

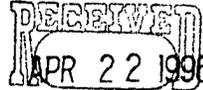
US EPA ARCHIVE DOCUMENT



RRPP I - D. 55

Polymer Chemicals

April 19, 1996



OPTIONAL FORM 99 (7-90)

FAX TRANSMITTAL

of pages ► 14

Regulatory Reinvention Pilot Projects
FRL-5197-9
Water Docket, Mail Code 4101
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, DC 20460

To	Mahesh Podur	From	Lisa Hunter
Dept./Agency	OW	Phone #	202-4744
Fax #	401-3372	Fax #	401-6637
NSN 7540-01-317-7368		5099-101 GENERAL SERVICES ADMINISTRATION	

RE: AKZO NOBEL CHEMICALS INC.
Burt, New York
EPA ID NO: NYD 043 815 1548
Project XL Proposal

Dear Sir/Madam:

Enclosed please find a Project XL proposal prepared on behalf of the Akzo Nobel Chemicals Inc. Burt, New York facility. In accordance with your instructions, we believe the enclosed proposal addresses each of the necessary project criteria and appropriate stakeholder involvement.

As we have indicated during prior discussions/correspondence, recent amendments to the OCPSF pretreatment regulations will force Akzo Nobel to discontinue discharge of its industrial wastewaters to the Town of Newfane's POTW unless regulatory flexibility can be secured. This action would create a significant financial burden for the Town's residents without providing any corresponding environmental benefits.

As discussed herein, the final Town of Newfane POTW design, prepared during the late 1970's, assumed significant wastewater contribution from the Akzo Nobel facility to augment that from the commercial/residential sectors. Should Akzo Nobel be forced to remove its wastewater contribution to the POTW, the loading to the POTW would decrease to approximately 40 percent of historical levels. While

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there are differences of opinions regarding the long term impacts to the performance of the POTW at a reduced loading, the financial impacts due to Akzo Nobel's exit can be quantified as an increase of more than 150% (future fees at 2 1/2 times current fees).

The Town of Newfane, Akzo Nobel and USEPA have spent considerable time investigating mechanisms for regulatory relief without success until EPA Region II made us aware of the Project XL program. The Town of Newfane and Akzo Nobel subsequently prepared a Project XL proposal. Akzo Nobel believes that approval of the enclosed proposal by USEPA will provide the following benefits.

- Treatment of OCPSF chemicals to a level consistent with regulatory requirements under 40 CFR 414.
- Utilization of the Town of Newfane POTW at a capacity closer to the design capacity.
- Continued funding of the Town of Newfane POTW operations by Akzo Nobel with no significant fee increases for other users.
- No unnecessary duplication of available treatment capacity.
- No changes in the location of the current "Akzo Nobel" wastewater discharge.
- The ability of Akzo Nobel to use its capital resources for investigating and implementing other mechanisms to reduce emissions/discharges to the environment (e.g., substitution of dimethyl phthalate in the ketone peroxide reaction); thereby maximizing benefits to the environment.

Should the Project XL proposal request be rejected, Akzo Nobel will require some relief from the July 1996 deadline for compliance with the OCPSF discharge limits to allow sufficient time to complete a major capital project.

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Akzo Nobel appreciates the U.S. EPA's assistance in providing information and guidance during preparation of the enclosed Project XL proposal. We look forward to working with you to finalize an Agreement to implement our proposal.

If you have any questions regarding the enclosed or require additional information, please do not hesitate to contact the undersigned.

Sincerely,

AKZO NOBEL CHEMICALS INC.

A handwritten signature in cursive script that reads "Pamela J. Cook".

Pamela J. Cook
Sr. Environmental Engineer

cc: G. Martens - Akzo Nobel
J. Miller - Akzo Nobel
Town of Newfane
NYSDEC - Buffalo, NY

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Introduction

Akzo Nobel Chemicals Inc. has developed a Project XL proposal related to treatment of industrial wastewater from the Burt, New York facility. An overview of the proposal and justification follows.

Compliance with the recent categorical pretreatment standards amendments promulgated by USEPA for OCPSF wastewater point source discharges will require Akzo Nobel to construct and operate a wastewater treatment facility at the Akzo Nobel facility instead of using the Town of Newfane wastewater treatment facility (POTW) as is the current practice. This situation has, therefore, created a potential hardship for both the Town of Newfane and its citizens and the Akzo Nobel facility in the Town of Newfane.

The POTW was designed to receive a significant organic loading from the Akzo Nobel facility and to treat the Akzo Nobel discharge with a removal efficiency of 99.9 percent. Removal of the Akzo Nobel organic load will leave the POTW with a significantly lower loading (underutilization of system) which, in turn, is expected to result in some decrease in overall performance.

Withdrawal of Akzo Nobel from the POTW will also have a significant economic impact on the Town residents. Currently Akzo Nobel pays more than 60 percent of all operating costs for the POTW. Without Akzo Nobel's contribution, the Town residents will pay at least 2.5 times their current rate for use of the POTW.

Should Akzo Nobel construct and operate a wastewater treatment facility for the industrial wastewaters, the net result from an environmental perspective will be relocation of a portion of the current POTW effluent to a new discharge location. Thus, there is no apparent environmental benefit from Akzo Nobel being required to comply with the aforementioned amendments.

Akzo Nobel is committed to investigating and implementing process changes that have a positive impact on the environment (e.g., reduce releases of environmental contaminants). The ability to make significant progress,

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however, is a function of availability of capital. If the proposed Project XL proposal is approved, Akzo will have capital available to expedite pollution prevention projects that will have a real impact on the environment (e.g., substitution of a non-regulated compound for dimethyl phthalate in the ketone peroxide reaction).

The Town of Newfane and Akzo Nobel have been working with USEPA for over two years to find ways to mitigate the above situation. This Project XL proposal is the result of those efforts. The following sections outline the basis for developing this proposal and justification for USEPA to approve the Akzo Nobel proposal.

Background

The July 9, 1993 Federal Register contains amendments to 40 CFR 414 promulgated by the EPA. The amendments limit introduction of pollutants into publicly owned treatment works (POTWs) by existing and new sources in the organic chemicals, plastics and synthetic fibers (OCPSF) point source category.

The 40 CFR 414.111 (a) & (b) amendment lists effluent concentration limits for 47 compounds for indirect point source discharges. Akzo Nobel falls into the above category. Dimethyl phthalate is present in the Akzo Nobel effluent at concentrations of 130,000 ppb; allowable limits are less than or equal to 19 ppb. The compliance date for the preceding effluent limit is July 9, 1996 (40 CFR 414.12).

The POTW currently removes approximately 99.9 percent of this material through the biological treatment process and produces an effluent that meets the categorical limit.

Akzo Nobel has investigated the complete substitution of dimethyl phthalate with a non-regulated compound in its ketone peroxide products. This was found to be unacceptable in the marketplace. Akzo Nobel is currently investigating the possibility of substituting the non-regulated compound for

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dimethyl phthalate in the reaction phase of the process. This is the phase of the process where the majority of the dimethyl phthalate is discharged to the process sewer. If this substitution is successful it will significantly reduce the amount of dimethyl phthalate in Akzo Nobel's wastewater effluent.

The Town investigated several avenues regarding dimethyl phthalate regulations. One avenue investigated was the possible relaxed regulations for "captive POTW". A "captive POTW" is loosely defined as a wastewater treatment facility which receives a majority of its flow and/or organic load from industrial user(s). NYSDEC and USEPA personnel, however, stated that current regulations do not address "captive POTWs".

The Town also pursued the use of removal credits, as allowed by 40 CFR 403.7 to increase the allowable concentration of dimethyl phthalate in Akzo Nobel's discharge. After several discussions with EPA Pretreatment personnel, the Town was informed that removal credits are unavailable for total hydrocarbons, (dimethyl phthalate is a hydrocarbon) for a POTW that will directly or indirectly apply the POTW sludge to land (removal credits for compost (LA) facilities: 30 CFR 403.7 Appendix (G)).

POTW

The publicly owned treatment works consist of a 1.6 mgd completely mixed activated sludge process. Major equipment/processes consist of grit removal, primary clarification, aeration basins, secondary clarification, rapid sand filtration, chlorination and a 1,500 LF outfall with a special diffuser out into Lake Ontario. Sludge treatment consists of gravity thickening, dewatering with a belt filter process and then sludge stabilization through aerated static pile composting process at the Town's Composting Facility located on Phillips Road.

Akzo Nobel's wastewater is readily treatable by the POTW and is handled very efficiently (99.9 percent removal efficiency). The majority of this waste is by-product from the production of dialky peroxides and ketone peroxides which are readily biodegradable. In excess of 60 percent of the designed

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organic loading for the plant was based on Akzo Nobel's waste stream. Additionally, the biomass of the activated sludge process is dependent on the food source supplied by Akzo Nobel's discharge. If Akzo Nobel's wastewater is not discharged to the POTW, the efficiency of the treatment system is expected to decrease, thereby reducing the effectiveness of the treatment of the municipal wastewaters. At present, the greatest impact that Akzo Nobel could have on the POTW would be to stop discharging.

Akzo Nobel

Akzo Nobel is a manufacturer of initiators for the plastics industry; primarily diacyl peroxides, ketone peroxides and antistatic agents. Diacyl peroxide manufacturing utilizes benzoyl chloride, 2,4-dichlorobenzoyl chloride, hydrogen peroxide, sodium hydroxide and water as raw materials. The basic process follows the sequence of chemical reaction, water washing, water content reduction, mixing and packout. Variations of the sequence subsequent to water content reduction may include mixing with or without inert fillers, additions of diluents, and/or size reduction. The resulting products are in one of three (3) forms: solids, paste or emulsion.

Ketone peroxide manufacturing utilizes methyl ethyl ketone, acetyl acetone, hydrogen peroxide, sulfuric acid, sodium hydroxide, glycols, and phthalate esters as principal raw materials. The exact raw materials depend on the specific product to be made. The basic process follows the sequence of chemical reaction, separation of aqueous and organic phase, water content reduction of the organic phase and extraction of the aqueous phase, dilution of the total organic phase with phthalate esters and/or glycols, and packout. The resulting products are in liquid form.

Antistatic agent manufacturing utilizes ethoxylated amine oils, polystyrene pellets, polyethylene pellets, and polypropylene pellets depending on the specific finished product. The process sequence is melting/blending, extrusion, cooling, pelletizing, screening, and packout.

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Production data for the Akzo Nobel facility is confidential business information.

The standard industrial classification for Akzo Nobel is SIC Code - 2869.

Akzo Nobel Need for Regulatory Flexibility Accountability

The Town POTW was planned, designed and constructed with greater than 60 percent of the design organic load specifically allocated for Akzo Nobel. The amended regulations will require Akzo Nobel to construct a treatment facility to provide duplicative treatment to that currently provided by the Town POTW. This will result in an approximate 60 percent drop in organic load to the POTW, and is expected to have a negative impact on POTW operations (removal efficiency) and the viability of the Town Composting Facility.

Since Akzo Nobel is approximately 60 percent of the organic load on the POTW, Akzo Nobel pays approximately 60 percent of the operation and maintenance costs for the POTW. Should Akzo Nobel discontinue use of the POTW system, sewer rates for residential users would increase to 250 percent of current rates.

In addition to the severe economic impact on the Town and the industry, there is a real question regarding whether an environmental benefit is achieved. Specifically, how does the environment benefit from relocating the plant discharge from the Town POTW outfall to a new Akzo Nobel plant outfall?. The environmental impacts could actually be negative. A new Akzo Nobel outfall would likely discharge to Eighteen Mile Creek, a protected stream and active sport fishery at its confluence with Lake Ontario. (This activity would be subject to a NYSDEC SPDES permit, in addition to other land use/development permits.) The POTW, on the other hand, has a submerged outfall and special diffuser structure constructed out into Lake Ontario.

In short, these OCPSF amendments will have a huge economic impact on the Town of Newfane and Akzo Nobel with no known environmental benefit.

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The reason for this is an apparent gap in the environmental regulations between the pretreatment standards and the sludge regulations.

The need for regulatory flexibility/accountability is to address this apparent gap that the Akzo Nobel/Town of Newfane situation resides in.

Akzo Nobel Project XL Proposal

Akzo Nobel is an OCPSF categorical industry that has been discharging to the POTW since the plant went on line during the late 1970s. The POTW was designed to treat Akzo Nobel's industrial wastewater, and does so successfully. The maintenance of a viable biomass is actually dependent on Akzo Nobel's waste stream.

The OCPSF amendments will require Akzo Nobel to meet the categorical effluent limits prior to discharge to the POTW . To accomplish this, Akzo Nobel will need to construct their own treatment facility, and hence would no longer need the Town POTW system. Since the Town POTW can treat the Akzo Nobel discharge as efficiently as Akzo Nobel could, Akzo Nobel's construction of a treatment system would be duplicative, redundant and unnecessary but for the OCPSF regulations.

The Akzo Nobel Project XL proposal simply allows the OCPSF effluent limits to be enforced at the Town's POTW outfall rather than the Akzo Nobel discharge to the POTW. The Town and Akzo Nobel are interested in working with the USEPA to develop an alternative permitting and enforcement strategy that produces the equivalent or greater environmental benefit than the existing regulations, greater stakeholder acceptance, and minimizes or eliminates the negative economic impact on the Town of Newfane.

Akzo Nobel believes that an XL based discharge permit for the POTW would be the reasonable approach for addressing the subject situation. This would allow for the accountability issues to be addressed through permit limits and conditions that would be negotiated as terms of a final project agreement.

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Akzo Nobel is committed to investigating and implementing process changes that have a positive impact on the environment (e.g., reduce releases of environmental contaminants). The ability to make significant progress, however, is a function of availability of capital. Approval of the proposed Project XL will free funds that Akzo Nobel can use to expedite pollution prevention projects that will have a real impact on the environment.

A current pollution prevention study involves substitution of a non-regulated compound for dimethyl phthalate in the ketone peroxide reaction. Should the substitution be feasible, it would significantly reduce the amount of dimethyl phthalate in the wastewater, thereby addressing the real goal of reducing releases of this compound to the environment. Additionally, the new compound is not regulated by either the EPA or DOT. [Note: Akzo Nobel considers the identity of this compound to be confidential business information.]

Project Criteria

The USEPA in its solicitation of XL pilot projects proposed eight selection criteria to evaluate prospective projects. Akzo Nobel believes this proposal meets the eight selection criteria as follows:

1. Environmental Results:

Akzo Nobel considers the environmental benefits of this proposal to be substantial, real and much more readily acceptable to the stakeholders and the public than the alternative of constructing and operating a new wastewater treatment facility. Eighteenmile Creek, the probable discharge point for a new facility, is an important spawning area for the Great Lakes salmonoids and trout species and an important Class 1 Wetland habitat. It provides tremendous sport fishing opportunities due to the volume of spawning fish, and the fact that it remains ice free much longer than the smaller tributaries in the area. As a result, the Olcott Harbor has become a beacon for sport fishermen from all over the eastern states and Canada. This has created economic

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opportunities in related industries such as marinas, boating, restaurant, hotels, campgrounds, bed and breakfasts, etc.

Should the Akzo Nobel Project XL proposal not be finalized into an Agreement, this would require Akzo Nobel to construct a wastewater treatment plant and most likely discharge into the important fishery of Eighteenmile Creek. This means there would be two plants with two discharges and two SPDES permits along with the duplication of the administration and enforcement of those permits. This duplication of treatment would also include energy, chemical feed, operating personnel and testing and analytical equipment and services.

Having a wastewater plant effluent discharge into Eighteenmile Creek would create environmental impacts on the stream and wetland that would not occur with the existing Lake Ontario outfall. The extent of these impacts has not been determined.

There is a likelihood that without Akzo Nobel's wastewater, the POTW would need physical modifications in order to continue to operate efficiently due to underutilization.

Having only one facility, the POTW, would eliminate the need for the duplication of facilities, personnel, and services while reducing the potential environmental risks/impacts resulting from Akzo Nobel discharging treated wastewater to the important fishery spawning area and wetland.

Akzo Nobel is in the process of constructing all new sewers (greater than 90 percent complete) at a cost of approximately \$500,000. This project has greatly reduced the potential for infiltration/exfiltration problems and their negative impact.

Additionally, if this proposal is accepted then Akzo Nobel could concentrate its capital expenditures for pollution prevention on items such as investigating the substitution of a non-regulated compound for

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dimethyl phthalate in the first phase of the ketone peroxide reaction, thus reducing the amount of dimethyl phthalate discharged. This substitution would also reduce Akzo Nobel's SARA 313 emissions, since dimethyl phthalate is a SARA 313 reportable compound, and the substitute compound is not.

The POTW sewer system acts as a buffering agent for variations in Akzo Nobel's wastewater flow variations due to their small share of the overall POTW flows. Likewise, Akzo Nobel's relatively high organic loading provides for a more consistent average organic loading to the POTW.

One facility would mean one SPDES permit and minimization of the related ramifications and risks.

2. Cost Savings and Paperwork Reduction:

Cost savings would be dramatic with the Project XL proposal. Town sewer rates would not go up to 250 percent of current rates. Akzo Nobel would not be required to construct a \$750,000 wastewater plant and outfall sewer. Additionally, Akzo Nobel would be required to continue paying for the capital cost of the existing town POTW (these payments continue until the current bond is paid) without receiving a benefit from those payments. A new wastewater treatment plant would constitute a duplication in costs. Akzo Nobel would necessarily have to pass these cost on to its customer base which could negatively impact sales.

The decrease in paperwork with only the POTW would be a direct result of not having the second SPDES permit and its administration, reporting, inspections, analytical testing, etc.

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3. Stakeholder Support Plan:

In addition to Akzo Nobel, the main stakeholders in this project will be:

- the local community - Hamlet of Olcott
- the Town of Newfane - Town Board , POTW & residents
- Niagara County Fisheries - Bill Hilts
- Niagara County Legislature - Jim Ward, Legislative District
- Newfane Business Association - economic impact on the community should Akzo Nobel cut production services or delay future expansion due to fiscal constraints
- Lake Ontario Trout & Salmon Board - effect on spawning fish in Creek
- Conservation Fund Advisory Board - John Long, Chairman
- NYSDEC - fisheries regulations; impact on spawning and fishing in Lake Ontario & Creek and oversight/regulatory capacity
- NYSDOS - waterfront management, coastal waters
- US Fish & Wildlife - E. Ann Poole, Trout & Salmon Spawning in Creek
- US Army Corps. of Engineers - wetlands management in Creek
- EPA Region 2 - oversight/regulatory capacity

It is Akzo Nobel's intent, with the assistance of the Town of Newfane, to contact representatives of each of the stakeholders and inform them, in writing, of the proposed program. In addition, there will be formal meetings and discussions with EPA Region 2, NYSDEC, Town Officials, and Akzo Nobel representatives to discuss the details of the proposal and follow-up monitoring, and to gain consensus of the parties. The details of the agreement(s)/plan will be disclosed to stakeholders in a special meeting. The stakeholders will then be requested to forward their comments regarding the final plan, to the committee. The committee will address those comments as appropriate, and send a final response to stakeholders. (This may be

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done either in writing or through another special session with the stakeholders.) Once this is completed, a series of public information sessions will be held to inform the general public of the actions to be taken.

4. Innovative/Multi-Media Pollution Prevention:

We believe that this Project XL proposal is an opportunity for the Municipality, Industry and Regulatory Agency to utilize an innovative management strategy for achieving positive environmental results. Such results are a combination of meeting the categorical limits utilizing the POTW facility and not creating an effluent discharge into Eighteenmile Creek.

Additionally, should this Project XL proposal be approved, it would afford Akzo Nobel the opportunity to direct its capital expenditure related to environmental projects to pollution prevention investigations/ implementation (e.g., dimethyl phthalate substitution) instead of duplicating existing wastewater treatment capacity.

5. Transferability:

This proposal presents an opportunity to implement a specific new approach that could one day be used more broadly. This project will have important impacts in establishing regulatory requirements for management of wastewater effluent and composted sludge. It will help to close the gap between the sludge and pretreatment regulations with potential impacts on many industries and POTWs throughout the nation.

6. Feasibility:

Akzo Nobel and the Town of Newfane have the financial and administrative capability to implement this program. Technical feasibility of the POTW has already been proven.

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7. Monitoring, Reporting and Evaluation:

Akzo Nobel is prepared to negotiate a system with the Town of Newfane and the appropriate stakeholders to disseminate all necessary information and to ensure accountability and enforceability.

8. Shifting of Risk Burden:

The proposed project is consistent with the Executive Order 12898 on Environmental Justice.

Akzo Nobel wants to thank the USEPA in advance for their consideration of this proposal. We believe feel that through a partnering of all the stakeholders a practical solution with superior environmental performance can be obtained. This will allow the Town POTW to provide wastewater services at an affordable price, keep Akzo Nobel in a competitive situation in the marketplace, and have the least potential impact on the environment.