

Monsanto

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SUBJECT Draft Testimony
House Public Works Oversight Hearings

REFERENCE Public Law 92-500

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We have received a tentative invitation to testify in Oversight Hearings on the Federal Water Pollution Control Act Amendments of 1972 which began last week. These hearings are being conducted by the Investigations and Review Subcommittee of House Public Works, and are chaired by Congressman Jim Wright of Texas.

Just when we might be called to testify or who would present our remarks has not yet been determined. However, I have received the invitation and have taken the liberty of preparing the attached first draft. I would appreciate your earliest possible review and comments so we can be ready if we receive short notice.

Thanks.



M. L. Mullins

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DRAFT
MONSANTO COMPANY TESTIMONY
BEFORE THE
INVESTIGATIONS & REVIEW SUBCOMMITTEE
COMMITTEE ON PUBLIC WORKS
U. S. HOUSE OF REPRESENTATIVES

Mr. Chairman, Members of the Committee, Gentlemen. My name is
and I am for Monsanto
Company, whose general offices are in St. Louis, Missouri. Monsanto is
appreciative of the opportunity to provide what we sincerely hope will be con-
structive input to your consideration of the first 16 months of Public Law
92-500.

Monsanto Company is a diversified manufacturer of chemicals, plastics,
man-made fibers, petroleum products and electronic materials. We have 47
plants and 11 research facilities in the U. S., employing over 43,000 people.

We went into the environmental renaissance of the late 60's with our pol-
lution control programs -- for the most part -- ahead of the times. The few
that were behind quickly caught up and we are determined to maintain a position
we can be proud of.

When the Federal Water Pollution Control Act Amendments of 1972 became
law, we recognized, and were awed by its farsighted, comprehensive and
ambitious nature. We welcomed its approach of providing a logical, stepwise
approach.

We were gratified to find that regional, joint industrial/municipal treatment
was to be encouraged. Administration of permit programs was to be based

on uniform effluent guidelines and handled by known experienced, knowledgeable State agencies. Uniquely toxic pollutants would be limited to less than harmful amounts. Checks and balances appeared to abound. The Act directed consideration of ... "cost relative to benefits, age of facilities, engineering aspects, process changes, and non-water environmental impact (including energy)." Committees and Commissions of superb qualification were provided to insure technical validity and economic acceptability of programs. Finally, a precise timetable was provided which conveyed an appropriate sense of urgency.

We would like to share with you some of our reflections now, after being intimately involved with the industrial aspects of implementation during the last 16 months.

- . We're still impressed with the Act -- we feel it is a sound, workable law.
- . We're still convinced the Act can succeed to improve our Nation's water quality.
- . And, we have admired the vigor, the dedication and plain hard work of every man and woman of the Environmental Protection Agency we have had the privilege of working with.

We are very concerned, however, about several aspects of implementation. These include: (SLIDE)

- . The Guideline Program, and its impact on the Permit Program.
- . The Toxic Effluent Standards.

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- . State Involvement.
- . Pretreatment.
- . Water Quality Characterization.

First, as to Guidelines (or Effluent Standards) and the NPDES Permit System.

We have participated in the development of five of the 30 Phase I Guideline Groups, hosting a dozen contractor visits to our plants, providing considerable technical input including confidential cost data to the economic impact studies, testimony before the Effluent Standards and Water Quality Information Advisory Committee, review and comment on each contract report and development document and participation on four trade association review committees.

Our concerns in regard to the guidelines proposed to date are: (SLIDE)

- . Will the system be applicable in most cases?
- . Are treatment variables such as temperature, raw waste load, and treatability considered?
- . Do the 1977 proposed standards reflect "best practicable control technology"?
- . Have Cost/Benefit, energy utilization, and non water environmental factors been considered?
- . Do Guidelines apply to 'gross' water content or 'net'?
- . Will new source standards unduly restrict growth?
- . Will the system be counter-productive?

First, will the effluent guideline program really be applicable to the NPDES Permit Program? Our conclusion is that unfortunately it will not. The regions are quite properly moving vigorously ahead in an attempt to issue the majority

of the permits by the end of this year. In order to meet such an objective, determination of permit limits must take place over the next several months, the same period of time that the Phase I guidelines will presumably be promulgated. The Phase II documents will not be out until late in the year. Therefore, timing, if nothing else, suggests that the guidelines will be of limited value.

Secondly, we find that a relatively small percentage of our products will be covered by a guideline. Further, most of our plants are what one would call a chemical complex - that is a plant which makes a diverse variety of chemicals in many different departments. We frequently make one product one week and another product the next week on the same equipment. Typically, the aqueous wastes, if any, from these processes go into a common sewer system to a common treatment plant. Even if guidelines were published for each product, it would be virtually impossible to apply them in such a situation.

Without trying to sound too much like a Monday morning quarterback, then, it appears to us that a few general guidelines establishing minimum treatment performance for the more significant pollutants would have actually provided more uniformity in establishing permit limits than the extremely detailed, but very limited, guideline documents which will be available.

Aside from this very limited applicability, we have considered those standards which we can come to grips with, and ask the next three questions.

In our business, particularly in the Organic, and Plastics & Synthetic operations, biological waste treatment is the name of the game. The three primary variables in biological waste treatment plant performance are temperature, raw waste load, and the biological treatability rate or K factor. In

our opinion, the guidelines do not recognize the wide variation in these factors from plant to plant. I won't explore these considerations in detail, but will call your attention to the simplest example, that of temperature. An activated sludge plant in Minnesota simply cannot be called upon to achieve the same performance as a plant in Florida, nor can it be called upon to achieve average performance of a plant somewhere in between.

I might mention at this point that the Effluent Standards and Water Quality Information Advisory Committee established under Section 515 of the Act, as well as the environmental staff of the Dept. of Commerce, have been very active in trying to sell EPA on either a range of numbers in the effluent standards, or literally a formula (ie: ESWQIAC's Matrix Approach) which would consider these accepted variations in biological waste treatment.

The next question we asked was "Do the 1977 proposed standards really reflect "best practicable control technology" as described in the Legislative History"? In this regard, we are particularly concerned about the many products which are called upon to achieve "zero process discharge" by 1977. We note in the History, that Senator Muskie defined BPT as a "range of best practicable levels based upon the average of the best existing performance by plants of various sizes, ages, and processes." We found that many of the processes which were called upon to achieve "zero" have never demonstrated this capability. Others, which have, have done so because of some unique advantage of size, age, process, or geography.

Review of the comments received on several of the guideline documents indicate that we are not alone in this concern. I'd like to quote a few of these comments (SLIDE). "The Level I recommendation's of 'no discharge' are

stringent indeed - however it appears that these recommendations are not based on sound analysis of either the waste problems in these industries, or the best practicable or best available treatment/control alternatives".

(Michigan Student Environmental Confederation
July 27, 1973)

"The only area in which our staff differs is the no discharge limitation. Our staff is of the opinion that an excessive buildup of dissolved solids would occur, preventing the complete reuse of waste water with the best practicable present day technology. A periodic discharge would be necessary. "

(State of North Carolina)

"With respect to the recommendation of no discharge, it is noted that a number of chemicals and processes have not presently achieved zero discharge conditions. Because of the many varied processes involved, we would hesitate to agree that this is achievable without pilot demonstration".

(State of Michigan - Water Resources Commission -
July 23, 1973)

"We feel it would be quite impractical to implement a zero discharge for these manufacturers by 1977".

(State of Kentucky)

"To advance the goal of 1985 to a 1977 requirement could be extremely dangerous and costly. The recommendations are based on plants which fortuitously have either other process use for wastes from the process in question, or have a singular market arrangement for waste products which may not be available overall, or have a special system such as an evaporation pond, which climatically

may not be applicable in other parts of the country. Zero discharge, by any definition, is not realistic because it does not consider the realities of plant processes, water washings from preventive maintenance and inspections, operator mistakes, product changeover, product quality demands, and frequently personnel safety all combine to a quantity which cannot be dealt with by simple "evaporation".

(Dept. of Commerce - Aug. 3, 1973)

There were many more, but we feel we've made the point. We, and apparently others, think that the contractors and EPA have attempted to go too far, too fast. To attempt to achieve zero discharge or some of the very restrictive numerical limits which amount to zero discharge by 1977 presents a technical and economic impossibility.

Our next question had to do with whether factors spelled out in the Act, such as cost-benefit relationship, energy utilization and non-water quality environmental factors had really had any impact on the resulting standards. In every case, the contractor dutifully mentioned these considerations, but we were simply unable to find any case where comments on these areas had resulted in any change in the numbers, one way or the other. In fact, some of our most pointed criticism had to do with the economic impact studies where compliance cost estimates were frequently understated by factors of 20 or more.

All through our participation of the guideline program, we were led to believe that the numbers the effluent standards proposed were net limitations; that is, that they limited the amount of pollutants a facility could add to the water it uses.

Just within the past few weeks, however, some of the guideline publications have indicated EPA's intent to apply these limits on a gross basis. This would, of course, in many cases require the discharge of water cleaner than that received from the river. We have recommended that gross responsibility be resorted to only in those unique cases where the water supply is such as to in itself create a surface water quality problem. EPA has indicated an intent to "leave this matter up to the regions" which has the potential of creating gross non-uniformities in permit requirements in various areas of the country.

As, I am sure you know, the guidelines -- in addition to spelling out the 1977 standards, also address themselves to new source standards and the 1983 best available performance. We have had a hard time coming to grips with these numbers because of their inherent "blue sky" nature. We've already started preliminary design of a project which we would like to build, but simply don't know how to achieve the new source standard of "zero process discharge". It may well be that several years of research and pilot plant work could establish this capability, but several years is a long time to delay a business venture. The tone best practicable seemed to be that this is what we might reasonably expect an enterprise to invest in at this point in time. Why, then, should the new source standards be much more restrictive?

We can't really quarrel with the 1983 standards in effect setting a research and development target, but in order to be practical, the results of this research and development must be taken into consideration before the 1983 permit conditions (which will be executed in 1977) are agreed upon.

Finally, we asked whether the system will be counter-productive. We're afraid that it will. Imposition of unduly restrictive effluent standards has the unpleasant potential of legal challenge and undeterminable delays. I might better explain our position by comparing industrial waste treatment with municipal treatment. Municipal treatment plants are called upon to achieve secondary treatment by 1977. Secondary treatment is clearly "practicable" in that it has already been installed in many, many systems around the country. This is a clearly reasonable goal and most communities are enthusiastically proceeding in that direction. Had these municipalities been called upon, however, to achieve say 95% to 98% removal (which is comparable to the BPT industrial standards), by 1977 I submit that public waste treatment improvement would come to a screeching halt. Such technology has been demonstrated only under unique circumstances. The cost of going beyond the 85% level, generally comparable to secondary treatment to over 95%, is very difficult to defend on a cost benefit basis.

Let me go on now to our second general area of concern -- the toxic effluent standards. On the surface limiting the discharge of toxic pollutants to less than toxic levels would appear to be an unquestionable need. The obvious problem, of course, is that virtually everything is harmful at some level. By implication, then, the law was talking about those uniquely toxic pollutants which constitute a significant threat to man and the environment. We commend the approach the Environmental Protection Agency has taken in this program to date. The initial list of toxic pollutants covers those items with a significant known impact potential. We don't say that lightly because of our intimate

involvement with mercury and PCB's. A great deal of pressure, however, including a lawsuit has been brought to bear on EPA to expand the Section 307 list to include literally hundreds of pollutants including such broad classifications as papermill effluents, organic chemical manufacturing effluents, etc. We feel that yielding to these pressures will destroy the effectiveness of this section of the Act and we encourage the Committee to support continued EPA reasonableness in this regard.

We mentioned our concern regarding State involvement in the implementation of the Act. We have, as a company, a long history of very gratifying relationships with many very professional and dedicated state water quality agencies. We feel that the Act has made it very difficult for the State to continue to administer their water quality program and has resulted in a great deal of duplication of effort. We encourage the committee to do everything it can to put the program back in the hands of the states and eliminate as many as possible of the obstacles which have literally caused some states to throw up their hands and turn their state program over to the regional office.

We mentioned pre-treatment. Throughout the Act, the intent to encourage regional joint industrial-municipal waste treatment is made crystal clear. Yet, the pre-treatment standards which have been promulgated appear to discourage, if not prohibit, continued joint treatment. The regulations as they now stand allow an industry to discharge only "compatible pollutants" to public systems without pre-treatment. These compatible pollutants have been limited to BOD and suspended solids. Any other pollutant is by omission classified as incompatible and must be pre-treated such that the combined

pre-treatment and public treatment will achieve the same degree of removal as if the industry were discharging directly. While this would seem reasonable on the surface, the extremely high removals established in the best practicable control guidelines would require such elaborate pre-treatment, that any incentive to participate in joint treatment schemes would be eliminated. In other words, it would be more cost effective to install total treatment and divorce the operation from any regional or joint treatment system.

Finally, we mentioned water quality characterization. What we're referring to here is a trend we have detected to "go overboard" in establishing receiving stream water quality criteria. If unduly restrictive criteria are adopted without regard to economic impact, we feel the whole orderly step-wise tone of the act will be destroyed. We have got to learn to walk before we run and this trend of going beyond drinking water criteria for our rivers, lakes or streams is not only absurd, but poses a very real threat to the effectiveness of the Act.

Gentlemen, in the interest of time, we have hit the high spots. We stand ready, however, to discuss any or all of the concerns we have highlighted with you today at your convenience. We told you nothing today that we haven't told EPA, and we will continue to cooperate in every way possible with the agency.

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