

US EPA ARCHIVE DOCUMENT

PROJECT XL FINAL PROJECT AGREEMENT
Molex, Inc.
U.S. EPA Region 7
Nebraska Department of Environmental Quality

This Project XL Final Project Agreement (FPA or Agreement) is entered into by the United States Environmental Protection Agency (EPA), the Nebraska Department of Environmental Quality (NDEQ), and Molex, Inc. (Molex). This Agreement states the intentions of the parties to undertake certain actions necessary to implement an alternative strategy for environmental compliance at the Molex electroplating facility located at 700 Kingbird Road, Lincoln, Nebraska.

This agreement is intended to be a joint statement of the parties' plans and intentions with regard to the Molex, Inc. XL Project. It is intended to clearly state the plans of the various participants to carry out the project. The agreement is not, however, intended to create legal rights or obligations and is not a contract, or a regulatory action such as a permit or rule, although some provisions in this Agreement will be implemented through a state variance which will be legally enforceable. This agreement does not give any of the parties a right to sue other parties for any alleged failure to implement its terms, either to compel implementation or to recover damages.

WHEREAS, under Project XL the Administrator of the U.S. Environmental Protection Agency, in partnership with the states, will provide a limited number of responsible companies the flexibility to replace the requirements of the current environmental regulatory system at specific facilities with an alternative strategy developed by the company if certain conditions are met;

WHEREAS, under Project XL the alternative strategy must produce environmental performance superior to that achieved under current requirements, must allow the public to examine assumptions and track progress toward meeting promised results, must not create worker safety or environmental justice problems, must enjoy the support of the community surrounding the facility, and must be enforceable;

WHEREAS, the NDEQ seeks to develop ways to reduce the costs of environmental management while maintaining environmental quality;

WHEREAS, Molex, Inc. has proposed an alternative strategy to change the waste treatment processes at its electroplating facility in Lincoln, Nebraska, in conjunction with relief from certain regulatory requirements, in order to more efficiently manage those wastes and recover metals for recycling and reduce the metals loading to the publicly owned wastewater treatment system;

WHEREAS, the development of this FPA includes public participation in examining and tracking the alternative strategy;

NOW, THEREFORE, the EPA, NDEQ and Molex agree as follows:

I. Project Description

A. Molex Facility Description

Molex is a multinational company that operates several electroplating facilities worldwide. Molex as part of its proposal has upgraded its facility in Lincoln, Nebraska by changing its waste water treatment system to allow it to optimize the recovery of metals used in the electroplating processes. Once this new system is covered by the XL project, the primary environmental benefit will be the reduction of metals loading in the effluent discharges into the publicly owned treatment works (POTW). A secondary environmental benefit will be increased recycling and reducing the amount of material that would otherwise be land farmed.

B. Overview of Project

This project is an alternative environmental compliance strategy that encompasses technical changes to the facility's wastewater treatment system, environmental improvements in the effluent to the POTW, regulatory relief for the facility for storage and shipment of wastes, and documentation of the technical, environmental and economic impacts of the alternative strategy.

The facility generates several metals-bearing wastewater streams that formerly were brought together for combined treatment. Metals recovery in such a system is limited because each metal has its own optimal set of treatment conditions. At its new facility Molex is operating a segregated treatment system that separately treats each metal waste stream to optimize the precipitation of each metal contaminant to more effectively remove metals from the effluent to the POTW. Molex has made its investment in the system in anticipation of its participation in the XL program and the regulatory relief it will provide. At the new facility Molex changed the process lines to generate separate treatment sludges for nickel, copper, and tin/lead. The environmental benefit will be a substantial reduction in the mass loading of metals entering the City of Lincoln's POTW. In addition, the resultant mono-metal sludges are more suitable for direct recycling by reclamation facilities. However, the segregated system costs more to operate than a combined treatment system. Additionally, the segregated system will result in increased costs from compliance with the current regulations for handling the resultant sludges. Currently, Molex is handling the sludges as hazardous wastes. Without the regulatory relief provided in this project, Molex will not be able to financially justify continued operation of the segregated system.

The NDEQ hazardous waste program has been authorized by EPA pursuant to the Resource Conservation and Recovery Act (RCRA) § 3006(b), to carry out the Nebraska program in lieu of the Federal Program. Sludges from the former combined treatment system contain copper, nickel, tin, lead, and gold. The gold content of the materials has allowed Molex to handle the combined treatment sludge as "recyclable materials" from which precious metals are reclaimed under Title 128, Rules and Regulations Governing Hazardous Waste Management in Nebraska, Chapter 7, Section 010.

The sludges at the new facility do not contain precious metals and therefore will not qualify as "recyclable material" from which precious metals are reclaimed. As such, in the absence of this proposed regulatory relief, the materials will be subject to the NDEQ Title 128 generator requirements for storage and shipment of hazardous wastes, at considerably greater expense for storage, shipment and disposal/recycling as compared to the precious metals exemption. With the proposed regulatory relief, including a variance granted by NDEQ, Molex will be allowed to handle the non-precious mono-metals sludges as with substantially reduced regulatory compliance costs.

To achieve the regulatory relief, the Nebraska Department of Environmental Quality, pursuant to its authority in Title 128, Rules and Regulations governing Hazardous Waste Management in Nebraska, Chapter 5, Section 001.04, intends to grant to Molex a temporary variance from classifying as solid waste the nickel, copper, and tin/lead sludges generated under the new system.

C. Commitments/Implementation

Under the proposal, Molex seeks to handle the sludges in essentially the same manner as the previous precious metals bearing sludge. The method that EPA and NDEQ deem appropriate to accomplish this regulatory relief is for the NDEQ to grant Molex a variance for a temporary exemption and then for EPA to have this FPA become effective. The temporary exemption to be granted by NDEQ would classify the segregated sludges generated during wastewater treatment as a solid waste.

In addition to the intention of Molex to operate the segregated system pursuant to the regulatory relief, and the intention of NDEQ to grant regulatory relief to Molex, the parties to this Agreement also intend to document the technical, environmental and economic aspects of the project as specified in this FPA and the NDEQ temporary variance. The documentation will be geared to demonstrate whether:

The treatment system is technically feasible.

The environment will benefit by a reduction of the amount of metals discharged into the POTW and by an increase in recycling.

The regulatory relief causes no adverse environmental impacts.

The alternative strategy is economically feasible.

Molex will provide to EPA the same reports it provides to NDEQ pursuant to the terms of the variance. In addition, Molex will provide to EPA the waste analysis reports identified in "Attachment B" to this FPA. EPA reserves the right to require additional waste analysis based on the results of any waste analysis performed on the sludges including any testing conducted by the NDEQ or EPA. All reports submitted by Molex will be made available to the public through the project docket and posted on the EPA/Project XL homepage.

Molex will perform its obligations pursuant to the NDEQ variance and the required EPA waste analysis in accordance with an approved Quality Assurance Action Plan (QAAP). Within 15 days of the effective date of this FPA, Molex will submit its QAAP to NDEQ and EPA for review, comment and approval.

D. Public Comment

This FPA and the NDEQ variance are the essential documents for the Molex XL project. In the course of developing this XL project, EPA had simultaneously published in the Federal Register on November 3, 1997, a direct final rule and a proposed rule relating to this project. EPA solicited public comment on the drafts at that time on the FPA and the NDEQ variance. In addition, notice of the public comment period was published in the local newspaper of largest circulation and mailed to all parties expressing an interest in the proposal. As a result of public comment, the direct final rule was withdrawn on December 30, 1997.

This FPA, has been modified from the draft FPA to reflect the withdrawal of the EPA direct final rule and a change from the term "smelters," to the term "reclamation facilities." This modified FPA is effective upon the signatures of the parties below. The NDEQ has issued the variance attached hereto in order to complete the regulatory relief under this project.

E. Duration of Agreement, Termination and Notice

The parties intend by this FPA to accomplish the described regulatory relief and begin operating the segregated treatment process under the terms of this agreement so that the alternative compliance strategy will be in place for a two-year period. The FPA is effective upon the signatures by the parties below. The variance to be issued by NDEQ will also be for a duration of two years.

Completion and acceptance by the parties of the final report pursuant to the terms of the variance will terminate this FPA. While the parties intend this FPA to be carried out for its full term, it is not legally binding and accordingly, any party may terminate this FPA, provided that

notice is provided by the terminating party to the other parties at least 30 days prior to such termination. EPA or the NDEQ, upon a finding that continuation of the project may present an imminent and substantial endangerment to human health or the environment, may terminate this FPA immediately or at such effective date as EPA or the NDEQ determines upon telephonic or other notification to Molex. Additionally, this FPA will terminate automatically upon termination of the variance to be issued by NDEQ.

Unless otherwise specified, all notices or other communications required by this FPA will be in writing and will be effective for all purposes if sent by regular mail. Each party will timely inform all other parties of the telephone number, mailing address, and person designated for receipt of such notices or communication.

II. Project XL Criteria

A. Environmental Results

This project supports goals of both the Federal Water Pollution Control Act (FWPCA), Nebraska Surface Water Quality Standards, Resource Conservation and Recovery Act (RCRA) and the Nebraska Hazardous Waste Management Program.

This project supports the FWPCA and Nebraska Surface Water Quality Standards goals to restore and maintain the chemical, physical and biological integrity of the Nation's and State's waters. Specifically, this project reduces the metals loading effluent into the City of Lincoln, Nebraska's POTW, thus reducing metals discharges from the POTW into the nation's and State's waters and metals constituents in the POTW sludge that ultimately is land farmed. Additionally, the reduced loading maintains the reserve treatment capacity of the POTW, thus deferring the replacement or enlargement of the publicly financed construction.

This project also supports the RCRA and Nebraska Hazardous Waste Management Program goals of resource recovery and conservation. Specifically, this project results in direct recycling of mono-metals bearing sludges by reclamation facilities, which will decrease the need for mining of ores or other virgin materials, thus conserving mineral resources.

B. Cost Savings and Paperwork Reduction

Molex estimates it incurred annual costs in the amount of \$14,499 under the previous system for the recovery of non-precious metals. Under the new system, Molex estimates it will avoid process waste management costs and receive an annual income of \$7,632 from the sale of the separated, non-precious metals bearing sludges. Together, Molex estimates it will accrue \$22,131 in net annual savings, as a result of the changes implemented under this project. The capital cost of the new system is approximately \$150,000 greater than the cost of the previous treatment system, which Molex estimates it can amortize in 9 years at a 6% interest rate.

There will be paperwork reductions due to the classification of sludges as recyclable materials rather than as hazardous waste. The project's reporting requirements to document the project are not considered additional paperwork burdens for the alternative strategy as applied to the electroplating industry in general, but are simply part of the individual commitment of the parties to the Project XL objectives.

C. Stakeholder Support

The participating stakeholders are the signatories to this FPA. In addition, the Lincoln/Lancaster County Health Department and the City of Lincoln, Nebraska have supported the development of this project. Also, the public has been notified from the outset of this project and invited to participate, and will continue to be informed as the project is implemented through dissemination of the reports submitted by Molex to NDEQ and EPA.

D. Innovation and Multi-media Pollution Prevention

The project uses separate waste treatment systems, each optimized for maximum metals recovery, in an industry where mass treatment is common. As each system becomes unencumbered by the need to accommodate other metals recovery chemistries, more efficient and diverse recovery systems may develop.

The project impacts primarily land and water media, and additionally conserves virgin resources through recycling. The reduced metals effluent to the POTW results in reduced discharges into the nation's water and in POTW sludges that eventually become land farmed.

E. Transferability

If successful, this project could be transferrable to other electroplating facilities nationwide. The technical, environmental and economic impacts will be documented and made public. The regulatory relief is transferrable to other facilities, or may form the basis for rule changes applicable to all such treatment systems of metals recovery.

F. Feasibility

Molex has the financial and technical ability to implement the requirements of this project and document the results. The parties to the FPA will coordinate the implementation via the variance to be issued by NDEQ.


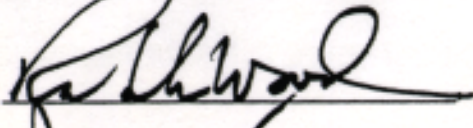
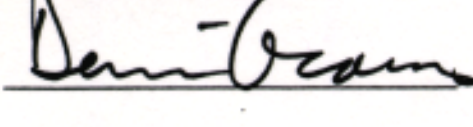
G. Monitoring, Reporting and Evaluation

The project will fully document the technical, environmental and economic impacts of the alternative strategy. Molex, in coordination with the other parties to the FPA, will provide quarterly reports to monitor the progress of the project and a final report at the conclusion to evaluate the strategy, pursuant to the requirements of this FPA and the variance to be issued by NDEQ in conjunction with this Project XL.

H. Shifting of Risk Burden

No group or media will be subject to unjust or disproportionate environmental impacts or burdens attributable to this project. The Lincoln/Lancaster County Health Department and EPA conducted a demographic study of the facility area and determined that no minority or low income populations would be adversely affected by the project. Storage of sludge at the facility prior to shipment to the reclamation facilities will essentially be no different than current storage of the combined treatment, precious metals-bearing sludge, except that under the project the metals will be separated. Reclamation facility workers and residents nearby reclamation facilities will not be adversely affected since the reclamation facilities will not increase their reclamation activities, but only replace virgin material feedstock with recyclable material feedstock.

III. Signatories

Molex	<u></u>	Date	<u>98/08/04.</u>
NDEQ	<u></u>	Date	<u>Aug 7, 1998</u>
EPA	<u></u>	Date	<u>Aug 11, 1998</u>

ATTACHMENT A

NDEQ variance

ATTACHMENT B

EPA Waste Analysis

Within 30 days of the date of issuance of the NDEQ variance, Molex shall conduct a waste analysis on all three sludges (nickel, copper, and tin/lead) for the following parameters and report this analysis to EPA and NDEQ within 30 days of receipt of the analytical results. This analysis will be in addition to that specified in the variance issued by the NDEQ.

<u>Constituent</u>	<u>Analysis</u>
Chlorine	Total
Sulfides	Total
Antimony	Total
Beryllium	Total
Thallium	Total
Heating Value	BTU/lb
Total Organic Carbon (TOC)	*

*In the event that TOC exceeds 500 ppm (by weight), then Molex will ensure that such set of samples is also analyzed (total concentrations) for the following additional parameters: Organic constituents listed in Table 1 of 40 CFR Part 261.24, with the exception of (a) the insecticides endrin, lindane, methoxychlor and toxaphene and (b) the herbicides 2,4-D and 2,4,5-TP (Silvex). If TOC exceeds 500 ppm (by weight), Molex will also demonstrate to EPA that the samples do not include greater than a 500 ppm total concentration of organic compounds listed in Part 261, Appendix VIII.

Within 120 days of the date of issuance of the NDEQ variance, and every 90 days thereafter until a total of four (4) rounds of sampling and analysis are completed, Molex shall conduct a waste analysis on all three (3) sludges (nickel, copper, and tin/lead) for the following parameters and report the results of this analysis to EPA and NDEQ within 30 days of receipt of the analytical results.

<u>Constituent</u>	<u>Analysis</u>
Arsenic	Total
Barium	Total
Cadmium	Total
Chromium	Total
Copper	Total
Lead	Total
Nickel	Total
Selenium	Total
Zinc	Total

After the four (4) rounds of sampling and analysis have been completed, EPA will review the results from these analysis and make a determination whether additional sampling and analysis of one or more of the three (3) sludges will be necessary for the remaining time that the NDEQ variance is in effect.

Within 30 days of the date of issuance of the NDEQ variance, and again within 180 days of the date of issuance of the NDEQ variance, Molex shall conduct collect grab samples from each of the three wastewater sludges (nickel, copper, and tin/lead) and conduct an analysis for Semi-Volatile Organics ("Semi-VOAs") utilizing Method SW 8250A).

All analysis will be conducted in accordance with the methods specified in 40 CFR Part 261, Appendices I, II, and III. Analysis of metals for the initial round of sampling, including the analysis required by the NDEQ variance, shall be conducted in accordance with Method 6020 contained in Test Methods for Evaluating Solid Physical/Chemical Methods (SW 846). Subsequent metals analysis can be conducted in accordance with Method 6010 in SW 846.