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U.S. Department of Energy  
Finding of No Significant Impact  
Institute for Micro-manufacturing  
at Louisiana Tech University

AGENCY: U.S. Department of Energy

ACTION: Finding of No Significant Impact (FONSI)

SUMMARY: The Department of Energy (DOE) has prepared an Environmental Assessment (EA) DOE/EA-0958, evaluating the construction and equipping of two components of the proposed Institute for Micro-manufacturing at Louisiana Tech University (LTU), a proposed R&D facility to be located in Ruston, LA. and, the proposed installation of a beamline for micro-machining applications at the Center for Advanced Microstructures and Devices (CAMD) facility at Louisiana State University in Baton Rouge, LA.

The objective of the proposed project is to focus on the applied, rather than basic research emphasizing the design and development, metrology, inspection and testing, and the assembly and production of micron and submicron structures and devices. Also, the objective of the beamline at CAMD would be the fundamental study of processing and analysis technologies, including x-ray lithography, which are important to microstructures fabrication and electronic device development.

Based on the analysis in the EA, the DOE has determined that the proposed action does not constitute a major federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act of 1969 (NEPA). Therefore, the preparation of an Environmental Impact Statement is not required.

DESCRIPTION OF THE PROPOSED ACTION:

The DOE proposes to authorize LTU to proceed with the detailed design, construction and equipping of the proposed Institute for Micro-manufacturing on the Campus of LTU, Ruston, LA. The second portion of this project would be equipment for research, studying the x-ray lithography micro-machining capability to be installed at the CAMD at LSU in Baton Rouge, Louisiana. These two facilities would work in parallel. House Resolution 102-177 accompanying the FY 1992 Energy and Water Appropriations Act (Pubic Law 102-104) indicated that \$10 million had been included in DOE's FY 1992 appropriation to assist the LTU with construction of the proposed Institute for Micro-manufacturing.

A total of approximately 42,000 gross square feet (gsf) would comprise the proposed Ruston campus research and development (R&D) facility, including approximately 19,000 gsf in a single story with a clear height of 20 feet for Laboratories and clean rooms, and approximately 23,000 gsf in a two story structure for offices, laboratories, and meeting rooms, joined to the single story structure by a two story skylight corridor. A new beam port would be installed at the CAMD in Baton Rouge, LA. The dedicated beamline of the storage ring at CAMD would be housed within the existing facility at Baton Rouge.

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#### ALTERNATIVES:

The DOE considered the no action alternative. The University is committed to implementing the project without the DOE grant.

#### ENVIRONMENTAL IMPACTS:

The impacts of constructing, equipping and operating the proposed Institute were analyzed in the EA. Areas of potential impact evaluated in the EA included those associated with both the construction and operation of the facility.

Construction impacts evaluated included the effects on sensitive resources (historical/archeological, protected species/critical habitats, wetlands/floodplains, national forests/parks/trails, prime farmland and special sources of water); none of these categories are present at the site of the proposed facility. Also evaluated were erosion, waste disposal, air quality, noise, traffic and parking; these categories were deemed within acceptable NEPA guidelines.

Operations impacts evaluated included the effects of waste generation (domestic, sanitary, hazardous), air emissions (criteria, and air toxins), noise, socioeconomic impacts, risk of accidents, and other direct, indirect and cumulative long term impacts.

No significant environmental impacts associated with the proposed construction or operations are anticipated. This finding of no significant impact for the proposed action is based on the following factors which are supported by information and analysis in the EA.

#### Impacts of Construction/Installation

None of the categories of sensitive resources cited above would be affected by the project as they do not occur on or near the site. The proposed Ruston R&D facility site is a wooded area and some trees would be removed, preserving others as part of the landscape scheme. Air quality impacts would be associated with delivery trucks and on-site construction machinery, and would be low level and transient. Noise levels would be those conventionally associated with daytime construction activities in a basement space, and are not likely to disturb residences, workers or outdoor recreation. Traffic impact would not significantly affect local circulation or parking. There would be no construction for the CAMD component.

#### Impacts of Operations

**Waste Generation:** Domestic and sanitary wastes would meet local requirements and could be readily accommodated by existing municipal services. Hazardous wastes consisting of solvents and acids would be managed in accordance with the University's existing hazardous waste management program under an existing EPA registration as a "small quantity generator" under Resource Conservation and Recovery Act.

**Air Quality:** Toxic air emissions, mainly from laboratory solvents, would produce insignificant levels of public exposures in relation to threshold limit values defined the American Council of Government Industrial Hygienists; this is also true for those working in the facility.

**Other Effects:** Noise generated indoors or outdoors would be insignificant. Socioeconomic impacts would be small in the scale of overall university economic activity. Accident risk would be very low as evidenced by zero reportable accidents involving hazardous materials at the University in the last ten years. Overall, the

incremental impacts of the project are small in relation to the ongoing impact of the University, and do not constitute significant cumulative impacts. The CAMD component would produce highly localized radiation subject to supervision of an existing radiation safety program.

**DETERMINATION:**

Based on the analysis in the EA, the DOE has determined that the proposed Institute for Micro-manufacturing does not constitute a major Federal Action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act of 1969. Therefore, an Environmental Impact Statement on the Proposed Action is not required.


**PUBLIC AVAILABILITY:** Copies of this EA (DOE/EA-0958) are available from:

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