types of polluting uses.

Along these same lines, cost assessment theories that place the burden of financing waste water treatment on either federal, state, or local general revenue appropriations are highly inequitable since no attempt is even made to correlate pollution costs and polluting uses. Both the "diffused benefits" and "differential benefits" theories of financing fall into this category.

Needed is a financing scheme that embodies reasonable user non-user distinctions and in addition employs a user charge that functionally relates charge rates to actual cost of polluting use. Such a financing arrangement would seem to be the best of all possible worlds. It would be functionally satisfying from the standpoint of both economics and equity.

Effluent Charge Financing

The effluent charge financing concept has been described as a levy on a party for using the environment by discharging

an effluent into it, and depriving someone else of the use he would like to make of the environment. While the concept is sometimes called an effluent tax, or an emission tax, this nomenclature is not strictly correct. A tax is a general charge with no immediate quid pro quo for the payer; thus there is a tax on tobacco and on income. A charge by the post office or for grazing on government land is another thing, however. It is a fee for a service rendered or a damage sustained.⁸⁹

Administration and implementation of such a system is far from a simple task. However, the major problem encountered is also its greatest benefit--determining the cost of pollution and what it is worth at different stages of use and to whom based on a theory of cost-benefit analysis. This problem though, for the most part, has been overcome by scientifically establishing complex pollution cost indices that are functionally correlated to waste discharges by polluters.⁹⁰ Another difficulty arises in attempting to impose such a system upon a legal structure based on faulty assumptions as to the nature of water. Water use classification is often determined by the status of the user (ie. whether the rightholder is a "riparian" user or "appropriations" user), or by classification of the water itself (ie. whether the water is "ground water" or "surface water"), or on the basis of other artificial distinctions.⁹¹ Moreover, water pollution control laws do not always take account of the "rights" embodied in these legal classifications. Despite the niceties of legal

⁸⁹Hite, supra at 109-10.

⁹⁰See Kneese and Bower, supra.

⁹¹Morse, supra at 170.

categories, nature insists on flowing its own course. The result is often inconsistency in statutory construction and unavoidable conflict in environmental administration and enforcement. A functional water quality control and management system must transcend convenient legal distinctions that are not in accord with reality. It must include all water sources and water users. Application of effluent charge financing is not restricted within the confines of current legal terminology. It assumes no "right to pollute" and levies a charge on "all" polluting uses.

The various economic, administrative, and procedural aspects of the effluent charge have been discussed at length elsewhere.⁹² For the purposes of this article it is sufficient to note that the system has had much success in Germany's Ruhr valley.⁹³ This system known as the Genossenschaften consists of eight regional associations which operate a waste disposal system and water supply. It distributes the cost of water quality operations by levying charges on the effluents discharged in each region. Although a number of side calculations are made, in principle, costs are distributed in proportion to aggregate dilution requirements established by a central coordinating body.⁹⁴ The system is based on the principle that costs should be borne both by members who are responsible for the effluent discharges and by those

⁹²Kneese and Bower, supra at 143-79.

⁹³See Fair, Pollution Abatement in the Ruhr District, in Comparison in Resource Management 152 (H. Jarret ed. 1961).

⁹⁴Morse, supra at 172.

who benefit from the use of the water. The system also includes strict regulatory supervision by the state. Although the Ruhr river is the sewer for one of the world's most concentrated industrial areas (the Ruhr valley contains 40 percent of German industry, including 80 percent of coal, iron, steel, and heavy chemical capacity)⁹⁵ and the river itself is small, with a low flow of less than half the flow on the Potomac near Washington,⁹⁶ people fish and swim in the Ruhr river; yet, the volume of wastes is extremely large--actually exceeding the flow of the river itself in the dry season.⁹⁷ No doubt much of this system's success is attributable to its comprehensive regional orientation. It also employs both quality and quantity control methods including collective waste treatment plants, use of certain streams for waste-effluent carriage, diversion of stream flow to promote purity and enhance waste sterilization, and use of artificial recharge of underground aquifers.⁹⁸

This system necessarily ignores straight marginal cost pricing in favor of a charge that provides an incentive to preserve scarce resources.⁹⁹ The effluent charge thus levied serves two purposes: (1) it acts as an equitable means of assessing the cost and distributing

⁹⁵Ruff, supra at 84.

⁹⁶Ibid.

⁹⁷Ibid.

⁹⁸Banks, Eleary and Kneese, Development of a Water Quality Management Program for the Delaware River Basin 10 (1963) (report to the Delaware River Basin Commission).

⁹⁹Morse, supra at 174.

the benefits of the regulation and treatment of stream waters, and (2) it provides an incentive to polluters to reduce waste loads through process adjustment, recovery practices and pretreatment since it internalizes cost.

The American experience with the effluent charge concept has so far been extremely limited, though California,¹⁰⁰ and more recently Vermont¹⁰¹ have used various aspects of the effluent charge concept in their respective water pollution control and management systems and the Delaware River Basin Compact¹⁰² on the Eastern Seaboard embodies this "regional" approach to comprehensive planning and control.

In summary, it should be noted that the effluent charge concept provides both the "economic" solution to pollution and a cost assessment equitably acceptable to most users. Furthermore, it is capable of producing revenue adequate to meet a water quality control and management system's operational needs. The effluent charge accomplishes this by directly and functionally relating the cost of the user charge to the actual cost of polluting use.

Various proposals have been put forth for the adoption of some form of effluent charge system in the United States.¹⁰³ With the passage of the Federal Water Pollution Control Act Amendments of 1972,¹⁰⁴

¹⁰⁰Ibid. at 174-77.

¹⁰¹Ibid.

¹⁰²Ibid.

¹⁰³See Grady, "Effluent Charges and the Industrial Water Pollution Problem", 5 New Eng. L. Rev. 61 (1969).

¹⁰⁴Pub. L. No. 92-500 (Oct. 18, 1972).

the opportunity readily presents itself for the states to adopt the effluent charge as part of a total water control system corresponding with the present system of sewer and municipal waste charges.¹⁰⁵ Water treatment districts would be the conduits for monies that relate to costs of use and benefit to municipal facilities and residents.¹⁰⁶ The state as a central coordinating and managing authority would act as the next level of collection and distribution with power to administer surcharges, added levies, fines, and incentive plans.¹⁰⁷ Given sufficient technological competence, such a comprehensive system would be able to enforce mandatory regulations, determine the amount of effluents a particular user was adding to the water supply, and encourage and assist users in improving techniques for pretreatment and reduction of waste loads.¹⁰⁸

The Kentucky Case

The Kentucky legislature in 1972 in order to comply with Federal regulations concerning the operation of sewerage treatment facilities and in order to provide an agency to generate funds for this purpose, created the Kentucky Pollution Abatement Authority.¹⁰⁹ In

¹⁰⁵ See Morse, supra.

¹⁰⁶ Ibid. at 188.

¹⁰⁷ Ibid.

¹⁰⁸ Ibid.

¹⁰⁹ K.R.S. ch. 224A.

complying with the Federal Water Pollution Control Act Amendments of 1972 this state agency was created in order that it might regulate the construction of sewerage treatment facilities, generate funds in order to procure matching federal grants, and enter into financing contracts with local water districts. The main features of the Authority are its taxing and regulatory powers.

The Authority as created is a public corporation and a governmental agency that is to act as an instrumentality of the state of Kentucky.¹¹⁰ The affairs of the agency are managed by a board of five members, who serve without compensation for four years, appointed by the governor of the state.

These five appointees are the governing board of the Authority and are relatively autonomous though for administrative purposes the Authority is directed "to establish and maintain offices" in "the appropriate and responsible state department." The Authority is thus attached to the "state water pollution agency" which is defined by law as the Kentucky Water Pollution Control Commission of the Department of Health.¹¹¹

The Authority is given power to make state grants as funds are available to any "governmental agency," and to assist the agency in construction of waste water treatment works, which will constitute and be eligible projects for state-federal assistance.¹¹² This section of

¹¹⁰K.R.S. ch. 224A.030.

¹¹¹Ibid. 224A.010. See, Senate Bill 112, 1974 General Assembly, effective June 21, 1974, discussed supra.

¹¹²Ibid. 224A.040.

the Act states that it is the purpose of the agency to "maximize the total amounts of federal grant participation received for all eligible projects instituted by governmental agencies within the commonwealth of Kentucky."¹¹³

The power to levy taxes is also conferred to the Authority. The Authority is declared to be an independent taxing district whose district encompasses the entire geographical area of the commonwealth of Kentucky. Such broad authority is based on the fact that its objectives serve "a statewide purpose not related to any specific area or locality of the state...but affecting the welfare and health of all Kentucky citizens...both functionally and economically."¹¹⁴ The Authority, upon resolution of its governing body, may levy and collect a tax upon every purchase of water service in the commonwealth of Kentucky, "such tax to be equal to not more than two percent (2%) of the gross amount of each purchase of water service."¹¹⁵ Tax receipts constitute Authority revenues and can be used to carry out the purposes for which the Authority is created (matching state funds) but also can be used for the purpose of payment of principal and interest on Authority revenue bonds.

Thus, by way of this 2% tax on water service, the legislature intended to give the Authority power to raise matching State funds in order to participate in the Federal grant-in-aid program. But there

¹¹³Ibid.

¹¹⁴Ibid. 224A.060.

¹¹⁵Ibid.

are other avenues open for generating state funds available to the Authority. Namely the issuance of revenue bonds by the Authority,¹¹⁶ the issuance of general state obligation bonds to generate revenue for the Authority subject to voter approval,¹¹⁷ direct appropriations from the state legislature, and the transmittal of sewer charges to the Authority from local governmental agencies operating sewerage treatment facilities as agreed on in "assistance agreements" between the Authority and local governmental agencies in connection with "eligible projects."

The Authority, it can be seen, has access to the following sources of revenue: appropriations from the state legislature to the Authority;¹¹⁸ issuance of Authority revenue bonds;¹¹⁹ issuance of general state obligation bonds;¹²⁰ remittal of sewerage charges from local governmental agencies in eligible projects as stipulated in "assistance agreements" between the Authority and local governmental agencies operating eligible projects;¹²¹ power to levy statewide 2% tax on water service.¹²² Thus the Authority has the option of issuing revenue bonds or levying the 2% statewide water service tax

¹¹⁶Ibid. 224A.120.

¹¹⁷Ibid. 224A.220.

¹¹⁸Ibid. 224A.050.

¹¹⁹Ibid. 224A.120.

¹²⁰Ibid. 224A.220.

¹²¹Ibid. 224A.190.

¹²²Ibid. 224A.060.

to raise revenue to match federal funds. After this money is raised on the state level by the Authority and federal grants are procured, the Authority may distribute this money to local governmental agencies involved in eligible sewerage treatment projects. These state grants to the local governmental agencies are, though, only loans which must be repaid to the Authority¹²³ as to the aggregate principal amount of the state grant plus interest on the aggregate balance of the principal amount from time to time remaining unpaid, computed at the applicable interest rate, plus 1/4 of 1%.¹²⁴ In order to pay back these state grants, local governmental agencies are empowered to enter into "assistance agreements" with the state authority and to covenant with the Authority to impose service charges upon all persons to whom sewer services are provided by the construction of eligible projects.¹²⁵ These charges may be "in addition to all other rates and rentals, and charges of a similar nature now or hereafter authorized by law and now or hereafter being levied and collected by such governmental agencies." Thus the local governmental agencies may impose service charges to repay state grants. Indeed the State Pollution Abatement Authority can require the imposition of sewerage charges through stipulation of these charges in "assistance agreements."¹²⁶ The Authority is specifically authorized in the event any governmental

¹²³Ibid. 224A.100(8)(a)(b).

¹²⁴Ibid.

¹²⁵Ibid. 224A.080(5)(7).

¹²⁶Ibid. 224A.070 (7); 224A.100(10).

agency which is a party to an assistance agreement fails to perform its duties in the assistance agreement, to directly impose sewerage charges in the Authority's name.¹²⁷ Both the local governmental agencies and the state authority have the power to compel local water users that could reasonably be served by the eligible project to join the project.¹²⁸ The Authority also has the power to compel the local governmental agencies to adjust their service charges to meet the requirements of an assistance agreement.¹²⁹ Finally, assistance agreements may provide by their terms that service charges levied by local governmental agencies for payment to the Authority be reduced, diminished, or extinguished to the extent that the Authority has, during any fiscal period of the Authority, levied and collected water utility taxes pursuant to its power to tax as an independent statewide taxing district.¹³⁰ Such reduction, diminution or extinguishment of local service charges to be based upon formulas, procedures and other rules and regulations which shall be prescribed by the Authority.

This then is the basic legal and administrative structural setting of the state machinery created by Kentucky law to comply with Federal regulations in this area. As discussed earlier, the Kentucky Pollution Abatement Authority has several alternative and possible resources of revenue in order to generate funds to enable it to enter assistance agreements with local government agencies for eligible

¹²⁷ Ibid. 224A.180.

¹²⁸ Ibid. 224A.180(2).

¹²⁹ Ibid. 224A.190.

¹³⁰ Ibid. 224A.200.

projects. What must be kept in mind is that state grants raised from these revenue sources and distributed to local governmental agencies must be repaid in full with interest.

Now, and this needs to be underlined, if the costs of sewerage treatment grants are to be related economically and functionally to pollution sources the source of the state Authority's revenue for grants must be considered. If the revenue comes largely from legislative appropriations the equities of cost distribution depend obviously on the existing general tax policy in Kentucky. The raising of revenue via general obligation bonds seems politically infeasible in light of the fact that the issuance of these bonds would require voter approval and this provision was probably included as only an emergency source of funds. The issuance of Authority revenue bonds shifts the cost distribution to the local members of the eligible sewerage treatment projects to the extent that revenue from legislative appropriations are not used to pay interest and principal and are not calculated to be repaid by the local governmental agencies in the assistance agreements. Thus, if Authority revenue bonds are used as the primary source of revenue the equity of cost distribution would depend upon the equities inherent in the local governmental agencies revenue raising scheme, which this paper will look at shortly. However, if the Authority uses its power as an independent taxing district and levies a 2% straightline water service tax statewide, the cost distribution would be grossly unequitable. Although the Act creating the Kentucky Pollution Abatement Authority states that the Authority has this broad power since the purpose of the tax is a statewide purpose and benefits no particular geographical area, the actual result would be just the opposite. That

is, there is not only an inherent inequity in taxing all polluters alike (2% tax statewide), but since local governmental water treatment district revenue schemes vary greatly, there is a likelihood that the costs of operating treatment facilities would not be uniform as between members of different sewerage treatment districts in eligible projects; not to mention people in water treatment districts not engaged in eligible projects. Moreover, since a good percentage of operating revenue for treatment facilities comes directly out of the local government's general revenue fund, equities in paying back state grants to the Authority will vary to the extent that tax policies of local governmental units vary.

The Act creating the financing scheme of the Kentucky Pollution Abatement Authority did not provide for redressing inequities produced between citizens in eligible projects and those in non-participating projects (those not receiving state grants through assistance agreements). On the contrary, it provided that service charges levied by local governmental agencies for payment to the state authority "may be reduced, diminished, or extinguished" to the extent that the Authority has levied its 2% statewide tax. Exact computation of the amount of the reduction would probably depend on the amount of revenue raised by this 2% tax from the particular district: such reduction being computed through adoption by the state authority of rules, formulas, and regulations for this purpose. In light of the varying revenue raising schemes employed by local water treatment districts and considering the variation in the overall taxing policy of local governmental units whose general revenues support such districts it is almost impossible to

conceive of a formula or rule that would eliminate the resulting inequities inherent in the Authority's present financing scheme. However, both inequities in cost distribution and the failure to internalize costs can be eliminated by the use of the effluent charge at either the state or local levels.

A Statewide Effluent Charge

A statewide effluent charge would replace the 2% tax levy on water service statewide. It would maintain a statewide uniform scale for raising revenue (charging according to type of use and cost of treatment) while at the same time make the tax relate to the functional and economic realities of the purpose of this statewide charge, thus reducing the inequity of a non-functional straightline 2% tax. This all could be done by a simple amendment.

A Local Effluent Charge

The State Pollution Abatement Authority has the power to stipulate sewer service charges imposed by local governmental agencies in its assistance agreements with local agencies for eligible projects. Thus, the same uniform and functional scale for raising revenue and distributing costs as would be imposed at the state level by the Authority would also be imposed in the eligible project districts by the local governmental agencies. Thus an equitable determination of the amount that local service charges would be reduced when the state-

wide charge is levied would be facilitated as would the equitable cost distribution between eligible project members themselves. Moreover, this local effluent charge could be implemented now under existing law. Furthermore, the Authority's 2% statewide tax certainly does not attempt to functionally internalize the cost of pollution.

Water pollution control and management systems that may have been adequate in the past will certainly not solve today's, much less tomorrow's, problems. The only real solution to the water pollution problem lies in a functional program of total water control rather than simply piecemeal attacks. The effluent charge concept resolves the economic problem of pollution and fairly distributes the social cost of pollution. State water pollution control administrative structures are now in their infancy. It is hoped that state implementation of this country's water resource goals will not abort the positive action that has already been taken.

C. STATE AND INTERSTATE
PARTICIPATION IN NPDES

It has been stated and illustrated that Kentucky has the ability under existing legislative authority to undertake the regulatory actions necessary to implement an effluent tax on a statewide basis. However the larger issue in this study is whether an effluent tax can be levied by Kentucky as a part of an interstate compact in its role as a member of ORSANCO affecting the Ohio River Basin. First to restate what has been set forth in the Study Reports to O.W.R.R. upon which this report is based, Kentucky is a member of an interstate compact affecting the Ohio River Basin, and a statewide authority exists for the implementation of this and other compacts. The mechanism is, therefore, available.¹³¹

What should be emphasized is that the 1972 FWPCA AMENDMENTS require the states to implement both a charge on industrial users of sewerage facilities financed under federal funds and to initiate a state permit system as a part of the National Pollution Discharge Elimination System (NPDES).¹³² Failure to act in the former instance will cause loss of federal funds and in the latter, federal regulation. The states may consider themselves better able to create and operate a pollution permit system or, if not more able, at least more cognizant of the needs of their citizens. In any case, the federal water pollution

¹³¹K.R.S. 224.190; K.R.S. 224.195; K.R.S. 224.205.

¹³²FWPCA 1972 Amendments 204(b) and 402(b)(9) (P.L. 92-500, Oct. 18, 1972.)

control acts have consistently taken the position that state action is primary, and the incorporation of the Federal Refuse Act of 1899 into the Water Pollution Control Act has maintained state primacy in the area of pollution permits.¹³³

Read together, the 1972 amendments require both user charges and a pollution permit system. It would appear that user charges can be incorporated into a pollution permit system to serve as both a surcharge on the polluter and as an incentive to achieve a state of non-discharge. It should be emphasized at this point that NPDES avoids the stigma of being a "tax to pollute" by creating time limits on permits as well as by being part of a larger, no-discharge water pollution control act. Permits are issued only after a determination of minimal or base effluent discharge limitations and as a part of a continuing program to eliminate effluent discharges.¹³⁴ The pollution

¹³³FWPCA Sec. 101(b) "It is the policy of Congress to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce and eliminate pollution, to plan the development and use (including restoration, preservation, and enforcement) of land and water resources and to consult with the Administrator in the exercise of his authority under this Act." Sec. 402(a)(5) "...The Administrator shall authorize a State, which he determines has the capability of administering a permit program which will carry out the objective of this Act, to issue permits for discharges into the navigable waters within the jurisdiction of such State."

¹³⁴Ibid., (b) "The Administrator shall approve each such submitted program unless he determines that adequate authority does not exist: (1) To issue permits which--(a) apply, and insure compliance with, any applicable requirements of sections 301, 302, 306, 307, and 403; (b) are for fixed terms not exceeding five years; and (c) can be terminated or modified for cause, including but not limited to the following: (i) violation of any condition of the permit; (ii) obtaining a permit by misrepresentation, or failure to disclose fully all relevant facts; (iii) change in any condition that requires either a temporary or permanent reduction or elimination of this permitted discharge;..."

tax envisaged is one that would create an incentive for the polluter to achieve a least-cost solution to the pollution problem, whether it would be installation of pollution control equipment, joining an area-wide or regional control system, or shutting down operations altogether.¹³⁵ The tax is expected to work as an incentive to achieve the most economic solution. Whether or not a regulatory agency such as the water control authority should use the tax system in order to achieve zero-pollution is beyond the scope of this study. It is necessary to point out that using the tax system for other than revenue purposes creates problems of oversight and misuse of the tax dollar. Moreover allowing the pollution control agency to act as the collector and user of such taxes would encourage a high tax rate not designed to achieve least cost methods of pollution control.

The pollution tax or user charge is a second best answer designed to answer the problems of too little information available to set proper regulatory standards on effluent limitations. In a permit system, the

¹³⁵See, Surrey, Stanley S., Pathways to Tax Reform. (Cambridge, Mass., Harvard U. Press, 1973) who created the concept of tax expenditures as a means of describing "governmental financial assistance given through the tax system rather than through the direct methods of the regular budget,..." (p.vii). "As an example of what is meant by 'least-cost abatement,' suppose two polluters, A and B, each emit 100 pounds of pollutants. It costs A 50 cents to eliminate one pound of pollution, but costs B \$1 a pound. If each eliminates 50 pounds of pollutants, then total pollution is reduced by 100 pounds. The total cost of abatement is \$75. Clearly a cheaper way to eliminate 100 pounds of pollutants would be to have A stop polluting entirely, while B does not abate at all. Then 100 pounds of total abatement costs only \$50."..."Pollution taxes lead to least-cost abatement in the following manner: Assume the pollution tax is set at 50 cents a pound. If a polluter can eliminate a pound of pollutants from his emissions for less than 50cents, he will save money by doing so rather than paying the tax. Therefore a polluter will eliminate as many pounds of pollutants from his emissions as he can, so long as the cost of abatement is less than 50 cents a pound.")p.156-7)

tax creates an incentive to achieve least-cost effective methods of pollution control. This answer assumes that the most efficient point discharge limitations are not known, or that technological ability to control pollution is not available, and that society is unwilling to give up the products created by the polluter.¹³⁶

Both the permit system and the effluent tax can be part of a larger system operating on a state or an interstate basis. The 1972 FWPCA amendments require a user charge and state participation in the National Pollutant Discharge Elimination System, and the Water Pollution Control Act provides explicitness for interstate agreements in the water

¹³⁶Ibid., at 156-7. "If the desired solution to the pollution problem is to eliminate all emissions of pollutants, then a least-cost abatement--and a pollution tax--approach is not the appropriate path. Clearly, regulation of a prohibitory character is the necessary techniques....many economists consider such an approach [elimination by 1985 of the discharge of pollutants into navigable waters under the 1972 FWPCA] likely in the end to prove unfeasible except in rather special situations. They believe the costs of total elimination may be out of proportion to the benefits attained, and hence larger than the nation will desire to pay." Surrey discusses the problems involved in using the tax system for any reason other than revenue purposes. A particular disadvantage is the burden using tax policy for regulatory purposes places upon legislative committees unfamiliar with the problems involved therein, e.g. Tax Committees as opposed to Public Works or Commerce Committees. Administration of the tax is another problem. Should E.P.A. maintain primary authority? Moreover, if the charge were viewed as a regulatory tax, then¹³⁷ would be deductible, whereas a regulatory fine is not deductible in computing net income. Therefore the user charge can operate like a subsidy in that it benefits the rich more than the poor. The pollution tax or user charge must be viewed as a part of a multi-faceted approach. Any form of pollution control expenditure by an industrial user will have tax consequences, and the important point is that policy makers should be aware of this fact when setting levels of charges or determining the advisability of subsidy versus user charge. The choice between regulation versus user charges involves a different problem, that of technological feasibility and desired level of pollution control, and, in fact, a pollution control system should both include regulation and user charges. See, also, McDaniel, Paul R. and Kaplinsky, Allan S., "The Use of the Federal Income Tax System to Combat Air and Water Pollution: A Case in Tax Expenditures." 12 Boston College Industrial and Commercial Law Review 351 (1970-1971).

quality control area.¹³⁷

ORSANCO is the interstate compact authority for the Ohio River Basin, and Kentucky is one of the members of this interstate compact.¹³⁸

In the past, ORSANCO has operated on a low level of enforcement with a high level of technological cooperation and community visibility.¹³⁹

The interstate compact may eventually give way to area-wide and basin solutions insofar as natural resources are concerned; however, interstate mechanisms do exist and contain a politically acceptable and constitutional means of dealing with political problems that involve interstate relations.¹⁴⁰

¹³⁷P.L. 92-500, FWPCA 1972 Amendments provide in Sec. 103(a) "The administrator shall encourage cooperative activities by States for the prevention, reduction, and elimination of pollution, encourage the enactment of improved and, so far as practicable, uniform State laws relating to the prevention, reduction, and elimination of pollution; and encourage compacts between States for the prevention and control of pollution. (b) The consent of the Congress is hereby given to two or more States to negotiate and enter into agreements or compacts, not in conflict with any law or treaty of the United States, for (1) cooperative effort and mutual assistance for the prevention and control of pollution and the enforcement of their respective laws relating thereto, and (2) the establishment of such agencies, joint or otherwise, as they may deem desirable for making effective such agreements and compacts. No such agreement or compact shall be binding or obligatory upon any state a party thereto unless and until it has been approved by the Congress. See, the Interstate Environment Compact, S. Bill 907, 92nd Congress, 2nd Session, Jan. 24, 1972, a bill providing for Congressional preconsent to supplemental agreements by states. This report takes the position that Congressional oversight and approval of matters of national concern is necessary. The use of federal-interstate compacts and of uniform state laws is a more acceptable solution where the need for uniformity and the utilization of scarce resources are at issue.

¹³⁸Ohio River Valley Sanitation Compact [c.581, Stat. 752 (1940) and K.R.S. 224.190]

¹³⁹Cleary, Edward J., *The ORSANCO Story: Water Quality Management in the Ohio Valley Under An Interstate Compact*. (Baltimore, Md.: Johns Hopkins Press, 1967).

¹⁴⁰Barton, Weldon V., *Interstate Compacts in the Political Process*. (Chapel Hill, N.C., U. of North Carolina Press, 1967); Grad, Frank P., "Federal State Compact--A New Experiment in Cooperative Federalism."

ORSANCO consists of three commissioners from each member state and three commissioners representing the federal government. The signatories have agreed to cooperate in the abatement of existing pollution and in the control of future pollution in the Ohio River Basin and, "to enact any necessary legislation to enable each...state to place and maintain the waters of said basin in a satisfactory sanitary condition, available for safe and satisfactory use as public and industrial water supplies after reasonable treatment, suitable for recreational usage, Capable of maintaining fish and other aquatic life, free from unsightly or malodorous nuisances due to floating solids or sludge deposits, and adaptable to such other uses as may be legitimate."¹⁴¹ The real problem of ORSANCO has been its lack of enforcement capacity in that member states must agree to enforcement actions within their own borders.¹⁴² This problem has been made less serious, however, by recent court decisions on the federal common law applicable to actions involving the pollution of interstate waters. Moreover the federal government would have enforcement powers under the NPDES whether or not the states cooperated in an interstate permit system under the umbrella of ORSANCO.¹⁴³

63 Colum. L. Rev. 825 (1963).

¹⁴¹Ohio River Valley Water Sanitation Compact, Article I.

¹⁴²Ibid., Article IX.

¹⁴³In Illinois vs. City of Milwaukee, 402 U.S. 91 (1972) the Supreme Court held that plaintiff state had a cause of action under federal common law to enjoin the pollution of interstate waters by governmental parties. A federal district court in United States vs. U.S. Steel Corp., 356 F. Supp. 556 (N.D. Ill. 1973) extended this rule to cases where the defendant was a non-governmental body and the plaintiff was the United States. The 1972 FWPCA provides for federal enforcement of state permits programs in Sec. 309.

This report suggests that ORSANCO can be used, within the authority provided by Article I thereof, to implement an interstate permit system containing an effluent or user charge to be placed on all polluters. All of the states in ORSANCO now have a pollution control program that includes, to some degree, a permit program. They vary from highly developed statutory programs in Illinois and New York to regulations implemented under the general authority of a water pollution statute such as in Kentucky.¹⁴⁴

The Council of State Governments has developed a "Model Law to Enable States to Participate in the National Discharge Pollutant Elimination System Established Under the 1972 Federal Water Pollution Control Act." It is suggested that Kentucky and those states in the Ohio River Basin that do not have comprehensive statutory provisions that would allow entry into the NPDES should adopt this Model. The states in ORSANCO could then implement the NPDES on an interstate basis, insofar as certain elements of the program may allow for joint action.¹⁴⁵

¹⁴⁴"To adopt, after hearing, such general rules and regulations pertaining to the prevention, abatement and control of existing or proposed pollution as the commission may deem necessary to the accomplishment of the purposes of K.R.S. 224.010 to 224.060, 224.080 or 224.100." Kentucky Water Pollution Control Commission Regulation WP-1, Permits to Discharge Sewage, Industrial Wastes or Other Wastes, adopted January 8, 1957; Kentucky Public Hearings Regulations WP-2, adopted May 16, 1961; Kentucky Water Quality Standards Regulation WP-4-1, adopted August 22, 1971, were enacted under the authority of K.R.S. 224.040. Arnold, Thomas B., "Effluent Limitations and NPDES: Federal and State Implementation of the Federal Water Pollution Control Act Amendments of 1972," 15 Boston Coll. Industrial and Commercial L. Rev. 767, 776, lists several states which have either enacted statutes or passed regulations implementing the NPDES program.

¹⁴⁵"A Model Law to Enable States to Participate in the National Discharge Pollutant Elimination System Established Under the 1972 Federal Water Pollution Control Act."

Kentucky water pollution control law has utilized the regulatory process to implement the generalized prohibitions and requirements of K.R.S. 224 et. seq. Regulations WP-1, Permits to Discharge Sewage, Industrial Wastes, or Other Wastes (Adopted January 8, 1957) is the existing permit regulations; it does not fulfill the industrial user requirement of Section 402 of the 1972 FWCPA; however, revision of the regulation will be more efficient than legislative action, and it has been stated that the act requires only that a plan be submitted by the state and that the E.P.A. administrator assure that enforcement authority exists in the state to implement the permit program. In fact, the E.P.A. has approved state permit programs that were not yet fully realized in regulation or legislation.¹⁴⁶

Kentucky has the legislative and regulatory framework to provide the necessary enforcement procedures, and, as discussed above, the legislative framework for user charges has been created by the legislation and needs only to be implemented on a statewide basis.¹⁴⁷ The major

¹⁴⁶See, Arnold, Thomas B., supra. at p. 775. The author takes the position that statutory implementation is a necessity; however, the E.P.A. regulations indicate that regulatory implementation is sufficient. Whether or not statutory implementation is a better way of preserving the political process is another question; however, the public hearing procedure provides public participation, and subsequent legislatures, as well as the judiciary have the ability to revise regulatory actions. (See, 40 C.F.R. 124; 37 Fed. Reg. 28390, Dec. 22, 1972, as amended by 38 Fed. Reg. 17999, July 5, 1973, and 38 Fed. Reg. 19894, July 24, 1973.)

¹⁴⁷See, Text, at notes 109-130, supra.

problem has been and remains rationalizing the multitude of programs that now exist under different statutory authorities.¹⁴⁸

The 1974 Kentucky legislature enacted Senate Bill 112, "An Act Relating to the reorganization of State Government." Article III of that Act, "Department for Natural Resources and Environmental Protection," revises K.R.S. Chapter 224 to a great extent and is the beginning of a needed restructuring of Kentucky natural resources administration. It is as yet too early to predict the effect of the New Legislation on the future of water quality control financing and a permit system; however, the reorganization goes a long way to create the needed framework for rationalization of the Kentucky framework.

Section 1 of the Act amends K.R.S. 11.060 to create program cabinet secretaries in the Office of the Governor who will constitute the governor's general cabinet. K.R.S. 12.020 is repealed, amended, and reenacted to create cabinet departments, which include, "3. Department for Natural Resources and Environmental Protection. (a) Environmental Quality Commission. (b) Soil and Water Conservation Commission. (c) Ohio River Sanitation Commission."¹⁴⁹

Section 2 of the Act creates a Bureau for Land Resources and a Bureau for Environmental Quality within the Department, each headed by

¹⁴⁸ See, Kentucky. Department of Natural Resources. Kentucky Framework Water Plan, p. 29-40, for a listing of the various statutes and agencies dealing with water.

¹⁴⁹ Baldwin's Kentucky Rev. Stat. and Rules Service. 1974 Temporary Issue. Acts of 1974 Regular Session of the Kentucky General Assembly. (Cleveland, Ohio, Banks-Baldwin Law Pub. Co., 1974.) at p. 47.

a Commissioner appointed by the Secretary of the Department for Natural Resources and Environmental Protection. The Secretary is the successor office to the Commissioner of Natural Resources.¹⁵⁰

Section 10 established a new section of K.R.S. 224 that will transfer all corporate bodies, advisory committees, interstate compacts, or other statutory bodies now attached to the functions in whole or in part to the Department of Natural Resources or the Department of Environmental Protection to the Secretary, who will then assume all memberships and duties and the successor office, including that of Kentucky representative for the receipt of federal funds.¹⁵¹

Section 13 revises all prior sections of Kentucky Revised Statutes to coordinate the functions of predecessor offices under the new department.

1. "Department of Natural Resources" to "Department for Natural Resources and Environmental Protection", and specifically the Reviser of Statutes shall make such changes when such language appears in KRS Chapters 146, 149 and 151.

2. "Department of Environmental Protection" to "Department for Natural Resources and Environmental Protection", and specifically the Reviser of Statutes shall make such changes when such language appears in KRS Chapters 109, 224, 235 and 350.

3. "Division" to "Department". "Director" to "Secretary" and "Division of Forestry" to "Department for Natural Resources and Environmental Protection" when such language appears in KRS Chapter 149.

4. "Division" to "Department" and "Director" to "Secretary for Natural Resources and Environmental Protection" when such language appears in KRS Chapter 151.

¹⁵⁰ Ibid., at p. 51.

¹⁵¹ Ibid., at p. 52.

5. Delete subsection (3) of KRS 151.100 and renumber all following subsections.

6. "Department of Health" to "Department for Natural Resources and Environmental Protection" when such language appears in KRS 234.321.

7. "Division" to "Department" and "Division of Reclamation" to "Department for Natural Resources and Environmental Protection" when such language appears in KRS Chapter 350.

8. "Department of Environmental Protection" to "Bureau for Health Services" in KRS 224.223 to 224.237 and "K.D.E.P." to "K..B.H.S." in KRS 224.230.

9. The Revisor of Statutes shall make any other statutory reference changes necessary to effect the intent of this Act, including the renumbering or relocation of Sections 146.080, 146.090, 146.100 and 146.110 in KRS Chapter 262.

Section 14. Sections 146.010, 146.020, 146.025, 146.050, 146.120, 151.130 and 224.031 of the Kentucky Revised Statutes are hereby repealed.