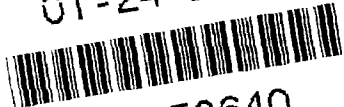


5-28613

FORM PTO-1619A
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OMB 0651-0027

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PATENT
REEL: 012483 FRAME: 0210

Correspondent Name and Address

Area Code and Telephone Number

(925) 422-4367

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Address (line 1) U.S. Department of Energy

Address (line 2) Lawrence Livermore National Laboratory

Address (line 3) P. O. Box 808 (MS L-376)

Address (line 4) Livermore, CA 94550

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Patent Number(s)

			5,341,389		

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Patent Cooperation Treaty (PCT)

Enter PCT application number only if a U.S. Application Number has not been assigned.

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Janet L. Rego
Signature

12/14/2001

Date

ASSIGNMENT AND CONFIRMATORY LICENSE

**Title: Ytterbium- And Neodymium-Doped Vanadate Laser
Host Crystals Having The Apatite Crystal
Structure Inventor(s): Stephen A. Payne et al.
Contract Number: W-7405-ENG-48
Contractor Docket No.: SIL-9204
Contractor: Regents of the University of California
(Lawrence Livermore National Laboratory)**

**DOE Docket No. S-78,613 (RL-12236)
U.S. Patent Application S.N: 08/072,951
Filing Date: June 8, 1993
U.S. Patent No.: 5,341,389
Issue Date: August 23, 1994
Class Waiver Number: W(C) 92-002-242**

Foreign patent applications filed or intended to be filed at contractor's expense: None.

The Contractor certifies that a true copy of the provisions which govern patent rights in "subject inventions" under the above-identified contract has been previously submitted to the U.S. Department of Energy by certification dated February 29, 1996.

WHEREAS, the above-identified invention is a subject invention under the above-identified contract;

WHEREAS, the Government of the United States, as represented by the U.S. Department of Energy has been assigned the entire right, title and interest in and to the above-identified invention in the United States; and

WHEREAS, a waiver of Government rights in the above-identified invention, having an effective date of November 6, 2000, has been granted to the Contractor.

NOW, in conformity with said waiver of Government rights, the Government of the United States as represented by the U.S. Department of Energy, HEREBY ASSIGNS AND TRANSFERS to the Contractor the entire right, title and interest to the above-identified invention, including the above-identified patent applications and any resulting patents, EXCEPT FOR a paid-up license under the above-identified contract and the above-identified waiver and such other rights required under 10 CFR 784 to be retained or reserved to the Government.

ACCORDINGLY, the Contractor hereby confirms that under the provisions of the above-identified contract governing patent rights and the above-identified waiver, it has granted to the Government a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States the subject invention throughout the world. This license applies to the above-identified invention, the above-identified patent application(s), and any and all divisions or continuations thereof and any resulting patent or reissue patent which may be granted thereon. This instrument is also confirmatory of the rights required to be granted to the Government under 10 CFR 784 where a waiver is granted to an invention, patent application, and any resulting patent, and of all other rights reserved to the Government under 10 CFR 784.

The Government reserves for itself, and is hereby granted by the Contractor, the irrevocable power to inspect and make copies of the file wrapper(s) of the above-identified U.S. patent application and of any related or continuation patent application(s), whether domestic or foreign, for the above-identified invention.

It is understood and agreed that this instrument does not preclude the Government from asserting rights under the provisions of the above-identified contract or any other agreement between the Government and the Contractor, or any other rights of the Government with respect to the above-identified invention.

Approved and granted on behalf of the Government of the United States.

UNITED STATE DEPARTMENT OF ENERGY

By: _____
Paul A. Gottlieb Date
Assistant General Counsel for Technology
Transfer and Intellectual Property

Witness: _____

Approved, accepted and consented to on behalf of The Regents of the University of California

Witness: Wendy R. Pebler
(Signature)

By: Alan H. Thompson 10/29/01
(Official's Signature) (Date)

Wendy R. Pebler, Paralegal
(Print/Type Name and Title)
RECORDED: 01/14/2002

Alan H. Thompson, Deputy Assistant General Counsel
(Print/Type Official's Name and Title)
PATENT REEL: 012483 FRAME: 0212