US EPA ARCHIVE DOCUMENT

TEXAS INSTRUMENTS
8330 LBJ MS 8363
DALLAS, TX 75243

March 5, 1996

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

Dear Madam or Sir:

Texas Instruments Incorporated (TI) is very pleased to submit a facility-based Project XL proposal. As outlined in the attached proposal, TI is requesting regulatory flexibility to implement a "Zero Wasted Resources" approach for a diverse recycle management program for used electronic process materials and solvents. These chemicals have a significant retained value to justify recycle flexibility to advance waste minimization and to compliment decision making and resource utilization that is more beneficial to the environment. Ultimately, TI envisions the implementation of various aspects of this "Resource Management Program" at several TI sites in Texas.

TI is excited about the opportunity to team with, and further develop, our successful relationship with the EPA through the implementation of this "Resource Management Program" which will result in cleaner, cheaper and smarter environmental resource management. One crucial aspect of this project that will contribute to its success is top-level management support of the new TI-wide philosophy of "Zero Wasted Resources".

Although communications with the stakeholders affected by this project is ongoing, TI has discussed its proposed "Resource Management Program" with regulatory officials having oversight responsibility for TI's Texas operations, including the Texas Natural Resource Conservation Commission (TNRCC), Dallas LEPC, the City of Richardson and Region VI EPA. Agency response has been positive and enthusiastic. The eagerness of the stakeholders to support and participate in this XL Project is evident in the letters included in attachment A to the proposal.

We would be happy to meet with you to address any concerns you may have. Please do not hesitate to contact me at 214-997-2605. TI looks forward to hearing from you.

Sincerely,

Joe Downing

Joe Downing
Corporate Environmental, Air Programs Manager

INTRODUCTION TO TI

Texas Instruments Incorporated (TI), headquartered in Dallas, Texas, is a corporation with a demonstrated commitment to the environment. TI is a high-technology company with sales or manufacturing operations in more than 30 countries. TI products and services include semiconductors; defense electronics systems; software productivity tools; printers, notebook computers and consumer electronics products; electrical controls; and metallurgical materials.

TI's total 1995 revenue was over 13 billion dollars. TI employs more than 56,000 people worldwide with approximately 33,500 employees in the United States including 29,000 in Texas.

TI adopts a proactive approach to addressing environmental impacts from the company's operations. TI is active with several EPA initiatives including the recently completed EPA/Industry effort to develop the Aerospace Industries, Maximum Available Control Technology (MACT) standard to which TI has devoted substantial time and resources over several years. TI is currently a member of the Semiconductor Industries Association (SIA) and the Electronics Industries Association (EIA) MACT subcommittee, which is currently working with the EPA to develop the Semiconductor MACT.

TI represents the semiconductor industry on the Electronics and Computer Subcommittee of the Common Sense Initiative at the Texas and federal level. TI also represents the semiconductor industry in Texas as Co-Chair of the American Electronics Association, Air Programs Team. This subcommittee identifies and addresses regulatory issues pertaining to the semiconductor industry in Texas.

In addition, TI is Co-Chair of the Electronic Industries Association (EIA), Clean Air Task Force. This task force identifies and addresses regulatory issues pertaining to the semiconductor industry on the federal level.

TI believes that the above activities and unique experience help to ensure a broad integration of Project XL with other EPA initiatives and will aid in the transferability of this project's concept.

PROJECT XL OVERVIEW

TI's Project XL proposal focuses on the development and implementation of a "Resource Management Program" that supports TI's "Zero Wasted Resources" philosophy and will benefit TI, the regulatory agencies and, most importantly, the environment. TI will develop and apply innovative strategies designed to eliminate TI's largest hazardous waste disposal volume and to facilitate smarter resource utilization within its manufacturing processes, facilities and other plant operations. Unfortunately, the current regulatory definitions of solid and hazardous waste traps materials that have the potential to be valuable and usable resources. TI's initiative will challenge these current "hazardous waste" and "solid waste" definitions and seek flexibility to apply a stewardship approach to resource management that will revitalize the principles of "conservation" and "recovery" of resources embodied in the very name of the Resource Conservation and Recovery Act ("RCRA"). Ultimately, TI seeks to define as waste only those materials that truly are waste and not reusable resources and to define as hazardous waste, those wastes that are hazardous by their nature rather than by current RCRA definition. Please see attachments B and

C for detailed examples of two of the projects TI would like to pursue under this Project XL proposal.

TI will target implementation of technologies and resource management techniques designed to promote recovery, recycle and reuse of resources and to promote conservation and minimization of wasted resources. TI's proposal will significantly decrease the paperwork burden on industry and government by reducing the volume of materials to be managed as hazardous waste. The reduction in "waste" generation will result in a corresponding reduction in the volume of waste manifests, shipping papers, and other paperwork required to track the waste and derive waste summary information currently prepared, handled, and retained as records by the generator, transporter, disposal or recycling facility, and the regulatory agencies.

No disproportionate environmental burdens to any communities will occur as a result of this Project XL proposal. In addition, this project is anticipated to produce cost savings and environmental benefits exceeding those possible under the current regulatory scheme.

PROJECT XL CRITERIA

The following is a summary of how TI's "Resource Management Program" will meet the eight Project XL criteria as outlined in the May 23, 1995, Federal Register.

1. ENVIRONMENTAL RESULTS

TI facilities in Texas currently have continuous improvement environmental programs in place. These site-specific, specialized programs have produced environmental benefits varying from hazardous waste reduction, air emissions reductions and recycling projects that go beyond compliance.

The proposed "Resource Management Program" will facilitate the growth and ultimate success of the existing environmental stewardship philosophy in place at TI. This program will demonstrate environmental benefits through the replacement of the historical command and control philosophy underlying RCRA regulations with regulatory flexibility that allows a responsible company, such as TI, to treat as waste, only those materials that no longer have utility as resources and truly are waste within the ordinary meaning of the word.

The program will afford TI long-term and short-term environmental excellence opportunities. The long-term opportunities will develop as new semiconductor manufacturing facilities, known as wafer-fabs, go from the design stage to the production stage, taking into account at each stage, environmental stewardship and resource management, and are built with the optimal infrastructure to support the "Resource Management Program." The short-term opportunities will be realized as existing sites are modified and management practices shared to support the "Resource Management Program." This Project XL proposal offers an environmentally conscious alternative to "hazardous waste" management that will yield a significant reduction in the generation of hazardous waste and promote cleaner and smarter resource utilization. In return, TI seeks regulatory flexibility regarding the definitions of "solid waste" and "hazardous waste" in order to manage resources and process streams in a manner that makes both

environmental and economic sense. As a part of the anticipated contract between TI and the EPA, TI plans to measure the performance of this project and generate progress reports as applicable.

COST SAVINGS AND PAPERWORK REDUCTION

Due to the overbreadth and complexity of the RCRA definitional scheme, it has, at times, become more expedient for industry to dispose of used materials trapped in the definitions of solid and hazardous waste than to reduce the volume of and to reuse, recover or recycle materials in a way that promotes resource efficiency and sound environmental stewardship. By removing definitional disincentives in order to allow recovery and recycle and ultimate reuse of materials within the manufacturing process, at facilities and by third party users, TI's program would result in substantial cost savings on many fronts. TI projects that its proposal will result in significant cost reductions in each of the following areas:

- Expenditures on raw materials;
- Disposal costs, including transportation and actual disposal operations; and
- Administrative overhead within TI and the government associated with management of hazardous waste.

Not only will these savings fund TI's ability to make the capital expenditures necessary to promote recovery and recycle, rather than disposal, they will also provide the funds necessary to continue to develop and pursue innovative technologies and management practices designed to promote conservation through efficient uses of resources and minimization of waste.

In addition to tremendous cost savings, TI's proposal would decrease significantly the paperwork burden on industry and government by reducing the volume of materials to be managed as hazardous waste. The reduction in "waste" generation will result in a corresponding reduction in the volume of waste manifests, shipping papers, and other paperwork required to track the waste and derive waste summary information currently prepared, handled, and retained as records by the generator, transporter, disposal or recycling facility, and the regulatory agencies. Further, to the extent activities involving on-site, site-to-site or off-site handling of materials liberated from the definition of "waste" would have been classified as treatment or storage under current waste regulations, paperwork associated with registration and permitting requirements will be eliminated.

Please see a detailed summary of "Cost Savings and Paperwork Reduction" included in each project detail example in attachments B and C.

STAKEHOLDER SUPPORT

TI takes pride in the long-standing positive relationship we have with the communities in which we operate. TI views this type of community involvement as a prerequisite to being perceived as "World-Class" which is critical to maintain our status as a community leader and to maintain a competitive advantage. Our list of community contacts includes: schools, businesses, city officials, homeowners associations, mass transportation and

planning groups, regulatory agencies, fire departments and other local stakeholders. These community supporters have been involved with TI in numerous planning issues for many years.

TI has met with the Texas Natural Resource Conservation Commission, the City of Richardson, Dallas LEPC and Region VI EPA regarding this regulatory flexibility/zero wasted resources based, Project XL proposal. The stakeholders' enthusiasm and support of this project is evident from the letters in attachment A. TI commits to continuing stakeholder involvement, including the community sectors mentioned above. Based on our experience with the community, TI believes it would be more productive to meet with the remaining stakeholders once the proposal is accepted and the six-month project detail efforts begin. This is the point where project details will be developed which will be used to answer questions and inform the community of the program details. TI's demonstrated ability to use our existing lines of stakeholder communication will enhance the likelihood of a successful XL Project.

4. INNOVATION/MULTI-MEDIA POLLUTION PREVENTION

TI's initiative will challenge current waste definitions and apply a stewardship approach to resource management, both at the process level and at the management level. TI will develop and apply innovative strategies designed to avoid pollution generation and to facilitate smarter resource utilization within its manufacturing processes, facilities and other plant operations.

TI's Project XL proposal will adopt an innovative approach to resource management. By focusing on strategies for enhanced environmental performance within the manufacturing process, including the process design level, and throughout the product distribution chain, TI will target implementation of technologies and resource management techniques designed to promote recovery and recycle of resources and to minimize residual waste, destined for disposal into the environment. It is envisioned that implementation of TI's proposal will result in positive, environmental impacts, by minimizing end-of-the-pipe waste generation, reducing natural resource requirements and optimizing resource efficiency within the process and within the economy.

Please see Attachment D for a list of cites for a number of the "Burdensome Rules" that currently would apply to and/or create a disincentive to a "Zero Wasted Resources" approach to an innovative "Resource Management Program".

5. TRANSFERABILITY

TI is committed to sharing non-proprietary information. This is evident by our involvement and leadership in SEMATECH. SEMATECH is a collaboration of "high-tech" companies whose combined R&D efforts strengthen its members competitive advantage by producing process specific and abatement related leading-edge alternatives. TI has hosted and financed several SEMATECH R&D efforts and shared the results. TI has an internal, formal, technology transfer process established where proven environmental enhancement projects are shared between world-wide TI sites, including joint ventures. TI has several programs that are perceived as the benchmark. These

programs have been shared across the country. One example of this is the training of the City of Dallas in Emergency Response Procedures. Transferring information is not a new concept at TI, it is a way of life.

The concept of TI's new approach to resource management, in particular recovery of process chemicals, is transferable to other Semiconductor/ Electronics facilities as well as other industries. TI supports the transfer of this new approach to other industries. With TI's leading role in numerous associations and industry groups, we are in position to aid in the transfer of this environmentally beneficial concept.

Another important factor in the transferability of this "Resource Management Program" concept is the proposed use of a large, well known, third party, service provider (chemical company) to assist in a significant component of the program. Although TI is still in the conceptual stage, it is within TI's project scope to coordinate the development and deployment of the recovery and recycle program and the technology for the solvent repurification component of the program described in attachment B. Our discussions with a potential service provider makes it clear that they would own the process, once TI assures the technology. Being an environmental services provider, their benefit from this project would be the ability to sell this concept/process to other industries and/or repurify process streams from other companies as well as TI.

6. FEASIBILITY

The unique concept of the "Resource Management Program" coupled with TI's new "Zero Wasted Resources" philosophy is only one feature that makes this project feasible. At TI, we are committed to the "Zero Wasted Resources" philosophy; therefore, resources and personnel have already been identified to work through the details of this project. Another important aspect that renders this project feasible is the ability to apply the project principles at both greenfield, state-of-the-art facilities and existing manufacturing facilities. TI has management support to retrofit existing facilities for proper collection and separation of materials to enable the recovery and recycling necessary to achieve the zero wasted resources goal. In addition to the above aspects, other factors that make this proposal feasible include:

1. The positive relationship between TI and its neighbors.
2. City, State and Regional EPA support.
3. An experienced, technical staff.
4. Commitment and support from top-level management.
5. Commitment to technology development.
6. A demonstrated ability to work with City, State and Federal regulators as well as the communities in which TI operates.

7. MONITORING, REPORTING AND EVALUATION

TI's Project XL proposal will be implemented in partnership with relevant stakeholders, including state and local agency representatives as well as the community. As previously discussed, TI will meet with stakeholders at the outset of the project and provide them with an understanding of this "Resource Management Program".

Because TI's project is targeting waste generation and resource use, conservation, recycle, and recovery, TI's results and the progress of project implementation will be very measurable. TI will be able to provide year-to-year comparisons on a per unit basis of reductions in volume of waste generation and cost savings derived from implementation of the Project XL initiative. At this time, TI anticipates that preliminary numbers showing positive environmental results will be available in mid-1998 (after the waste generation reports for calendar year 1997 have been assembled).

8. SHIFTING OF RISK BURDEN

This proposed XL project will in no way subject the community or TI's employees to an unjust or disproportionate environmental impact. In fact, through the successful implementation of this project, the community and TI employees will realize an environmental and safety benefit. For example; the risk of long-term disposal liabilities or releases into the environment is greatly reduced and, in some cases, eliminated. As an added community health and safety factor, where potential air emissions may be generated during recycle or recovery activities, TI will perform any required air dispersion modeling to demonstrate compliance with established, health effects screening levels.

The implementation of this project will add another level of safety for TI employees. This added safety will come from the greatly reduced handling of spent materials. Also, TI has a well-established self audit and corporate audit program that will further ensure safety and continued environmental compliance.

PROJECT XL IMPLEMENTATION

TI's "Resource Management Program" XL Project proposal, once selected, will involve TI's wafer-fab manufacturing sites in Texas. The Dallas facility was chosen as a pilot site due to the existing wafer-fab that will be retrofitted for process stream segregation. Also, this location has new greenfield wafer-fab construction that will be designed to support this recycle concept, following approval of this XL Project. Many TI sites across Texas could benefit from implementation of this concept. They will be considered for inclusion once the environmental and economic benefits have been proven and the stakeholders for each site location have been consulted and any specific geographic concerns have been addressed.

TI currently has management programs in place to identify baselines. With these baselines identified, TI is ready to demonstrate the potential resource and dollar savings as well as the environmental benefits that are to be realized from this project. Progress toward these project goals will be measured and evaluation reports will be generated and made available to stakeholders for review. A portion of the savings realized from implementation of this project will be allocated to continue the identification and development of environmental enhancement programs.

TI is committed to continuing, and further developing, our relationship with project stakeholders. We are also looking forward to working with the Texas Natural Resource Conservation Commission and the EPA to negotiate a final project agreement. We anticipate the final project agreement for this XL project will be completed within six months of receiving written approval

from the EPA. During this six month time frame, TI will continue to identify and address stakeholder needs and/or involvement . This effort is made easier because of the successful community involvement TI enjoys on many levels. Some examples of TI's community involvement include:

- Annual, Earth Day activities open to local schools, communities and vendors;
- Neighborhood creek clean-up activities;
- Biology/environmental pollution lessons for neighborhood children held at local creeks; and
- Leadership role in the Dallas/Fort Worth area's Ozone Alert Program.

TIMEFRAME

TI will be positioned to demonstrate an environmental benefit through this "Resource Management Program" by year-end 1997. However, we anticipate that full scale environmental benefits will come in stages and be implemented within TI over the next four to six years.

CONCLUSION

TI is pleased to submit this Project XL proposal. TI invites the EPA to review this "Resource Management Program". Your acceptance of this proposal will demonstrate your support of TI's "Zero Wasted Resources" approach to environmental stewardship. TI feels the concepts of our proposed project can be successfully carried out within the scope of Project XL . TI is excited about the opportunity to design the "Zero Wasted Resources" concept into a greenfield facility as well as having the ability to apply the concept at existing facilities. We are looking forward to developing the feasibility and transferability of this project as a model for other semiconductor/electronics companies and other industries.

Thank you for the opportunity to submit TI's approach to an environmentally beneficial "Resource Management Program". TI welcomes the opportunity to discuss with the EPA the details of our "Zero Wasted Resources" target.

ATTACHMENT A

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Following, are letters of project support from;

- Texas Natural Resource Conservation Commission (TNRCC)
- Dallas LEPC
- City Of Richardson Texas - Environmental/Health Director

Although Region VI EPA was supportive of our XL Project concept, as communicated in our joint meeting, the region will review the proposal in connection with EPA's Project XL proposal review process and, therefore, believed it would be premature to issue a letter of support prior to the completion of such review.

Barry R. McBee, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
John M. Baker, *Commissioner*
Dan Pearson, *Executive Director*

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Protecting Texas by Reducing and Preventing Pollution

March 1, 1996

Mr. David Gardner
Assistant Administrator
Office of Policy, Planning & Evaluation
U.S. Environmental Protection Agency
401 M Street, SW
Washington, DC 20460

Dear Mr. Gardner:

The TNRCC has reviewed and supports the Project XL proposal submitted by Texas Instruments (TI) for its Dallas facility. This proposal seeks regulatory flexibility from RCRA and will promote the repurification and recycling of solvents and other compounds used within the semiconductor industry.

Texas Instruments and the TNRCC recognize the complexity and current limits to hazardous waste recycling under RCRA and are interested in promoting the concept of "Zero Wasted Resources" as outlined in their proposal. The material addressed in the proposal is currently being disposed of as a RCRA hazardous waste; however, the material could be reused in the manufacturing process and this project seeks to demonstrate that potential. Additionally, this project promotes movement up the waste management hierarchy from disposal to recycling and reuse.

Texas Instruments has a commendable record of environmental compliance in Texas and has undertaken voluntary initiatives to reduce the waste it generates. As a member of the TNRCC's Clean Industries 2000 program, TI has committed to reducing its TRI emissions by at least 53% by the year 2000 -- from 1987 levels. Texas Instruments also strives to encourage environmental education by sponsoring various youth science and education programs in Dallas. Among other things, the company sponsors a stream monitoring program involving high risk teens and is a corporate sponsor of Texas Recycles Day, donating computers to schools that sponsor recycling activities.

The TNRCC appreciates the opportunity to work together with TI towards overall environmental stewardship. We would recommend EPA's approval of TI's Project XL. Please feel free to contact Ed Clark of my staff at 512/239-3900 for any additional information or assistance.

Sincerely,

Dan Pearson
Executive Director

DALLAS COUNTY
LOCAL EMERGENCY PLANNING COMMITTEE

February 13, 1996

Joe B. Downing, Air Programs Manager
Texas Instruments Incorporated
8330 LBJ Freeway, MS 8363
Dallas, TX 75234

Dear Mr. Downing,

The purpose of this correspondence is to acknowledge Texas Instrument's continued proactive involvement in the area of hazardous chemical management and to offer support for TI's proposed Project XL: Zero Wasted Resources.

Texas Instruments has actively participated as a member of the Dallas County Local Emergency Planning Committee since the Committee was formed in 1987. In addition to support by Texas Instruments personnel, this facility provided the LEPC with a computer, software, and software support which allows the LEPC to track reporting facilities. On numerous occasions since 1987, LEPC representatives have been invited to TI to tour plant operations and to discuss various new programs and proposed operations.

Texas Instruments has been active in training local emergency responders about hazardous materials response. TI and the LEPC co-sponsored a forty hour hazmat training course at Brookhaven College. In addition, hundreds of local emergency responders have received additional hazmat training at Texas Instruments from Texas Instruments personnel. Texas Instruments contributes personnel to the Dallas County HAZMAT Team. The Dallas Area Household Hazardous Waste Program has also benefitted by community involvement from TI: TI personnel volunteer at HHW pick-up days and TI has provided funding for public education including printing of HHW guidance booklets.

In its Project XL, Texas Instruments is proposing to collect certain chemicals remaining at the end of a manufacturing process which are now classified as a waste, reprocess these streams at a reprocessing facility to be located at the TI site, and reuse the chemical when possible or reprocess for another industrial application. This type of program deserves support because it will preserve natural resources by substantially decreasing the total volume of new chemicals used by increasing reuse, decrease waste generation and its associated pollution potential, and evaluate the feasibility of a common sense, holistic approach to chemical use which places emphasis on getting maximum use out of a chemical product through recycling and reuse.

Sincerely,

Elizabeth Todd, Ph.D., Chair
Dallas County LEPC
5230 Medical Center Drive
Dallas, TX 75235
(214)920-5990

February 9, 1996

The Honorable Carol Browner
Administrator
U.S. Environmental Protection Agency
401 M St., SW
Washington, DC 20460

Re: Letter of Support for Texas Instruments (TI) participation in the Environmental Protection Agency's (EPA) Regulatory Reinvention (XL) Pilot Project

Dear Ms. Browner:

I am writing to express my strong support for TI's participation in the EPA's XL pilot project. I have been briefed by the TI staff as to the goals of the project and fully support their efforts and endeavors to minimize waste products and implement innovative approaches to resource management. TI has consistently been in the forefront of environmentally oriented projects and indeed, their corporate recycling efforts set the corporate standard in Texas. I would expect that their participation in waste minimization efforts will lead to exciting and positive new directions in waste minimization.

As you are aware, the State of Texas (along with California) pioneered the "cradle to grave" manifest system now legally mandated throughout the nation. That system has served the nation well and has provided a means by which to monitor and track the enormous quantities of hazardous materials produced daily so that safe and environmentally sound methods of disposal were ensured. The TI XL proposal can, I believe, lead to an equally significant impact throughout the corporate world in the increasingly important area of waste minimization.

Whether in the area of environmental benefits, pollution prevention, cost effectiveness, or monitoring and reporting, TI's commitment to excellence, their environmental management expertise and values, and their organizational commitment to the community makes them an excellent candidate for the XL project and, I believe, virtually ensures success in this important endeavor. Thank you for this opportunity to lend support to such a worthwhile effort.

If I can be of further assistance, please contact me at 214-238-4172.

Sincerely yours,

Thomas A. Hatfield, Director
Richardson Health Department

cc: Laurie Lehmberg, TI Environmental Specialist

P.O. Box 830309
Richardson, TX
75083-0309
214-238-4100

ATTACHMENT B

I. D
A

Detailed Project Example - Chemical Repurification and Recycle

A semiconductor manufacturing process uses ultra-high purity chemicals (PPB/PPT level). These chemicals are typically used once, exit the process with some entrained moisture, finite particles and minute amounts of solubles, and then are managed as hazardous waste. In many cases, although the chemical loses its high purity character after initial use, the chemical will still meet commercial and technical grade specifications (% component/PPM level). Moreover, many chemicals, such as some solvents like isopropyl alcohol (IPA), can be repurified to meet PPT specifications that would make them candidates for reuse in manufacturing processes.

As one aspect of TI's Project XL program, TI proposes to modify the post manufacturing process to segregate discrete chemical streams. These will be feed streams for the repurification, reuse and recycle objective. Once the technology is developed, this system will repurify select solvent streams back to the required high purity level. The repurification system will be operated at the service providers location of choice. Although the process will not be "closed loop" in the sense of the current RCRA closed loop recycling exception, it will support several manufacturing operations with the benefit of this repurification, reuse or recycle initiative.

TI is seeking flexibility from current "hazardous waste" and "solid waste" definitions to fully benefit from this concept of resource management. As detailed in the XL Project proposal, many benefits will come from this resource management concept. Some examples of the benefits include: reutilization of resources and a corresponding reduction in waste disposed of in the environment, the reduction of waste reported on the "Annual Waste Summary", and the reduction of paperwork and reporting associated with hazardous waste management.

Cost Savings and Paperwork Reduction

Initially, TI has identified a candidate list of five or more solvent and hydrocarbon streams that have the potential for repurification, reuse and/or recycle. At the TI Texas facilities, in 1996, these streams are estimated to consist of approximately 317,000 gallons or approximately 1,000 tons. The repurification and reuse process has the potential to reduce the volume of waste (approximately 317,000 gallons/year) and save TI over 1 million dollars/year in chemical purchases and disposal costs. These values have the potential to increase over the next five years as new facilities come on-line and existing facilities are retrofitted to accommodate stream segregation for the recycle concept.

TI's international semiconductor facilities are very similar to those in Texas. Once this concept is proven in Texas, TI plans to investigate the feasibility of a similar process for our international sites. TI estimates the benefits from the international repurification, reuse and/or recycle process will be equal to those realized in Texas. This would result in a potential total disposal avoidance of over 634,000 gallons per year or more than 2,000 tons per year and an annual cost savings of several million dollars.

At the TI Dallas facility, annual Federal and State Environmental Agency reports require approximately 600 hours to complete. One aspect of TI's XL Project proposes to evaluate alternatives to the current regulatory reporting requirements such that regulated entities would submit a single annual report which incorporates applicable information on chemical storage, waste minimization and emissions. Through the streamlined reporting process, TI estimates the time for generating annual agency related reports can be reduced by one half or up to two thirds.

ATTACHMENT C

ATTC

Detailed Project Example - Management of Excavated Materials

Soils excavated during construction activity at a site often can be reused at the site for backfill, berming, and other beneficial applications. Current hazardous waste regulations frequently drive a decision to dispose of soils containing low levels of "listed" wastes as hazardous waste rather than to allow reuse of the soils at the location it was removed.

One aspect of TI's Project XL program would be to reevaluate when excavated soil, that does not evidence contamination, is required to be classified as, and characterized as, a waste. The current interpretation of the material being classified as a waste when "actively managed," regardless of whether it is intended to be used as backfill or otherwise put to beneficial use on-site, creates a disincentive to a "Zero Wasted Resources" approach to an innovative "Resource Management Program." This interpretation does not afford the generator the opportunity to assess the benefit of this resource, thus discouraging proactive remediation efforts and preventing innovative management. Additionally, TI proposes to evaluate alternatives to classifying waste with de minimis levels of contaminants as a hazardous waste solely because they contain a 'listed' waste.

Cost Savings and Paperwork Reduction

At the TI Texas facilities, these soil streams accounted for approximately 2500 tons of hazardous waste in 1995 and are projected to exceed 13,150 tons in 1996. A substantial portion of these soils contain de minimis levels of listed wastes. At today's price, the cost of incineration and transportation of the projected 1996 volume of soil that currently must be classified and managed as hazardous waste will exceed $9.5 million. In addition, large amounts of paperwork are generated during the course of management of these materials. By taking a more common sense approach to when excavated soils become a waste and when such soils should be classified as listed waste, less hazardous waste will be generated and greater on-site reuse will be possible, resulting in decreased use of limited landfill capacity, substantial cost savings, and significant paperwork reduction.

ATTACHMENT D

Cites for "Burdensome, Federal Rules" and state counterparts that currently would apply to and/or create a disincentive to a "Zero Wasted Resources" approach to an innovative "Resource Management Program"

Federal Rule 40 C.F.R. § 261.4(a)(8)
State Rule 30 T.A.C. § 335.1
SubjectClosed loop recycling exclusion from solid waste definition (requiring tank storage, "closed" loop and return to original process)

Federal Rule 40 C.F.R. § 262.20(a)
State Rule 30 T.A.C. § 335.10(a)
SubjectManifest requirement for offsite shipments

Federal Rule 40 C.F.R. § 262.40
State Rule 30 T.A.C. §§ 335.9, 335.13 and 335.70
SubjectRecordkeeping requirements

Federal Rule 40 C.F.R. § 262.41
State Rule 30 T.A.C. §§ 335.9, 335.71
SubjectGenerator reporting requirement (Texas annual waste summary)

Federal Rule 40 C.F.R. pt. 270
State Rule 30 T.A.C. §§ 335.2, 335.43
SubjectTSDF Permitting Requirement

Federal Rule 40 C.F.R. pt. 264 (265)
State Rule 30 T.A.C. Ch. 335, Subchapters E and F
SubjectRequirements for TSDF's