FORM PTO-1619A Expires 06/30/99 OMB 0651-0027	03-19-2003	U.S. Department of Commerce Patent and Trademark Office PATENT		
011	102395662 CORDATION FORM COVER SHEE PATENTS ONLY	0 71 300		
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Submission Type	Conveyance Type			
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Correction of PTO Error Reel # Frame #	Merger	er Confirmatory License		
Corrective Document		. Government Agencies)		
Reel # Frame #	Departmental I	File Secret File		
Conveying Party(ies)	Mark if additional names of co	onveying parties attached Execution Date Month Day Year		
Name (line 1) REGENTS OF THE UNIVE	RSITY OF CALIFORNIA/LLNL	8/31/2000		
Name (line 2)		Execution Date		
Name (line 1)		Month Day Year		
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Receiving Party	Mark if addition	nal names of receiving parties attached		
Name (line 1) U. S. Department of Energy		If document to be recorded Is an assignment and the receiving party is not		
Name (line 2)		domiciled in the United States, an appointment of a domestic		
Address (line 1) 1000 Independence Avenue,	S.W.	representative is attached. (Designation must be a separate document from		
Address (line 2)		Assignment.)		
Address (line 3) Washington	D.C. State/Country	20585-0162 Zip Code		
Domestic Representative Name	and Address Enter for the first F	Receiving Party only.		
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Send comments regarding this burden estimate to the U.S. Patent and Trademark Office, Chief Information Officer, Washington,

Washington,
D.C. 20231 and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Paperwork Reduction Project (0651-0027), Washington, D.C. 20503. See OMB

Mail documents to be recorded with required cover sheet(s) information to:

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FORM PTO-1619B Expires 06/30/99 OMB 0651-0027	Page 2		J.S. Department of Commerce Patent and Trademark Office PATENT
Correspondent Name and Address	Area Code and Telephor	ne Number	202-586-2802
Name Betty A. Winchester	9 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -		
Address (line 1) U. S. Department of Energy			
Address (line 2) 1000 Independence Avenue, S.W.			
Address (line 3) Washington, D. C. 20585-0162			
Address (line 4)			
Pages Enter the total number of pagincluding any attachments.	es of the attached convey	ance document	# 1
Application Number(s) or Patent Num	nber(s)	Mark if addition	onal numbers attached
Patent Application Number or the Patent Application Number (s) Patent Application Number(s) If this document is being filed together with a new Paterwas Patent Cooperation Treaty (PCT) Enter PCT application number	5,222,873	Patent Nui	· · · · · · · · · · · · · · · · · · ·
only if a U.S. Application Number has not been assigned.	PCT PC	T	PCT
Number of Properties	number of properties invo	lved. #	1
Fee Amount Fee Amount	for Properties Listed (37 C	FR 3.41): \$	0.00
	-	account.)	No 🗸
Statement and Signature To the best of my knowledge and be	lief, the foregoing informat	tion is true and c	orrect and any

attached copy is a true copy of the original document. Charges to deposit account are authorized, as

indicated herein.

Brenda K. Banks

Name of Person Signing

Date

ASSIGNMENT AND CONFIRMATORY LICENSE

Pat 5, 222, 373

Title: Fluid Driven Reciprocating Apparatus and Valving for

Controlling Same

Inventor(s): John C. Whitehead et al. Contractor Docket No.: SIL-8802A Contract Number: W-7405-ENG-48

Contractor: Regents of the University of California

(Lawrence Livermore National Laboratory

DOE Docket No. S-74,368 (RL-11591) U.S. Patent Application S.N: 07/901,290

Filing Date: June 19, 1992 U.S. Patent No.: 5,222,873 Issue Date: June 29, 1993

Class Waiver Number: W(C) 96-004-001

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 May 4, 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	
Witness:	Transfer and Intellectual Property	
Approved, accepted and consented to on behalf of The	By: Kunk S. Julk 8/31/00	
(Signatura)	(Official's Signature) (Date)	
Nancy J. Stone, Administrative Specialist	Janet G. Tulk, Laboratory Counsel	
(Print/Type Name and Title)	(Print/Type Official's Name and Title)	

PATENT
RECORDED: 03/17/2003 REEL: 013845 FRAME: 0577