

ADMINISTRATION OF A WATER POLLUTION CONTROL PROGRAM

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Jerrold Michael, Dean (and an Engineer), School of Public Health, University of Hawaii, invited me to address this seminar on the subject of "Administration of a Water Pollution Control Program." In developing a presentation, I came to what was probably an obvious conclusion; i.e., that administration of a Water Pollution Control Program is really not all that much different from administering any one or a group of other environmental control programs.

Fairly specific, and hopefully logical components seem to fall into a certain order when considering the administration of any type of environmental control program. The first step is to determine where you are going and this implies stating a goal for the program. A goal, by definition, is the "ultimate desired condition".

In the early days of the development of water pollution control and the related development of a philosophy of water pollution control, most personnel and probably most segments of the "public" probably believed that water pollution control programs should have a goal based on protecting man's health. It is now generally conceded by all but some of the worst polluting elements in our society that the goal of a water pollution control program should also consider protecting other components of the environment besides the human animal. Certainly, protection of recreational values, aesthetic values, and the biota of the receiving water course, are important to consider when determining the goal. With these types of issues in mind, the Federal Water Pollution Control Act identifies a goal of achieving "wherever possible by July 1,

1983, water that is clean enough for swimming and other recreational uses, and clean enough for the protection and propagation of fish, shellfish, and wildlife; and by 1985 to have no discharges of pollutants into the Nation's waters." These are the goals of the Federal Water Pollution Control Act. They reflect national policy and a deep national concern about the condition of the Nation's waters and a strong commitment to end water pollution.

A next logical step in administering or designing a water pollution control program is to understand a statement of mission. To me, a mission is simply a statement in terms of the clientele or group to be served and a water pollution control program should clearly have a specified mission of serving the total public. I have observed that some state water pollution control programs either never understood or have lost sight of such a mission. Some state water pollution control programs seem to have developed an unwritten mission of protecting and promoting the interests of the very parties they are charged with regulating. This is an obvious conflict of interest or "fox in the henhouse" syndrome, and results in ineffective programs to say nothing of defrauding the taxpaying public.

The definition of water pollution control also becomes an extremely important basic element in planning, designing, or administering a water pollution control program. I do not hold our own State Water Pollution Control Act up as a perfect example, but would note the following definition of Water Pollution from our State Act:

"'Water Pollution' means introducing or permitting the introduction into water, either directly or indirectly, of one or more water contaminants in such quantity and of such duration as may with reasonable probability injure human health, animal or plant life, or property, or to unreasonably interfere with the public welfare or the use of property."

This definition, while possibly not perfect, does suggest some key elements. Some of the polluting interests fought the definition because of the utilization of the word "may"

rather than "will". This one word became the basis for a major legislative controversy when the bill was being considered by our Legislature. Another key element of the definition is that it includes the concepts of protecting human health, animal or plant life, or property; or unreasonably interfering with the public welfare or the use of property. Even though this definition pre-dated the Federal Water Pollution Control Act by many years, the definition seems to utilize the same concept as that included in the Federal Water Pollution Control Act.

Standards and regulations can be promulgated either by a program administrator acting within legal framework for proper hearings, publication and appeals; or, such standards and regulations may be promulgated by an appropriate Board or Commission. Boards or commissions deserve a critical evaluation to insure that they represent balanced public interests rather than being loaded with special interest groups such as representatives of polluting industries. I am sure this poses a problem in many states, and also poses another conflict of interest situation which defrauds and effectively disenfranchises the unrepresented or under-represented segments of our society. The Water Pollution Control laws and regulations must also be viewed with a reasonable degree of skepticism to determine if they are really designed to provide rapid and equitable resolution of alleged violations, or if they are so couched in hazy definitions and procedural delays as to serve the purpose of protecting the polluter rather than the total public. It should be noted here that effective lobbyists are not only successful in killing legislation which they dislike, but are also adept at designing laws, as previously indicated, so that they are not functional tools for protecting the total public. And still another method utilized by lobbyists is to allow the legislation, but prevent adequately financing the program so that it is ineffective.

The organization which is charged with administering the water pollution control program is also worthy of some comment. Historically, most water pollution control

programs were spawned by a Health Department. In recent years, other patterns have evolved to the end that water pollution control programs are administered by everything from single program water pollution control authorities to broad-based comprehensive environmental protection agencies. With proper goals, mission, legislative funding and staffing, any of these organizations may administer a reasonably effective program: But there is something to be said about the advantages of comprehensive programming. If we list the major fairly discrete environmental health problems being commonly handled by many of our environmental health and environmental protection agencies, and relate these problems to the various environmental protection or environmental health programs being administered by these agencies, we reach same inescapable conclusions. For this purpose I will define an environmental health problem as a reasonably discrete environmental factor having an impact on man's health, safety, comfort or well-being. I will define an environmental protection or environmental health program as a rational grouping of activities or methods designed to solve one or more such environmental problems.

The agency administering the water pollution control program should be clearly devoted to environmental protection instead of environmental utilization and development. This concept has not been properly clarified in some states. At the federal level, this was part of the rationale for organizing the Environmental Protection Agency as a free-standing agency rather than making it a component of the Department of Interior.

The type of personnel deserves more than passing comment. Traditionally, sanitary engineers, public health engineers, and environmental engineers have reigned supreme over water pollution control programs. There are without doubt many components of a total water pollution control program which demand and require engineering competencies. However, we frequently find that scarce, well-trained professional engineers are being utilized to handle non-engineering tasks. This is a classic waste of professional engineering talent. Engineers, like physicians, should be utilized in consonance with their

professional capabilities unless one specifically wishes to drop his professional role and become an administrator, manager, or executive.

Even within a water pollution control program there are possibilities for serious conflicts of interest. To prevent or resolve these, it may be necessary to organize around such functional areas as planning, standards and regulation development, construction, and regulation. Appropriate appeal provisions are an integral component of an effective and equitable water pollution control law.

Our particular water pollution control law is somewhat unique in that legal appeal of standards and/or regulations is allowed, based on evidence in the hearing record at the time of their consideration. This means that standards and regulations can be appealed and tested in court for their validity prior to their application. This assures the water pollution control administrator that the standards and regulations are indeed valid and enforceable, and it provides the polluter the opportunity to squash the standard or regulation prior to its application if, indeed, it is not legally valid.

Standards, of course, are generally defined as the goal to be achieved in the receiving waters, and effluent regulations are defined as the maximum allowable rate of discharge, concentration, or amount of a pollutant which may be released from a point source into any body of water. I have always felt strongly that standards should be based on the needs of protecting the environment and the human animal as a part of the environment. Unless we subscribe to this concept, we will frequently be involved in changing standards and regulations based on the latest limitations of technology or "state of the art." When we change such standards and regulations, we are properly criticized by polluting interests as providing moving targets, thus making it inordinately expensive, if not impossible for them to comply. I think it is far more equitable for the polluters as well as for the environment, for the standards and regulations to be based on the needs of protecting the environment (including the human animal), and adjust compliance on the basis of properly evaluated and

time-limited variances and schedules of compliance. In this way, the polluter cannot accuse the Board or Agency of supplying moving targets, and he consistently understands his final destination or requirements.

It is probably fair to say that the majority of water pollution control programs require prior approval of water pollution control facility designs. I had much rather see the completed facility evaluated on the basis of performance criteria rather than pre-ordained specification criteria. To me, this prior approval of design tends to 1) stifle creativity and innovation, 2) compromise later regulatory activities, and 3) generally places the bureaucrat on the side of being safe and conservative, and this frequently means archaic.

Training of water pollution control operators is another important program component. While the availability of trained plant operators does not insure effective operation, it must be admitted that unavailability insures ineffective and uneconomical operation. There is a well-supported cost-benefit in requiring trained plant operators, and in supporting programs to train such operators. The return on each training dollar invested has been found to be almost 100 to 1 in terms of capital stop-loss, to say nothing of the vastly improved plant performance.

Utilization of pollution discharge permits has also become an accepted component of the water pollution control program, Such permits are required for the discharge of any pollutant from any point source. The permits can include conditions on abatement measures on a "schedule of compliance" basis. Additionally, such permits might specify requirements for design, construction, or process changes.

The utilization of effluent taxes or other economic incentive measures is a relatively un-utilized measure that bears further investigation and evaluation. Such effluent taxes

are based on the principle that those responsible for impairment of the environment should bear the costs of damage or repair.

Citizen support and a continuing effective public information activity are also important program ingredients. Water Pollution Control can only proceed as rapidly and as far as our citizens demand. Additionally, citizen support is necessary when establishing standards and regulations and tend to balance the grossly inadequate standards desired by many polluters. Likewise, citizen suits have sometimes been utilized to spur laggard regulatory officials to action.

Enforcement of Water Pollution Control Regulations is absolutely necessary. Not every individual or group complies on a voluntary basis, and it has become standard for water pollution control programs to include a cadre of attorneys.

A Water Pollution Control Agency is charged with administering the appropriate laws and regulations, and, in my opinion, should proceed without worrying about the consequences. Courts are designed to balance the equities of the various interests involved and the agency administrator is not prepared or qualified to "play judge" and balance such equities.

I cannot purport to talk about the administration of a water pollution control program without saying a few words about the environment and the economy. For starters, I am advised that "ecology" and "economy" are both derivatives of the Greek word "ecos" (oikos), which means house. An economist was a keeper of the house, and an ecologist is a keeper of the big house we all live in -or our environment, the place in which we are all going to spend the rest of our lives. I have no doubt that the nation is now in the midst of a polluters back-lash against environmental measures. This, however, is paradoxical when we are reminded that the vast majority of the American public continues to support environmental protection measures and indicate, according to the results of various

national polls, that they are willing to pay for such environmental protection. Certainly, the President is listening more to the polluters than he is to the taxpayers.

Environmental goals and economic vitality are not contradictory expectations. It is not the case of "vs." or "either/or". The environment and the economy are not contradictory expectations or values, and, in fact, are mutually inter-dependent. We cannot have an economy without an environment. And two basic ecological considerations should be kept foremost in mind when considering the environment and the economy: 1) everything is connected to everything else, and 2) we should strive for the greatest good for the largest number over the longest period of time.

Although our Federal government was slow to develop the information, it has now been well established that the environmental movement has created many more positions than have been abolished by any type of environmental regulation. In many areas, not only have new jobs been created, but the tax base has been substantially improved by pollution control equipment additions.

A December 23, 1974 Report by Congress' prestigious "Joint Economic Committee" states that, "There should be no general relaxation of environmental standards for the sake of reducing inflationary pressures because: 1) the benefits of this investment clearly exceed the costs, 2) their contribution to inflation has been and will continue to be minimal, 3) delays will only increase the ultimate cost of environmental cleanup, and 4) the stimulative effect of these expenditures on employment in the near future will be beneficial to the economy."

Further, the report quotes Vice-President of the American Petroleum Institute, P.N. Cammelgard on the impact of standards on oil industry plant and equipment expenditures. Said Gammelgard, "No capital project has been abandoned exclusively because of specific environmental standards."

A recent Harris Opinion Poll states that three out of four U. S. citizens do not believe that a temporary slow-down of water and air pollution control programs will do anything to "help ease the energy shortage," "get the economy moving again," or "ease unemployment," according to the survey's 1975 findings.

In fact, since 1973, the percentage of people concerned about water and air pollution has risen significantly. Americans continue to rate water and air quality as more important than the energy shortage and second only to inflation and unemployment. And by a 65-22 majority, people believe the energy shortage and pollution build-up can be tackled simultaneously:

I should not close without opining that water pollution problems will never be solved until the human animal solves the more basic problems of stabilizing population numbers and reducing consumption of non-renewable resources.