CTT CENTER FOR TECHNOLOGY TRANSFER
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May 31, 1996

Ms. Dianne Manning
National Institute for Occupational Safety and Health
Education and Information Division
Mail Stop C34
4676 Columbia Parkway
Cincinnati, OH 45226-1998

Dear Ms. Manning:

As an occupational health professional for over 20 years and as Director of Environmentally Conscious Manufacturing and Technology for the Center for Technology Transfer(CTT) and the Maine Metal Products Association (MMPA), I wish to support the attached comments of Robert King, President of MMPA on the draft *Criteria for a Recommended Standard: Occupational Exposures to Metalworking Fluids.*

CTT and MMPA have worked closely with Maine's Dept. of Labor for the past five years on toxics use reduction and work environment issues related to worker exposures and environmental protection. We have consistently sought pollution prevention and source reduction options as the most effective and cost efficient way to protect workers and the environment.

Worker health and environmental protection are at the top of MMPA's priorities as can be seen from the enclosed brochure on the Environmentally Conscious Manufacturing Project. CTT and MMPA are very concerned about air exposures and hazardous waste streams generated by the use of coolants and cutting oils and are actively pursuing research opportunities for dry machining (machining without the use of coolants and cutting oils). We believe this preventive approach to oil mist exposure offers an opportunity to achieve both reduced worker exposure and the elimination of several hazardous waste streams.

We would welcome the opportunity to work closely with NIOSH on the development of viable alternatives to the use of cutting oils for precision machining operations.

Sincerely,

Stanley W. Eller

Stanley W. Eller, Esq., M.S.
Vice President and Director
Environmentally Conscious Manufacturing and Technology

What is Environmentally Conscious Manufacturing?

ECM is a new way of thinking about the manufacturing process that considers the economic efficiency of a product's full life cycle from the raw materials used to the product's end use. In considering the full life cycle of the product, ECM can cover a wide range of issues including:

- finding safer alternatives to toxic materials,
- changing processes to become more efficient,
- environmental costs and regulatory compliance,
- waste reduction,
- energy conservation,
- product packaging, and
- product re-use and recycling.

Pollution Prevention and **Toxics Use Reduction** are key ECM concepts: Controlling process wastes and emissions of toxic chemicals increases process efficiency and decreases production costs.

ECM utilizes **life cycle analysis** and **total cost accounting** to evaluate all impacts associated with toxic substances and the manufacturing process.

The ECM Project is supported in part through a grant from the Advanced Research Project Agency and the U.S. Department of Energy through the Defense Conversion and Technology Reinvestment Project.

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ECM Project
190 Riverside Street
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Environmentally Conscious Manufacturing & Technology Access Project

CTT

Center for Technology Transfer
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Environmentally Conscious Manufacturing Programs

On-site Assessments

On-site assessments help companies identify opportunities to reduce operating costs and enhance overall competitiveness by increasing efficiencies in the production process. Trained assessment teams include volunteers from industry, private consulting firms and government agencies. Assessments focus on non-hazardous materials as well as toxic and hazardous materials, and other resources where opportunities exist to implement significant reductions/savings.

Assessments include:

- One-day site visits by an experienced assessment team
- Analysis of manufacturing process using process flow diagrams, materials accounting and activity based costing
- Total cost assessments to prioritize ECM/P2 opportunities based on cost saving
- Waste stream prioritization based on cost saving ECM technologies/techniques
- Detailed assistance to help implement ECM technologies/techniques
- Final Report

Conferences/Seminars

- Sponsor/facilitate industry attendance at conferences, study tours and participation in roundtables
- Sponsor workshops on new EPA/DEP laws, guidelines and regulations.

ECM Achievements

- Completed 13 assessments that identified pollution prevention opportunities with savings of up to $500,000.
- Trained over 75 industry employees on ECM/P2 technologies.
- Reached over 450 Industry employees at workshops, seminars and conferences.

In-Depth Technical Assistance (TA)

Focused TA follows a clearly identified P2 or ECM opportunity. The ECM Project can then provide:

- Focused assistance from consultants/engineers with relevant expertise.
- Links to companies with DOE world-class technology through the DOE National Laboratories and the National Machine Tool Partnership (NMTP) program.

NMTP represents a coordinated effort to strengthen the technological capabilites of machine tool builders and enhance competitiveness world wide. From one of the five nation-wide Technology Access Centers, NMTP can provide:

- technical consultation
- problem analysis and simulation
- technology demonstrations
- equipment benchmarking
- 80 hours of technical assistance (including travel) funded by NMTP
- up to another 240 hours of TA on specific projects with the company sharing equally with in-kind participation

Current TA Projects include:

- eliminating solvents from a painting operation by converting to a powder coating process,
- eliminating lead and cadmium from a machine and fixturing process by switching to a non-hazardous polymer and glass bead fixturing system,
- conducting pilot tests on an innovative rinsewater metals recovery system for a job shop electroplater.

To qualify for in-depth **Technical Assistance**, send a request to the ECM office describing the proposed project, potential waste reductions and estimated costs.

CLEAN-P2

Compliance Leadership Through Environmental Audits & Negotiations

CLEAN P2 is a joint project with the Maine DEP and EPA-New England, focused on metal finishing. Technical and compliance assistance will be provided to companies that agree to achieve a higher level of environmental performance than normal regulatory compliance. Companies will be encouraged to implement new technologies which improve manufacturing excellence and reduce environmental impacts.

Multi-media assessment teams will identify facility-specific pollution prevention and/or compliance opportunities.

Full participation in the project will result in

- ECM on-site Assessments,
- a compliance inspection by DEP and EPA personnel and,
- **enforcement relief** for violations identified through the assessments.

ECM Education Programs

Recruit and train Assessment Teams to conduct baseline assessments at manufacturing facilites to identify ECM opportunities

Provide Worker training courses for industry employees on basic ECM principles.

Publish case studies and other relevant information to ensure ECM applications continue in the metals industry and approaches/techniques developed expand to other industries in Maine.