From: Bill Rooney

To: "IBR FOA@go.doe.gov"

Subject: Attached Reviews for Next Week

Date: Saturday, August 29, 2009 9:06:00 AM

Attachments: Bill Rooney week1.xls

My reviews are attached.

bill

Dr. William L. Rooney Professor, Sorghum Breeding and Genetics Chair, Plant Release Committee Texas A&M University College Station, Texas 77843-2474 979 845 2151

Score (out of 1000): 605 Application No.: 28860

Project Title: Applicant: Integrated Biorefinery using Dish Waste Feedstock

Denali Bio-Diesel, Inc. Topic: 5: Topic Area 5

Criterion		# of Stren	gths	# of Weaknesses		Rating		
No.	Weight	Significant	Minor	Significant	Minor	(0-10)	Criterion Title	
							The application demonstrates the technical merit and rationale for the□	
1	0.35	1	0	1	0	7	proposed project.	
2	0.35	0	0	0	0		The applicant demonstrates credible economics and competitive advantages: that justify the costs of research, development and demonstration of the proposed integrated biorefinery technology in order to proceed to commercial scale	
3	0.3	0	0	0	0		The application demonstrates knowledge and experience in project management techniques, methods, and practices and describes how the applicant will use them to successfully manage the project proposed for this FOA.	

General Comments (brief):

Use the pull down lists to select criterion, type, and significance. A criterion and type (strength or weakness) must be designated for each comment below.

Strengths and Weaknesses:

Strengths and Weaknesses:					
<u>Criterion</u>	Type (Strength or Weakness)	Level (Significance)	<u>Comment</u>		
			Even if this system is successful, the extension of this production system is limited to only a few other areas. It can not be widely adopted as there is simply not enough feedstock		
1	Weakness	Significant	concentrated.		
1	Strength	Significant	Excellent use of available feedstock while at the same time minimizing disposal and infrastructure maintenance.		
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Reviewer Instructions for Individual Rating Sheets

These instructions are provided to you to help you use and navigate through the electronic versions of the technical rating sheets.

- 1. SAVE: BEFORE YOU BEGIN Save this workbook to a location on your personal computer or flash drive. If this workbook is on a CD, you will not be able to save your changes back directly to the file so make sure the first thing you do is move the workbook (click 'File' and then 'Save As' and select a location to save the workbook to).
- 2. START: The first sheet you'll see in this workbook is titled 'Start'. When you click this tab, you should see your name listed on the screen. If you do not see your name, call the Merit Review Chairperson for further instructions. You will also see a note stating how many days you have left until your comments are due back to the Chairperson. Please ensure you send your comments back by the date requested so there is ample time to compile comments from all reviewers before the scheduled merit review.
- 3. SELECT APPLICATION: Each of the applications you've been asked to review are listed as individual worksheets in this file. Click on the worksheet that lists the application you want to review. You should see at the top of the page the name of the applicant, project title, and the ID number associated with the application.
- 4. ADD GENERAL COMMENTS: If you have any general comments about the application (i.e., not tied to a specific evaluation criteria), enter them in the 'General Comments' section - Cell D36. Keep these comments brief and specify if these are comments for the merit review Chairperson, Selection Official or ones you would like sent to the applicant. An example of this would be suggestions on writing style that would make the overall application easier to follow.
- 5. ADD STRENGTHS AND WEAKNESSES: To start adding specific comments (strengths and weaknesses), go to cell A40.
- a. Select the relevant criterion using the pull down list under the Criterion menu (column A). In order to view the full evaluation criteria, click on the header. This will link to the worksheet that lists the Merit Review Criteria. (You may want to print this for reference during your review.).
- b. Once you've selected the criteria, select the appropriate comment type (Strength or Weakness) from the Type drop down box (column C) c. Enter the 'level' the strength of weakness (i.e., you're opinion of whether or not this should be considered a Minor or Significant strength or weakness) from the Level drop down box (Column F)
- d. Enter your comment in Column H. Each strength or weakness must relate to the specific criterion. Try to keep each comment to one or two short (but complete) sentences. You can enter as many comments as you would like; however, keeping each individual comment brief will greatly improve the process of reconciling comments from all reviewers. Please keep to one thought or idea per cell.
- e. To enter your next comment, move to the next row and fill in all the cells (criterion, type, level, comment). Please do NOT skip rows.
- f. Note cells will be highlighted yellow if you have not completed all the information necessary for this comment (for example if you enter a comment, but don't specify if it is a strenth or a weakness)
- g. Make sure you've entered comments for each of the criterion so you will be able to determine a rating.
- h. SAVE your work (do this frequently)

Example of completed general and specific comments:

General Comments (brief): Overall this application is poorly written and hard to rate.  Use the pull down lists to select criterion, type, and significance. A criterion and type (strength or weakness) must be designated for each comment below.					
	Strengths and Weaknesses:				
Criterion	Type (Strength or Weakness)	Level (Significance)	Comment		
1	Strength	Minor	The technical approach described is feasible.		
2	Weakness	Significant	The application failed to address the criteria		
3	Strength	Minor	The schedule seems reasonable.		
3	Strength	Significant	The team includes experts in the field.		

- 6. RATE EACH CRITERIA: Once you have entered comments for the criteria you can enter your scores for each critierion in the light blue cells beginning with cell G8. Enter rating (0-10) for each criterion:
- a. For each criterion, a summary of the number of significant and minor strengths and weaknesses entered is displayed (columns C, D, E, and F). This is for your reference to ensure there are adequate comments to support the rating you give each criterion. The rating score for each criterion should be entered into the light blue cells. For each criterion, assign a rating based on the technical rating standards (click the "?" symbol to view the Rating Standards). Use a numeric whole number (no decimals, fractions, or percentages) rating for each criterion. After you enter ratings for each criterion, the weighted score is calculated.
- b. When you have completed reviewing the entire application and have filled in rating scores and strengths and weaknesses you can move on to the next application but before doing so SAVE YOUR WORK.
- 7. RANKING: There are two worksheets in this file that can give you a quick reference to see how you have ranked the applications. These are for your reference

Save your work again when you've completed your review of all applications (save frequently!!). (note: to save, simply, click on 'File' from the menu line at the top of the screen. Click on 'Save' or 'Save as' depending on where you would like to save your work.)

Returning Electronic Files to DOE Designee:

When you have completed sheets for all applications and have saved your comments and ratings, return the file to the DOE designee via email. His or her specific email address should have been provided to you previously. If not, contact the point of contact designated in your Merit Review Member letter.

#### Additional Helpful Hints:

To move between sheets click on the tabs at the bottom of the screen.

To scroll down a sheet or left and right, simply click on the bars located on the far right hand side of the screen and at the bottom of the screen.

To delete a previous comment, simply click on the line containing the comment you wish to delete and push the 'Delete' key on your keyboard.

To edit a comment, click on the line containing the comment you wish to edit. When you do this, you will notice that the text will appear at the top of the screen. With your mouse, move the cursor to the place in the text you would like to edit and make the necessary changes. When finished, hit 'Enter' on your keyboard

If you have any problems with the sheets or entering comments and ratings, please try the 'Help' menu. If unsuccessful there, don't hesitate to call the DOE

designee (the person you are returning these electronic sheets to).

Finally - Thank you for your participation in this merit review and for your willingness and cooperation in using this electronic format to help reduce paper and expedite the overall process.

#### MERIT REVIEWER EVALUATION GUIDELINES

Each member of the Merit Review Committee shall strictly adhere to the following guidelines:

- Evaluators shall not discuss the evaluation process with any unauthorized personnel.
- Evaluators shall not divulge their identities to any Applicant.
- Evaluators shall not contact Applicants.
- Evaluators shall not discuss the Committee proceedings outside of the Merit Review Committee meeting, even after the selection and award.
- Evaluators shall not accept any invitations, gratuities (i.e., meals, gifts, favors, etc.), or job offers from any Applicant. If an evaluator is offered any invitations, gratuities, or job offers by or on behalf of any Applicant, the evaluator shall immediately report it to the Contracting Officer.
- Evaluators shall only evaluate information provided by the Applicants in the Applications and only evaluate against the published criteria. No additional criteria are to be considered by the Committee.
- Evaluators shall individually assess all Applications against the published criteria only and initially rate all Applications independently and without consultation between evaluators.
- Evaluators may contact the Chairperson to obtain clarifications regarding Applications.

#### **GENERAL GUIDANCE**

When filling out the rating sheets, please keep in mind that the strengths and weakness comments are very important. Applicants will never see the final scores determined by the team, but will see the strengths and weaknesses. Please support your score based on the scoring criteria. High scores should have positive comments and few negative comments. Low scores should have lots of negative comments and minimal positive comments. Applicants not selected will only see the comments and will also have the opportunity to be debriefed by DOE. Therefore, it is important that the comments support why they were not selected.

Some additional guidance about reviewer comments:

- 1. Provide specific strengths or weaknesses based on the selection criteria. Keep your comments concise. Lengthy discussions will need to be edited down.
- 2. Evaluate based on the criteria identify strengths and weaknesses for the specific criteria.
- 3. Don't restate what they said in the proposal.
- 4. Keep programmatic factors out of your comments (like how much money DOE may or may not have; past performance, costs share amount, etc.)
- 5. No personal opinions (i.e. I don't know these people and therefore, they can't be good or can't do the job). Please rate them based on their resumes.
- 6. Don't introduce dirt (i.e. company may be ready to file Chapter 11, or the SEC might investigate them).
- 7. We will not contact the applicant to ask for clarification. The proposal has to stand on its own merits.
- 8. Don't introduce things that are not in the proposal that you might know. Don't assume anything about the proposal. The proposal has to stand on its own merits
- 9. Compare scores relative to other proposals you scored and adjust if necessary.

#### SPECIFIC GUIDANCE REGARDING COMMENTS

The purpose of the guidelines listed below is to enable the merit review process to take place more effectively and efficiently. The comments are provided to applicants, and as such, must be clear, concise, and informative. The structure of the comments below is indicative of the type desired for dissemination to applicants and the Selection Official.

#### General Comment Guidelines

- All comments must be given in complete sentences.
- o [CORRECT] "The identification of the proposed technology using non-technical, lay terminology is superior. The Applicant has completely addressed the criteria."
- All comments must be written in the third Person.
- o [INCORRECT] "I find this application difficult to follow."
- o [CORRECT] "The identification of the intended commercialization strategy is unsatisfactory. The Committee was unable to find the commercialization strategy in this Application."
- o [CORRECT] "The calculation of energy use in BTUs for the technology is unsatisfactory. The applicant did not adequately address energy savings or economic benefits in this application."
- Reviewers must spell out all acronyms when used initially in each comment.
- o [INCORRECT] "The development of a TC PVA for windows is a highly innovative technology."
- o [CORRECT] "The innovation of the proposed technology relative to current technologies is good. The development of a thermochromic (TC) plastic film coating for windows is a highly innovative technology."
- Reviewers should be cognizant of the impact of word usage or choice of words.
- o [INCORRECT] "The Applicant is in need of a sober appraisal of the market challenges."
- o [CORRECT] "The discussion of product and/or process the proposed technology will replace is marginal. The Applicant inadequately identified competing products and market challenges."
- Avoid subjective words in comments that may detract from the intent of the comment. Qualifying words such as "probably" and "might" should be avoided.
- o [INCORRECT] "The Applicant probably has the experience to make the project successful."
- o [CORRECT] "The technical and commercialization experience of both the applicant and all key team members is good. The Applicant presents adequate experience to carry out the project management and commercialization plans."
- · Avoid combining two or more thoughts into one comment. Only one idea or thought must be given for each comment.
- o [INCORRECT] "The innovation and energy use of the technology is unsatisfactory.
- o [CORRECT] "The level of innovation and advantage of the technology relative to current technologies is unsatisfactory. The technology is an old technology that has been replaced"
- o [CORRECT] "The level of the total U.S. energy savings in BTUs per year is unsatisfactory. The committee fails to see how this technology will save

energy."

- Reviewer's comment must address the specific criteria. Bullet use for this purpose is encouraged.
- o [CORRECT] "The Applicant's response to the commercialization plan criterion bullet is good. The plan is explained well and indicates a solid understanding of this particular market."
- o [CORRECT] "The adequacy of the commercialization strategy is superior. The Applicant has made good progress in testing the market as demonstrated by the discussions held with the buyers and investors."
- Reviewer's comments must be written in a manner in which a layperson can get a basic understanding.
- o [CORRECT] "The level of innovation of the proposed technology is good. An advantage of this technology is the suitability of plasma enhanced chemical vapor deposition (PECVD) for deposition on certain flexible plastics. The combination of suitability for flexible substrates and potentially low deposition cost make the proposed work innovative.
- Reviewer's comments must be written with the goal of informing the applicant on how to better improve the application. Therefore, all comments must be constructive and professional. Where necessary, reviewer must expound on constructive comments in order to enlighten the applicant of the weakness or strength.
- o [INCORRECT] "This Application is weak."
- o [INCORRECT] "The energy savings are unrealistic."
- o [CORRECT] "The Applicant's response to all Criteria is unsatisfactory. The committee failed to see where the Application addresses any significant Criteria."
- o [CORRECT] "The level of energy savings is unsatisfactory. The energy savings appear unrealistic as the applicant used an unrelated technology as the comparison.
- Correct DOE terminology should be used in all comments.
- o [INCORRECT] "The Proposal submitted did not address the published criteria listed for this RFP."
  o [CORRECT] "The Application submitted by the Applicant to this Funding Opportunity Announcement (FOA) responded completely to the Criteria."

☐ Application not Proposal ☐ Applicant not Proposer

☐ Funding Opportunity Announcement (FOA) not Request for Proposal (RFP) nor Solicitation

Excluded Areas of Review

- Program Policy Factors are not to be addressed by the Merit Review Committee members nor reflected in either the reviewers' scores or comments. o [UNACCEPTABLE] "This Applicant will provide cost share and therefore, should be funded."
- Reviewers' comments must be based on specific evaluation criterion and sound technical analysis; therefore, personal opinions are unacceptable.
- o [INCORRECT] "This Reviewer thinks that the Applicant is capable of performing the work proposed in the Application."
- o [CORRECT] "The adequacy of the key team members is good. Based on the provided Biographical Sketch and Project Management Plan, the Applicant appears technically capable of performing the work proposed in the Application."
- An Application can only be judged on the information presented in the submitted Application. Information known by the Reviewer, not presented in the Application may neither be used to score an application nor to influence the Reviewer's comments.
- o [INCORRECT] "This Applicant's financial status is dependant on an award from another Federal Agency."
- If a Reviewer is aware of information pertaining to a particular Applicant that would impact the selections made by the Selection Official (SO), this information should be captured on a separate report. The Reviewers are encouraged to capture the information in any comment section of an Application. However, the Reviewer must begin the comment with, "SO Info:."
- o [CORRECT] "SO Info: This Applicant has had cost share partners pull out on previous awards.
- The information captured for the Selection Official cannot be used to influence the score or other comments. Limited discussion will be permitted at the Consensus Review.

General Review Guidelines

- Each Criterion has equally weighted sub-criteria. Applicants are expected to address each sub-criterion. Reviewers must base their assessment on this knowledge. Therefore, if an applicant did not address all of the sub-criteria, the reviewer's score and comment must reflect the omission. Please refer to the Funding Opportunity Announcement and the Evaluation Plan for the Criteria on which the applications must be reviewed.
- o [CORRECT] "Roles, Responsibilities, and Capabilities" is marginal. The applicant failed to address this criterion. This is a major weakness."
- Comments must be written in a technically sound manner, addressing specific sub-criterion and in a manner that will assist the Applicant in writing
- o [CORRECT] "The Applicant satisfactorily addresses the current state-of-the-art technology energy use as compared to the proposed technology innovation as directed by the fifth sub-criterion of this criterion."
- The score must correlate with the strengths and weaknesses.
- o If the criterion is rated a Superior (9-10). There must be enough strengths to justify the score. No weaknesses are acceptable as defined in the Technical Rating Standards.
- o If the criterion is rated a Good (7 8). There must be enough strengths to justify the score; however a minor weakness(s) is expected. This weakness would indicate why the criterion did not rate a Superior.
- o If the criterion is rated a Satisfactory (5-6). There must be enough strengths and weaknesses to justify the score. The weaknesses would indicate the "few, but correctable" weaknesses as indicated in the Technical Rating Standards.
- o If the criterion is rated a Marginal (3-4). There must be enough weaknesses to justify the score. There may or may not be a strength.
- o If the criterion is rated an Unsatisfactory (1-2). There must be enough weaknesses to justify the score. No strengths are acceptable as defined in the Technical Rating Standards.
- The meaning of comments (major or minor) must relate to specific explanation and criterion/sub-criterion sub-criterion.
- o "The Applicant has partnered with the main distributor of the current state-of-the-art technology. This is a major strength."
- o "The lack of specificity in the Manufacturing Plan is a weakness; however, this technology is still in the early stages of development, so this is a minor weakness.'

Appropriate Comments and Location

- Ensure that comments are placed in the correct location: strengths or weaknesses under the appropriate Criteria. Comments must be written in a manner that the intent and meaning of the criterion are clear.
- Comments which include elements of both strengths and weaknesses are not acceptable. Reviewers should be careful with words like "but" to ensure that a comment is either a strength or a weakness, not both.

o [INCORRECT]

□"The proposed technology is very innovative, but the Applicant does not appear to have the personnel to complete the proposed work." o [CORRECT]

☐ (Strength) "The level of innovation of the proposed technology is superior. The proposed technology is very innovative."
☐ (Weakness) "The adequacy of the key team members is marginal. The Applicant does not appear to have the personnel to complete the proposed
work."
Ensure that the strengths and weaknesses of individual Criterion do not conflict.
o [INCORRECT]
☐ (Strength) "Based on the Project Management Plan, the Applicant has the resources available to complete the proposed work."
☐ (Weakness) "The Applicant does not appear to have the technical personnel to successfully complete the proposed work."
o [CORRECT]
☐ (Strength) "Based on the Project Management Plan, the Applicant has the financial and equipment resources to complete the proposed work."
☐ (Weakness) "The Applicant does not appear to have the technical personnel to complete the proposed work."
• Comments must relate directly to the sub-criteria listed under each Criterion. Reviewers may use part of their sub-criteria evaluation in their comment
or may refer to the sub-criteria by rank order within a Criterion.
o [INCORRECT] "The technology reduces chemical usage."
o [CORRECT] "The magnitude of environmental benefits is good based on the reduced chemical usage of this technology."

- Reviewers must ensure that the comments are directly related to the appropriate Criteria being reviewed.
- Reviewers must avoid combining Criteria comments.
- The comments provided by the reviewer should be based on and use the language of the Technical Rating Scale (found in the Evaluation Plan). A judgment, i.e. superior, good, satisfactory, marginal, unsatisfactory, must be provided as well as the justification to support the judgment. o [INCORRECT] "The proposed technology is new and innovative.
  o [CORRECT] "The level of innovation and viability of this technology over current technologies is superior. The applicant's innovation is a novel idea
- with the potential to save 30% a year in energy over the current technology."

Thank you for participating in the Merit Review Committee process. Please feel free to contact the Merit Review Chairperson with any questions about the guidance provided above or the review process.

#### A. CRITERIA

#### 1. Initial Review Criteria.

Prior to a comprehensive merit evaluation, DOE will perform an initial review to determine that (1) the applicant is eligible for required by the announcement has been submitted; (3) all mandatory requirements are satisfied; and (4) the proposed project the funding opportunity announcement.

### 2. Merit Review Criteria.

The following criteria will to be used to evaluate Applications:

Criterion 1: Weight: [%]

Criterion 2: Weight: [%]

Criterion 3: Weight: [%]

Criterion 4: Weight: [%]

3. Other Selection Factors.

The selection official may consider the following program policy factors in the selection process:

an award; (2) the information ct is responsive to the objectives of

### **TECHNICAL RATING STANDARDS**

The Committee shall only evaluate an Application by comparing submitted information against the Evaluation Criteria. For each Application, a written narrative listing of the strengths and weaknesses must accompany the numerical point value assigned to each criterion. The Committee shall only assign a whole-number consensus point value to each Evaluation Criterion, using the 0 to 10-point scale shown below.

For purposes of the technical evaluation, a <u>minor strength</u> is an aspect of an Application that, when compared to a stated evaluation criterion, gives some level of confidence that the applicant can perform the criterion. A <u>significant strength</u> leaves little or no doubt regarding the applicant's capability to perform the criterion. A <u>minor weakness</u> is an aspect of an Application that, when compared to a stated evaluation criterion, raises some doubt regarding the applicant's ability to satisfy the criterion, but it can be easily corrected. A <u>significant weakness</u> leaves substantial doubt regarding the applicant's ability to satisfy the criterion and cannot be corrected without revising the Application. Several minor weaknesses within a criterion may be considered a significant weakness.

Rating	Score	Scoring Definitions
	10	All aspects of the criterion are comprehensively addressed. The application has significant strengths, <b>no notable weaknesses</b> , and leaves no doubt regarding the applicant's capability to perform.
Superior	9	All aspects of the criterion are comprehensively addressed. The application has significant strengths and no more than a few minor weaknesses that are easily correctable, where the number and level of significance of the strengths far outweigh those aspects of the weaknesses. The application leaves no doubt regarding the applicant's capability to perform.
Good	8	All aspects of the criterion are addressed. The application has strengths and no more than a few minor weaknesses that are easily correctable, where <b>the number and level of significance of the strengths outweigh those aspects of the weaknesses.</b> The application demonstrates the applicant's capability to perform.
	7	All aspects of the criterion are addressed. The application has <b>minor strengths only</b> and may contain several minor weaknesses that are correctable. The application leaves little doubt regarding the applicant's capability to perform.
	6	All aspects of the criterion are addressed to some degree. The application has several minor weaknesses that are correctable, but no significant weaknesses. The number and level of significance of the strengths slightly outweigh those
Satisfactory	5	aspects of the weaknesses. Scoring within the Satisfactory rating depends on the relative degree to which the strengths outweigh the weaknesses or vice versa. The application demonstrates a reasonable likelihood of the applicant's capability to perform.
	4	Some aspects of the criterion are not adequately addressed. The application has many minor weaknesses and possibly one or more significant weaknesses, where the number and level of significance of the weaknesses outweigh those
Marginal	3	aspects of the strengths. Scoring within the Marginal rating depends on the relative degree to which the weaknesses outweigh the strengths. The application leaves doubt regarding the applicant's capability to perform.
Unsatisfactory	2	Most aspects of the criterion are not adequately addressed. The application has several significant weaknesses, and correcting these weaknesses would require a
	1	major revision to the application. The application fails to demonstrate the applicant's capability to perform.
Deficient	0	The application is non-responsive with regard to the criterion or does not address the criterion at all.

## **Recovery Act - Demonstration of Integrated Biorefinery Operations**

Merit Review Individual Ratings and Strengths and Weaknesses

Bill Rooney\_week 1

-225 Day(s) left to finish reviewing and return this file to DOE.

This sheet shows your relative ranking of applications by score.

To change the score, go to the application's worksheet and change the ratings for each criterion.

			# of Stre
Application ID	Applicant	Title	Significant
	Denali Bio-Diesel, Inc.	Integrated Biorefinery using Dish Waste Feedstock	1
EMAIL_SAN FRAN	San Francisco Public Utilities Commission	Waste Multi-Feedstock Collection, Biodiesel Production and Fleet Integration	1
	Cool Clean Technologies	Ag to Algae Integrated Biorefinery	0

ngths	# of Weak		
Minor	Significant	Minor	Score
0	1	0	605
0	2	2	595
2	2	2	530

Score (out of 1000): 595 Application No.: EMAIL\_SAN FRAN

Project Title: Applicant: Waste Multi-Feedstock Collection, Biodiesel Production and Fleet Integration

San Francisco Public Utilities Commission

Topic: 5: Topic Area 5

Criterion		# of Stren	gths	# of Weak	nesses	Rating	
No.	Weight	Significant	Minor	Significant	Minor	(0-10)	Criterion Title
							The application demonstrates the technical merit and rationale for the □
1	0.35	1	0	2	1	6	proposed project.
2	0.35	0	0	0	1		The applicant demonstrates credible economics and competitive advantages that justify the costs of research, development and demonstration of the proposed integrated biorefinery technology in order to proceed to commercial scale
3	0.3	0	0	0	0		The application demonstrates knowledge and experience in project management techniques, methods, and practices and describes how the applicant will use them to successfully manage the project proposed for this FOA.

General Comments (brief):

Use the pull down lists to select criterion, type, and significance. A criterion and type (strength or weakness) must be designated for each comment below.

Strengths and Weak	nesses:	, ,,,	
2	Type (Strength or		0
<u>Criterion</u>	Weakness)	Level (Significance)	<u>Comment</u>
_			Excellent use of available feedstock while at the same time minimizing disposal and
1	Strength	Significant	infrastructure maintenance.
			Even if this system is successful, the extension of this production system is limited to only a
4	10/	Cinnificant	few other areas. It can not be widely adopted as there is simply not enough feedstock
1	Weakness	Significant	concentrated.
		0	It is a poor assumption that someone will come forward as an algal supplier for a full 40% of
1	Weakness	Significant	the capacity of this plant simply because there is \$600K to research the topic.
1	Weakness	Minor	What is the benefit of scaling from 300 to only 500?
_		l	There is an assumption that these waste fats/oils will continue to be freely available. That is
2	Weakness	Minor	not always the situation.
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Application No.: Score (out of 1000): 530

Project Title: Ag to Algae Integrated Biorefinery
Applicant: Cool Clean Technologies
Topic: 5: Topic Area 5

Criterion		# of Stren	gths	# of Weaknesses		Rating	
No.	Weight	Significant	Minor	Significant	Minor	(0-10)	Criterion Title
							The application demonstrates the technical merit and rationale for the□
1	0.35	0	1	0	0	6	proposed project.
2	0.35	0	0	2	1		The applicant demonstrates credible economics and competitive advantages□ that justify the costs of research, development and demonstration of the proposed integrated biorefinery technology in order to proceed to commercial scale
3	0.3	0	1	0	1		The application demonstrates knowledge and experience in project management techniques, methods, and practices and describes how the applicant will use them to successfully manage the project proposed for this FOA.

General Comments (brief): While I like the scale up potential of a renewable feedstock such as camelina and the potential to use new technology to make biodiese Use the pull down lists to select criterion, type, and significance. A criterion and type (strength or weakness) must be designated for each comment below.

Strengths and Weaknesses:					
Outrades	Type (Strength or		Commont		
<u>Criterion</u>	Weakness)	Level (Significance)	Comment		
	0, 1		Assembled team makes a competent argument for using their patented milling process for		
1	Strength	Minor	more efficient oil extraction and tailor produce feed meal.		
			The projected numbers for camelina and pennycress are way out of line with reality.		
_			Furthermore, there is little to no evidence (either cited or present) to support claims of		
2	Weakness	Significant	logical fit within an existing corn/soybean rotation.		
			The feedstock production is not colocated with targeted production areas for Camelina,		
			which are typically in Montana and North Dakota. While that may not be large, it does affect		
2	Weakness	Minor	transportation costs.		
			Algae is prominently mentioned as a feedstock, with primary plans to develop a pilot plant		
			stream based on algal oil production. However, no obvious commercial partners are in		
2	Weakness	Significant	place to document this.		
3	Strength	Minor	Diverse team to address engineering issues is assembled.		
			Absence of crop production specialist in the team. The camelina and pennycress are to be		
3	Weakness	Minor	supplied, but expertise of specialists is not defined.		
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# **Application Scores**

