

## STATEMENT OF CONSIDERATIONS

### REQUEST BY UNITED TECHNOLOGIES RESEARCH CENTER FOR AN ADVANCE WAIVER OF THE GOVERNMENT'S DOMESTIC AND FOREIGN PATENT RIGHTS UNDER DOE COOPERATIVE AGREEMENT DE-EE0003953; DOE WAIVER NO. W(A)2011-013; CH1596

The Petitioner, United Technologies Research Center (UTRC), has requested an Advance Waiver of the Government's domestic and foreign rights to inventions in the above cited research and development contract issued by DOE's National Energy Technology Laboratory (NETL). See attached UTRC's Petition, Answer 1.

#### Subject of the R&D Contract

Title: Integrated Whole Building Energy Diagnostics

The objective of the contract is to develop and demonstrate a whole-building energy management system (EMS) that integrated real-time energy fault detection and diagnostics (FDD) for refrigeration, HVAC (heating, ventilation, air conditioning), lighting, and on-site power generation subsystems with the buildings control platform. The system will be demonstrated for a Target superstore because it represents a building sector with high energy intensity and includes all major building subsystems. See Petition Answer 2 for more details of this project.

#### UTRC Expertise in the Field

UTRC delivers the advanced technologies, innovative thinking and disciplined research to the businesses of United Technologies Corporation (UTC), which include building infrastructure and services (Otis), heating and air conditioning (Carrier) and power generation (UTC Power). UTRC works directly with the UTC business units and outside partners to develop technology solutions that transition into product development. Over the last 10 years, UTRC has developed and implemented various models to represent building system-level modeling, design of integrated building HVAC and control systems and decision support systems for FDD in building applications. UTRC has two patents relating directly to the subject of this contract. See Petition Answer 5.

Carrier is a world leader in design and manufacture of HVAC systems and its components. Carrier's Automated Logic Division supplies the EIKON<sup>®</sup> graphical programming tool for building control programming as well as WebCTRL<sup>®</sup>, which is a technically advanced building automation system bringing computer or cell phone Web browser access to building management professionals. See Petition Answer 6.

#### The Allocation of Patent Rights

UTRC has requested the worldwide rights in all inventions developed under this contract. The total budget for the 26 month project is \$2,497,921 where UTRC is providing \$499,688 as their

cost share equal to 20%, which meets the minimum required cost-share by a company. See Appendix, Petition Answer 3. In addition, UTC has invested \$5M in prior research & development for integrated whole-building energy modeling and diagnostics. UTC has successfully commercialized products previously supported in early stages by DOE funding; but required expenditure of millions of dollars in additional private funding to bring to commercialization. UTC also acquired Automatic Logic Corporation, a leader in building management systems, whose main business is to provide products and services to monitor, visualize and control buildings and building systems. See Petition Answer 7-9.

UTC is currently a relatively minor player in the integrated whole-building energy modeling and diagnostics field. If this project is successful, UTC hopes to increase the competition in this field in the U.S. and contribute to DOE's goals of increasing building energy use efficiency and reducing related green house gas emissions. See Petition Answer 10.

Due to UTC's success in this field, it is important for it to own, maintain and commercialize any inventions under this cooperative agreement. This will assist in advancing the US market and economy since UTC is a US company with manufacturing facilities in the United States. The patent rights waiver is subject to the retained government-use license, march-in rights, reporting requirements, 35 U.S.C. 204, and following DOE's standard U.S. Competitiveness provision:

U.S. Competitiveness

The waiver recipient agrees that any products embodying any waived invention or produced through the use of any waived invention will be manufactured substantially in the United States, unless the waiver recipient can show to the satisfaction of DOE that it is not commercially feasible to do so. The waiver recipient further agrees to make the above condition binding on any assignee or licensee or any entity otherwise acquiring rights to any waived invention, including subsequent assignees or licensees.

Conclusion

UTRC was selected as the most qualified U.S. company capable of performing the tasks under this cooperative agreement. The technology being developed in the agreement is closely aligned with UTC's business and extensive research in this field. Therefore, the Government believes that the inventions created under this cooperative agreement should be owned by UTRC for commercialization by its parent company UTC and its subsidiaries as being best to commercialize the technology and advance their products in this field.

For the foregoing reasons, and in view of the objectives and considerations set forth in 10 CFR 784, all of which have been considered, it is recommended that the requested waiver be granted.

[Redacted Signature]

Date: 1/28/2011

Gary Drew  
Assistant Chief Counsel for Intellectual Property  
DOE Chicago Office

Based on the foregoing Statement of Considerations, it is determined that the interests of the United States and the general public will best be served by waiver of the United States' domestic and foreign patent right as set forth herein, and therefore, the waiver is granted. This waiver shall not apply to a modification or extension of the UTRC cooperative agreement where, through such modification or extension, the purpose, scope or DOE cost of the contract has been substantially altered. This waiver shall not affect any waiver previously granted.

CONCURRENCE:

[Redacted Signature]

Date: 7/15/11

Roland Risser  
Program Manager  
Office of the Building Technologies Program

APPROVED:

[Redacted Signature]

Date: 7/19/2011

John Lucas  
Assistant General Counsel  
for Technology Transfer and Intellectual Property