October 8, 1999

Mr. Jay Dietrich
Chemical/Environmental Programs Manager
IBM - Essex Junction
Mail Stop 966A
Essex Junction, VT 05452

Re: EPA Recommendation Regarding IBM Project XL Proposal for Hazardous Waste Redetermination

Dear Mr. Dietrich:

I am pleased to inform you that EPA has formally selected IBM's XL proposal as a potential Project XL pilot. We congratulate you on your selection and thank you and the rest of the IBM staff for your hard work on getting the proposal approved.

We invite you now to work with EPA staff and appropriate stakeholders on the next stage of your XL project - developing a draft Final Project Agreement ("FPA"). While this letter does not represent final EPA approval of the project, Agency staff both at headquarters and at EPA - New England believe your proposal has significant merit and look forward to working with you to develop your project further.

Your proposal requested relief from the F006 hazardous waste listing and associated RCRA requirements in regard to your company's copper metallization process technology in exchange for significantly reducing greenhouse gas emissions beyond what is required by current regulations and the Memorandum of Agreement between EPA and the semiconductor manufacturing industry. Your proposal shows a clear distinction between the older metal plating technology envisioned when the original RCRA regulation was written, and the new high tech process employed by IBM-Essex Junction. Our interest in pursuing this project stems from our conclusion that the project has the potential to result in superior environmental performance, more sensible regulation, and may also inform the Agency in its efforts to promote environmental improvements at high tech electronics facilities in general.

As part of realizing the project's potential, we anticipate discussing with you during FPA negotiations the following items:

1. Regulatory Flexibility

Your proposal asks that EPA exclude the copper metallization process from the F006 listing description through a site-specific rulemaking, done in accordance with 40 CFR 260.20. The key consideration in these approaches is to provide IBM with the regulatory flexibility that you request in a way that provides good environmental protection and the potential for transferability to other similar high tech processes. While EPA has not yet selected what we believe to be the ideal implementing mechanism, EPA's Office of Solid Waste has identified several possible approaches to achieve the requested regulatory flexibility. The regulatory flexibility will need to be specifically described in the development of the FPA and incorporated into a legal implementing mechanism in order to implement the final project.

a) One approach is to focus on the plating process and do a rulemaking that would amend the F006 listing description by defining and excluding IBM's innovative copper metallization process from those electroplating processes that result in a wastewater treatment sludge listed as F006 hazardous waste.

b) Another approach is to make a policy determination, such as a *Federal Register* Notice of Policy or Interpretation, that the electroplating process is subject to the F006, but would provide a site-specific exclusion from this policy for IBM's process for a trial period. The trial period would be allowed in order to gather the information and assess whether all similar processes should remain subject to the F006 listing, or perhaps to identify a set of criteria (e.g., chemicals being used in the plating process, or perhaps the size and shape of the parts being plated) that could be used for evaluating other types of plating processes.

EPA is also open to exploring other possibilities that would provide IBM with the flexibility you seek, while providing improved protection for the environment.

2. Superior Environmental Performance

All XL projects must result in better environmental performance than would be achieved absent Project XL. However, it is a recognized factor that the degree of superior environmental performance required of a project should be proportional to the degree of regulatory flexibility requested. In this context, since the regulatory flexibility being requested is the reconciliation of what appears to be a mis-match between existing regulations and the high tech plating technology

being employed, the required level of SEP may not be as great as for projects which request greater flexibility. Unlike some other XL projects, the requested regulatory flexibility is not directly related to any SEP. Indeed, IBM readily admits this fact in the proposal where it states: "[a] site-specific process exemption for copper plating rinsewaters is environmentally neutral....[t]he direct benefits of the regulatory change are reduced paperwork and regulation resulting in some small economic benefits and the elimination of a hazardous waste defined as such due to a definitional requirement rather than the presence of a regulated characteristic."

That said, the proposal still offers a number of benefits to IBM and the agency including:

- It is an innovative approach to rationalize the RCRA F006 listing process which will provide for more sensible and accountable regulation;
- The opportunity to evaluate the environmental impacts of this new process, and to ensure that the appropriate regulatory oversight remains in place;
- It will reduce the administrative burden and associated costs for IBM, EPA, and the State of Vermont;
- It will reduce the amount of defined hazardous waste generated and give a more accurate representation of waste with significant hazards at the facility; and
- It may promote recycling and pollution prevention.

Further, and perhaps most important, this project highlights and promotes a new process - copper metallization - which has the potential to impact the electronics industry in profound ways. Use of this process results in a 30-40% reduction in energy consumption in the plating process. Notably, the use of this process by industry will lead to more efficient production methods with corresponding reductions in waste generation per unit of output.

Finally, given the minor nature of the economic benefits to IBM and the lack of any immediate significant environmental benefits from the regulatory flexibility, the facility seeks SEP credit for its plan to reduce greenhouse gas emissions.

Defining the exact level of superior environmental performance that IBM and EPA hope to achieve through this XL project will need to be articulated further during FPA negotiations.

3. Monitoring and Reporting

Specific monitoring and reporting requirements regarding the progress of this XL project will also need to be discussed and decided on during FPA negotiations with EPA, the State of Vermont and relevant stakeholders. These requirements will need to be performed to verify that IBM's copper metalization process continues to remain in compliance with parameters expressed in the FPA and legal implementing mechanisms.

Again, I thank you for your participation in EPA's Project XL and look forward to working with your team to develop the FPA and implement this project. EPA has assembled an Agency-wide team to work with you and your stakeholders in the next phase of the project. This team will be led by John Moskal in Region 1-New England (617-918-1826) and Chad Carbone at EPA Headquarters (202-260-4296).

Should the FPA be signed, the IBM XL Project will become an official XL pilot. I know from speaking with my staff that you are highly committed to conducting innovative projects that improve our system of environmental protection. If I can be of any assistance in expediting the development and review of your Final Project Agreement, please do not hesitate to call.

Sincerely,

John P. DeVillars
Regional Administrator

cc: Richard Farrell, EPA
Lisa Lund, EPA
John Moskal, EPA
Chad Carbone, EPA

bcc: EPA XL Project Team
Chris Knopes, EPA