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Pages Enter the total number of pages of the attached conveyance document including any attachments.

16

Application Number(s) or Patent Number(s)

Mark if additional numbers attached

Enter either the Patent Application Number or the Patent Number (DO NOT ENTER BOTH numbers for the same property).

Patent Application Number(s)

Patent Number(s)

972,857

If this document is being filed together with a new Patent Application, enter the date the patent application was

Month Day Year

Patent Cooperation Treaty (PCT)

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

PCT PCT PCT
PCT PCT PCT

Number of Properties

Enter the total number of properties involved.

01

Fee Amount

Fee Amount for Properties Listed (37 CFR 3.41): \$

Method of Payment:
Deposit Account

Enclosed Deposit Account

(Enter for payment by deposit account or if additional fees can be charged to the

Deposit Account Number:

#

Authorization to charge additional fees:

Yes No

Statement and Signature

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Charges to deposit account are authorized, as indicated herein.

Mark P. Dvorscak

Name of Person Signing

Mark P. Dvorscak
Signature

Sept 28, 1999
Date



CONFIRMATORY LICENSE

(Advanced Waiver)

Title : CONTINUOUS CATALYTIC PROCESS FOR PREPARATION OF ORGANIC CARBONATES

Inventor (s) : _____

Serial No. : 972,857 Filing Date: November 18, 1997

Contractor : Amoco Corporation

DOE Contract No. : DE-AC22-94PC94064

DOE Case No. : S-93,979

DOE Advanced Waiver No.: W(A) -95-025

Foreign Applications filed in or intended to be filed at Contractor's expense in (countries):

An advanced waiver of Government rights having been granted by the U.S. Department of Energy (DOE) to the **AMOCO Corporation** and the above-identified invention having been reported as a Subject Invention to DOE by the contractor with its election to file a domestic patent application thereon, the effective date of said waiver for the above invention is July 9, 1999.

Accordingly, this document is confirmatory of the paid-up license required to be granted to the Government under 41 CFR 9-9.109.6 and the above-identified contract in this invention, patent application and any resulting patent as well as any continuation, divisional, reissue, supplemental or continuation-in-part thereof, and of all rights acquired by the Government by the referenced patent rights clause, a copy of which is attached hereto and incorporated by reference herein. The undersigned certifies the attached copy to be a true copy of said clause. It is understood and agreed that this license does not preclude the Government from asserting rights under the provisions of said 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.

The government is hereby granted an irrevocable power to inspect and make copies of the above-identified patent application.

Signed this 15 day of SEPTEMBER 1999.

(SEAL)

BR AMOCO CORPORATION

 (Contractor)

By: [Signature] _____ TAY
 (Contractor's Official & Title)

200 E. RANDOLPH DRIVE, CHICAGO, ILL. 60601
 (Business Address)



U.S. Competitiveness

The Participant agrees that any products, processes, or services for use or sale in the United States under any United States patent resulting from a waived subject invention will be manufactured, practiced, or provided substantially in the United States unless the Participant can show to the satisfaction of the DOE that it is not commercially practical to do so. It is agreed that it may not be commercially practical to process or manufacture materials and products useful for the production of high volume fuel oxygenates where raw materials or feed stocks are more cost effectively found outside the United States. The Participant agrees that it will not license, assign or otherwise transfer any waived invention to any entity unless that entity agrees to these same requirements. Should the Participant or other such entity receiving rights in the invention undergo a change in ownership amounting to a controlling interest, then the waiver, assignment, license or other transfer of rights in the waived invention is suspended until approved in writing by the DOE.



ADVANCE WAIVER PATENT RIGHTS

(a) Definitions.

(1) "Subject Invention" means any invention or discovery of the Participant conceived or first actually reduced to practice in the course of or under this cooperative agreement, and includes any art, method, process, machine, manufacture, design, or composition of matter, or any new and useful improvement thereof, or any variety of plants, whether patented or unpatented under the Patent Laws of the United States of America or any foreign country.

(2) "Cooperative agreement" means any cooperative agreement, grant, agreement, understanding, or other arrangement, which includes research, development, or demonstration work, and includes any assignment or substitution of parties.

(3) "Government agency" includes an executive department, independent commission, board, office, agency, administration, authority, Government corporation, or other Government establishment of the Executive Branch of the Government of the United States of America.

(4) "To the point of practical application" means to manufacture in the case of a composition or product, to practice in the case of a process, or to operate in the case of a machine and under such conditions as to establish that the invention is being worked and that its benefits are reasonably accessible to the public.

(5) "Patent Counsel" means the DOE Patent Counsel assisting the procuring activity.

(b) Allocation of principal rights.

(1) Assignment to the Government. The Participant agrees to assign to the Government the entire right, title, and interest throughout the world in and to each Subject Invention, except to the extent that rights are waived to and retained by the Participant under paragraphs (b)(2) and (c) of this clause.

(2) Greater rights determinations. The Participant or the employee-inventor with authorization of the Participant may request greater rights than the domestic and foreign patent rights provided in paragraph (c) of this clause on identified inventions in accordance with 41 CFR 9-9.109-6. Such requests must be submitted to Patent Counsel (with notification by Patent Counsel to the Contracting Officer) at the time of the first disclosure pursuant to paragraph (e)(2) of this clause, or not later than 9 months after conception or first actual reduction to practice, whichever occurs first, or such longer period as may be authorized by Patent Counsel (with notification by Patent Counsel to the Contracting Officer) for good cause shown in writing by the Participant.

(c) Rights to the Participant.

(1) Minimum Participant license. The Participant reserves an irrevocable, nonexclusive, paid-up license in each patent application filed in any country on a Subject Invention and any resulting patent in which the Government acquires title. The license shall extend to the Participant's domestic subsidiaries and affiliates, if any, within the corporate structure of which the Participant is a part and shall include the right to grant sublicenses of the same scope to the extent the Participant was legally obligated to do so at the time the cooperative agreement was awarded. The license shall be transferable only with approval of DOE except when transferred to the successor of that part of the Participant's business to which the invention pertains.

(2) Election to retain waived rights.

(i) Subject to the provisions of paragraph (c)(3) and paragraph (d) of this clause, with respect only to a Subject Invention reported in accordance with paragraph (e)(2)(i) of this clause and with the written report of which is included an election as to whether the Participant will retain the rights in the invention waived therein, the Participant reserves the entire domestic right, title and interest in any United States patent application on the Subject Invention filed and any resulting United States patent secured by the Participant.

(ii) Subject to the provisions of paragraph (c)(3) and paragraph (d) of this clause, with respect only to a Subject Invention reported in accordance with paragraph (e)(2)(i) of this clause and with the written report of which is included an election as to whether the Participant will retain the rights in the invention waived herein and a statement specifying those foreign countries in which such rights will be retained, and subject to DOE security regulations and requirements, the Participant reserves the entire right, title and interest in any foreign patent application on the Subject Invention filed and any resulting foreign patent secured by the Participant in those foreign countries specified.

(3) Terms and Conditions of Waived Rights.

(i) Subject to the rights granted in paragraph (c)(1) of this clause, the Participant agrees to convey to the Government, upon request, the entire domestic right, title, and interest in any Subject Invention when the Participant:

(A) Does not elect pursuant to paragraph (c)(2)(i) of this clause to retain such rights;

(B) Fails to have a United States patent application filed on the invention in accordance with paragraph (d)(1) of this clause, or decides not to continue prosecution of such application; or

(C) At any time, no longer desires to retain title.

(ii) Subject to the rights granted in paragraph (c)(1) of this clause, the Participant agrees to convey to the Government, upon request, the entire right, title, and interest in any Subject Invention in any foreign country if the Participant:

(A) Does not elect pursuant to paragraph (c)(2)(ii) of this clause to retain such rights in the country; or

(B) Fails to have a patent application filed in the country on the Subject Invention in accordance with paragraph (d)(3) of this clause, or decides not to continue prosecution or to pay any maintenance fees covering the invention. To avoid forfeiture of the patent application or patent, the Participant shall notify the Patent Counsel not less than 60 days before the expiration period for any action required by the foreign Patent Office.

(iii) Conveyance requested pursuant to paragraphs (c)(3)(i) and (c)(3)(ii) of this clause shall be made by delivering to the Patent Counsel duly executed instruments and such other papers as are deemed necessary to vest in the Government the entire right, title, and interest in the invention to enable the Government to apply for and prosecute patent applications covering the invention in this or the foreign country, respectively, or otherwise establish its ownership of the invention.

(iv) For each invention in which the Participant initially elects pursuant to (c)(2)(i) or (c)(2)(ii) of this clause not to retain the rights waived, the Participant shall inform the Patent Counsel promptly in writing of the date and identity of any on sale, public use, or public disclosure of the invention which may constitute a statutory bar under 35 USC 102, which was authorized by or known to the Participant, or any contemplated action of this nature.

(v) Government License

With respect to any Subject Invention in which the Participant retains title, the Federal Government shall have 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.

(vi) Reporting on Utilization of Subject Inventions

The Participant agrees to submit on request periodic reports no more frequently than annually on the utilization of a Subject Invention or on efforts at obtaining such utilization that are being made by the Participant or its licensees or assignees. Such reports shall include information regarding the status of development, date of first commercial sale or use, gross royalties received by the Participant, and such other data and information as DOE may reasonably

specify. The Participant also agrees to provide additional reports as may be requested by DOE in connection with any march-in proceeding undertaken by DOE in accordance with paragraph (c)(3)(viii) of this clause. To the extent data or information supplied under this paragraph is considered by the Participant, its licensee or assignee to be privileged and confidential and is so marked, DOE agrees that, to the extent permitted by 35 USC 202(c)(5), it will not disclose such information to persons outside the Government.

(vii) Preference for United States Industry

Notwithstanding any other provision of this clause, the Participant agrees that neither it nor any assignee will grant to any person the exclusive right to use or sell any Subject Invention in the United States unless such person agrees that any products embodying the Subject Invention or produced through the use of the Subject Invention will be manufactured substantially in the United States. However, in individual cases, the requirement for such an agreement may be waived by DOE upon a showing by the Participant or its assignee that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible.

(viii) March-in Rights

The Participant agrees that with respect to any Subject Invention in which it has acquired title, DOE has the right in accordance with the procedures in 37 CFR 401.6 and any supplemental regulations of DOE to require the Participant, an assignee or exclusive licensee of a Subject Invention to grant a nonexclusive, partially exclusive, or exclusive license in any field of use to a responsible applicant or applicants, upon terms that are reasonable under the circumstances, and if the Participant, assignee, or exclusive licensee refuses such a request, DOE has the right to grant such a license itself if DOE determines that:

(1) Such action is necessary because the Participant or assignee has not taken, or is not expected to take within a reasonable time, effective steps to achieve practical application of the Subject Invention in such field of use;

(2) Such action is necessary to alleviate health or safety needs which are not reasonably satisfied by the Participant, assignee, or their licensees;

(3) Such action is necessary to meet requirements for public use specified by federal regulations and such requirements are not reasonably satisfied by the Participant, assignee, or licensees;
or

(4) Such action is necessary because the agreement required by paragraph (c)(3)(vii) of this clause has not been obtained or waived or because a licensee of the exclusive right to use or sell any Subject Invention in the United States is in breach of such agreement.

(4) Terminations.

(i) Any waiver or retention of rights by the Participant under paragraphs (b)(2), (c)(1), or (c)(2) of this clause may be terminated at the discretion of the Secretary or his designee, in whole or in part, if the request for waiver or retention of rights by the Participant is found to contain false material statements or nondisclosure of material facts, and such were specifically relied upon in reaching the waiver determination or the agreement to the retention of rights by the Participant.

(ii) Any waiver of the rights retained in accordance with paragraph (c)(2), as applied to particular inventions, may be terminated at the discretion of the Secretary or his designee, in whole or in part, if the Participant fails to comply with the provisions set forth in paragraph (c)(3) and paragraph (d) of this clause, and such failure is determined by the Secretary or his designee to be material and detrimental to the interests of the United States and the general public.

(iii) Prior to terminating any waiver of rights under paragraph (c)(4)(i) or (c)(4)(ii) of this clause, the Participant will be given written notice of the intention to terminate the waiver of rights, the extent of such proposed termination and the reasons therefor, and a period of 30 days, or such longer period as the Secretary or his designee shall determine for good cause shown in writing, to show cause why the waiver of rights should not be so terminated.

(iv) All terminations of waivers of rights under paragraph (c)(4)(ii) shall be subject to the rights granted in paragraph (c)(1) of this clause, and termination shall normally be partial in nature, requiring the Participant to grant nonexclusive or partially exclusive licenses to responsible applicants upon terms reasonable under the circumstances.

(5) Effective Date of Waivers.

The waiver of rights in a Subject Invention shall be effective on the following dates:

(i) For advance waivers of identified inventions, i.e., inventions conceived prior to the effective date of the cooperative agreement, on the effective date of the cooperative agreement even though the advance waiver may have been requested after that date;

(ii) For identified inventions under advance waivers, i.e., inventions conceived or first actually reduced to practice after the effective date of the cooperative agreement, on the date the invention is reported with the election to retain the waived rights in that invention; and

(iii) For waivers of identified inventions (other than under an advance waiver), on the date of the letter notifying the requestor that the waiver has been granted.

(d) Filing of patent applications.

(1) With respect to each Subject Invention in which the Participant elects to retain domestic rights pursuant to paragraph (c)(2)(i) of this clause, the Participant shall have a domestic patent application filed on the invention within 6 months after submission of the invention disclosure pursuant to paragraph (e)(2)(i) of this clause, or such longer period of time as may be approved by the Patent Counsel for good cause shown in writing by the Participant. For each identified invention, the rights in which are waived to the Participant the Participant shall have a domestic patent application filed on the invention within 6 months after the waiver has become effective. With respect to the invention, the Participant shall promptly notify the Patent Counsel of any decision not to file an application.

(2) For each Subject Invention on which a domestic patent application is filed by the Participant, the Participant shall:

(i) Within 2 months after the filing or within 2 months after submission of the invention disclosure if the patent application previously has been filed, deliver to Patent Counsel a copy of the application as filed including the filing date and serial number;

(ii) Within 6 months after filing the application or within 6 months after submitting the invention disclosure if the application has been filed previously, deliver to the Patent Counsel a duly executed and approved instrument fully confirmatory of all rights to which the Government is entitled, and provide DOE an irrevocable power to inspect and make copies of the patent application filed;

(iii) Provide the Patent Counsel with a copy of the patent within 2 months after a patent is issued on the application;

(iv) Not less than 30 days before the expiration of the response period for any action required by the Patent and Trademark Office, notify the Patent Counsel of any decision not to continue prosecution of the application and deliver to the Patent Counsel executed instruments granting the Government a power of attorney; and

(v) Include the following statement in the second paragraph of the specification of the application and any patents issued on a Subject Invention, "The Government of the United States of America has rights in this invention pursuant to Cooperative agreement No. EGG-C92-120319 (or Grant No. _____) awarded by the U.S. Department of Energy".

(3) With respect to each Subject Invention in which the Participant has elected pursuant to paragraph (c)(2)(ii) of this clause to retain the patent rights waived in specified foreign countries, or in which the Participant has obtained a waiver of foreign rights on an identified invention:

(i) The Participant shall file a patent application on the invention in each specified foreign country in accordance with applicable statutes and regulations and with one of the following periods:

(A) Eight months from the date of filing a corresponding United States application, or if such an application is not filed, six months from the date the invention is submitted in a disclosure pursuant to paragraph (e)(2)(i) of this clause;

(B) Six months from the date a license is granted by the Commissioner of Patents and Trademarks to file the foreign patent application where such filing has been prohibited by security reasons; or

(C) Such longer period as may be approved by the Patent Counsel for good cause shown in writing by the Participant.

(ii) The Participant shall notify the Patent Counsel promptly of each foreign application filed and upon written request shall furnish an English version of the application without additional compensation.

(e) Invention identification, disclosures, and reports.

(1) The Participant shall establish and maintain active and effective procedures to ensure that Subject Inventions are promptly identified and timely disclosed. Those procedures shall include the maintenance of laboratory notebooks or equivalent records and any other records that are reasonably necessary to document the conception and/or the first actual reduction to practice of Subject Inventions, and records which show that the procedures for identifying and disclosing the inventions are followed. Upon request, the Participant shall furnish the Contracting Officer a description of these procedures so that he may evaluate and determine their effectiveness.

(2) The Participant shall furnish the Patent Counsel (with notification by Patent Counsel to the Contracting Office) on a DOE-approved form:

(i) A written report containing full and complete technical information concerning each Subject Invention within 6 months after conception or first actual reduction to practice whichever occurs first in the course of or under this cooperative agreement, but in any event prior to any on sale, public use or public disclosure of such inventions known to the Participant. The report shall identify the cooperative agreement and inventor and shall be sufficiently complete in technical detail and appropriately illustrated by sketch or diagram to convey to one skilled in the art to which the invention pertains a clear understanding of the nature, purpose, operation, and to the extent known, the physical, chemical, biological, or electrical characteristics of the invention. The report should also include any election of foreign patent rights under paragraph (c)(2)(ii) of this clause and any election of rights under paragraph (c)(2)(i) of this clause. Any requests for greater rights shall be made within the period set forth in paragraph (b)(2) of this clause. When an invention is reported under this paragraph (e)(2)(i), it shall be presumed to have been made in the manner specified in Section (a)(1) and (2) of 42 USC 5908 unless the Participant contends it was not so made in accordance with paragraph (g)(2)(ii) of this clause.

(ii) Upon request, but not more than annually, interim reports on a DOE-approved form listing Subject Inventions and cooperative agreement awarded containing a Patent Rights clause for that period and certifying that:

(A) The Participant's procedures for identifying and disclosing Subject Inventions as required by this paragraph (e) have been followed throughout the reporting period;

(B) All Subject Inventions have been disclosed or that there are no such inventions;

(C) All cooperative agreements containing a Patent Rights clause have been reported or that no such cooperative agreements have been awarded; and

(ii) A final report on a DOE-approved form within 3 months after completion of the cooperative agreement work listing all Subject Inventions and all cooperative agreements awarded containing a Patent Rights clause and certifying that:

(A) All Subject Inventions have been disclosed or that there were no such inventions; and

(B) All cooperative agreements containing a Patent Rights clause have been reported or that no such cooperative agreements have been awarded.

(3) The Participant shall obtain patent agreements to effectuate the provisions of this clause from all persons in its employ who perform any part of the work under this cooperative agreement except

nontechnical personnel, such as clerical employees and manual laborers.

(4) The Participant agrees that the Government may duplicate and disclose Subject Invention disclosures and all other reports and papers furnished or required to be furnished pursuant to this clause. If the Participant is to file a foreign patent application on a Subject Invention, the Government agrees, upon written request, to use its best efforts to withhold publication of such invention disclosures until the expiration of the time period specified in paragraph (d)(1) of this clause, but in no event shall the Government or its employees be liable for any publication thereof.

(f) Publication.

It is recognized that during the course of the work under this cooperative agreement, the Participant or its employees may from time to time desire to release or publish information regarding scientific or technical developments conceived or first actually reduced to practice in the course of or under this cooperative agreement. In order that public disclosure of such information will not adversely affect the patent interests of DOE or the Participant, patent approval for release or publication shall be secured from Patent Counsel prior to any such release or publication.

(g) Forfeiture of rights in unreported Subject Inventions.

(1) The Participant shall forfeit to the Government, at the request of the Secretary or his designee, all rights in any Subject Invention which the Participant fails to report to Patent Counsel (with notification by Patent Counsel to the Contracting Officer) within six months after the time the Participant:

(i) Files or causes to be filed a United States or foreign patent application thereon; or

(ii) Submits the final report required by paragraph (e)(2)-(iii) of this clause, whichever is later.

(2) However, the Participant shall not forfeit rights in a Subject Invention if, within the time specified in (1)(i) or (1)(ii) of this paragraph (g), the Participant:

(i) Prepared a written decision based upon a review of the record that the invention was neither conceived nor first actually reduced to practice in the course of or under the cooperative agreement and delivers the same to Patent Counsel (with notification by Patent Counsel to the Contracting Officer); or

(ii) Contending that the invention is not a Subject Invention the Participant nevertheless discloses the invention and all facts pertinent to this contention to the Patent Counsel (with notifi-

cation by Patent Counsel to the Contracting Officer); or

(iii) Establishes that the failure to disclose did not result from the Participant's fault or negligence.

(3) Pending written assignment of the patent applications and patents on a Subject Invention determined by the Secretary or his designee to be forfeited (such determination to be a final decision under the Disputes Clause of this cooperative agreement), the Participant shall be deemed to hold the invention and the patent applications and patents pertaining thereto in trust for the Government. The forfeiture provision of this paragraph (g) shall be in addition to and shall not supersede other rights and remedies which the Government may have with respect to Subject Inventions.

(h) Examination of records relating to inventions.

(1) The Contracting Officer or his authorized representative, until the expiration of 3 years after final payment under this cooperative agreement shall have the right to examine any books (including laboratory notebooks), records, documents, and other supporting data of the Participant which the Contracting Officer or his authorized representative reasonably deem pertinent to the discovery or identification of Subject Inventions or to determine compliance with the requirements of this clause.

(2) The Contracting Officer or his authorized representative shall have the right to examine all books (including laboratory notebooks), records and documents of the Participant relating to the conception or first actual reduction to practice of inventions in the same field of technology as the work under this cooperative agreement to determine whether any such inventions are Subject Inventions, if the Participant refuses or fails to:

(i) Establish the procedures of paragraph (e)(1) of this clause; or

(ii) Maintain and follow such procedures; or

(iii) Correct or eliminate any material deficiency in the procedures within thirty (30) days after the Contracting Officer notifies the Participant of such a deficiency.

(i) Withholding of payment (not applicable to cooperative agreements).

(1) Any time before final payment of the amount of this cooperative agreement the Contracting Officer may, if he deems such action warranted, withhold payment until a reserve not exceeding \$50,000 or 5 percent of the amount of this cooperative agreement,

whichever is less, shall have been set aside if in his opinion the Participant fails to:

(i) Establish, maintain and follow effective procedures for identifying and disclosing Subject Inventions pursuant to paragraph (e)(1) of this clause; or

(ii) Disclose any Subject Invention pursuant to paragraph (e)(2)(i) of this clause; or

(iii) Deliver the interim reports pursuant to paragraph (e)(2)(ii) of this clause; or

(iv) Provide the information regarding cooperative agreements pursuant to paragraph (j)(5) of this clause; or

(v) Convey to the Government in a DOE-approved form the title and/or rights of the Government in each Subject Invention as required by this clause.

(2) The reserve or balance shall be withheld until the Contracting Officer has determined that the Participant has rectified whatever deficiencies exist and has delivered all reports, disclosures, and other information required by this clause.

(3) Final payment under this cooperative agreement shall not be made by the Contracting Officer before the Participant delivers to Patent Counsel all disclosures of Subject Inventions and other information required by (e)(2)(i) of this clause, the final report required by (e)(2)(iii) of this clause, and Patent Counsel has issued a patent clearance certification to the Contracting Officer.

(4) The Contracting Officer may, in his direction, decrease or increase the sums withheld up to the maximum authorized above. If the Participant is a nonprofit organization, the maximum amount that may be withheld under this paragraph shall not exceed \$50,000 or 1 percent of the amount of this cooperative agreement, whichever is less. No amount shall be withheld under this paragraph while the amount specified by this paragraph is being withheld under other provisions of the cooperative agreement. The withholding of any amount or subsequent payment thereof shall not be construed as a waiver of any rights accruing to the Government under this cooperative agreement.

(j) Lower-tier Cooperative agreements.

(1) For the purpose of this paragraph the term "Contractor" means the party awarding a cooperative agreement and the term "Participant" means the party being awarded a cooperative agreement, regardless of tier.

(2) The Contractor will include the Patent Rights clause of DEAR 952.227-71 suitably modified to identify the parties in all

stcooperative agreement, regardless of tier, for experimental, developmental or research work to be performed by a small business or a domestic nonprofit organization. In all other cooperative agreements, regardless of tier, for experimental, developmental demonstration, or research work, the Contractor shall include the Patent Rights article of 41 CFR 9-9.107-

5(a) or 41 CFR 9-9.107-6 as appropriate, modified to identify the parties. In the event of refusal by a participant to accept this clause, or if in the opinion of the contractor this clause is inconsistent with patent policies, the contractor:

(i) Shall promptly submit written notice to DOE setting forth reasons for the participant's refusal and other pertinent information which may expedite disposition of the matter; and

(ii) Shall not proceed with the cooperative agreement without the written authorization of DOE.

(3) Except as may be otherwise provided in this clause, the Contractor shall not, in any cooperative agreement or by using a cooperative agreement as consideration therefor, acquire any rights in its participant's Subject Invention for the Contractor's own use (as distinguished from such rights as may be required solely to fulfill the Contractor's contract obligations to the Government in the performance of this contract).

(4) All invention disclosures, reports, instruments, and other information required to be furnished by the participant to DOE, under the provisions of a Patent Rights clause in any cooperative agreement hereunder may, in the discretion of DOE, be furnished to the Contractor for transmission to DOE.

(5) The Contractor shall promptly notify DOE in writing upon the award of any cooperative agreement containing a Patent Rights clause by identifying the participant, the work to be performed under the - cooperative agreement, and the dates of award, and estimated completion. Upon the request of DOE the Contractor shall furnish him a copy of the cooperative agreement.

(6) The Contractor shall identify all subject inventions of the Participant of which it acquires knowledge in the performance of this contract and shall notify the Patent Counsel (with notification by Patent Counsel to the Contracting Officer) promptly upon the identification of the inventions.

(7) It is understood that the Government is a third party beneficiary of any cooperative agreement clause granting rights to the Government in subject inventions, and the Contractor hereby assigns to the Government all rights that the Contractor would have to enforce

the participant's obligations for the benefit of the Government with respect to subject inventions. The Contractor shall not be obligated to enforce the agreements of any Participant hereunder relating to the obligations of the Participant to the Government regarding Subject Inventions.

(k) Background Patents.

(1) "Background Patent" means a domestic patent covering an invention or discovery which is not a Subject Invention and which is owned or controlled by the Participant at any time through the completion of this cooperative agreement:

(i) Which the Participant, but not the Government, has the right to license to others without obligation to pay royalties thereon, and

(ii) Infringement of which cannot reasonably be avoided upon the practice of any specific process, method, machine, manufacture or composition of matter (including relatively minor modifications thereof) which is a subject of the research, development, or demonstration work performed under this cooperative agreement.

(2) The Participant agrees to and does hereby grant to the Government a royalty-free, nonexclusive license under any Background Patent for purposes of practicing a subject of this cooperative agreement by or for the Government in research, development, and demonstration work only.

(3) The Participant also agrees that upon written application by DOE, it will grant to responsible parties for purposes of practicing a subject of this cooperative agreement nonexclusive licenses under any Background Patent on terms that are reasonable under the circumstances. If, however, the Participant believes that exclusive or partially exclusive rights are necessary to achieve expeditious commercial development or utilization, then a request may be made to DOE for DOE approval of such licensing by the Participant.

(4) Notwithstanding the foregoing paragraph (k)(3), the Participant shall not be obligated to license any Background Patent if the Participant demonstrates to the satisfaction of the Secretary or his designee that:

(i) a competitive alternative to the subject matter covered by said Background Patent is commercially available or readily introducible from one or more other sources; or

(ii) the Participant or its licensees are supplying the subject matter covered by said Background Patent in sufficient quan-

tity and at reasonable prices to satisfy market needs, or have taken effective steps or within a reasonable time are expected to take effective steps to so supply the subject matter.

(l) Reserved.

(m) Limitation of rights.

Nothing contained in this Patent Rights clause shall be deemed to give the Government any rights with respect to any invention other than a subject invention except as set forth in the Patent Rights clause of this cooperative agreement with respect to Background Patents and the Facilities License.