

Draft Individual Review Form

Proposal number: 2001-F205-2

Short Proposal Title: Brake Pad Partnership

1a) Are the objectives and hypotheses clearly stated?

The objective appears to be confused with the hypothesis.

“Our hypothesis is that a brake pad wear debris test can be developed through a multistakeholder process that will: (1) determine whether or not copper in brake pad wear debris is an environmental problem (if yes, manufacturers have already committed to a reduction) and (2) allow manufacturers to determine, while developing new brake pad formulations, whether or not other materials in wear debris from these pads could have an environmental effect (thus avoiding situations where a substitute material could be worse than the original material.)”

This is a problem throughout the proposal. Since it is difficult to determine what the testable hypothesis is, it is difficult to determine how that hypothesis will be tested.

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

The proposal notes that a previous (1994) study “ identified automobile brake pad wear debris as the source of 80% of the copper in urban runoff “ , but that it “contained enough scientific uncertainties to prevent regulatory or legislative action”. Consequently, the proposal is designed to address those uncertainties with the development of a better set of measurements of brake pad wear. Then, “If the brake pad wear debris test shows that copper present in brake pad debris is having an environmental effect, manufacturers have committed to reducing copper.”

However, there is no explanation or scientific justification of how new measurements of brake pad debris will provide a measure of its environmental effect in San Francisco Bay. In my opinion, the new measurements of brake pad debris will be subject to the same type of criticisms and qualifications that were leveled at the original brake pad measurements.

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

The design of the new tests is assigned to Mark Schlautman. He will reportedly “help us guide the group toward collaborative development of the wear debris test” for copper in brake pads. However, there is no indication of his expertise in either the design of such tests or analyses of the effects of copper in the environment in the 7 articles and manuscripts that he has co-authored in the proposal’s biography for him.

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

The justification for the proposed research and associated meetings is difficult to understand.

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

No. The project will generate new measurements of copper in brake pad debris. There is no indication those measurements will be superior to existing measurements that, as noted in the proposal, have been subjected to numerous criticisms. Moreover, the methodology for the new measurements hasn't even been developed.

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

No. The proposed study is too nebulous to determine what the project will produce other than some new measurements of brake pad debris and a series of stakeholder meetings.

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

No. The proposal states the design for the brake pad measurements will be done once the project is funded. It is impossible to determine how funds for the project will be distributed.

The statement that "Our scientist will also bring the things he learns into the classroom, thus educating a new generation." is notable, since this is a CALFED proposal and the scientist teaches at Clemson.

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

Yes. There should be no technical problems in generating brake pad debris or measuring its copper concentration.

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

Yes. Sustainable Conservation has an established record of holding meetings for The Brake Pad Partnership and the physical and chemical analyses should be quite simple.

Miscellaneous comments

I respect and admire the efforts of the Brake Pad Partnership to help resolve the reported problem of copper in San Francisco Bay. The individuals included in the proposal also appear to be excellent. But, this is an unusually poor proposal, which appears to be requesting funds to initiate efforts that should have been done before the proposal was submitted.

**Overall Evaluation
Summary Rating**

- Excellent
- Very Good
- Good
- Fair
- Poor**

Provide a brief explanation of your summary rating (see above)