WORLD OIL CORP.

Christine E. Mirabel
Vice President & General Counsel

COMMENTS OF DEMENNO/KERDOON AND WORLD OIL REGARDING USED OIL LIFE CYCLE ANALYSIS SCOPE OF WORK AND CONTRACTOR SELECTION

Thank you for the opportunity to comment on CalRecycle's Used Oil Life Cycle Analysis (LCA) Scope of Work (SOW) and Contractor selection. DeMenno/Kerdoon and its affiliate, World Oil (collectively, The Company), have a vital role in recycling California's used oil. The Company is a pioneer in the vacuum distillation of used oil to create vital and environmentally beneficial products such as Marine Diesel Oil and high-grade asphalt flux.

The company is committed to active and constructive participation in CalRecycle's LCA for used oil. As an industry leader, we recognize that the LCA is likely to affect the market for used oil products not only in California, but potentially worldwide. As the LCA process is in the formative stage, this letter sets forth principles we believe are essential to an accurate and fair LCA and informed decisions regarding both the SOW and choice of Contractors.

I. PROCESS COMMENTS.

A. ***Transparency*** - We welcome the extensive stakeholder process embraced by CalRecycle, and CalRecycle's commitment to transparency. It is critical that all information considered during the LCA be made available to the public, and that stakeholder interaction be frequent and pragmatic.

B. ***Participation*** - The Company appreciates CalRecycle's openness to industry participation. To assure that the statutory mandate for the LCA is satisfied and the cost of the LCA is justified, the LCA must be informed by market participants and other stakeholders, and prepared through a dynamic process. LCA experts would find it difficult to assess the used oil market in the absence of industry participation. We understand it is CalRecycle's plan to provide process checks with industry and producers of recycled products. Business input will be critical to achieving a successful LCA.

C. ***Anticipated Data Gaps*** - The proposed SOW represents a good faith effort to gather existing data and generate new data. We agree it is unrealistic to assume that the data necessary for the LCA is already available from existing sources. A challenge to date in effectively evaluating the life cycle for used oil is that existing studies have been narrow in scope and have not generated necessary inputs to consider comprehensively key economic and environmental factors.

9302 SO. GARFIELD AVENUE, SOUTH GATE, CALIFORNIA 90280-3896
P.O.BOX 1966, SOUTH GATE, CALIFORNIA 90280-1966
E-mail: cem@world-oil.net

TEL (562) 928-0100 • FAX. (562) 928-3234

D. ***Contingency for Report Changes in Response to Comments*** - The SOW only anticipates one round of written public comment before the LCA report is finalized. We recommend that the SOW make contingency for a second round of public comment before the report is finalized.

II. COMMENTS ON THE SUBSTANCE OF THE LCA

A. ***Economics and Market Realities*** - At each stage of used oil's life cycle, ground-level market realities and actual costs dictate results. Re-use alternatives must be evaluated with regard to market acceptability, pricing (to assure production feasibility), and environmental externalities that can benefit or impact the environment. For example, low-sulfur Marine Diesel Oil (MDO) substitutes for high sulfur ship fuel and confers benefits on coastal air basins. The asphalt flux produced by vacuum distillation can have significant benefits for extending asphalt wear or potentially allowing for rubberized asphalt. The LCA must follow the interplay of economics, non-oil LCA benefits and impacts, and the availability of markets. This could best be achieved if CalRecycle added an economist to its team; we recommend that it do so.

B. ***Environmentally Superior Products*** – Distillation products enjoy superior environmental advantages over combustion. The LCA should take these advantages into account. It is known that re-refined lube oil and MDO are both environmentally superior to combustion – the most common fate of used oil collected in California.

C. ***Recovery Rates Similar*** – The LCA should focus on potential yield based on feasible technology, and not favor one product over another based solely on actual yields at existing facilities. The yield of useable product from each gallon of used oil is similar for the production of both re-refined lube oil and MDO. Both products share the same distillation process. No inherent technology difference exists between distillation for re-refined lube oil, and distillation for MDO that would make one yield more than the other. Yield from distillation varies from facility to facility largely because of differences in current physical plant. While re-refined lube oil goes through an added step called "hydro-treatment," hydro-treatment does not materially affect yield.

D. ***Sensitivity Testing*** – The LCA should include sensitivity testing and uncertainty analysis to help address perceived differences among different recycled products. Small differences in numerical calculations among several useful and beneficial products may not be meaningful, and may be within the range of error. This is particularly important if the useful products enjoy large numerical advantages over negative outcomes, like combustion. The LCA should not give substantial weight to small differences that are not meaningful.

E. ***Closed-Loop Recycling*** – The LCA should take a hard look at whether it makes sense under the circumstances in California to favor closed-loop recycling over open-loop recycling, as has been done in the past. Important points to consider include without limitation:

1. There is no "zero sum" policy choice confronting California with respect to closed and open loops. A gallon of used oil directed to an open-loop product is not stealing volume from closed-loop opportunities given the realities of the used oil industry.

2. About 50 percent of California's collected waste oil presently is combusted without any meaningful pre-treatment whatsoever. Reasonable policy might target this volume, redirecting it to environmentally superior products, whether produced via closed- or open-loop recycling.

3. Because only about 15 percent of California's collected used oil presently is processed in a manner that theoretically could be closed loop, little reason exists to believe that a closed-loop policy preference would have any significant benefit.

4. There is no present closed-loop opportunity whatsoever for a significant percentage of the California used oil volume. Impurities in industrial oils render it not possible to recycle these oils to a closed-loop product like re-refined lube oil.

F. ***Climate Change*** – Closed-loop products can require high energy inputs to restore viscosity, and assure other attributes. These energy inputs can create disadvantages compared with open-loop recycling, and have climate change impacts associated with them. A thorough understanding of all energy and materials inputs, and their relationship to used oil qualities is essential.

G. ***Single-Stream Recycling*** – Production of closed-loop products requires segregation of the feedstock that is limited by today's collection and transportation systems. In contrast, production of open-loop products can be accomplished with bulk collection and transportation systems. Such single-stream recycling is known to have environmental advantages in other recycling contexts. These advantages should be considered in the LCA.

In particular, certain recycling technologies can handle only used lube oil and railroad drains. Other technologies can handle industrial cutting oils and other oils (e.g., oily water) that the lube-only technologies cannot handle. If loads of lube and industrial oil must be collected separately, there are significant adverse implications for transportation and storage impacts.

III. CLOSING

In closing, we appreciate the opportunity to provide these comments, and look forward to working with CalRecycle on this important initiative. We plan to participate in the upcoming stakeholder session, and ask that it be scheduled at one of the earlier proposed dates, as we believe early and frequent engagement with the stakeholder community is important.

Yours sincerely,

WORLD OIL CORP.

Christine E. Mirabel