PMC-EF2a

(2.04.02)

U.S. DEPARTMENT OF ENERGY
EERE PROJECT MANAGEMENT CENTER
NEPA DETERMINATION

RECIPIENT: MicroLink Devices, Inc. **STATE:** IL

PROJECT TITLE: MicroLink Devices Solar Cell Fabrication Facility

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000052	EE0000119	GFO-10-326	0

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Order 451.1A), I have made the following determination:

CX, EA, EIS APPENDIX AND NUMBER:

Description:

B1.31 Relocation of machinery and equipment, such as analytical laboratory apparatus, electronic hardware, maintenance equipment, and health and safety equipment, including minor construction necessary for removal and installation, where uses of the relocated items will be similar to their former uses and consistent with the general missions of the receiving structure.

B5.1 Actions to conserve energy, demonstrate potential energy conservation, and promote energy-efficiency that do not increase the indoor concentrations of potentially harmful substances. These actions may involve financial and technical assistance to individuals (such as builders, owners, consultants, designers), organizations (such as utilities), and state and local governments. Covered actions include, but are not limited to: programmed lowering of thermostat settings, placement of timers on hot water heaters, installation of solar hot water systems, installation of efficient lighting, improvements in generator efficiency and appliance efficiency ratings, development of energy-efficient manufacturing or industrial practices, and small-scale conservation and renewable energy research and development and pilot projects. The actions could involve building renovations or new structures in commercial, residential, agricultural, or industrial sectors. These actions do not include rulemakings, standard-settings, or proposed DOE legislation.

Rational for determination:

The Illinois Department of Commerce & Economic Opportunity will provide $5,000,000 in Recovery Act funds to Microlink Devices (Microlink) for the purchase and installation of equipment to expand their solar cell manufacturing capabilities at their Microlink facility in Niles, IL. The capital equipment consists of an Aixtron 2800 metal organic chemical vapor deposition (MOCVD) reactor and associated high-volume semiconductor processing tools. All equipment would be installed inside the existing building. The facility is currently able to handle the additional water-handling, gas-handling, air-handling, and chemical storage demands of the new production line.

The facility has permits for its current operations and is applying/has applied to regulatory authorities for any new permits or modifications to existing permits that may be required as a result of the new product line.

According to the recipient, all chemicals used in the facility are controlled in a laboratory setting under the supervision of a trained professional. The facility has a Site Safety and Health Plan Standard Operating Procedure, which details steps on safe chemical handling and disposal. There will be four U.S. EPA Clean Air Act toxic air pollutants emitted from the facility as a result of the proposed action: Arsine (Arsenic compound), Phosphine, Hydrochloric Acid, and Hydrofluoric Acid. According to the recipient, the estimated quantity of emissions for these pollutants is expected to be in trace amounts. There are no emission standards for these pollutants, but MicroLink is in the process of updating its current Air Operating Permit to account for the emission of these pollutants. Currently MicroLink uses a scrubber on each reactor as an abatement measure for possible Arsine and Phosphine emissions. If required through the Air Operating Permit process, MicroLink Devices may use scrubbers for any HCL and HF emissions generated. The proposed action will not result in the emission of a criteria pollutant. The proposed action does not include any construction or operation of a major source or major modification under 40 CFR 51.166, Section 112 of the Clean Air Act.

The new process line may result in increased discharges to publicly owned treatment works. Currently, all of the liquid effluent generated by the existing facility is disposed of by a certified waste disposal vendor, Progressive Environmental Services. However, MicroLink is in the process of obtaining a Discharge Authorization Request (DAR) from the Metropolitan Water Reclamation District of Greater Chicago in conjunction with installing an acid neutralization system. Once the DAR is approved, most of the liquid process waste generated by the facility will be neutralized and discharged into the sanitary sewer. In the event that a DAR is not granted, the liquid effluent waste would continue to be collected and disposed of by a certified waste disposal vendor. According to the recipient, no toxic pollutants per 40 CFR 129.4 will be used, generated, or discharged.

Two hazardous waste streams are currently being generated at MicroLink Devices. The new process line is expected to increase the quantities of these hazardous wastes. One hazardous waste stream is characterized as etching waste containing arsenic and phosphorus dissolved in concentrated hydrogen peroxide, aqua regia, and water. The recipient estimates the annual quantity of this waste to be about 500 pounds. This waste will continue to be hauled away by a certified waste disposal vendor, Clean Harbors Environmental Services, to a location approximately 30 miles from the facility. This waste is neutralized, mixed with an aggregate, and sent to a landfill. The approximate number of loads is estimated at two per year.

The second hazardous waste stream is characterized as spent Ultimasorb Media from the MOCVD reactors. The estimated annual quantity of this waste is about 1,000 pounds. This waste will continue to be hauled away by Clean Harbors Environmental Services to a facility that will incinerate the waste. The approximate number of loads of this waste is estimated at two per year. According to the recipient, no permits are required.

This activity comprises actions to install machinery at a facility that is consistent with the activities at the facility and to conserve energy through the production of solar cells. Based on information provided by the State and recipient and as presented above, this project is consistent with categorical exclusion B1.31 and B5.1.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

Note to Specialist :

According to the project officer, funding for this project is $5,000,000. Unless there is a significant change in scope, a change in funding will not affect my determination.

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 4/21/10

NEPA Compliance Officer

FIELD OFFICE MANAGER DETERMINATION

☐ Field Office Manager review required

NCO REQUESTS THE FIELD OFFICE MANAGER REVIEW FOR THE FOLLOWING REASON:

☐ Proposed action fits within a categorical exclusion but involves a high profile or controversial issue that warrants Field Office Manager's attention.

☐ Proposed action falls within an EA or EIS category and therefore requires Field Office Manager's review and determination.

BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :

Field Office Manager's Signature: _____ Date: _____

Field Office Manager