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# MODEL STATUTE: INTERNATIONAL DRAINAGE BASIN POLLUTION CONTROL

ROBERT ISRAEL AND ROBERT ZUPKUS\*

*This article reviews briefly the attempts which have been made to control pollution of international rivers and then posits an ideal commission designed to remedy the weaknesses of previous commissions. Ed.*

There can no longer be any doubt that environmental pollution presents a serious threat to the well-being of mankind. Because of rapid and widespread dispersal of pollutants the problem is shared by all nations, and now endangers people everywhere. This is particularly true of marine pollution. The sea is the common heritage of all. Regardless of distance from the ocean, all people must ultimately depend upon it as a source of food and natural resources, and as the key factor in the natural process of recycling earthly wastes. Just as universally, the nations of the world have been contributing to the upset of this balance. Deterioration of the sea is the by-product of a number of human enterprises. No single source of pollution, however, is of greater consequence than river discharge.

Rivers carry a variety of man made pollutants to the sea, the most harmful of which are municipal, industrial, agricultural, and mining wastes. Although the technology is presently available to curtail much of this river pollution, its implementation has been remarkably retarded.<sup>1</sup> Improper river management thus is mostly to blame for the serious deterioration of the oceans.<sup>2</sup> The proper establishment of river management schemes poses no insurmountable obstacle to the goal of pollution abatement. Just as the scientific expertise is available to reduce river pollution, the theoretical and ad-

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\*\* Letters within parentheses refer to the *Comments*.

<sup>1</sup> Addendum, Report of the Secretary-General, River Discharge and Marine Pollution, E/C.7/2 Add. 8 (1971).

<sup>2</sup> *Id.*

ministrative base now exists to implement sound river control. Unfortunately, international rivers have never been a source of enduring international accord. Traditionally, the sphere has been governed by political and economic expediency rather than by common sense. This is particularly true in the case of international rivers where the usual political and economic complications are intensified.

To be sure, the international community has attempted to deal with the pollution of its rivers. A number of treaties have been devised in an effort to end international river pollution. As early as 1909, the United States and Canada entered into a treaty which contained provisions to decrease the pollution of their common waters.<sup>3</sup> Germany made treaties with Denmark in 1922 and Belgium in 1929 which expressly outlawed contamination of international waters.<sup>4</sup> Furthermore, the most recent theories of international river management have evolved into philosophies which are committed to the elimination of water pollution.

Two of these doctrines are known as territorial integrity and equitable apportionment. They developed from the medieval notion of territorial sovereignty, one implication of which was that a country deal freely with the waters which flowed across its boundaries. Succinctly stated, territorial integrity encompasses both the negative principle of "not causing injury by artificially altering the natural conditions of the [river's] flow" and the positive principle that the "most practical and beneficial uses for the lower and upper riparians . . . [are] to be taken into consideration."<sup>5</sup> Under this doctrine, prior mutual consent of all affected riparians who might be affected is required before the basic character of the water may be altered by any fellow riparian.

A more recent philosophy, equitable apportionment, is grounded in natural law.<sup>6</sup> Its basic premise is that the "water source of a river is the common and inalienable property of all countries watered by it."<sup>7</sup> Technical methods and benefits surrounding international river use should transcend traditional political boundaries and be shared by all riparians on

<sup>3</sup> Lester, *River Pollution in International Law*, 57 AM. J. INT'L L. 842-43 (1963) [hereinafter cited as Lester]; Erichsen-Brown, *Legal Implication of Boundary Water Pollution*, 17 BUFFALO L. REV. 65 (1968) [hereinafter cited as Erichsen-Brown].

<sup>4</sup> Lester at 841.

<sup>5</sup> F. BERBER, *RIVERS IN INTERNATIONAL LAW* 15 (1959).

<sup>6</sup> *Id.* at 22, 24.

<sup>7</sup> *Id.* at 24.

a reasonable basis.<sup>8</sup> Unfortunately, the effect that these doctrines or the various treaties on the subject have had upon pollution control is minimal.

The greatest shortcoming of both territorial integrity and most anti-pollution treaties is that they tend to deal with pollution on a fragmented basis. Territorial integrity is limited in that it rests on the presumption that an international river is a divisible object.<sup>9</sup> While riparians must respect the rights of co-riparians, they are still free to use a river as they wish and reap the benefits on an individual basis. This arrangement discourages cooperation among nations for large scale projects such as resource management and pollution control. Further, fractionated river use reduces pollution control to a cloak and dagger affair. It becomes a game of detecting and proving violations of riparian rights. These same limitations apply to treaties concerning pollution control. Too often such treaties are between only a few nations along a particular international water way. Consequently, river management and pollution control for an entire river system is thwarted and the program becomes inefficient and ineffective. The problem is further complicated by enforcement procedures.

Whether operating under treaty or merely the general philosophy of territorial integrity, both the violator and the violated can easily abuse a pollution control program. The Lake Lanoux incident between France and Spain demonstrates some of the shortcomings of both treaty and territorial integrity. France had plans to temporarily divert large quantities of water from Lake Lanoux, the waters of which eventually flow into Spain. Although neither the character nor the total flow of the water entering Spain would have been altered, Spain invoked the doctrine of territorial integrity and held up the project for forty years. The sole cause of the hold-up appears to have been Spain's national vanity and her desire to assert authority in international affairs.<sup>10</sup> A similarly unfortunate result would have been reached even if Spain had asserted her rights under a formal treaty guaranteeing a continued and clean flow of water.

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<sup>8</sup> Van Alstyne, *The Justiciability of International River Disputes: A Study in the Case Method*, 48 DUKE L. REV. 337 (1964) [hereinafter cited as Van Alstyne].

<sup>9</sup> Shapiro-Libai, *Development of International River Basins: Regulation of Riparian Competition*, 45 INDIANA L. J. 28 (1969) [hereinafter cited as Shapiro-Libai].

<sup>10</sup> Van Alstyne at 314; Goldie, *International Law and the Development of International River Basins* 4 U. BRIT. COLUMB. L. REV. 772 (1963); Shapiro-Libai at 31-2.

Environmental relief is handicapped by further limitations inherent in territorial integrity and treaty agreements. The individualistic nature of both these methods presupposes a state versus state contest. As a result, only those interests which a government is willing to defend will be protected. Only a state may champion the cause of an injured citizen. Should political considerations prevent a government from pursuing an action in an international matter, then private citizens or corporations would have no legal recourse.<sup>11</sup> With the multitude of other international pressures upon a nation besides pollution abatement, many major environmental problems will not be adequately voiced.

Should an environmental matter reach an international forum, there are still other problems which would preclude effective pollution control on international rivers. Treaties and territorial integrity by their very nature need judicial decisions and arbitrational awards to give them effect. This situation is unfortunate because such a process lacks the flexibility which is necessary for the adequate regulation of international rivers.<sup>12</sup> The unorganized rulings originating from these tribunals cannot be forged into a unified and workable program which could respond to the complexities of international river use. The inherent delay associated with the judicial process is little inducement to entrust it with the management of the complex and rapidly shifting situations which comprise international river use.<sup>13</sup> Additionally, while international tribunals may be able to apply a uniform water pollution program and attach proper liabilities, there exists little authority to compel payment of compensatory damages.<sup>14</sup>

Of all the possibilities currently existing to control pollution, the doctrine of equitable apportionment possesses the greatest potential for effective river management. Besides requiring the sharing of all river benefits by all riparians, the doctrine treats an entire river basin as a single unit. As a result, many more nations take part in the management of a particular river system and cooperation is on a broader basis and goes deeper than usual under the doctrine of territorial integrity or under bilateral treaties. Enforcement of a program is necessarily less disruptive because cooperation is rewarded by the sharing of benefits. Nonetheless, the doctrine is still

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<sup>11</sup> Erichsen-Brown at 69.

<sup>12</sup> Lester at 848.

<sup>13</sup> Shapiro-Libai at 214.

<sup>14</sup> *Id.*; Lester at 848; Erichsen-Brown at 68.

too imperfect to be the best method for pollution control on international rivers.

Several international bodies do engage in river management based upon equitable apportionment. These operate with some measure of success, but none have managed to perform their work without either high social costs or an extremely favorable political and economic climate. The favorable conditions needed to establish a successful international river management agency rarely occur in nature. Without a cooperative atmosphere, such undertakings cannot achieve the efficiency and effectiveness necessary to adequately control river use.<sup>15</sup> This is especially true for water pollution control because of its costs and technical requirements. An examination of existing river management schemes illustrates these problems.

One of the most successful programs is on the Columbia River. Canada and the United States designed an agreement for the exploitation of the river's electricity generating potential. Although the resources were equitably apportioned, the work completed under the treaty resulted in a loss of between \$250 million and \$375 million.<sup>16</sup> The United States, for a variety of political reasons, absorbed the entire loss. This generous gesture, however, will not often be repeated, even for pollution control. Few international rivers have riparians inclined to make large expenditures solely in the name of their fellow man. Furthermore, commitments of this nature are notoriously inflexible.<sup>17</sup> Their continued success depends upon the perpetuation of the diplomatic climate in which they were made. Without a broader base of interests, such river arrangements will collapse with the slightest shift of the diplomatic winds.

The most famous scheme of river management and pollution control is Germany's *Genossenschaften*. Membership in the *Genossenschaften* is mandatory for all river users. Over the years sophisticated procedures have evolved for assessing the cost of river use to its users. The effect has been the apportionment of the Rhine system to meet a variety of human needs while at the same time reducing water pollution to a relatively small cost.<sup>18</sup> The recommendation has been

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<sup>15</sup> Kenworthy, *Joint Development of International Waters*, 54 AM. J. INT'L L. 602 (1960) [hereinafter cited as Kenworthy].

<sup>16</sup> J. KRUTILLA, *THE COLUMBIA WATER TREATY* 195 (1967).

<sup>17</sup> *Id.* at 202.

<sup>18</sup> A. KNESSE & B. BOWER, *MANAGING WATER QUALITY: ECONOMICS, TECHNOLOGY, INSTITUTIONS* 238-40, 287 (1968) [hereinafter cited as KNESSE & BOWER].

made that the idea be expanded to include international boundaries in the regulation of the Rhine system. Indeed, all nations along the Rhine have pledged their cooperation in ending pollution of the river. They have further pledged one percent of their gross national product to finance the operation. There are, however, several flaws in this scheme.

In the first place, the *Genossenschaften* has not done as much as is possible to end river and marine pollution. The plan operates in the Ruhr district, one of the most industrialized areas of the world. Water quality there had actually become so critical that it became a matter of survival. Effort had to be expended to at least prevent further pollution. Yet, since the members of the *Genossenschaften* are not only the water users but also the water polluters, their primary aim is to achieve human survival at the lowest cost and not necessarily to purify the Rhine. As a result, the *Genossenschaften* has not required uniform purity of the various rivers in the Rhine basin. Some rivers are kept clean for drinking and recreation. Other rivers are little more than open sewers.<sup>19</sup> Both types of water find their way to the sea.

The other main problem with *Genossenschaften* is in the manner in which it assesses costs. Regardless of the terminology used, the program essentially levies a use tax on the industrialist, with the heavy pollutor bearing the brunt of the tax. This restricts his operations without regard for the societal need for his product and even if his consumers are willing to pay more for the product.<sup>20</sup> At the same time, this tax eventually leads to a misallocation of resources. Bearing lower taxes, less essential goods will carry a lower price and will be purchased more frequently than their usefulness would dictate. Alternatively, the idea of giving tax breaks to polluters who regulate themselves would only be sponsoring a costly and inefficient means of control.<sup>21</sup>

Added to these economic problems would be the diplomatic difficulties encountered in collecting taxes. In tight international markets few nations would allow a tax penalty on their production costs which the goods of other nations do not bear. The *Genossenschaften* idea is still not a totally effective pollution plan. An example of the missing features is found in a study of the Mekong River experience.

<sup>19</sup> Wheeler, *International Multipurpose Water Resources Development in the Lower Mekong Basin*, 45 WASH. U. L. REV. 42 (1970).

<sup>20</sup> KNESSE & BOWER at 173.

<sup>21</sup> *Id.* at 178.

Started twelve years ago, the Mekong Committee regulates six cooperating riparians on the Mekong River. Despite diverse political and cultural backgrounds of the member nations this joint commission has gradually assumed more powers.<sup>22</sup> The duties of the agency now include the coordination of research, the recruiting of financial and technical aid, the establishment of water use criteria and the supervision of construction projects. The trend is directly opposite from the normal international river agency development which normally finds authority gravitating back to the national level.<sup>23</sup>

The key to the success on the Mekong was undoubtedly due to the lack of pre-existing development on the river at the time the commission was formed.<sup>24</sup> Coupled with full support from the United Nations and funding from a variety of international organizations, the Mekong River Commission really encountered no opposition.<sup>25</sup> The economic advantages of cooperation far outweighed any political differences and overcame any opposition from established economic circles.<sup>26</sup>

Countries must be convinced that pollution control is for their own benefit. The advantages attaching to pollution control must not be merely indirect or aesthetic. Further, the entire process must be sheltered from international political instability. In short, the advantages to a country participating in pollution control must be in dollars and cents. The controls must also operate somewhat spontaneously, with as little governmental involvement as possible. Current methods for river management and pollution control simply do not have this flexibility. Keeping the limitation of present schemes in mind, the following is a proposed plan for international river management, emphasizing pollution control. It is to be administered by a commission, here unnamed.

#### STAGE I

##### *Section A: Purpose*

1. This commission is established to protect the public health and welfare, enhance the quality of the water and serve the purposes of this Act; taking into consideration things connected in any reasonable way with use and value of water for

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<sup>22</sup> Shapiro-Libai at 205-08.

<sup>23</sup> Kenworthy at 598.

<sup>24</sup> Shapiro-Libai at 210.

<sup>25</sup> *Id.* at 205, 209.

<sup>26</sup> *Id.* at 212.



public water supplies, propagation of fish and wildlife, recreational purposes and agricultural, industrial and other legitimate uses. (a)\*\*

*Section B: Membership, purpose, staff and funding*

1. The commission shall be made up of one director from each of the member nations and shall have tenure for life. They shall be chosen for their ability to carry out this Act. Their actions shall be motivated by the guiding principle that their highest call is the improvement and management of the water resources of the entire area and shall not be advocates for any one respective region at the expense of the overall purpose.

2. Members of the commission have power to hire staff, acquire or build facilities, or to do whatever else they deem necessary to carry out the purpose of this Act.

3. This commission shall be funded initially by one-half of one percent of the gross national product of each member state and thereafter by user fees as provided for in STAGE IV. (b)

*Comments*

(a) The goals and powers of this plan are set forth in very broad language. This, hopefully, will allow the commission to adjust the framework of the act to any unforeseen situation that may arise in carrying out the purpose of this act. Knesse states that the broadness and generality of the *Genossenschaften* (regional water management commission for the Ruhr River Basin), is one of the contributing factors to its success. "This has left the staff and the members comparatively free to adapt to changing conditions and to develop procedures and concepts in line with experience."<sup>27</sup>

(b) The presently implemented plan on the Rhine River utilizes one percent of the gross national product of all bordering states for pollution control.

STAGE II

*Section A: Water resource and pollution abatement study*

1. The commission will make a study of the resources of the area projected water uses, and water classification proposals, taking into consideration:

- a. type and amount of demand for water use; (a)
- b. stream flow conditions, utilization and the quality standards to be observed. (b) & (c)

<sup>27</sup> A. KNESSE, *ECONOMICS OF REGIONAL MANAGEMENT OF WATER QUALITY* 162 [hereinafter cited as KNESSE].

2. The commission will then proceed to formulate an abatement scheme by determining the most economic abatement processes (d), taking into consideration:

- a. recreational and aesthetic values;
- b. construction of treatment plants;
- c. in-plant treatment plans; (e)
- d. amortization schedule. (f)

3. After all of the above, costs for financing implementation shall be apportioned to each polluter. (g)

4. A reasonable estimation of benefits and allocation of costs shall be made. (h)

#### *Comments*

(a) The principle that quality standards should be fixed in terms of utilization will be followed, always keeping in mind environmental values. Litwin addresses himself to the great multiplicity of needs that accompany realistic water use for water courses.

High quality water is required for drinking, unpolluted water for swimming, non-poisonous water with an acceptable mineral content for agriculture, and water for industry which must often fulfill technical requirements. In our modern community and industrial life, the waters of any country must serve as a source of protein food, transportation for commerce, aquatic recreation, sources of vital domestic water supplies, irrigation for crops, water for agriculture and animals, power for industry, a necessary raw material for industry and as a means of transporting from municipalities and industries their wastes and liquid products.<sup>28</sup>

(b) Water resources will be administered according to international drainage basins. An international drainage basin is defined for the purposes of this act as waters bound by watershed extremities of the systems of waters, including surface, subsurface and underground waters, all of which flow toward a common terminus.

(c) If at all practical, water courses will be classified according to their utilization and the quality standards to be observed. Litwin states that

Classification . . . offers serious advantages. It enables the composition of the waters in their present state and their possible uses to be known, the cause of pollution to be discovered, and protective measures to be prepared and their order of application determined.<sup>29</sup>

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<sup>28</sup> J. LITWIN, CONTROL OF RIVER POLLUTION 12 (1965) [hereinafter cited as LITWIN].

<sup>29</sup> LITWIN at 30.

The commission will be better able to understand the relationships between the standards of quality of the receiving media and the characteristics of the effluents. Through this system of classification, the commission will be able to make discharges from their sewage treatment plants more suitable to the characteristics of the receiving medium.

Water classification will have a practical relationship to the use made for the water and the economics that will be derived from upgrading or stabilization of water quality.

(d) All other economic considerations will be considered when developing a water treatment plan. The *Genossenschaften* viewed waste disposal supply problems as one system character, rather than solely as a matter of individual treatment. The commission in planning treatment facilities will also look at the problem in these terms. Scale of economics will be considered, perhaps linking towns or domestic or industrial users, or even entire watersheds as the *Genossenschaften* has done on the Emscher. Variables such as alternative sites, scales of development at each site, combinations of alternative sites and scales, etc., will also be taken into consideration.<sup>30</sup>

(e) This provision for determining the most suitable abatement scheme will have to be read in conjunction with STAGE III, Section A2, providing for the opportunity of industry already established at the time of implementation, to choose between in-plant or out-plant sewage treatment, and STAGE V, Section A2, which requires industry to abide by licensing requirements.

(f) A situation such as an odorous discharge near a water supply intake or heavily populated area (or a situation where the cost of regulating pollution from an industry is so costly that the commission deems it in the best interests of the plan to allow the polluting activity).

(g) The commission will apportion the costs of individual pollution by utilizing the method developed by the *Genossenschaften* for determining aggregate dilution requirements. Knesse stated that

- (1) There is estimated first an amount of water necessary to dilute a given amount of materials subject to sedimentation (no distinction made between organic and inorganic material) in order that they might not be destructive to fish life under conditions of the area. An amount of dilution water required by such material in a given effluent is then computed on that basis.

<sup>30</sup> *Hearings Before a Special Subcomm. on Air and Water Pollution of the Senate Comm. on Public Works*, 89th Cong., 1st Sess., 940-45 (1965) (remarks of A. Knesse, Director of Water Resource Program, Resources for the Future, Inc.).

- (2) An analogous calculation is made for materials subject to biochemical degradation (and which, therefore exert oxygen demand) but which are not subject to sedimentation.
- (3) The amount of dilution required under specific conditions in order that toxic material in the effluent not kill fish is computed by direct experimentation.
- (4) Certain side calculations having to do with water depletion, heat in effluent, etc., are made. The derived dilution requirements are added together for the effluent and form a basis for comparison with all other effluents. In principle, costs are distributed in accordance with the proportion of aggregate dilution requirements accounted for by the specific effluent.<sup>31</sup>

Preservation of fish life might be only one consideration the commission will use to determine the water quality of a given stretch of the streams. The *Genossenschaften* index will be used to determine the proportionate share a particular polluter will be required to pay out of the total cost of pollution abatement for the entire river basin.

This method of first determining an overall cost plan and then allocating cost incurred by individual polluters, allows the commission to retain a certain flexibility. If the commission finds that because of increased quantity of pollution, a larger scale of operation is required, costs are simply assessed on the proportionate share method. If the quality or quantity of individual pollutants increases, the commission simply recomputes the polluter's proportionate share and readjusts assessed costs.

Clarence Tarzwell commented on the type of effluent standard suggested by the Federal conference. The scheme was based on a standard effluent concentration for all polluters based on a given quality desired for the stream. An interesting consequence was that pollution could be increased simply by increasing the quantity of water used by polluters so that the amount of material disposed of could be increased but effluent content would be maintained; also a longer period for the plant's operation (a night shift, for instance) which would again allow more polluting with the same a standard concentration.<sup>32</sup> The above problem would not arise under our plan. The cost to an individual polluter would be determined on the basis of actual polluting material produced rather than merely requiring that a polluter maintain a certain effluent standard that can easily be circumvented.

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<sup>31</sup> *Id.*

<sup>32</sup> C. Tarzwell, *Water Quality Requirements for Aquatic Life*, in NATIONAL SYMPOSIUM ON QUALITY STANDARDS FOR NATURAL WATERS 190-92 (U. Mich. School of Pub. Health 1966).

Another problem Tarzwell mentioned would be in setting standards which, taken together, will produce precisely the desired water quality. This would seem to leave no room for entry of new industries, or expansion by existing ones. If the commission were to readjust standards for effluents in a situation like this, instead of the difference being readjusted through a price mechanism each polluter would have to readjust his particular pollution control operation.<sup>33</sup>

(h) This particular provision is very crucial to the effectiveness of the plan. Any viable plan for an international waterway must not only be viable from an economic standpoint, but must also be politically expedient. In the absence of a complete centralization of decision making, inducements through economic and political incentives are necessary. The first hurdle that must be overcome in managing water quality of an international river is to make it desirable for every country involved to be a party to the plan.

This desirability factor will be maximized by balancing the costs and benefits of the plan in the following manner:

- (1) Payments to the previously established polluters will be made by the amount of their required proportionate share of the total pollution abatement scheme.

Additional costs of pollution from new or expanding polluting activities after the year the plan is implemented will have to be assumed by the party adding the pollutants. The additional costs will be apportioned by the continually re-evaluated *Genossenschaften* index. (This plan will not be a license to pollute and this comment should assure downstream users that they will no longer have to assume the cost of others' pollution). The initial costs of abatement will be divided disproportionately for a number of reasons: a. because they have traditionally carried the cost under previously existing conditions; and b. because the political consequences of requiring existing polluters in upper riparian countries might be too much of a liability, while industrial or municipal polluters not yet in existence cannot as successfully assert opposition to the act.

- (2) Costs to the water users will be computed by the total amount of the abatement scheme reduced by one-half percent of the gross national product of all countries party to the plan divided by the amount of water used by the party.<sup>34</sup>
- (3) Some of the benefits to downstream users will be the advantages of their water supply being improved in the

<sup>33</sup> *Id.* See also KNESSE, ch. 7.

<sup>34</sup> This figure is subject to revision and will be computed by its relationships with benefits to the public from recreational advantages of improved quality, the aesthetic values enjoyed by the public, and other benefits enjoyed by the public that cannot accurately be quantified.

most efficient and economical manner under the circumstances.

Another benefit is that over the long term, water use cost will decrease after the year of implementation. The Act will achieve this result by fixing the total cost of the abatement scheme at the time the plan is implemented. Thus, with increasing as well as expanded use, the average cost of a unit of water will decrease. For instance; if the total cost of the plan the year it is implemented is X, and if there is only one user Y, the cost of the water for Y will be:

$$\frac{X - \frac{1}{2}\% \text{ of gross national product}}{Y}$$

The next year, if his neighbor Z uses a unit of water, the cost to Y will only be:

$$\frac{X - \frac{1}{2}\% \text{ of gross national product}}{Y \text{ plus } Z}$$

### STAGE III

#### *Section A: Feedback*

1. The commission will inform polluters of the amount and type of their pollutants; the treatment proposed by the commission and the payments that will be made.

2. Within sixty days, the commission will receive from the polluters their plans either to comply with the treatment plans of the commission, or to seek an alternative course. (a)

3. The commission will notify users of their plans to tax users.

4. Information shall be made available to the public of any and all plans specifying standards to which polluters will be held, proposed treatment, payments to polluters, tax placed on users, proposed construction of any and all treatment plants and any other communication deemed by the public to be of interest. (b)

#### *Section B: Plans adjustment*

After the above mentioned provision is provided for, plans will be adjusted accordingly; and any or all provisions of this stage shall be repeated if plans are changed substantially.

#### *Comments*

(a) It is not intended that the commission will make extensive studies of industrial processing to the point that they unnecessarily intrude into the ongoing management of the industries. This would be politically unsound. The commission will determine the pollution payment without an intensive study into the internal processing of the industry. If the industry is able to abate the pollution more efficiently, they

should be so encouraged. They will, of course, be held to the maximum standard of abatement and be paid the maximum payment by the commission.

Joseph Sax states that industries are very reluctant to have the government control in-plant operations, even though process or product changes are often the more efficient. It is probably politically not feasible and practically unworkable to expect the commission to be able to determine the most economical treatment of pollutants in this respect. Also, plant operators know their operation best and are best situated to determine what, if any, process adjustments or product change are most efficient. The most the commission can reasonably be expected to do is to plan for the most efficient treatment of pollutants through waste recovery and through process alterations generally recognized as feasible in the industry.<sup>35</sup>

The commission might want to limit excess payments from more efficient abatement techniques developed by industry, to research costs and reasonable profits. The commission could alter the payments made to polluters after research costs and reasonable profits accrued. This comment will only apply to industries established before the date of the implementation of the act. All industries after that time will have to comply with any design requirements that the commission deems necessary in order to secure a license to operate as provided in *STAGE V, Section A2*.

The interested party provision is necessary in the interests of fairness, as well as to facilitate the formulation of the best possible plan. Also, if parties are not guaranteed the opportunity to assert their right to be heard through the system, it is possible they may attack and possibly disrupt the process by means of noncooperation, active opposition, or private litigation.

The interested party provision also serves another function. Josef Litwin mentioned that one of the drawbacks of a broadly outlined plan such as ours is that administrative regulations and enforcement are never effectively implemented. *STAGE III, Section A4* will put the burden on public interests groups to police the commission's activities, making sure that the policy of the act is being adhered to.

Donald Carmichael discusses how to effectuate the mechanism for interested party input. Public hearings should be required prior to the issuance of final orders and prior to the

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<sup>35</sup> J. SAX, *WATER LAW PLANNING AND POLICY* 417 (1968).

approval of final plans on building and implementation. Publication of notice and mailing of notice to all parties proposed to be regulated or known to be interested should be required.<sup>36</sup>

Following the initial public hearings, copies of the order or decision issued should be served by mail on all parties regulated and on all parties who have entered an appearance at the hearing. The number of parties wishing to preserve their status as interested parties throughout the enforcement and regulatory procedure, could then realistically be limited by requiring that such parties perform further affirmative actions, such as completing, having notarized and returning within a limited time an affidavit on which they would identify themselves and the nature of their interest as to one or more of the regulation charges or regulated polluters. A small fee might be charged by the department for registration by such interested parties. They should, thereafter, be notified of final orders and final approval of plans and further steps in the regulatory process, such as plan submission of new or expanding municipal works or industries, and approvals and petition for order modifications. Public hearings concerning such regulatory steps could be provided upon request of a given number or percentage of interested parties and objections noted in the official record when there was no public hearing. Rules would further have to be provided for excusably tardy intervention by properly interested parties. All hearings and communications by the commission should be of public record.

Finally, commission orders and decisions would be reviewable by the courts if jurisdiction could be asserted under the law of the national's own country. All ordinary civil law remedies will be available. While there would ordinarily be substantial evidence to support the agency's decision, what the reviewing court would really be asked to decide is, whether the commission has made best possible decision in view of the treatment alternatives available, their costs and efficiencies; whether the purpose of the act is not being fulfilled by the actions of the commission and any other grievance which could reasonably be argued to violate the principle of fairness and equity.

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<sup>36</sup> Carmichael, *Forty Years of Water Pollution Control in Wisconsin; A Case Study*, 1968 WIS. L. REV. 350.



## STAGE IV

*Section A: Completion of plans, collection of user fees, enforcement*

1. Plans shall be completed and construction will begin with all due haste. Also, industrial redesign and product changes shall be made with all due haste. The commission shall have the power to set a time limit for implementation and to penalize for non-compliance.

2. All regulations and orders will be enforced at the earliest time the commission deems feasible.

3. User fees shall be collected and pollution payments made.

4. It shall be made a criminal as well as a civil offense to violate any regulation of the commission.

## STAGE V

*Section A: Persons dumping after passage of this act*

1. After final passage of the act, any person who dumps directly or indirectly any substance into the waters of the river basin shall notify the commission of such activity. (a) The commission shall issue such orders and regulations as they deem necessary to carry out the purpose of this act within thirty days and agreement to these orders and regulations will be necessary conditions precedent to starting any polluting activity. (b)

Should an enterprise break conditions of the license, they shall:

- a. lose all entitlements to compensation as if the concession were withdrawn or closed,
- b. possibly be liable in damages,
- c. be liable in penalties.

2. The commission will be notified by industries which are likely to pollute the waters of the river basins of plans as to location and design of such activity and industries may not begin construction until the commission has given its approval. The commission shall have the authority to suggest the most efficient design of such a polluter and a suitable location, from the standpoint of the purposes of the act. If these suggestions are not adhered to the potential polluter will assume the full weight of the additional burden placed upon the commission.

3. The commission will also receive petitions for modifications of previously authorized operations.

4. This section will be subject to *STAGE III, Section B.*

5. Violations of this section might also be adjudged a criminal offense.

*Section B: Estimate of land use planning section*

The commission will either establish its own land use planning commission, or if there is one already existing, will work in conjunction with it; but the commission will have final authority on the use of land directly or indirectly affecting the hydrologic unit. (c)

*Section C: Ongoing function of the commission*

The commission will continue to carry on a study of pollution treatment and effects and will utilize any work done in this area; such findings will be continually utilized in a constant re-evaluation of plans and regulations in a continuing effort to carry out the purpose of this act. (d)

*Comments*

(a) These provisions should apply not only to overflow, outflow, discharge, and direct or indirect dumping of substances, but more generally, to any activity liable to cause or increase pollution by altering the physical, chemical, biological, or bacteriological characteristic of the water.<sup>37</sup>

This subsection is meant to include additional polluting after the passage of this act.

(b) Through ongoing experimentation and research, the commission will become expert in industrial design as it affects pollution. If new industry does not follow the suggestions of the commission it will be charged for any additional inefficiencies. Location of a polluting activity is another element to be considered in the overall abatement plan. The location should take into consideration accessibility to existing treatment facilities, possible scales of economy, ability of the stream to assimilate waste, etc.<sup>38</sup> Again, additional costs to the plan because of an unfavorable location will be an additional factor in assessing the costs of polluting to the new industry or municipal developer.

(c) A coordinated effort between land users and the water pollution commission is necessary in cases where the use has a direct affect on water pollution, as in irrigation, releases of reservoirs, land development and mining.<sup>39</sup>

<sup>37</sup> LITWIN at 25.

<sup>38</sup> KNESSE at 187.

<sup>39</sup> *Id.* at 202.

(d) The need for re-evaluation as well as the necessity for immediate action is apparent:

Since new products and new waste are constantly appearing, this work will never be completed, but must go on, we believe, as long as this nation exists.

We can not wait until we have all the answers before we suggest water quality requirements for desired water uses, for there would then be little left to protect. It is imperative that we use the knowledge we now have, drawing upon our experiences and judgment to develop uniform water quality standards. If we will do this, we will make a very good beginning and will go a long way toward preserving our aquatic resources. . . .<sup>40</sup>

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<sup>40</sup> Tarzwell, *supra* note 32, at 90.