TECHNOLOGY INVESTMENT AGREEMENT

Between

THE UNITED STATES DEPARTMENT OF ENERGY
Office of Energy Efficiency and Renewable Energy
Golden Field Office
1617 Cole Blvd.
Golden, CO 80401

And

RANGE FUELS, INC.
11101 W. 120th Avenue, Suite 200
Broomfield, CO 80021

And

RANGE FUELS SOPERTON PLANT LLC
11101 W. 120th Avenue, Suite 200
Broomfield, CO 80021

CONCERNING

Funding to design, construct, build, and operate an integrated biorefinery in Treutlen County, Georgia to produce primarily ethanol from lignocellulosic biomass.

1. Agreement No.: DE-FO36-08GO17027
2. Amendment No.: A000
3. Budget Period: From: 10/01/07 To: 9/30/12
4. Project Period: From: 10/01/07 To: 9/30/12
5. Total Estimated Cost of the Project: $355,954,968
6. Total Estimated Government Share of the Project: $76,000,000
7. Total Estimated Recipient Share of the Project: $279,954,968
8. Funds Obligated This Action: $50,188,277
9. Funds Obligated Prior Actions: $0
10. Total Government Funds Obligated: $50,188,277
11. Authority: 42 U.S.C. 7256(g) and Energy Policy Act (EPAct) of 2005, Section 932
12. Appropriation Data: 00550.2007.31.200835.61000000.1004173

This Technology Investment Agreement, (hereinafter called the "Agreement"), is entered into between the United States of America, acting by and through the Secretary of Energy and the United States Department of Energy (hereinafter called "DOE" or the "Government"), and Range Fuels, Inc. (hereinafter called the "Parent") and Range Fuels Soperton Plant LLC (hereinafter called the "Recipient").

FOR THE DEPARTMENT OF ENERGY	FOR RANGE FUELS, INC.	FOR RANGE FUELS SOPERTON PLANT LLC
James P. Damm		
Name: James P. Damm	Name: William B. Schafer III	Name: William B. Schafer III
Title: Contracting Officer	Title: Senior Vice President, Business Development	Title: Senior Vice President, Assistant Secretary
Date: 11/5/07	Date:	Date:

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PART I – GENERAL AND ADMINISTRATIVE INFORMATION

ARTICLE 1. PURPOSE

The purpose of this Agreement is for DOE to provide funding to Recipient for the design, construction, and operation of an integrated, thermochemical, catalytic synthesis biorefinery in Treutlen County, Georgia (the "Facility"). The Facility will meet or exceed DOE's requirement for processing at least 700 dry tonnes per day of lignocellulosic feedstocks from forestry waste and timber for the production of ethanol and other products in a replicable, commercial, integrated biorefinery process (the "Project").

ARTICLE 2. BACKGROUND

a. Authority. This Agreement is being entered into pursuant to the authorities of Section 932(d) of the Energy Policy Act of 2005, Pub. L. No 109-58, 119 Stat. 871 (the "Energy Policy Act"), codified as 42 U.S.C. 16232(d); and Section 1007 of the Energy Policy Act, 119 Stat. 932, codified at 42 U.S.C. 7256(g) and its implementing regulations, "Technology Investment Agreements," 10 CFR Part 603, issued May 9, 2006, 71 Fed. Reg. 27162. Pursuant to 42 U.S.C. 7256(g), DOE may enter into this Agreement subject to the same terms and conditions of 10 U.S.C. 2371 (other than subsections (b) and (f) of that section).

b. Application of 10 CFR Part 603. Unless otherwise expressly provided herein, the provisions of 10 CFR Part 603, "Technology Investment Agreements," shall apply to this Agreement.

c. Funding Opportunity. Pursuant to the Energy Policy Act of 2005, DOE issued on February 22, 2006, Funding Opportunity Announcement DE-PS36-06GO96016, (the "FOA") requesting applications for funding the commercialization of certain cellulosic ethanol technologies.

d. Submission and Selection of Application. On August 10, 2006, Kergy, Inc. submitted to DOE an Application for funding under the FOA. On February 5, 2007 Kergy, Inc. formally changed its name to Range Fuels, Inc. and Parent filed Articles of Amendment to its Certificate of Incorporation with the Delaware Secretary of State. Parent was one of six Applicants competitively selected by DOE on February 13, 2007 and announced on February 28, 2007 for negotiation of award and the resultant execution of this Agreement.

e. Formation of Recipient as Special Purpose Entity. In connection with the Project, Parent has formed Recipient, a limited liability company formed under the laws of the State of Delaware. Recipient is and will remain a wholly owned subsidiary of Parent and will be the owner and operator of the Project. Parent has transferred or will transfer to Recipient all of its assets, rights, and obligations, as may be necessary or desirable, to vest in Recipient the ability and authority to perform as required under this Agreement with respect to the Project.

ARTICLE 3. DEFINITIONS

The terms defined in 10 CFR Part 600.3 and 10 CFR Parts 603.1205 through 603.1340 apply to this Agreement. In addition to terms defined elsewhere in this Agreement, the following definitions apply:

Contractor: Those entities that will perform services in connection with the Project and for which DOE will reimburse a portion of their costs. Contractors for purposes of this Agreement are: Merrick and Company; Emerson Electric Company; CH2MHill – Lockwood Greene Engineers, Inc.; CH2MHill, Inc.; Peregrine Group; and Carmagen Engineering, Inc. This definition is not intended to limit Recipient's ability or its subcontractors' ability to engage additional contractors and receive reimbursement from DOE for a portion of their costs.

Facility: As defined in Article 1 of this Agreement.

Government Fiscal Year: October 1 through September 30

Material Adverse Effect: A change, event, circumstance, occurrence, development, or state of facts that: (i) materially adversely affects the business, financial condition, assets, liabilities, or results of operations of the Project or Recipient; and (ii) materially adversely affects the ability of Recipient to complete the Project, but does not include any changes, events, circumstances, occurrences, developments, or state of facts that are attributable to DOE's actions or omissions.

NEPA: National Environmental Policy Act, 42 U.S.C. 4321 *et seq.*

Party(ies): The entity(ies) executing this Agreement.

Phase 1: As set forth in Attachment A.

Phase 2: As set forth in Attachment A.

Project: As defined in Article 1 of this Agreement.

Project Period: October 1, 2007 – September 30, 2012.

Project Scope: As set forth in Attachment A.

Replicable: Means: (i) Recipient will use commercially reasonable efforts to construct and operate at least one additional integrated biorefinery facility based on lignocellulosic feedstocks that is substantially equivalent to the Facility, where equivalency is based on core technology; or (ii) Recipient will use commercially reasonable efforts to license the intellectual property necessary to construct and operate at least one additional integrated biorefinery facility based on lignocellulosic feedstocks that is substantially equivalent to the Facility, where equivalency is based on core technology.

Schedule of Payments: As set forth in Attachment E.

Third Party Independent Engineer: R. W. Beck, Inc.

ARTICLE 4. EXECUTION

This Agreement, including Attachments A-E, constitutes the entire agreement of the Parties and supersedes all prior agreements, understandings, negotiations, and discussions between the Parties, whether oral or written.

ARTICLE 5. ORDER OF PRECEDENCE

In the event of any inconsistency between the terms of this Agreement and the Attachments, the inconsistency shall be resolved by giving precedence in the following order: (i) this Agreement; and (ii) Attachments to this Agreement.

ARTICLE 6. AGREEMENT ADMINISTRATORS

a. Administration. Unless otherwise provided in this Agreement, approvals permitted or required to be made by the Government may be made only by the Contracting Officer. Administrative and contractual matters under this Agreement shall be referred to the following representatives of the Parties:

DOE Administrators

DOE Contracting Officer: James P. Damm, 303-275-4744, james.damm@go.doe.gov

DOE Financial Assistance Specialist: Henry E. Eggink, 303-275-4825, hank.eggink@go.doe.gov

DOE Intellectual Property

DOE Patent Counsel: Julia Moody, 303-275-4867, julia.moody@go.doe.gov

Parent and Recipient Administrator

Parent and Recipient Administrator: Janice Ford, 303-410-2131, janice@rangefuels.com

Parent and Recipient Intellectual Property

Parent and Recipient Intellectual Property Director: Ryan O'Connor, 303-410-2154, ryano@rangefuels.com

b. Technical. Technical matters under this Agreement shall be referred to the following representatives of the Parties:

DOE Project Manager

DOE Project Officer: John Scahill, 303-275-4912, john.scahill@go.doe.gov

Parent and Recipient Project Manager

Parent and Recipient Project Officer: Janice Ford, 303-410-2131, janice@rangefuels.com

c. Change of Designated Representatives. Each Party may change its representatives named in this Article by written notification to the other Parties.

PART II – PROJECT

ARTICLE 7. SCOPE OF AGREEMENT

a. Scope. The Project Scope, included as Attachment A, describes the Project, including purpose, objectives, work to be performed, project plan, commercialization, and replication goals. Recipient will be responsible for the construction, operation, and commercialization of the Project in accordance with the Project Scope.

b. Documentation. Recipient must submit or otherwise provide all documentation required by this Agreement, including Attachment C - Reporting Requirements.

c. Schedule of Payments. Recipient or its designee shall be paid in accordance with the Schedule of Payments set forth in Attachment E and the procedures of Article 14.

ARTICLE 8. MANAGEMENT OF THE PROJECT

a. Responsibilities. The Government and Recipient are bound to each other by a duty of good faith, and Recipient shall use commercially reasonable efforts in achieving the goals of the Project.

b. Responsibilities of Recipient. Recipient shall be responsible for management, operation, and completion of the Project in accordance with the terms of this Agreement.

c. Government Substantial Involvement. DOE shall be substantially involved in the Project, as more completely outlined in this Article 8. Substantial involvement shall include DOE input to Recipient regarding the management, control, direction, and performance of the Project. Substantial involvement shall also include disbursement of Federal funds pursuant to Project performance under this Agreement and termination of this Agreement or suspension of payments hereunder in accordance with the terms of this Agreement. DOE will be engaged in an advisory capacity for work performed under this Agreement to ensure that the Project is commercially successful and replicable. The National Renewable Energy Laboratory may provide technical assistance to the Project. Substantial involvement by the Government includes "Government Approval" and "Government Insight" as set forth in subparagraphs (i) and (ii) below.

(i) Government Approval. "Government Approval" is defined as DOE providing authority to proceed and/or formal acceptance by DOE. For those circumstances in which Government Approval is required, Recipient shall submit all necessary documentation to the DOE Contracting Officer and the DOE Project Officer and any other information that such Officers may reasonably request prior to Government Approval being granted.

Government Approval is required for the following:

1) Annual Project Plan, including but not limited to any change in plans that may result in a need for additional Federal funding;

2) Disbursements pursuant to Attachment E;

3) NEPA-related documents and compliance activities;

4) Selection of and changes to approved Engineering, Procurement, and Construction Management Contractor; and

5) Modifications pursuant to Section (e) below.

(ii) Government Insight. "Government Insight" includes attendance at procurement, design, construction, on-site or other meetings, reviews, tests; and reviewing documents from Recipient and/or Contractor(s). The Government shall provide input and comment on these items, but shall not have the right of approval. Recipient shall notify the DOE Project Officer of meetings, reviews, or tests, and provide such documents to the DOE Project Officer in sufficient time to permit Government Insight.

(iii) Government Attendance at Board of Managers Meetings; Receipt of Information. At all times during the Project Period, the DOE Contracting Officer shall have the right to appoint one representative (the "DOE Representative") to attend all Recipient board of managers meetings and receive all information and materials provided to the board of managers concerning the affairs of Recipient. The DOE Representative shall participate in all discussions and deliberations of the board of managers but shall not have a formal vote on any matters. The DOE Representative may be a different individual from time to time as designated by the DOE Contracting Officer.

d. Project Review and Planning Process. Recipient shall establish a schedule of regular monthly meetings to be held with the DOE Project Officer covering such matters as the DOE Project Officer may reasonably request.

(i) Work Breakdown Structure ("WBS"). Recipient shall follow the Work Breakdown Structure dated August 27, 2007 as further defined and revised on September 24, 2007 as submitted to DOE and/or any changes thereto subsequently agreed upon by the Parties.

(ii) Annual Project Plan and Review. Recipient will prepare and submit to the DOE Project Officer a draft Annual Project Plan ("Annual Project Plan") to be completed no later than 60 days following execution of this Agreement and 60 days before the end of each Government Fiscal Year thereafter. The Annual Project Plan shall provide a detailed schedule of activities for the upcoming year. Recipient shall use its commercially reasonable efforts to identify specific performance objectives, forecasted expenditures, and additional payments, if any. The Annual Project Plan shall reconcile all prior adjustments in the Project schedule, including revisions/modifications to the Schedule of Payments. Recommendations for changes, revisions, or modifications to the Agreement, which result from the Annual Review, shall be made in accordance with the provisions of paragraph (e) of this Article 8 below.

e. Modifications.

(i) Modification Request. If, as a result of the meetings, Annual Review, Annual Project Plan, or decisions made during the annual planning process, Recipient concludes that a change in the Project Scope, Budget, and/or the Schedule of Payments (Attachment E) would be beneficial to program objectives, Recipient may submit a written request to modify this Agreement or its Attachments to the DOE Contracting Officer, with a copy to the DOE Project Officer. The request must provide justifications to support any changes to the Project Scope, Budget, and/or the Schedule of Payments (Attachment E), and detail the technical, environmental, chronological, and financial impact of the proposed changes to the

Project. The Government is not obligated to pay for additional or revised payments until the Schedule of Payments (Attachment E) is formally revised by the DOE Contracting Officer and made part of this Agreement.

(ii) Modification Approval. The DOE Contracting Officer is the only individual who may modify this Agreement or commit the Government to the expenditure of additional DOE funds. Any commitment by other than the Contracting Officer, either explicit or implied, is invalid.

(iii) Administrative Modifications. The DOE Contracting Officer may unilaterally issue administrative modifications to this Agreement (e.g., changes in the paying office or appropriation data, changes to Government or Recipient personnel identified in the Agreement, etc.). Recipient is not required to sign administrative modifications.

f. Notices to DOE.

This section summarizes all notices that Recipient is required to give DOE pursuant to this Agreement.

(i) Project Process Design. Recipient shall promptly provide notice to the DOE Project Officer of all proposed material changes in Project scope, design, operation, or construction.

(ii) Default Under Loan or Debt Financing Agreements. Recipient shall give prompt notice to the DOE of the existence of any default or event of default under any loan, revolving credit, debt financing, or similar agreement to which Recipient is a party.

(iii) Notice of Inability to Provide Cost Sharing. Recipient shall provide the notice required by Article 9(b) of this Agreement.

(iv) Notice of Equipment Removal. Recipient shall provide prompt notice to the DOE Contracting Officer of any removal of equipment or other property acquired under this Agreement from the Facility.

(v) Notice of Contract Award. Recipient shall provide prompt notice of any contract with an award value in excess of $1 million.

g. Covenants of Parent and Recipient.

Parent and Recipient covenant and agree with DOE as follows:

(i) Good Standing. During the term of this Agreement, each of Parent and Recipient will remain a corporation or limited liability company in good standing under its respective jurisdiction of incorporation and will remain duly qualified as a foreign corporation or limited liability company to transact business in each jurisdiction in which such qualification is required.

(ii) Consideration of Interests in Addition to Shareholders' or Members' Interests. In discharging his or her duties to Recipient and in determining what he or she believes to be in the best interests of Recipient, a director, manager, or officer may, in addition to considering the effects of any action on shareholders or members, consider the following:

1) The effects of the action on employees, suppliers, and customers of Recipient;

2) The effects of the action on communities and state in which Recipient operates; and

3) Any other factors that the director, manager, or officer considers pertinent.

(iii) Sale of Products Produced by the Project. Recipient agrees to promptly sell all commercial products produced by the Project in the ordinary course.

(iv) Assignments, Transfers, and Additional Actions. Parent shall make all assignments and transfers and shall take whatever further action as may be necessary or desirable to vest in Recipient all authority to perform as required under this Agreement.

(v) Insurance. During the term of this Agreement, Recipient shall maintain insurance on the Project in commercially reasonable amounts with reputable insurance companies.

PART III – FINANCIAL MATTERS

ARTICLE 9. COST SHARING

a. Total Estimated Project Cost. Total Estimated Project Cost is the sum of the Government Share and Recipient Share (each as defined below) of the estimated Project costs. The estimated cost share of each Party and total estimated cost are as follows:

Government Share	Recipient Share	Total Estimated Project Cost
$76,000,000/21%	$279,954,968/79%	$ 355,954,968

b. Notice of Inability to Provide Cost Sharing. If Recipient discovers that it may be unable to provide at least 60% of the Total Estimated Project Cost, it shall, within five business days, provide written notification to the DOE Contracting Officer indicating whether it will continue or terminate the Project. If Recipient plans to continue the Project, the notification must describe how replacement cost sharing will be secured.

c. Maximum Government Percentage. Maximum DOE funding for the Project is $76 million. This amount will be adjusted downward only if the total allowable Project costs are less than $190 million at the end of the Project Period. In no event will any individual or the cumulative disbursements of the Government Share ever exceed 40% of actual allowable expenditures on the Project.

d. Federal Funds. In no event may any portion of Recipient Share come from or be comprised of funding from any Federal source other than through Project revenue.

ARTICLE 10. MAXIMUM OBLIGATION

This Project will be funded by the Government in increments, subject to the conditions contained herein, and to the availability of appropriated funds. The maximum Government

obligation to Recipient is limited to the amount shown on line 10, "Total Government Funds Obligated" on the cover page of this Agreement. Recipient has no right to Government funding beyond the maximum amount as set out in the "Total Government Funds Obligated" on line 10.

ARTICLE 11. FINANCIAL SYSTEM AND RECORDS

Recipient shall have and maintain an established accounting system which complies with Generally Accepted Accounting Principles ("GAAP"), and with the requirements of this Agreement, and shall ensure that appropriate arrangements have been made for receiving, distributing, and accounting for Federal funds and Recipient cost sharing, including any in-kind costs. Consistent with this, an acceptable accounting system will be one in which all funds, cash receipts, and disbursements are controlled and documented properly. Such records are subject to audit as set forth in Article 16. In the absence of an acceptable accounting system, no labor or indirect costs may be invoiced to DOE.

ARTICLE 12. THIRD PARTY INDEPENDENT ENGINEER

Pursuant to DE-AT36-07GO027305, R.W. Beck, Inc., as the Third Party Independent Engineer, shall, among other things, review Recipient's applications for progress payments and verify and certify Recipient's progress to DOE. The Schedule of Payments allocated to various portions of the work as set forth in Attachment E shall be used as the basis for reviewing Recipient's applications for progress payments.

ARTICLE 13. ENGINEERING, PROCUREMENT, AND CONSTRUCTION MANAGEMENT CONTRACTOR

Notwithstanding any provisions of this Agreement to the contrary, no Government funds shall be disbursed to Recipient in connection with the Project until Recipient has retained an engineering, procurement, and construction management ("EPCM") contractor for the Project satisfactory to the Government and on terms and conditions reasonably acceptable to the Government (the "EPCM Agreement").

ARTICLE 14. PAYMENTS

a. Obligation of Federal Funds. All Federal funds obligated under this Agreement are payable through the Automated Clearing House and available to Recipient in the amounts and upon meeting the requirements contained in Attachment E and other conditions of this Agreement.

b. Requests for Payment. Requests for payments must be made electronically through DOE's Oak Ridge Financial Service Center Vendor Inquiry Payment Electronic Reporting System ("VIPERS"). To access and use VIPERS, Recipient must enroll at https://finweb.oro.doe.gov/vipers.htm. Detailed instructions on how to enroll are provided on that site.

c. Payments.

(i) Payment Authorization. Utilizing VIPERS, Recipient shall provide DOE a SF-270 (Request for Advance or Reimbursement) for each requested disbursement. In addition, Recipient shall provide a SF-270 and supporting documentation describing achievement of

the performance metrics, as defined in Attachment E for each requested disbursement, to the DOE Project Officer and the Third Party Independent Engineer. The Third Party Independent Engineer must certify to the Government that the actual performance metrics have been achieved prior to any disbursements. The Government shall make payments in the form of disbursements in the amounts and at the times set forth in Attachment E.

(ii) Partial Payment Adjustment. If the Third Party Independent Engineer finds invoiced expenses do not meet the Performance Measure Definition Statements referenced in Attachment E, partial payment will be made by the Government reflecting the actual performance metrics achieved. In no event will any individual or the cumulative disbursements of the Government Share ever exceed 40% of actual allowable expenditures on the Project.

(iii) Final Payment. The DOE Contracting Officer shall withhold up to $3 million pending End of Project, as defined in Attachment A, and DOE's receipt and acceptance of the Final Report (as defined in Clause E of Attachment C to this Agreement).

d. Payment Suspension. DOE may suspend any payments under this Agreement in accordance with 10 CFR Part 600.312(g).

e. Payment Disputes. In the event of any dispute over payments pursuant to this Article 14, the Parties agree to refer any such dispute to the Head of Contracting Activity, Golden Field Office, and the Chief Executive Officer of Parent, respectively, and to make a good-faith effort to resolve any such dispute. If such dispute is not resolved as a result of these efforts, the Head of Contracting Activity shall issue a final decision regarding such dispute.

ARTICLE 15. ALLOWABLE COSTS AND PROJECT COSTS

a. Allowable Cost Principles. Recipient's financial management system must provide, at a minimum, that Federal funds and funds counted as Recipient's cost sharing will be used only for costs that:

(i) A reasonable and prudent person would incur in carrying out this Agreement. Generally, elements of cost that appropriately are charged are those contained under GAAP;

(ii) Are consistent with the purposes stated in the governing Congressional authorizations and appropriations; and

(iii) Do not violate the prohibition on Recipient receiving a fee or profit under 10 CFR Part 603.230.

b. Project Costs. Notwithstanding the foregoing, in no event shall Project costs include any expenditures for interests or options in land, or any costs or expenses associated with research and development activities associated with the technologies utilized in the Project.

c. Indirect Costs. Recipient is required to use commercially reasonable cost rates to accumulate and report costs under this Agreement. This includes both provisional and final rates that are approved by the DOE Contracting Officer up until the time that this Agreement is closed out.

ARTICLE 16. AUDITS

a. Examination and Audit. Recipient's and any Contractor's financial records are subject to examination or audit on behalf of the Government.

b. Annual Audits. Recipient shall:

(i) Have annual audits by an independent certified public accountant ("CPA"), in addition to any award-specific audits as required by the Contracting Officer;

(ii) Ensure that an independent CPA will perform required audits as discussed in 10 CFR Part 603.650;

(iii) Have an audit completed and provide to DOE audited and certified financial statements for the year ended December 31, 2007 and every year thereafter on or before 90 days following the end of such year; and

(iv) Have its independent CPA conduct periodic audits of its systems. The audits shall be conducted under Generally Accepted Government Auditing Standards.

c. Other Audit Requirements.

(i) The audit shall provide reasonable assurance of Recipient's compliance with Agreement terms that have a direct and material effect on the Project.

(ii) The allocable portion of the costs of any audits will be reimbursable under this Agreement. These costs may be direct charges or allocated indirect costs, consistent with Recipient's accounting system and practices.

(iii) The Government has the right to require Recipient to have the independent CPA take corrective action and, if corrective action is not taken, that the Contracting Officer has recourse to any of the remedies for noncompliance identified in 10 CFR Part 600.352(a).

(iv) The independent CPA must submit audit reports directly to the DOE Contracting Officer.

(v) The independent CPA must retain working papers for a period of at least three years after the final payment, unless the working papers relate to an audit whose findings are not fully resolved within that period or to an unresolved claim or dispute (in which case, the independent CPA must keep the working papers until the matter is resolved and final action taken).

ARTICLE 17. USE OF PROJECT INCOME

Income recognized by Recipient from operations of the Project prior to the end of the Project Period may be used to finance the non-Government share of the Project, provided that in no event shall Recipient declare or permit any dividend or similar distribution of any income to any shareholder or equity holder of Recipient. Income earned after Project completion may otherwise be used at Recipient's discretion, and Recipient will have no obligation to the Government with respect thereto.

For purposes of this Article 17, "income" shall mean net income as determined under GAAP applied on a basis consistent with Recipient's past practices.

ARTICLE 18. RECOGNITION OF PRE-AWARD COSTS

Pre-award costs incurred on or after February 13, 2007 may be part of Recipient's cost share and eligible for reimbursement under Attachment E, provided such costs are allowable in accordance with the cost principles in Article 15 – Allowable Costs and Project Costs. See DOE Authorization letter dated June 5, 2007.

PART IV – ADMINISTRATIVE REQUIREMENTS

ARTICLE 19. TITLE AND DISPOSITION OF PROPERTY

Pursuant to his authority under 10 CFR Part 603.680(b)(2), the DOE Contracting Officer has granted an exception to allow Recipient to include the full acquisition cost of equipment and other property as part of the Project Cost. Additionally, the Contracting Officer has authorized a deviation from the requirements of 10 CFR Part 603.680(c) allowing Recipient to take unconditional title to equipment and other property acquired under this Agreement.

ARTICLE 20. INTELLECTUAL PROPERTY

The relative rights of the Parties with respect to any intellectual property owned, licensed, or otherwise used in connection with the Project are contained in Attachment B.

ARTICLE 21. PURCHASING

For purchases made under this Agreement that are funded in whole or in part with Federal funds or Recipient's cost sharing, Recipient may use its existing purchasing systems, subject to Appendices A and B of 10 CFR Part 603.

ARTICLE 22. FLOW DOWN REQUIREMENTS TO CONTRACTORS

In accordance with the policy in 10 CFR Part 603.610, Recipient shall provide the same financial management, property management, and purchasing systems requirements to any Contractor that would apply if such Contractor were Recipient.

ARTICLE 23. NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) CONSIDERATIONS

Any material changes in Project Scope, design, operation, or construction must be reviewed by DOE for purposes of assuring DOE's continuing NEPA compliance. Further, Recipient represents and covenants that Recipient shall not make any material changes from the Proposed Action (as defined in the environmental assessment completed in connection with this Agreement) without prior notice to and consultation with DOE.

ARTICLE 24. CONDITIONS RELATED TO RECIPIENT FINANCING

a. Conditions to Phase 1 Disbursements.

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EXEMPTION 4

DOE's maximum total disbursement for the Phase 1 Budgeted Total Cost shall be $50,188,277.

b. Conditions to Phase 2 Disbursements. Disbursements by DOE for Phase 2 of the Project will also be subject to the following conditions:

(i) Availability of appropriated funds;

(ii) Substantial Completion of Phase 1 of the Project. The Parties agree that for purposes of this Agreement, the term "Substantial Completion" or "Substantially Complete" shall be defined in the EPCM Agreement in a manner acceptable to the Parties; and

(iii) DOE has determined that Phase 1 process performance, as established in the Project Scope, has been achieved.

DOE's maximum total disbursement for Phase 2 shall be $22,811,723.

ARTICLE 25. RECORD RETENTION AND ACCESS TO RECORDS

a. Recordkeeping. Recipient and any Contractors must keep records related to this Agreement for a period of three years after submission of the final financial status report, except for records related to an audit, claim, or dispute that begins but does not reach its conclusion within the three-year period, which must be kept until the matter is resolved and final action taken.

b. Access. The DOE Contracting Officer, the DOE Inspector General, and the Comptroller General of the United States, or any of their duly authorized representatives, shall have access to books, documents, papers, or other records of Recipient and Contractors that are pertinent to the Agreement in order to perform audits. Such audit, examination, or access shall be performed at reasonable times during business hours on business days upon prior written notice and shall be subject to the security requirements of the audited Party.

ARTICLE 26. REPORTING

Recipient must submit reports in accordance with the requirements in Attachment C.

ARTICLE 27. FEDERAL, STATE, AND MUNICIPAL REQUIREMENTS

Recipient must obtain any required permits and comply with applicable Federal, state, and municipal laws, codes, regulations, and permits for work performed under this Agreement. Recipient shall have sole responsibility for compliance with this Article 27.

ARTICLE 28. SITE VISITS

The Government and its authorized representatives have the right to make site visits at reasonable times to review project accomplishments and management control systems and to provide technical assistance, if required. Recipient must provide, and must require its Contractors to provide, reasonable access to facilities, office space, resources, and assistance for the safety and convenience of the Government representatives in the performance of their duties. All site visits and evaluations must be performed in a manner that does not unduly interfere with or delay the work.

ARTICLE 29. PUBLICATIONS

An acknowledgment of Federal support and a disclaimer must appear in the publication of any non-internal material, whether copyrighted or not, based on or developed under this Project, as follows:

Acknowledgment: "This material is based upon work supported by the Department of Energy under Agreement Number **DE-FO36-08GO17027**."

Disclaimer: "This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof."

ARTICLE 30. CLAIMS, DISPUTES, AND APPEALS

Except as otherwise set forth in Article 14(e) of this Agreement, Recipient must submit claims arising out of or relating to this Agreement in writing to the DOE Contracting Officer and must specify the nature and basis for the relief requested and include data that supports the claim. DOE will attempt to resolve such claims informally at the DOE Contracting Officer level. Appeals will be resolved by the DOE Senior Procurement Executive.

ARTICLE 31. FOREIGN ACCESS TO TECHNOLOGY

a. Restriction on Transfer. The Parties understand that technology developments resulting from the performance of the Agreement may be subject to United States laws and regulations limiting access. Foreign national access to technology developed under this Agreement may constitute an export of the technology. Any transfer of technology developed under this Agreement must be consistent with United States laws and regulations, including the Department of Commerce Export Regulation at Chapter VII, Subchapter C, Title 15 of the CFR, as applicable. Recipient and all Contractors shall comply with these laws and regulations.

b. Application to Contractors. Recipient shall include Section (a) of this Article, suitably modified to identify the Parties, in all agreements with Contractors. This flow down requirement applies to subawards for substantive performance of portions of the effort only.

ARTICLE 32. NATIONAL POLICY ASSURANCES

National Policy Assurances Incorporated as Award Terms are contained in http://professionals.pr.doe.gov/ma5/MA-5Web.nsf/FinancialAssistance/NationalPolicyAssurances?OpenDocument.

PART V – TERMINATION AND ENFORCEMENT

ARTICLE 33. TERMINATION, SUSPENSION, AND ENFORCEMENT

a. Failure to Comply with this Agreement. The DOE Contracting Officer shall give written notice to Recipient upon a finding that Recipient has materially failed to comply with the terms and conditions of this Agreement setting forth the factual and legal bases for the determination of noncompliance, the corrective actions, and the date by which they must be taken (not less than 30 days), and which of the actions authorized under 10 CFR Part 600.352 DOE may take if Recipient does not achieve compliance within the time specified in the written notice.

b. Termination or Suspension by DOE Contracting Officer. If (i) Recipient fails to cure the failure to materially comply with the terms and conditions of the Agreement as set forth in Article 33(a) or (ii) fails to cure any such default or event of default referred in Article 8(f)(ii) within the time period provided in the applicable instrument, this Agreement may be terminated or payment suspended in whole or in part by the DOE Contracting Officer for Recipient's material failure to comply with the terms and conditions of the award. Additional DOE enforcement remedies are contained in 10 CFR Part 600.352.

c. Termination by DOE for Material Adverse Effect. In the event of a Material Adverse Effect, this Agreement may be terminated by DOE.

d. Termination for Failure to Satisfy Article 24. DOE may terminate this Agreement upon the failure of Recipient to satisfy the conditions contained in Article 24 of this Agreement.

e. Termination Upon Failure to Achieve Substantial Completion of Phase 1. DOE may terminate this Agreement in the event that Phase 1 of the Project does not achieve Substantial Completion (as such term is defined in the EPCM Agreement) on or before December 31, 2009 or other mutually agreed upon date.

f. Mutual Agreement to Terminate. Subject to a reasonable determination by either Party that the Project will not produce beneficial results commensurate with the expenditure of resources, that Party may terminate in whole or in part the Agreement by providing at least 30 days advance written notice to the other Party, provided such notice is preceded by consultation between the Parties. The Parties will negotiate the termination conditions, including the effective date and, in the case of partial termination, the portion to be terminated. The Government and Recipient will negotiate in good faith an equitable reimbursement for work performed toward accomplishment of the Project. If either Party determines in the case of partial termination that the reduced or modified portion of this Agreement will not accomplish the purpose for which the Agreement was made, this Agreement may be terminated in its entirety.

g. DOE Deobligation of Funds. In the event this Agreement is terminated for any reason under Sections (a) – (e) of this Article 33, DOE has the right to unilaterally deobligate funds not yet disbursed pursuant to Attachment E.

ARTICLE 34. FORCE MAJEURE

Recipient shall not be liable for any delays or non-performance hereunder if such delay or non-performance is due, directly or indirectly to fire or other casualty; act of God; strike or labor dispute; war or other violence; or the change of any law, order, or requirement of any Governmental agency or authority.

Attachment A – Project Scope

A. PURPOSE

The purpose of this Agreement is to provide funding to Range Fuels Soperton Plant LLC ("Recipient") to help facilitate the design, construction, and operation of a commercial scale biorefinery for production of ethanol and other products from a *minimum* of 700 dry metric tonnes per day [772 dry tons per day ("DTPD")] of lignocellulosic feedstocks. This funding is intended to partially reimburse the initial construction costs with this first-of-its-kind integrated biorefinery and enable the development of a biofuels industry. This purpose is consistent with Section 932 of the Energy Policy Act of 2005.

B. OBJECTIVES

Recipient will design, construct, and operate an integrated thermochemical catalytic synthesis Facility with a design capacity of 2500 DTPD in Treutlen County, Georgia to produce ethanol, methanol, and other chemicals from lignocellulosic (forestry waste and timber) biomass. The alcohol and chemical process design is based on conversion of lignocellulosic biomass to syngas followed by a catalytic process to convert the syngas to fuel grade ethanol and methanol. Following shakedown operation at the maximum throughput possible, the Facility will be operated for at least one year to acquire maintenance and operating data and demonstrate the robustness of Facility equipment designs. During this initial year of operation, information will also be obtained on Facility operability issues and alcohol synthesis yields and selectivity. This information will be necessary to establish the commercial viability and hence the ability to replicate the technology at other locations. These objectives fulfill requirements of the initial Funding Opportunity Announcement.

C. WORK TO BE PERFORMED

Recipient will conduct corporate administration and Project development activities, as well as activities associated with engineering, procurement, construction, Substantial Completion, and operation of the lignocellulosic biorefinery Facility.

Primary work activities of this Project include:

- Acquire appropriate permits from local, state, and Federal agencies.
- Complete site preparation, utilities, access roads, and related infrastructure.
- Insure sustainable supply of feedstock for the Facility by obtaining long term supply contracts for wood and waste wood.
- Prepare a detailed engineering design for the integrated Facility.
- Procure sufficient quantities of catalyst for the desired Facility capacity.
- Procure equipment and materials per final design specifications.
- Construct a Facility capable of processing up to 2500 DTPD of lignocellulosic feedstock.
- Complete the Facility Substantial Completion activities including start-up and shakedown.
- Demonstrate the economic viability of producing fuel-grade ethanol according to American Society of Testing and Materials (ASTM) specifications through long-term Facility operations (minimum of one year after Facility Substantial Completion).

The design, fabrication, construction, and operation effort will encompass a series of unit operations and supporting infrastructure that comprise the overall process and include the following:

- Site preparation and civil engineering works.
- Feedstock processing and handling operations to include drying, sizing, and conveying to and from storage to the biomass converter.
- K2, which is Recipient's nomenclature for the solid biomass conversion components of the process. [REDACTED EXEMPTION 4]
- Common utilities [
- Process utilities]
- Mixed alcohol raw product dehydration, separation, and purification into final ASTM specification alcohol products.
- Product storage and load-out facilities for rail and truck transport.
- Effluent treatment.
- Char transport, collection, and storage facilities.

D. PROJECT PLAN

The overall Project will be executed in five Phases. Phase 1 includes the engineering, procurement, construction, and Substantial Completion of all systems necessary to process [ ] Ex. 4 [Ex. 4] of feedstock in an integrated fashion to continuously produce a mixed alcohol product. [Biomass Converters, which comprise the devolatilization section and steam reformer, are each sized for [REDACTED EXEMPTION 4] of biomass chips [REDACTED EXEMPTION 4] Phase 1 activities are established to support the critical Project objective of demonstrating Recipient's K2 process. It is a Project objective that Phase 1 will consist of a fully integrated process operational at the [Ex. 4] design capacity to produce ethanol and other products. At the conclusion of Phase 1, DOE will use the Facility performance data to establish the Phase 1 process performance. Phase 1 process performance must yield a Facility that operates in a fully-integrated mode and at a production rate that is at least 75% of the process design capacity in order for DOE to continue with Phase 2 of the Project. DOE will use this process performance to make Critical Decision 1(CD-1), a go/no-go decision for DOE's participation in Phase 2 of the Project.

Phase 2 will begin to add capacity to the Facility by adding [ ] Ex. 4 additional Biomass Converters and a catalytic synthesis converter [Ex. 4] Additional capacity will also be added to the distillation train. Upon Substantial Completion of Phase 2, the Facility will be capable of processing up to [Ex. 4] Phases 3 through 5 will entail adding biomass conversion and catalytic converter modules to the Facility, as shown in the following table.

	Biomass Conversion Module	Catalytic Syngas Converter and Product Purification	Balance of Facility Systems
Phase 1 (P1)	X	X	X
Phase 2 (P2)	X	X	X
Phase 3 (P3)	X		
Phase 4 (P4)	X	X	
Phase 5 (P5)	X		

DOE will be involved in all five Phases, but to a lesser degree in the final three Phases. DOE involvement in Phases 1 and 2 will be to provide a portion of funding required for design, fabrication, Substantial Completion, and operation of what will be, at the end of Phase 2, a Facility with a design capacity of [Ex. 4] DOE involvement will also include independent engineering analysis of all the elements leading to and including operation of the Phase 2 Facility which fulfills the FOA requirement of demonstrating operation of the biorefinery at a minimum of 772 DTPD. DOE will also be informed of the development of the remaining design capacity of [Ex. 4] but will not provide additional funding. After Substantial Completion of the final modules to achieve a design capacity of 2500 DTPD, DOE will be informed regarding the operation of the Facility for one year. At the end of the first year of operation following completion of all phases of construction, Recipient will provide to DOE a Final Report documenting the commercial viability of the technology and plans for replicating the technology in other locations. A schematic representation of DOE involvement is shown below in Figure 1.

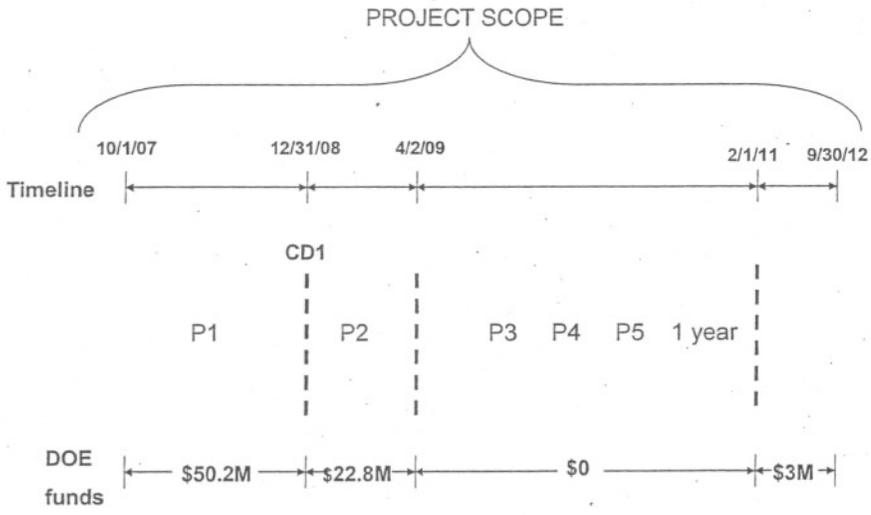

Figure 1. Schematic representing DOE involvement

Schematic Definitions

Phase 1 (P1): This represents the Project activities associated with the completion of the integrated biorefinery with a design capacity of [EX. 4] with DOE contributing a maximum of $50,188,277 to the efforts on Phase 1 and Recipient contributing its cost share requirement. This event coincides with Critical Decision 1.

Critical Decision 1 (CD1): This DOE decision is made after Substantial Completion and shakedown operation of the process using biomass feedstock specified in the process design for Phase 1. This decision is a go/no-go decision for DOE's participation in Phase 2 of the Project.

Phase 2 (P2): This represents the Project activities associated with completion of adding a second module with a design capacity of [EX. 4] with DOE contributing $22,811,723 to the efforts on Phase 2 and Recipient contributing its cost share requirement. At this point, the Facility must meet the FOA requirements of demonstrating operation of the Facility processing a minimum of 772 DTPD. Reporting requirements will change after successful completion of this phase according to Attachment C.

End of Project: This marks the completion of construction, Substantial Completion, successful demonstration, shakedown operation and commercial operation of the total Project (all five Phases) for a minimum of one year. At End of Project and DOE's receipt and acceptance of the Final Report, DOE will release up to $3,000,000 in accordance with the terms of the Agreement.

E. COMMERCIAL GOALS

Parent's business strategy is to secure a leading market position as a low-cost producer of cellulosic ethanol, expand its production capacity in under-served markets and continue to advance its production processes at an accelerated rate. Parent believes it has minimized the technology risks associated with its business strategy through extensive testing at the pilot scale. Parent intends to implement its strategy through achievement of the following goals:

a. Maintain its position as a low-cost cellulosic ethanol producer to maximize product margins. The Facility has been designed to minimize feedstock transportation and operating costs. Testing conducted by BioConversion Technologies LLC ("BCT") indicates that Parent's technology will allow conversion of a wide variety of feedstocks into ethanol, including wood chips, switchgrass, corn stover and municipal and industrial waste. Parent will therefore be able to reduce input costs by taking advantage of different feedstocks in different locations or at different times of the year.

b. Take advantage of technology advancements and improved catalyst and feedstock yields to significantly reduce capital cost per gallon for future production facilities. Parent's K2A Pilot Facility in Denver, with its "plug and play" capabilities, will facilitate testing of new technology for the Facility, and future Facilities, on an ongoing basis. This will allow the Parent to continue to improve its production technology, advance its process yield, and lower its costs as more efficient methods of thermochemical cellulosic ethanol production are developed.

c. Rapidly expand production capacity through design and construction of additional Facilities throughout the world. Parent has designed its Facilities to consist of multiple biomass-to-syngas converters instead of one large system. This modular approach allows for spatially distributed conversion locations and the ability to readily scale up or down the size of Facilities at existing locations without extensive re-design.

REDACTED
EXEMPTION 4