

STATEMENT OF CONSIDERATIONS

CLASS WAIVER OF U.S. AND FOREIGN PATENT RIGHTS IN INVENTIONS MADE BY SUBCONTRACTORS AND ADVANCED APPROVAL TO ASSERT COPYRIGHT IN WORKS AUTHORED DURING THE PERFORMANCE OF WORK UNDER THE CONSORTIUM FOR ADVANCED SIMULATION OF LIGHT WATER REACTORS (CASL) PROGRAM; W(C) 2011-010 [ORO-804]

On February 11, 2010, the Consortium for Advanced Simulation of Light Water Reactors (CASL), led by UT-Battelle, LLC (UT-Battelle), the Management and Operating contractor for the Oak Ridge National Laboratory (ORNL), submitted a proposal in response to the U.S. Department of Energy (DOE) Funding Opportunity Announcement DE-FOA-0000170 for the Energy Innovation Hub - "Modeling and Simulation for Nuclear Reactors." The proposal submitted by CASL envisioned (1) developing computer models that simulate nuclear power plant operations, forming a "virtual reactor" for the predictive simulation of light water reactors and (2) using computer models to reduce capital and operating costs per unit of energy, extend the lifetime of the existing U.S. reactor fleet, and reduce nuclear waste volume generated by enabling higher fuel burn-ups. The proposal also contemplated the use of the CASL virtual reactor to be used to accelerate the deployment of next-generation reactor designs, particularly advanced nuclear fuel technologies and structural materials within the reactor core. In May of 2010, DOE announced that the CASL proposal was selected and that DOE would fund CASL at an estimated \$25 million per year for five years. The funds are to be provided to ORNL and ORNL will award subcontracts to the various CASL members for the CASL Program work. This Program is funded by the Office of Nuclear Energy.

A requirement of the DOE FOA was the submission of a proposed Intellectual Property Management Plan (IPMP) specifying how the intellectual property resulting from the funded work would be protected, allocated among the CASL members, and commercialized. In this regard, the DOE FOA contained the standard notification which indicated that DOE may issue a class waiver to for-profit participants that cost share at least 20% and agree to substantially manufacture new technology in the U.S. or provide other economic benefits to the U.S. The proposed IPMP submitted by CASL named the numerous members of CASL, which includes universities, DOE national laboratories, a non-profit institute, a federal corporation, and industrial partners. A list of consortium members is provided in Attachment A. The proposed IPMP provided for the consolidation of licensing of the CASL intellectual property with a lead institution, with each member being able to provide the lead institution with rights to its intellectual property for licensing. Since the award, the CASL members have all agreed to an IPMP that indicates that each CASL member will own any inventions made under their subcontracts with ORNL and will have the automatic right to copyright the works created under the CASL Program, substantially all of which will be computer codes.

Rights to Inventions

This Class Waiver waives title to subcontractor inventions to those subcontractors of ORNL under the CASL Program (other than small businesses and non-profit organizations) who cost-share at least 20% of the subcontract cost and also agree to substantial U.S. manufacture of resulting technology or provide other acceptable economic benefit to the U.S. The industrial subcontractors covered by this waiver are highlighted in Attachment A. As a university participant, it is noted that Imperial College of London is not providing 20% cost share or in-kind contribution, however, this Class Waiver will put these subcontractors in the same position as small business and non-profit subcontractors with respect to ownership of inventions so that the invention rights can be conveyed to a lead institution for licensing as contemplated in the IPMP. This waiver is subject to the Government license, march-in rights, and other restrictions and obligations set forth in Sections 202-204 of P.L. 96-517 as implemented by applicable regulations.

One of the goals of the CASL Program is to have intellectual property that covers a “virtual reactor” that can be licensed by the lead institution on a non-exclusive basis to companies in the nuclear power industry that can input company specific data into the virtual reactor to create the data necessary to submit to the Nuclear Regulatory Commission as part of licensing requests. In the CASL Program, one or more of the industrial CASL members will be providing existing computer codes to the other CASL members who will use that code for learning purposes and based on that learning experience, create new code that will make up the virtual reactor. Having those industrial CASL members with existing code participate in the CASL Program is essential for the Program to achieve its goal of creating the intellectual property covering the virtual reactor. And having those industrial CASL members own the rights to intellectual property they create and make will allow them to provide the lead institution the rights it needs in order to license the virtual reactor to the nuclear power industry.

The CASL Program responds uniquely to the goals and imperatives of the DOE Office of Nuclear Energy by defining a clear path to fielding a new national capability to address the technical challenges facing nuclear energy. The integrated, multidisciplinary systems approach coupled with researchers having innovative ideas and experience in applying modeling and simulation will enable the CASL Program to overcome critical technological barriers and advance U.S. global leadership in nuclear energy technologies on two fronts: (1) sustaining today’s operating reactors through improvements in predictive capabilities that will provide an understanding of fuel, material, and component performance necessary to assure extended safe and efficient operations and (2) facilitating the design and analysis of next-generation reactors and fuel technologies.

Copyrighted Works

In addition to the waiver of invention rights to the subcontractors of ORNL under the CASL Program as specified above, this Class Waiver also serves as DOE’s approval for all the participants in the CASL Program to assert copyright in any works created while performing CASL work. Since new computer codes will make up a substantial part, if not all, of the virtual reactor when completed, it is essential for the participants be able to provide the lead institution the copyright rights necessary for the licensing of

the intellectual property covering the virtual reactor. This disposition of copyright will be reflected in a modified data rights clause incorporated into all ORNL subcontracts under the CASL program.

U.S. Competitiveness

Since the primary deliverable of the CASL Program will be computer software covering the entire virtual reactor and subsystems of the virtual reactor and no hardware, it is believed that the normal requirement for U.S. Competitiveness should be waived for intellectual property developed under the CASL program. The expected software products will be used to analyze and design nuclear reactors, with those reactors located or to be constructed in the U.S and abroad by both foreign and domestic entities. Further, as to the code itself, limiting production of the software to the U.S. would do little to create any significant number of U.S. jobs since such copying could be done either by one or two people or entirely by machine. Nevertheless, it is expected that the knowledge gained from the CASL program will greatly enhance the U.S. nuclear industry. The three industry partners of the CASL program, Westinghouse, the Tennessee Valley Authority and the Electric Power Research Institute, represent a cross section of the U.S. nuclear energy industry. Westinghouse designs and sells reactors and reactor fuel, TVA operates nuclear power plants, and EPRI acts as the research and development arm of the nuclear industry. These organizations provide CASL with a broad perspective on issues and requirements that affect the entire nuclear sector. Thus, in view of the global applicability of the CASL effort and the limited benefit in restricting manufacture of any resulting products (such as reactors) to the U.S., the normal U.S. Competitiveness requirements are waived for the CASL Program.

Granting of this waiver should have little effect on competition and market concentration due to the fact that the intellectual property covering the virtual reactor is going to be licensed extensively on a non-exclusive basis to the nuclear power industry.

Accordingly, in view of the Congressional and statutory objectives to be obtained and the factors to be considered under DOE's Statutory Patent Waiver Policy, all of which have been considered, it is determined that this Class Waiver and approval to assert copyright will best serve the interests of the United States and the general public. It is therefore recommended that the waiver be granted and the approval to assert copyright be approved.



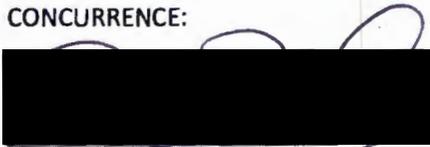
Emily G. Schneider
Assistant Chief Counsel for Intellectual Property
Oak Ridge Office

8/25/2011
Date

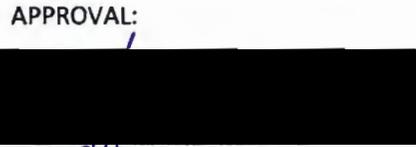
Pursuant to the authority provided in Section 152 of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2182), Section 9 of the Federal Nonnuclear Energy Research and Development Act of 1974, as amended (42 U.S.C. 5908), and the implementing regulations promulgated there under for waivers of patent rights, it is concluded that it is in the best interests of the United States and the general public to grant a waiver of patent rights to the subcontractors of ORNL under the CASL Program other than small businesses and non-profit organizations who cost-share at least 20% of the subcontract cost and also provide other acceptable economic benefit to the U.S. It is also concluded that it is in the best interests of the United States and the general public to approve the assertion of copyright by all CASL participants. Therefore, it is ordered that the waiver of U.S. and foreign patent rights to the class of subcontractors and approval of the assertion of copyright by all CASL participants as described in the foregoing Statement of Considerations is hereby granted. The waiver is subject to all the limitations, terms and conditions set forth in the foregoing Statement of Considerations. The Assistant General Counsel for Technology Transfer and Intellectual Property shall be responsible for issuing instructions for implementation of this waiver in accordance with DOE regulations for waiver of patent rights.

CONCURRENCE:

APPROVAL:


Alex Larzele, Director
Office of Advanced Modeling
and Simulation
Office of Nuclear Energy (NE-71)

2/17/12
Date


John T. Lucas
Assistant General Counsel for Technology
Transfer and Intellectual Property (GC-62)

02/22/2012
Date