

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE	PAGE 1 OF 1
2. AMENDMENT/MODIFICATION NO. M070	3. EFFECTIVE DATE March, 26 th 2009	4. REQUISITION/PURCHASE REQ. NO. NA27344		5. PROJECT NO. (If applicable)
6. ISSUED BY U.S. Department of Energy/NNSA SC M&O Contract Support Division P.O. Box 5400 Albuquerque, NM 87185-5400	CODE	7. ADMINISTERED BY (If other than Item 6) U.S. Department of Energy/NNSA Livermore Site Office M/S L-293 7000 East Avenue Livermore, CA 94550		
8. NAME AND ADDRESS OF CONTRACTOR (No., street, country, State, and ZIP Code) Lawrence Livermore National Security, LLC Lawrence Livermore National Laboratory M/S L-294 7000 East Avenue Livermore, CA 94550			9A. AMENDMENT OF SOLICITATION NO.	
			9B. DATED (SEE ITEM 11)	
			<input checked="" type="checkbox"/> 10A. MODIFICATION OF CONTRACT/ ORDER NO. DE-AC52-07NA27344	
			10B. DATED (SEE ITEM 13) May 8, 2007	
CODE	FACILITY CODE			
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS				
The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers is extended. is not ex-tended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 25, and returning ___ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.				
12. ACCOUNTING AND APPROPRIATION DATA (If required) see attached				
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS , IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.				
	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN CONTRACT/ORDER NO. IN ITEM 10A.			
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation data, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103 (b).			
<input checked="" type="checkbox"/>	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: Clause H-19 Modification Authority, Clause I-120 changes, and Mutual Agreement			
	D. OTHER (Specify type of modification and authority)			
E. IMPORTANT: Contractor _ is not, <input checked="" type="checkbox"/> is required to sign this document and return <u>2</u> copies to the issuing office.				
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) Part III, Section J, Appendix N , Section 3 is modified to add a new paragraph E and Section 14 is modified to add a new Attachment H. All other terms and conditions remain unchanged.				
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.				
15A. NAME AND TITLE OF SIGNER (Type or print) Kathleen Vaselopoulos, Director, Prime Contract Management			16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Ronna Promani, Contracting Officer U.S. Department of Energy/NNSA	
15B. CONTRACTOR/OFFEROR (Signature of person authorized to sign)	15C. DATE SIGNED 3/27/09	16B. UNITED STATES OF AMERICA By	16C. DATE SIGNED 4/6/09 (Signature of Contracting Officer)	

3. ASSIGNMENT AND TRANSFER OF INTELLECTUAL PROPERTY

A. NNSA has directed UC to transfer and assign to LLNS, as of the Transfer Date, all of UC's obligations, rights, title and interest in and to all intellectual property and intellectual property-related contractual arrangements, as these terms are defined below, and LLNS hereby accepts the transfer and assignment of all such rights, title, interest, and obligations.

B. The intellectual property subject to this transfer and assignment includes all intellectual property that UC has generated or acquired pursuant to the terms of the UC Contract, including but not limited to intellectual property that arises under or relates to the work scope of the UC Contract.

C. For purposes of this provision, "intellectual property" means all forms of intellectual property whatsoever, including but not limited to invention disclosures (whether or not patentable), U.S. and corresponding foreign patent applications and patents, and any registrations, divisions, continuations, continuations-in-part, reissues, reexaminations or extensions of same, technical notebooks, UC contract proprietary information of a technical nature, mask works, and software, registered and unregistered copyrights, trademarks, and service marks.

D. For purposes of this provision, "intellectual property-related contractual arrangements" includes, but is not limited to, Cooperative Research and Development Agreements (CRADA), Work-for-Others (WFO) agreements, user facility agreements, material transfer agreements, bailment agreements, proprietary information agreements (PIAs) and underlying information disclosed pursuant to such agreements, non-disclosure agreements (NDAs), licenses, option agreements, beta site agreements and early access agreements, subcontracts, including all files, records, and other information related to such intellectual property-related contractual arrangements.

Attachment H

**AGREEMENT FOR MANAGEMENT OF CHROMOSOME PAINTING
PORTFOLIO PATENTS OF LLNL-ORIGIN**

This agreement ("Agreement") is by and between Lawrence Livermore National Security, LLC ("LLNS") under its U.S. Department of Energy/National Nuclear Security Administration ("DOE/NNSA") Contract No. DE-AC52-07NA27344 to manage and operate Lawrence Livermore National Laboratory ("LLNL"), and The Regents of the University of California ("UC") and the United States of America, acting through the Department of Energy/National Nuclear Security Administration, Livermore Site Office ("LSO") hereinafter referred to jointly as "Parties."

1. BACKGROUND

- 1.1 The inventions embodied in patents 5,028,525 ('525) and 5,447,841 ('841), hereinafter referred to as the "Inventions" and the "Patents" respectively, were made at LLNL while LLNL was managed and operated by UC under DOE/NNSA Contract W-7405-ENG-48, "48 Contract;" the respective parent patent applications were filed in 1986; and UC obtained title from DOE/NNSA through the DOE/NNSA waiver process.
- 1.2 The Patents are a part of a patent portfolio commonly referred to as the "Chromosome Painting Patent Portfolio" that presently includes 37 patents, including patent rights arising elsewhere at UC. The patents of LLNL origin in the Chromosome Painting Patent Portfolio are listed in Exhibit 1, containing 16 patents and one partial interest in a patent.
- 1.3 The Chromosome Painting Patent Portfolio listed in Exhibit 1 has been managed by The Office of Technology Transfer ("OTT") of the UC Office of the President since its inception.

- 1.4 The Chromosome Painting Patent Portfolio listed in Exhibit 1 was licensed by UC to a predecessor of Abbott Molecular, Inc., the “Licensee,” on August 15, 1989, the “License.”
- 1.5 Over time, the Chromosome Painting Patent Portfolio has grown in part due to further developments including under research sponsored by the Licensee initially at LLNL and then at University of California, San Francisco (UCSF) when the inventors moved their research to UCSF in 1991 and continued developments in technology of the Portfolio there.
- 1.6 Since the time the Inventions were patented and the resulting patent rights licensed, the management and operating contract for management of LLNL has been awarded to LLNS, effective as of October 1, 2007.
- 1.7 On September 28, 2007, UC, LLNS, and DOE/NNSA entered into a tri-party agreement setting forth the respective parties’ roles and responsibilities hereinafter referred to as “Tri-Party Agreement.” As agreed to in the Tri-Party Agreement, NNSA directed UC to transfer and assign to LLNS, as of the Transfer Date, all of UC's obligations, rights, title and interest in and to all intellectual property and intellectual property-related contractual arrangements, as these terms are defined therein, and LLNS accepted the transfer and assignment of all such rights, title, interest, and obligations.
- 1.8 LLNS and DOE/NNSA maintain that title to the patents of LLNL origin in the Chromosome Painting Patent Portfolio listed in Exhibit 1 are subject to an obligation to assign from UC to LLNS as part of the Tri-Party Agreement. UC maintains that title to the patents in the Chromosome Painting Patent Portfolio of LLNL origin is not subject to an obligation to assign from UC to LLNS.
- 1.9 UC, LLNS and DOE/NNSA believe that it is in their mutual best interest to pursue a negotiated resolution of patent rights and royalty income for the Chromosome Painting Patent Portfolio listed in Exhibit 1.

THEREFORE, the Parties agree as follows:

2. OWNERSHIP OF THE “PATENTS”

2.1 The parties agree that UC will retain title to the Patents for the Chromosome Painting Patent Portfolio of LLNL origin listed in Exhibit 1.

3. LICENSING RIGHTS AND OBLIGATIONS

3.1 UC will continue to manage the licensing activities associated with the Chromosome Painting Patent Portfolio listed in Exhibit 1 subject to the terms of this Agreement.

3.2 UC shall have the right to engage in transactions necessary to maintain the integrity of any rights associated with the Chromosome Painting Patent Portfolio listed in Exhibit 1.

3.3 UC will provide LLNS quarterly statements of licensing activities, dating back to July 1, 2007, and continuing for the period of this Agreement.

3.4 UC will inform LLNS of any proposed modification to the licensing activities associated with the Chromosome Painting Patent Portfolio listed in Exhibit 1 including but not limited to executing additional licenses and initiating litigation, and shall obtain LLNS concurrence prior to implementing any major action including but not limited to filing of patent infringement litigation and modification of material terms of existing licenses.

3.5 The Parties agree that for purposes of this agreement “Net Royalty Income” is defined, consistent with the management of the Chromosome Painting Patent Portfolio since 2001, to be gross income derived from the Chromosome Painting Portfolio Patents of LLNL origin (Exhibit 1) less auditable legal and direct case expenses, mandatory distributions (e.g. inventor share payments to inventors under current UC Patent Policy and which are to be made by UC) and actual and auditable expenses for operations. Should operational expenses in any one fiscal year exceed \$200,000 UC will provide sufficient information to permit an audit of

those expenses to assure they comport with the charging practices associated with the management of the Chromosome Painting Portfolio since 2001.

3.6 The Parties agree to keep in confidence (excepting disclosure to DOE/NNSA with notice of applicable confidentiality) any non-public information regarding the Chromosome Painting Patent Portfolio listed in Exhibit 1 received under this Agreement using the same degree of care as it uses for its own information of like kind; the Parties, however, will not be prevented from disclosing any such information:

- (a) which they can demonstrate by written records was previously known to it;
- (b) which can be demonstrated by written records is now, or becomes in the future, public knowledge other than through acts or omissions of the parties;
- (c) which can be demonstrated by written records is lawfully obtained by the Parties from sources independent of each other;
- (d) which must be disclosed under a requirement of law; or
- (e) if five (5) years have elapsed since the expiration of the License or successor.

4. FEES AND PAYMENTS

4.1 Commencing with the University fiscal year beginning July 1, 2008 UC shall remit payment to LLNS of all Net Royalty Income plus an allocation of the University's Short Term Investment Pool (STIP) income, calculated and distributed in accordance with UC practice for campuses and laboratories, by February 1 following the close of the University's fiscal year and each year thereafter. In the event of a delay in payment of the sum of the Net Royalty Income and allocation of STIP income from the prior fiscal year, UC will pay interest to LLNS on that sum at the current STIP rate for the period of the delay in payment.

- 4.2 UC shall remit payment to LLNS, no later than June 1, 2009, all Net Royalty Income plus an allocation of the University's STIP income, not previously paid, accruing from October 1, 2007 to June 30, 2008.
- 4.3 UC will keep complete, true and accurate accounts of all expenses and of all income received from each licensee. UC will permit LLNS access to examine its books and records to verify payments due and owing pursuant to this Agreement. The party requesting examination will pay the costs.

5. TERM OF AGREEMENT

- 5.1 This Agreement will remain in effect until the last patent of Chromosome Painting Portfolio Patents of LLNL origin listed in Exhibit 1 expires or otherwise ceases to be valid or enforceable. Duties under Sections 3.6 and 4 continue after expiration of this Agreement solely to the extent needed to carryout the obligations incurred while this Agreement was in effect.
- 5.2 This Agreement will be transferred to any successor management and operating contractor awarded the DOE/NNSA contract to operate LLNL. This Agreement will be part of any tri-party agreement between DOE/NNSA, LLNS and the successor contractor.
- 5.3 No amendment or modification of this Agreement will be valid or binding upon the Parties unless made in writing and signed on behalf of each party.

6. DISPUTE RESOLUTION

- 6.1 If UC or LLNS should violate or fail to perform any material term of this agreement, then the noticing Party may give written notice of such default ("Notice of Default") to the defaulting Party. If the defaulting Party has not cured the default within sixty (60) days of the Notice of Default or the noticing Party is not satisfied that an adequate cure is in process, then the Parties will enter alternative dispute resolution within sixty (60) days after the date such notice takes effect.

- 6.2 In the event a Party elects alternative dispute resolution under paragraph 6.1, then the Parties will enter a mediation under JAMS in San Francisco. In the event that mediation fails, then the Parties will enter a binding arbitration with one arbitrator under JAMS in San Francisco to decide if a material default exists, whether any proffered cure is reasonable, whether damages are an adequate remedy and what that damages amount is, if so. In the event the arbitrator finds a material default exists, no proffered cure to that default is reasonable, and damages do not adequately compensate the noticing Party, then only as a last resort may the arbitrator order termination of this agreement.
- 6.3 If this agreement is terminated under paragraph 6.2, the Parties agree that no Party has waived any rights it may have existing prior to the effective date of this agreement and that any statute of limitations or other defense based upon the passage of time is tolled for the life of this Agreement.
- 6.4 Any notice required to be given to a Party will be deemed to have been properly given and to be effective
- 6.4.1 on the date of delivery if delivered in person;
 - 6.3.2 the date of mailing if mailed by first-class certified mail, postage paid; or
 - 6.3.3 on the date of mailing if mailed by any global express carrier service that requires the recipient to sign the documents demonstrating the delivery of such notice; to the respective addresses given below, or to another address as designated in writing by the Party changing its address.

In the case of DOE/NNSA:

U.S. Department of Energy
National Nuclear Security Administration
Manager, Livermore Site Office
7000 East Avenue, Mail Stop L293
Livermore, CA 94551

In the case of UC:

The Regents of the University of California

In witness whereof, LLNS, UC and DOE/NNSA have executed this Agreement, in duplicate originals, by their respective officers hereunto duly authorized, on the date and year hereinafter written.

**THE REGENTS OF THE UNIVERSITY
OF CALIFORNIA**

**LAWRENCE LIVERMORE
NATIONAL SECURITY, LLC**

By: _____
(Signature)

By: _____
(Signature)

Name: Ronald A. Nelson

Name: George H. Miller

Title: Executive Director

Title: President, LLNS

Contracts and Administration

Date signed: March 26, 2009

Date signed: March 26, 2009

UNITED STATES OF AMERICA

DEPARTMENT OF ENERGY/NATIONAL NUCLEAR SECURITY

ADMINISTRATION

By: _____
(Signature)

Name: Ronna Promani

Title: Contracting Officer

Date signed: 3/26, 2009

EXHIBIT 1

Patent Number	UC Case Number	DOE S. Number
5,028,525	1985-157-8	S-64,587
5,447,841	1985-157-9	S-72,958
6,596,479	1985-157-G	S-81,067
6,872,817	1985-157-Q	S-85,331
6,500,612	1985-157-R	S-85,332
5,427,932	1989-263-2	S-73,999
5,840,482	1990-249-1	S-72,162
5,888,730	1990-249-2	S-88,527
6,300,066	1990-249-3	(Continuation of '730)
5,756,696	1995-307-1	S-85,333
6,607,877	1995-307-2	S-85,334
6,132,961	1995-307-3	S-85,335
7,115,709	1995-310-2	S-85,396
6,475,720	1995-310-3	S-85,397
6,344,315	1995-310-4	S-85,398
6,280,929	1995-327-1 (85-157-O)	S-85,330
5,395,767 (LLNL/UCSF)	1991-077-1	S-73,293

Note: There are patent applications still pending in the Chromosome Painting Patent Portfolio in addition to the 37 patents. This list may be amended by agreement of the Parties if any additional patents of LLNL origin are issued.