

**Panel Scientific and Technical Review**  
(Note: Review comments will be anonymous, but public.)

**Proposal number: 2001-F203**

**Short Proposal Title: Tertiary treatment**

**1a) Are the objectives and hypotheses clearly stated?**

*Summary of Reviewers comments:*

Both reviewers believe that the hypotheses and objectives are clearly stated.

*Panel Summary:*

Yes, the hypotheses and objectives are clearly stated in Section 1.2.

**1b1) Does the conceptual model clearly explain the underlying basis for the proposed work?**

*Summary of Reviewers comments:*

Reviewers disagreed. One felt the model was clearly written, the other found it vague and needing more explanation.

*Panel Summary:*

Discussion of conceptual model was obtuse and tangential to the objectives of the proposal.

**1b2) Is the approach well designed and appropriate for meeting the objectives of the project?**

*Summary of Reviewers comments:*

Both reviewers felt the approach was well designed.

*Panel Summary:*

The panel disagreed with technical reviewers and was concerned with several aspects:

Why is the Richmond Field Station being upgraded, while the Stockton facility is being only partly constructed with these features?

The principle focus is on nitrogen cycling in the treatment facility, while trace-metal and pathogen effects may be ancillary and seem to be added as an afterthought. More detail is needed in these two areas.

**1c1) Has the applicant justified the selection of research, pilot or demonstration project, or a full-scale implementation project?**

*#Summary of Reviewers comments:*

Reviewers disagreed on whether project was research or demonstration project.

Panel Summary:

The pilot project seems justified.

**1c2) Is the project likely to generate information that can be used to inform future decision making?**

*Summary of Reviewers comments:*

Reviewers agreed the project would provide information; one reviewer noted the information would be primarily useful for wastewater treatment plant operators.

*Panel Summary:*

Decision-making for dischargers could improve, but the proposal may over-stretch the potential implications of this work. The applicants did not put the wastewater treatment plant loads of nitrogen into perspective with total San Joaquin nitrogen picture and did not relate nitrogen levels to dissolved oxygen issue. Even total control of the San Joaquin treatment plant's water-quality may not have a major effect on the dissolved oxygen problem downstream.

The proposal could be strengthened by exploring how widespread the new technology could be implemented--do relevant treatment facilities have sufficient space and a small enough discharge volume to use the technology?

**2a) Are the monitoring and information assessment plans adequate to assess the outcome of the project?**

*Summary of Reviewers comments:*

Both reviewers felt the plan was adequate.

*Panel Summary:*

# Generally adequate, except for pathogens.

**2b) Are data collection, data management, data analysis, and reporting plans well-described, scientifically sound and adequate to meet the proposed objectives?**

*Summary of Reviewers comments:*

Both felt this area was well described and adequate.

*Panel Summary:*

Methods short on detail especially for metals and pathogens. How will data be managed (frequency and averaging intervals, form of metals)? Not clear if certain methods that are mentioned will actually be used.

**3) Is the proposed work likely to be technically feasible?**

***Summary of Reviewers comments:***

Both thought work was feasible.

***Panel Summary:***

The panel questions whether data from the field station can be extrapolated to Stockton in terms of metals removal. After September, 2001, the possible loss of access to laboratory space at the field station may hinder successful completion of the project as indicated in the cover letter of the proposal (Is access to EPA lab space confirmed?)

**4) Is the proposed project team qualified to efficiently and effectively implement the proposed project?**

***Summary of Reviewers comments:***

Both said, "YES".

***Panel Summary:***

Seems qualified except possibly for the trace-metal and pathogen aspects of the study which are much less well defined than the nitrogen removal processes.

**5)Other comments**

Overall, the reviewers were favorable in their review, giving it an "EXCELLENT" and "VERY GOOD"

Will information from this proposal provide all that is needed for full-scale implementation of the technology? How generally applicable is the technique? Even, if it is effective, do the constraints of existing facilities and large populations (large discharge volume) suggest there is widespread potential? Too many "big picture" questions were not answered.

**Overall Evaluation  
PANEL SUMMARY COMMENTS**

This work has the potential to improve DO levels in areas of the concern. However, the linkage to San Joaquin system and the potential application approach (scalability) are questioned. The panel questions whether the proposal is appropriate for funding by CALFED given the existing permitting process for sewage treatment plants, both facilities are under NPDES permit and compliance with regulations is not supposed to be an appropriate use of CALFED funds.

The panel was concerned that the methodology being utilized at the Richmond location would have limited application to the San Joaquin River. The proposal would be strengthened if more of the research effort was focused on actual implementation sites.

The panel rated this proposal lower than the reviewers because the panel believed that more emphasis should be put on actual implementation.

Summary Rating

- Excellent
- Very Good
- Good
- Fair
- Poor

Your Rating: FAIR