

# Proposal Reviews

## **#67: Adding Rigor to the CALFED Concept of Adaptive Management: Application of the Clear Creek Decision Analysis and Adaptive Management Model (CCDAM) to Tributary Restoration. Phase III.**

ESSA Technologies Ltd.

**Final Selection Panel Review**

**Initial Selection Panel Review**

**Research and Restoration Technical Panel Review**

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**External Scientific Review** #1  
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**Environmental Compliance**

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# Final Selection Panel Review:

## CALFED Bay-Delta 2002 ERP PSP Final Selection Panel Review

**Proposal Number:** 67

**Applicant Organization:** ESSA Technologies Ltd.

**Proposal Title:** Adding Rigor to the CALFED Concept of Adaptive Management: Application of the Clear Creek Decision Analysis and Adaptive Management Model (CCDAM) to Tributary Restoration. Phase III.

Please provide an overall evaluation rating.

<b>Fund</b>	
As Is	-
In Part	-
With Conditions	-
Consider as Directed Action	-
Not Recommended	X

Amount: \$0

Conditions, if any, of approval (if there are no conditions, please put "None"):

None.

Provide a brief explanation of your rating:

**The comments from the applicant suggest usefulness of the developing model and support for it from potential users. The Selection Panel cannot ascertain either, having seen neither clearly demonstrated applications of the model nor products from the project's prior phase that are clearly useful to Bay-Delta restoration planners. Both would be absolutely necessary in the current competitive funding environment. Given the previous involvement by the ERP in this effort, the Selection Panel recommends that the applicant meet with the managers of their current ERP contract to discuss ways to demonstrate usefulness of the current work before attempting to extend their model's use to more complex issues.**

## Initial Selection Panel Review:

### CALFED Bay-Delta 2002 ERP PSP Initial Selection Panel Review

**Proposal Number:** 67

**Applicant Organization:** ESSA Technologies Ltd.

**Proposal Title:** Adding Rigor to the CALFED Concept of Adaptive Management: Application of the Clear Creek Decision Analysis and Adaptive Management Model (CCDAM) to Tributary Restoration. Phase III.

Please provide an overall evaluation rating.

#### Explanation of Recommendation Categories: Fund

- **As Is** (a proposal recommended for funding as proposed)
- **In Part** (a proposal for which partial funding is recommended for selected project phases or components)
- **With Conditions** (a proposal for which funds are recommended if the applicant contractually agrees to meet the specified conditions)

**Consider as Directed Action in Annual Workplan** (a proposal addressing a high priority action that requires some revision followed by additional review prior to being recommended for funding)

**Not Recommended** (a proposal not currently recommended for funding-after revision may be considered in the future)

#### Note on "Amount":

For proposals recommended as Fund As Is, Fund In Part or Fund With Conditions, the dollar amount is the amount recommended by the Selection Panel.

For proposals recommended as Consider as Directed Action in Annual Workplan, the dollar amount is the amount requested by the applicant(s).

Fund	
As Is	-
In Part	-
With Conditions	-
Consider as Directed Action	-
Not Recommended	X

Amount: \$0

Conditions, if any, of approval (if there are no conditions, please put "None"):

**None.**

Provide a brief explanation of your rating:

**This proposal is for a sophisticated modelling effort and associated activities that promise to identify most promising flow options (MFPO) for Whiskeytown Dam and presses many of the right adaptive management buttons. While external scientific reviews are quite positive, the regional review is less so. The concern that this proposal is salmon-centric is well taken. It is not completely clear from the proposal how previous products from early project phases are being used. The Selection Panel recommends not funding this proposal. The panel suggests that any future resubmission should articulate the current relationships between the applicant and the agencies that are responsible for managing Clear Creek's natural resources and might use these products.**

# Research and Restoration Technical Panel Review:

## CALFED Bay-Delta 2002 ERP PSP Research and Restoration Technical Panel Review Form

**Proposal Number:** 67

**Applicant Organization:** ESSA Technologies Ltd.

**Proposal Title:** Adding Rigor to the CALFED Concept of Adaptive Management: Application of the Clear Creek Decision Analysis and Adaptive Management Model (CCDAM) to Tributary Restoration. Phase III.

**Review:**

**Please provide an overall evaluation summary rating:**

**Superior:** outstanding in all respects;

**Above Average:** Quality proposal, medium or high regional value, and no significant administrative concerns;

**Adequate:** No serious deficiencies, no significant regional impediments, and no significant administrative concerns;

**Not Recommended:** Serious deficiencies, significant regional impediments or significant administrative concerns.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
-Superior	<b>The team proposes to develop a model that has the potential to be very useful in adaptive management and development of most probable flow options for a reservoir. Although the regional review was concerned that the proposal was premature, it seems likely that completing model development will take a while and would then be ready when decision-makers are likely to need it. Stakeholder involvement is a clear strength of the proposal, which is well documented and fits well with CALFED priorities and emphasis on adaptive management.</b>
XAbove average	
-Adequate	
-Not recommended	

1. **Goals and Justification.** Does the proposal present a clear statement of goals, objectives and hypotheses? Does the proposal present a clear justification and conceptual model for the project?

**The goal of this project is to use a decision analysis model to identify most promising flow options for ecosystem restoration. The concept is timely because much work is needed to make adaptive management a workable paradigm for multi-purpose reservoir systems. This project has the potential to build effective interfaces between ecological sciences and engineering systems, which are needed. Some concern was raised as to the lack of detail in model structure and results from earlier phases of the research.**

2. **Likelihood of Success (Approach, Feasibility, Capabilities and Performance Measures).** Is the project likely to succeed based on the approach, feasibility and project team capabilities? Are the proposed performance measures adequate for measuring the project's success?

**Although the approach seems well conceived, it is difficult to predict feasibility given the lack of detail provided on structural aspects of the model. Considerable emphasis is given to early life history stages of salmonids, but the integration into full life-cycle dynamics is not explained. Little information on how reservoir operation variables will be linked with habitat quality. Little information is provided on how the model deals with riparian ecosystems and how these systems would be sampled. Reasonable performance measures have been established. The investigators have the capabilities to carry out the research, although questions were raised on their familiarity with reservoir operation models and with fish population modeling.**

3. **Outcomes and Products.** Will the project advance the state of scientific knowledge in general and/or make an important contribution to the state of knowledge of the Bay-Delta Watershed? For restoration proposals, is the project likely to contribute to ecosystem restoration or species recoveries in a significant way? Will the project produce products useful to decision-makers and scientists?

**Given the immature state of adaptive management, the project has the potential to produce a product useful to decision-makers. The regional review (see below) thought this project was premature and would be more useful in 2-3 years. The panel reasoned that it may take 2 years before the model would be in a form useful to decision-makers, so the project does not seem premature.**

4. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

**The budget seems reasonable and adequate.**

5. **Regional Review.** How did the regional panel(s) rank the proposal (High, Medium, Low)? Did the regional panel(s) identify significant benefits (regional priorities, linkages with other activities, local involvement) or impediments (local constraints, conflicts with other activities, lack of local involvement) to this proposal? What were they?

**Rated as low. Viewed project as feasible, meeting restoration priorities applicable to region, linked with other projects, and locals are involved. However, it was ranked low because the project seems premature. The restoration is new. These type of decision analysis models are helpful when dealing with stakeholders although there was concern that the model is academic/esoteric. Model could be useful in a couple years, so would consider funding in 2-3 years.**

6. **Administrative Review.** Were there significant concerns about the proposal with regard to the prior performance, environmental compliance and budget administrative reviews? What were they?

**The field component will require NEPA/CEPA compliance; this is not recognized in proposal and no time is budgeted for this. This does not impair project feasibility; they just need to describe permits required; they may work with already permitted projects and hence additional permits will not be needed. Budget all OK. No prior performance review.**

**Miscellaneous comments:**

**None**

## Sacramento Regional Review:

**Proposal Number:** 67

**Applicant Organization:** ESSA Technologies Ltd.

**Proposal Title:** Adding Rigor to the CALFED Concept of Adaptive Management: Application of the Clear Creek Decision Analysis and Adaptive Management Model (CCDAM) to Tributary Restoration. Phase III.

Overall Ranking: Low -Medium -High

Provide a brief summary explanation of the committee's ranking:

**This modeling project did not rate as high as some other projects that would provide more immediate benefits toward CVPIA/CALFED goals. Although the value of modeling is recognized, the value of this proposal for funding at this time, did not stand out.**

1. Is the project feasible based on local constraints?

Yes -No

How?

**This project is Phase III of a long term project. It is a modeling project, so it is "feasible". A few of the reviewers commented that the need to get this modeling done is low, although another reviewer commented that as far as decision analysis goes, this project would be at least a medium in terms of its regional perspective. These decision analysis models can be helpful when dealing with stakeholders.**

2. Does the project pursue the restoration priorities applicable to the region as outlined in the PSP?

Yes -No

How?

**Yes, the ERP restoration priorities are described in section B -1 (page 14) and Table C.5 (Attachment C, page C-7) of the proposal. In terms of CVPIA priorities, the proponent states that the CCDAM model will provide an overall integration of key system linkages for comparing the relative effectiveness of different flow related restoration strategies.**

3. Is the project adequately linked with other restoration activities in the region, such as ongoing implementation projects and regional planning efforts?

Yes -No

How?

**Yes, somewhat. The reviewers had concerns that the time may not be "ripe" for this project yet. The whole restoration effort on Clear Creek is so "new" that this type of modeling may be more appropriate in 2-3 years than it is now.**

4. Does the project adequately involve local people and institutions?

**X**Yes -No

How?

**This type of modeling project will lead to a product that needs to be accepted throughout the region. The information will need to be transferable to other streams. Some reviewers were concerned about the academic/esoteric aspects of this modeling project. It was also noted that the DFG level of involvement is lower than reflected in the proposal.**

Other Comments:

**This proposal/project may best be funded in 2-3 years.**



# External Scientific: #1

## Research and Restoration External Scientific Review Form

Proposal Number: **67**

Applicant Organization: **ESSA Technologies Ltd.**

Proposal Title: **Adding Rigor to the CALFED Concept of Adaptive Management: Application of the Clear Creek Decision Analysis and Adaptive Management Model (CCDAM) to Tributary Restoration. Phase III.**

### Conflict of Interest Statements:

I have no financial interest in this proposal.

Correct

Incorrect

In the blank below please explain any connection to proposal, to applicant, co-applicant or subcontractor or to submitting institution (write "none" if no connection):

**none**

### Review:

**Please provide an overall evaluation summary rating:**

**Excellent: outstanding in all respects;**

**Good: quality but some deficiencies;**

**Poor: serious deficiencies.**

<b>Overall Evaluation Summary Rating</b>	<b>Provide a brief explanation of your summary rating</b>
<input checked="" type="checkbox"/> Excellent	<b>This could be a "flagship" example of adaptive management in CALFED. It provides an excellent example of how adaptive management can be done and the benefits that come from doing it well.</b>
<input type="checkbox"/> Good	
<input type="checkbox"/> Poor	

1. **Goals.** Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the concept timely and important?

**The goal of this project is to use a state of the art model to identify the most promising flow options for ecosystem restoration. Modeling and stakeholder interactions would be used to explore consequences of different operation schedules for Whiskeytown Reservoir. This is an exemplary application of the adaptive management paradigm and seems central to the approach that CALFED is taking.**

2. **Justification.** Is the study justified relative to existing knowledge? Is a conceptual model clearly stated in the proposal and does it explain the underlying basis for the proposed work? Is the selection of research, pilot or demonstration project, or a full-scale implementation project

justified?

**The proposed research builds on an existing model that has already had some stakeholder feedback. Research is proposed to fill holes that have been identified in the existing model. This is the next logical step in the process of experimenting with altered release schedules from this reservoir.**

3. **Approach.** Is the approach well designed and appropriate for meeting the objectives of the project? Are results likely to add to the base of knowledge? Is the project likely to generate novel information, methodology or approaches? Will the information ultimately be useful to decision-makers?

**In general, the approach has been well conceived. The information will be directly usable by decision-makers in part because they are involved in developing the model so that it answers the questions and deals with the situations of interest to them. There is a thoughtful discussion of how to sample to reduce uncertainty. I wonder if it is possible to think beyond salmon to other ecosystem services provided by the river (e.g. nutrient removal) and incorporate them into the model. The water quality component of the model does not seem to be particularly well developed. This project will benefit from funding of proposal #227 on fish and macroinvertebrate indicators of ecosystem health in this river. One aspect of the proposal is poorly developed and that is what is planned for riparian sampling. Will sediment deposition and seedling transport be assessed? In addition, it is not at all clear how riparian ecosystems are handled in the model.**

4. **Feasibility.** Is the approach fully documented and technically feasible? What is the likelihood of success? Is the scale of the project consistent with the objectives?

**Some thought needs to be given to developing the field monitoring program earlier. The team is likely to need a couple years of "before" data; hence it is critical that these sampling programs are in place before alternative flow regimes are implemented. Clearly all sampling needs cannot be anticipated until model output is evaluated, but certainly there are some things you are fairly certain will need to be followed after flow alteration. It would be very useful to begin this monitoring program sooner rather than later.**

5. **Project-Specific Performance Measures.** Does the project include appropriate performance measures to measure success relative to the project's goals and objectives? Is there enough detail as to how the performance measures will be quantified? For restoration projects, are monitoring plans explicit and detailed enough to determine if performance measures will be adequately assessed?

**The proposal provides a clear timeline with a list of deliverables each year.**

6. **Products.** Are products of value likely from the project? Specifically for restoration projects, are products of value also likely from the monitoring component? Are interpretative outcomes likely from the project?

**The model and proposed flow alternatives seem to me to be a very valuable product that will result from this research.**

7. **Capabilities.** What is the track record of applicants in terms of past projects? Is the project team qualified to efficiently and effectively implement the proposed project? Do they have available the infrastructure and other aspects of support necessary to accomplish the project?

**The group has an excellent track record with the expertise to carry out the project. My only concern is whether there is adequate riparian expertise on the team. No information is given on the person responsible for the riparian part, and that is an important component of the project. As mentioned above, little is said about how the riparian ecosystems are handled in the model or how they will be sampled. One wonders if the riparian expert is really going to be able to contribute to the project if there was so little input into proposal preparation (at least that is how it appears).**

8. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

**It seems cost effective. It is the next logical step in an on-going project.**

**Miscellaneous comments:**

## External Scientific: #2

### Research and Restoration External Scientific Review Form

Proposal Number: 67

Applicant Organization: ESSA Technologies Ltd.

Proposal Title: **Adding Rigor to the CALFED Concept of Adaptive Management: Application of the Clear Creek Decision Analysis and Adaptive Management Model (CCDAM) to Tributary Restoration. Phase III.**

#### Conflict of Interest Statements:

I have no financial interest in this proposal.

XCorrect

-Incorrect

In the blank below please explain any connection to proposal, to applicant, co-applicant or subcontractor or to submitting institution (write "none" if no connection):

none

#### Review:

Please provide an overall evaluation summary rating:

**Excellent:** outstanding in all respects;

**Good:** quality but some deficiencies;

**Poor:** serious deficiencies.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
-Excellent	The lack of modeling details here and the absence of products from the first two years is a concern. Looking at this proposal alone, I would rate it somewhere between Poor and Good, but I would also defer to the CalFed project monitor to evaluate performance. If there have been extenuating circumstances that delayed the project or changed the direction of restoration options (e.g., dam removal), then I would fund the third year.
XGood	
-Poor	

1. **Goals.** Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the concept timely and important?

Yes, goals, etc., are well covered, although they are all at a fairly general level of description. The concept is timely, because much work is needed to make adaptive management (AM) a workable paradigm for multi-purpose reservoir systems. Building effective interfaces between ecological sciences and engineering/power systems is especially needed -- this project has the potential to do that.

2. **Justification.** Is the study justified relative to existing knowledge? Is a conceptual model clearly stated in the proposal and does it explain the underlying basis for the proposed work? Is the selection of research, pilot or demonstration project, or a full-scale implementation project justified?

**Yes, the proposed study is justified, based on the immature state of AM. The 3-phased approach is acceptable here, but it is disappointing that there are no real results shown here. It seems reasonable that the proposal for the third year could have presented more quantitative results from model development and application and fine-tuned the Year 3 plans accordingly.**

3. **Approach.** Is the approach well designed and appropriate for meeting the objectives of the project? Are results likely to add to the base of knowledge? Is the project likely to generate novel information, methodology or approaches? Will the information ultimately be useful to decision-makers?

**It is very difficult to evaluate this aspect of the proposal, because too many details are lacking. Structural aspects of the model should be clear by now, such as time step(s), analytical interfaces between decision variables and other state variables, methods to evaluate long-term benefits and tradeoffs among competing water uses. The emphasis on spawning habitat and sediment dynamics seem to be focused on early life stages of salmonids, but no where is it explained how that information will be integrated into full life-cycle dynamics or how reservoir operation variables will be linked to habitat quality. Too much is left to the imagination. Without these types of detail, it is not possible to predict whether the end products will be useful.**

4. **Feasibility.** Is the approach fully documented and technically feasible? What is the likelihood of success? Is the scale of the project consistent with the objectives?

**No, the modeling approach is not adequately described here, especially for this stage of the project. Some important statements are made early in the proposal about statistical power, but no details or results are presented. Multi-purpose reservoirs usually involve tradeoffs among competing water users, especially in reservoir systems as large as the CVPIA. The operation of Whiskeytown Dam will be constrained by external factors, but how those constraints will be addressed is not explained. The interface between water operators and biologists is critical, but not explained. These short-comings in the proposal, especially at this stage, is disappointing.**

5. **Project-Specific Performance Measures.** Does the project include appropriate performance measures to measure success relative to the project's goals and objectives? Is there enough detail as to how the performance measures will be quantified? For restoration projects, are monitoring plans explicit and detailed enough to determine if performance measures will be adequately assessed?

**There are good sets of performance measures and products described in Tables C.3 and C.4, but there should be more evidence of successful completion of these given that two years have been completed. For example, it would be reasonable to expect to see specific examples of the Most Promising Flow Option(s) (MPFO) presented in this third-year proposal, to show interim results and the level-of-detail in model outputs -- there no sign of such results. Similarly, if CalFed presentations and publications were produced in the first or second years, they should be cited here but are not.**

6. **Products.** Are products of value likely from the project? Specifically for restoration projects, are products of value also likely from the monitoring component? Are interpretative outcomes likely from the project?

**The products should be useful if completed as planned. They should guide not just this project, but others as well. However, it would have been useful to see some products referred to in more detail in this third-year proposal.**

7. **Capabilities.** What is the track record of applicants in terms of past projects? Is the project team qualified to efficiently and effectively implement the proposed project? Do they have available the infrastructure and other aspects of support necessary to accomplish the project?

**The principal scientists here have good experience and a record of success. Potential weaknesses include development and application of reservoir operations models and population dynamics, but the seriousness of those weaknesses depends on the modeling approach to be used.**

8. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

**The total cost for this work seems high for what is primarily a modeling project. Assuming we are entering the third year, 82% of cost seems to have been expended without much apparent productivity.**

**Miscellaneous comments:**

# External Scientific: #3

## Research and Restoration External Scientific Review Form

Proposal Number: 67

Applicant Organization: ESSA Technologies Ltd.

Proposal Title: **Adding Rigor to the CALFED Concept of Adaptive Management: Application of the Clear Creek Decision Analysis and Adaptive Management Model (CCDAM) to Tributary Restoration. Phase III.**

### Conflict of Interest Statements:

I have no financial interest in this proposal.

Correct

Incorrect

In the blank below please explain any connection to proposal, to applicant, co-applicant or subcontractor or to submitting institution (write "none" if no connection):

None

### Review:

Please provide an overall evaluation summary rating:

**Excellent: outstanding in all respects;**

**Good: quality but some deficiencies;**

**Poor: serious deficiencies.**

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
<input checked="" type="checkbox"/> Excellent	<b>This is a welldocumented proposal that directly fits the CalFed needs.</b>
<input type="checkbox"/> -Good	
<input type="checkbox"/> -Poor	

1. **Goals.** Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the concept timely and important?

**The goals and objectives are clearly stated and build upon previous development of a prototype decision support model for Adaptive Management application by CalFed in evaluating alternative reservoir release schedules from Whiskeytown Reservoir. Excellent presentation of hypothesis comparisons through simulations, field testing of most uncertain relations and timely input to the decision process.**

2. **Justification.** Is the study justified relative to existing knowledge? Is a conceptual model clearly stated in the proposal and does it explain the underlying basis for the proposed work? Is the selection of research, pilot or demonstration project, or a full-scale implementation project justified?

**The project justification is well documented and a prototype conceptual model exists in the form of a computer simulation model supported by the local stakeholders. Initial field research targeted toward testing uncertain relations (hypotheses) presently represented by professional judgment and literature values.**

3. **Approach.** Is the approach well designed and appropriate for meeting the objectives of the project? Are results likely to add to the base of knowledge? Is the project likely to generate novel information, methodology or approaches? Will the information ultimately be useful to decision-makers?

**This is a well thought out approach which has already built in stakeholder, decision-maker and outside scientific review to assure improved basic knowledge and important information for decision-making.**

4. **Feasibility.** Is the approach fully documented and technically feasible? What is the likelihood of success? Is the scale of the project consistent with the objectives?

**Based on the previous work in developing the prototype and the well laid out proposal this project appears very feasible and promises a high degree of success.**

5. **Project-Specific Performance Measures.** Does the project include appropriate performance measures to measure success relative to the project's goals and objectives? Is there enough detail as to how the performance measures will be quantified? For restoration projects, are monitoring plans explicit and detailed enough to determine if performance measures will be adequately assessed?

**Performance measures for each of the three years are well documented and tied to stated goals and objectives. In addition to designed field studies to test existing model relations (or replace) the proposal will identify additional field or laboratory studies for the second or third years for continual improvement and acceptance of the model.**

6. **Products.** Are products of value likely from the project? Specifically for restoration projects, are products of value also likely from the monitoring component? Are interpretative outcomes likely from the project?

**The strength of this proposal is its attention to the alternative restoration efforts and monitoring to improve understanding and efficiency of the simulations of trade offs. Interpretive outputs are assured through facilitated workshops with local experts and decision-makers.**

7. **Capabilities.** What is the track record of applicants in terms of past projects? Is the project team qualified to efficiently and effectively implement the proposed project? Do they have available the infrastructure and other aspects of support necessary to accomplish the project?

**The investigators have a good track record and the proposal is a third phase effort that appears well supported by CalFed stakeholders.**

8. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

**Costs appear reasonable. However, they are somewhat dependent upon future field studies that may become necessary after year one.**



**Miscellaneous comments:**

**None**

## Environmental Compliance:

**Proposal Number:** 67

**Applicant Organization:** ESSA Technologies Ltd.

**Proposal Title:** Adding Rigor to the CALFED Concept of Adaptive Management: Application of the Clear Creek Decision Analysis and Adaptive Management Model (CCDAM) to Tributary Restoration. Phase III.

1. Are the legal or regulatory issues that affect the proposal identified adequately in the proposal?

-Yes XNo

If no, please explain:

**Majority of this project is modeling however, the field component will require several permits. On the environmental compliance checklist, the applicant states they will obtain any required permits for fieldwork but did not list them out.**

**Here's what is needed: \*NEPA and CEQA compliance, most likely in the form of a Negative Declaration and EA/FONSI. \*Scientific Collecting Permit \*1603 Agreement \*State Lands Commission Land Use Lease \*401 Certification \*Section 404 Permit \*Section 7 consultation**

2. Does the project's timeline and budget reflect adequate planning to address legal and regulatory issues that affect the proposal?

-Yes XNo

If no, please explain:

**No timeline or budget for permits is specified because most of the project is modeling.**

**The field component of this project will require several permits and NEPA/CEQA compliance which will be time consuming to obtain and will require fee payment.**

3. Do the legal and regulatory issues that affect the proposal significantly impair the project's feasibility?

-Yes XNo

If yes, please explain:

**The applicant needed to describe the permits they would be pursuing for field work, it was an oversight. They have also stated that they may work closely with other projects that are permitted already.**

Other Comments:

## **Budget:**

**Proposal Number:** 67

**Applicant Organization:** ESSA Technologies Ltd.

**Proposal Title:** Adding Rigor to the CALFED Concept of Adaptive Management: Application of the Clear Creek Decision Analysis and Adaptive Management Model (CCDAM) to Tributary Restoration. Phase III.

1. Does the proposal include a detailed budget for each year of requested support?

Yes -No

If no, please explain:

2. Does the proposal include a detailed budget for each task identified?

Yes -No

If no, please explain:

3. Does the proposal clearly state the type of expenses encompassed in indirect rates or overhead costs?

Yes -No

If no, please explain:

4. Are appropriate project management costs clearly identified?

Yes -No

If no, please explain:

5. Do the total funds requested (Form I, Question 17A) equal the combined total annual costs in the budget summary?

Yes -No

If no, please explain (for example, are costs to be reimbursed by cost share funds included in the budget summary).

6. Does the budget justification adequately explain major expenses?

Yes -No

If no, please explain:

7. Are there other budget issues that warrant consideration?

-Yes No

If yes, please explain:

Other Comments: