

## **Attachment 1**

### **Department of Resources Recycling & Recovery**

#### **SCOPE OF WORK**

#### **Used Oil Lifecycle Assessment Critical Review**

##### **I. INTRODUCTION/OBJECTIVES**

As part of Senate Bill 546 of 2009, CalRecycle was directed to 1) Contract with a third-party consultant with recognized expertise in life cycle assessments to coordinate a comprehensive life cycle analysis (LCA) of the used lubricating and industrial oil management process, from generation through collection, transportation, and re-use alternatives; 2) solicit input from representatives of all used oil stakeholders in defining the scope and design of the LCA; 3) evaluate the impacts of certain components of SB 546; and 4) submit a report to the Legislature on the results and “any recommendations for statutory changes that may be necessary to promote increased collection and responsible management of used oil.”

CalRecycle staff will implement this project in two stages. The initial stage will consist of a series of facilitated stakeholder and workgroup meetings that will culminate in the development of the scope and design of the LCA/Economic analysis. Participants in this stage of the project include the CalRecycle project team, Expert Facilitator, LCA Practitioner, Critical Review contractor, and a broad and diverse stakeholder group. During the second stage of the project, the LCA practitioner will develop and conduct the LCA study and subsequent LCA study report working closely with the Economic study contractor. The draft and final LCA report will be reviewed by and commented on by the stakeholder group and by the Critical Review Contractor. The Critical Review Contractor will also monitor the LCA Practitioner's progress throughout the project and provide feedback as necessary in order to maintain adherence to International Organization for Standardization (ISO) protocols. The LCA Contractor will work closely with the Economic Study Contractor to ensure parallel and compatible study design. The results of these studies will provide CalRecycle with the materials necessary to develop the aforementioned Legislative report.

There are anticipated to be four contractors assigned to this project:

1. Expert Facilitator
2. LCA Practitioner
3. Critical Review Contractor
4. Economic Study Contractor

This contract represents the duties of the Critical Review Contractor, above, and supports the successful completion of the LCA project by assuring that it complies with ISO standards and protocols.

## II. WORK TO BE PERFORMED

The Contractor will oversee and coordinate critical review services for the used oil LCA study from the beginning of the project through the completion of the LCA study report. The Contractor will participate in all phases of the study effort to help to ensure that the study meets International Organization for Standardization (ISO) standards (14040 and 14044) and that the study is conducted in the most efficient and effective manner. The Contractor will provide technical assistance to CalRecycle staff when responding to stakeholder questions and/or comments concerning the process being used to ensure that the LCA study is being carried out in a way that is scientifically and technically defensible. In this capacity the Contractor will provide assistance in selecting the appropriate framework and details for conducting the used oil LCA study including goal definition and scoping, life-cycle inventory, and life-cycle impact assessment.

At various stages in the project, the Critical Review Contractor shall provide written review of the outputs to verify compliance with ISO standards and accepted procedures of LCA Practitioner.

## III. TASKS IDENTIFIED

All written deliverables are subject to the Contract Manager's written approval. Approval will be based on completeness and fulfillment of task objectives.

### **Task 1. Provide Technical Assistance to CalRecycle.**

#### **Task 1a. Project coordination.**

**Task 1a.i. Prepare work plan.** The Contractor will convene with the Contract Manager, the CalRecycle project team, the Expert Facilitator, and the LCA Practitioner to discuss the project objectives, budget, timelines, and implementation of tasks, activities, and deliverables. The Contractor will develop a detailed work plan, subject to approval by the CalRecycle Contract Manager, following this meeting.

*Deliverables:* Work plan.

*Timeline:* This deliverable is expected to be completed by July 2011.

**Task 1a.ii. Convene with project team.** The Contractor will participate as needed in discussions between the Contract Manager, CalRecycle project team, the Expert Facilitator, and the LCA Practitioner to ensure that the LCA study is conducted in the most efficient and effective manner. At a minimum, the Contractor will convene with the Contract Manager and the CalRecycle project team after each stakeholder meeting and LCA study milestone.

*Deliverables:* A minimum of six 2-hour touch-base conference call meetings with CalRecycle project team and other project contractors.

*Timeline:* These deliverables are expected to be completed by December 2012.

**Task 1b. Participate in stakeholder meetings.** Due to the fact that a stakeholder group will be providing input on the scope and design of the LCA study (with final determination being made by CalRecycle), the Contractor will attend and participate in appropriate stakeholder meetings and conference calls as determined by the Contractor and CalRecycle project team. Contractor will attend (in person) 8 stakeholder and/or CalRecycle Public meetings as scheduled by the CalRecycle Project manager.

The Contractor will provide technical assistance to CalRecycle staff when responding to stakeholder questions and/or comments concerning the process being used to ensure that the LCA study is being conducted so that the results and conclusions are scientifically and technically defensible. In this capacity, the Contractor will provide assistance in guiding the selection of appropriate framework and details for conducting the used oil LCA study including:

- Goal definition and scoping
  - Functional unit
  - System boundary
  - Systems modeling
  - Criteria for selecting appropriate life-cycle impact assessment models
- Life-cycle inventory
  - Methodology for data gathering
  - Data quality assessment
- Life-cycle impact assessment
  - Sensitivity and uncertainty analysis
  - Interpretation

*Deliverables:* Attend and participate in 8 stakeholder and/or public meetings.

*Timeline:* The stakeholder meetings are expected to be completed by October 2012.

The CalRecycle public meetings are expected to be completed by December 2012.

## **Task 2. Coordinate LCA Study Critical Review Panel**

**Task 2a. Establish critical review services.** The Contractor will act as the critical review panel chair for the used oil LCA study from the beginning of the project through the completion of the final LCA study report. The Contractor will identify, secure, and coordinate with up to four additional independent critical reviewers in consultation with CalRecycle staff. An effort shall be made that one of the reviewers is a subject matter expert (Chemistry, Re-refining and/or crude oil refining, etc), one of the reviewers has expertise in complex waste management systems, and one is a LCA expert.

The remaining panel member may possess any of the areas of expertise listed above or another as determined necessary by the Contractor and CalRecycle contract manager. The above listed areas of expertise are not required but should be given consideration in selecting the most appropriate panel for the project. All critical review panel members must not have any bias or conflicts of interest with regards to this project. It is preferred (but not required) that at least two additional members (besides the chair) have ISO standard critical review experience. All efforts related to the ISO critical review shall be in accordance to ISO standards 14040 and 14044.

*Deliverables:* Identify, secure, and coordinate with two additional independent LCA study reviewers.

*Timeline:* The two additional critical reviewers are expected to be in place by August 2011.

### **Task 2b. Oversee critical review services.**

**Task 2b.i. Review of LCA study scoping work.** The Contractor will review the LCA study goal definition and overall scoping during the first stage of the project in order to submit a written review of the outputs to verify compliance with ISO standards 14040 and 14044 and accepted procedures of LCA Practitioner (see Task 3b.i.).

*Deliverables:* Review of goal definition and overall project scoping.

*Timeline:* This review is expected to be completed by approximately October 2011.

**Task 2b.ii. Review of draft and final LCA study reports.** The Contractor, along with the Critical Review Panel, will review the draft and final LCA study reports prepared by the LCA Practitioner (see Tasks 3b.ii. and 3b.iii, respectively) to ensure that the results and conclusions are scientifically and technically defensible.

*Deliverables:* Review of draft and final LCA study reports.

*Timeline:* Review of the draft and final LCA study reports are expected to be completed by February 2012 and August 2012, respectively.

### **Task 3. Reporting**

**Task 3a. Quarterly progress reports.** The Contractor shall submit progress reports on work done on Technical Assistance on a quarterly basis.

*Deliverables:* Quarterly progress reports.

*Timeline:* These deliverables are expected to be completed by December 2012.

**Task 3b. Critical Review reports.** The Critical Review Contractor shall provide written review of the outputs to verify compliance with ISO standards 14040 and 14044 and accepted procedures of LCA Practitioner. This critical review shall be provided at the end of the following work stages (and as further detailed in Tasks 3b.i. and 3b.ii.):

- Goal definition and scoping (see Task 2b.i.);
- Life-cycle inventory and life-cycle impact assessment; and
- LCA report completion.

**Task 3b.i. Goal definition and project scoping.** The Contractor will submit a written review of the outputs to verify compliance with ISO standards 14040 and 14044 and accepted procedures of LCA Practitioner based on review the LCA study goal definition and overall scoping of the project (see Task 2b.i.).

*Deliverable:* Project scoping report.

*Timeline:* This deliverable is expected to be completed by approximately October 2011.

**Task 3b.ii. Interim Critical Review report.** Following review of the draft LCA study report (see Task 2b.ii.), the Critical Review Contractor shall submit an interim Critical Review Report summarizing critical review findings and recommendations for improvement of the study.

*Deliverables:* Interim Critical Review report.

*Timeline:* This deliverable is expected to be completed by early August 2012.

**Task 3b.iii. Final Critical Review report.** Upon completion of the final LCA study report by the LCA Practitioner, the Critical Review Contractor shall submit a Critical Review Report summarizing final review findings that will be included as an appendix to the final Legislative report prepared by CalRecycle.

*Deliverables:* Final Critical Review report.

*Timeline:* This deliverable is expected to be completed by November 2012.

#### IV. CONTRACT/TASK TIME FRAME

The timeframe for this project is estimated from September 1, 2010 through December 31, 2012. The timeline will follow the overall project timeline below and as amended during the course of the project.

Task	Timeframe	
	Begin	End
1. Provide Technical Assistance to CalRecycle.		
1a. Project Coordination.		
1a.i. Prepare work plan.	June 2011	July 2011
1a.ii. Convene with Project Team.	June 2011	December 2012
1b. Participate in stakeholder meetings.	June 2011	December 2012
2. Coordinate LCA Study Critical Review Panel.		
2a. Establish critical review services.	June 2011	August 2011
2b. Oversee critical review services.	June 2011	December 2012
2b.i. Review of LCA study Phase I scoping work.	June 2011	October 2011
2b.ii. Review of draft and final LCA study reports.	October 2011	June 2012 & December 2012, respectively
3. Reporting		
3a. Quarterly progress reports.	September 2011	March 2013
3b. Critical Review reports.		
3b.i. Goal definition and project scoping.	June 2011	October 2011
3b.ii. Interim Critical Review report.	October 2011	August 2012
3b.iii. Final Critical Review report.	October 2012	November 2012