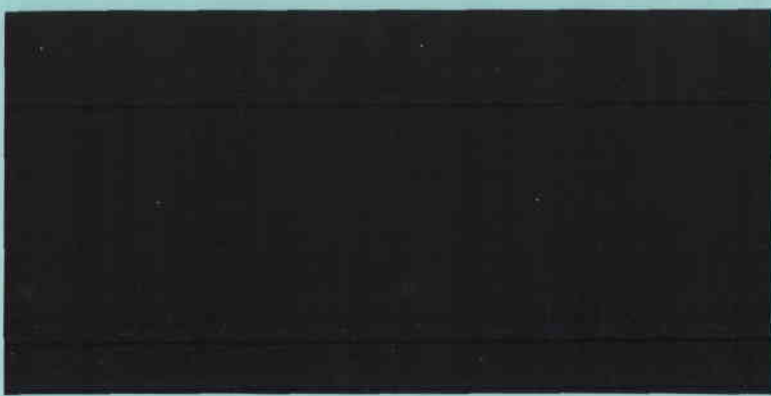


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SCE OD 140-B REV 4/85 (CW)



SOUTHERN CALIFORNIA EDISON COMPANY
Rosemead, California

SPECIFICATION E-93027

DEMOLITION AND REMOVAL OF SOLAR ONE
THERMAL STORAGE SYSTEM

June 21, 1993

Approved for Issue:

Charles W. Lopez

Charles Lopez
Project Manager

June 22, 1993
Date

Cunningham - Davis Corp.
11062 Mulberry Ave
Fontana, CA 92337
(909) 823-3031

Gorman Wallace

Gorman Wallace
Project Engineer

June 22, 1993
Date

Specifications
and Standards

Southern California Edison Company

8631 RUSH STREET, 2nd FLOOR
ROSEMEAD, CA 91770

July 26, 1993

See attachment for bidder list

SUBJECT: Addendum No. 03 to
 Proposal Request No. C306302

Please refer to Edison's Proposal Request No. C306302 dated 06/24/93 covering the removal of the thermal storage system at Edison's Solar One Facility and incorporate the changes as indicated below.

A final walk-through was held July 23, 1993, at the Solar One Facility for interested bidders and the sign-in sheet is attached. No new questions or information was given with the following exception:

The tube steel for the heat exchangers was noted as SS-556-A2 in the design data of Page TSS-18 provided with Addendum No. 02, dated July 23, 1993. The proper classification is SA-516-70.

Acknowledgement of all addenda is required on your Proposal submittal.



Colin E. Cushnie
Procurement Agent
(818)302-5265

c: Procurement Agent
 M. J. Skowronski - SCE
 C. L. Lopez - SCE
 A. D. Riddle - SCE
 G. L. Wallace - SCE
 R. L. Martin - DOE
 H. Reilly - Sandia
 Correspondence

Attachment

B I D D E R S L I S T

* 03271 5 AMAN ENVIRONMENTAL
* 09231 W5 CUNNINGHAM DAVIS CORPORATION
* 16030 5 BRAGG CRANE & RIGGING, INC.
* 16353 5 R M R, INC.
* 21057 1 PACIFIC 17, INC.
* 21683 W3 MAYFIELD ENTERPRISES, INC.
* 26820 W5 MANHIRE CONSTRUCTION, INC.
* 38663 5 PIC ENVIRONMENTAL SERVICES
* 50998 4 E A MENDOZA CONTRACTING

JOB WALK #3 7/23/93

THERMAL STORAGE SYSTEM DEMOLITION & REMOVAL

1. GORMAN WALLACE SCE
2. MARIO PEREA (805-928-4013) RMR INC
3. MICHAEL A. CZARNECKI 805 928-4013 RMR INC
4. WILLIAM C CORW 619 ~~253~~ 1882 ACTION CLNS
CORP
5. CHUCK FARRETT 619/582-0775 Pacific 17
"
6. Ben Ykap "
7. Jim Rozant 619/2561086 CC
8. Bob BANKS 619-254-3381 DLC
9. MIKE FREENY 808 834-8220 CHEMEX

Southern California Edison Company

8631 RUSH STREET, 2nd FLOOR
ROSEMEAD, CA 91770

July 23, 1993

See attachment for bidder list

SUBJECT: Addendum No. 02 to
Proposal Request No. C306302


Please refer to Edison's Proposal Request No. C306302 dated 06/24/93 covering the removal of the thermal storage system at Edison's Solar One Facility and incorporate the changes as indicated below.

1. As referenced at the July 9, 1993, jobwalk, bidders were invited to revisit the Solar One Facility on July 16th and July 23rd. The attached letter addressed to Colin Cushnie, dated July 21, 1993, from Gorman L. Wallace, addresses questions from the July 16, 1993, walk-through, and follow-up questions from Addendum No. 01, dated July 15, 1993, and is incorporated into the Proposal Request by this reference.
2. The following is additional clarification to Item No. 6 of Addendum No. 01, dated July 15, 1993:

The requested bid for Option Nos. 1 and 1A is an option for Edison's evaluation. Bidders are instructed to still bid on the work as presented in the Proposal Request; i.e., bid on disposal of the oil. The option bid identified as Option Nos. 1 and 1A will be used only if Edison determines that it is more cost efficient for Edison to sell the oil to a facility adjacent to the Solar One Facility. The mileage involved in transporting the oil to the adjacent facility would be less than 1 mile roundtrip.

3. If any further clarification is required after the July 23, 1993, walk-through, an addendum will be transmitted via facsimile to all bidders on July 26, 1993. Proposals are still due on July 30, 1993, by 2:00 p.m.

Acknowledgement of all addenda is required on your Proposal submittal.


Colin E. Cushnie
Procurement Agent
(818) 302-5265

cc: Procurement Agent
M. J. Skowronski - SCE
C. L. Lopez - SCE
A. D. Riddle - SCE
G. L. Wallace - SCE
R. L. Martin - DOE
H. Reilly - Sandia
Correspondence

B I D D E R S L I S T

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- * 38663 5 PIC ENVIRONMENTAL SERVICES
- * 50998 4 E A MENDOZA CONTRACTING

July 21, 1993

Colin Cushnie

Subject: Job Walk #2 for Thermal Storage System
Demolition and Removal at Solar One

The second job walk for Solar One was held on Friday, July 16, 1993 for the purpose of allowing the bidders more time to determine volumes and weights for the material to be demolished and removed from the site. The job walk sign-in sheet (a copy has been given to the attendees) is attached.

The following addresses questions asked at the job walk, questions received from several of the bidders and additional information to be given to all of the bidders:

1. Q Is the spooled wire salvage or SCE property? how much and who decides?
 - A. Only the wires in the large conduits are to be disconnected at the equipment and spooled to end point of the demolition. See pages 35 and 36 in the photo book. All other wire that is removed is salvage. Check the drawings.
2. Q Are all pumps and motors to stay with SCE?
 - A. Check the drawings and the photo book.
3. Q The EPGS roof drains to the oil water separator sump. Do we remove the drain pipe?
 - A. Simply cut the pipe at the sump interface. arrangements will be made with the selected contractor to install a french drain at the end of the pipe.

4. Q What is the steel thickness of the tank?
- A. A reduced copy of the shop drawing showing the thicknesses has been sent to all bidders, however, because some of the drawings are hard to read a marked up copy of the drawing is provided with these minutes.
5. Q What is the sand and gravel height in the tank?
- A. 39 feet as shown on the shop drawing.
6. Q What is the tube materials in the heat exchangers?
- A. We believe it is SS 556-A2.
7. Q Can we get a copy of the design data for the heat transfer and heat exchange units.
- A. A copy of the available data is provided with these minutes. Contractors are to make their own evaluation as to the accuracy, completeness or usefulness of the data.
8. Q Where do we take the oil contaminated soil found around the oil-water separator sump?
- A. **All oil contaminated soil will go to TPS Technologies for thermal treatment, the same as the oil contaminated sand and gravel in the TST. No other method of treatment or facility will be considered.**
9. Q Could we obtain a definition or more specific description of how the oil samples were designated; HE-1B, EB-1B, etc. and what test method was used for the flashpoint and TOX?
- A. A copy of the laboratory analysis report is provided with these minutes.
10. Q Are there MSD's for hydrozene, acids or other liquids used in the system to be removed?

A. No. None of these are associated with the work to be done.

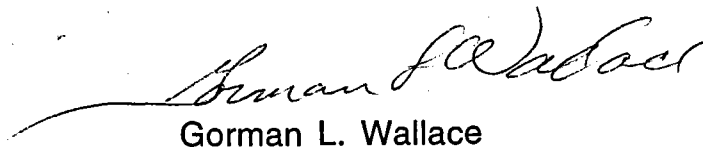
11. Q What level of cleanliness is required of the steel plate, piping and skidded vessels prior to shipment from the site?

A. We believe it is only necessary to wipe all of the oil from the surfaces with a rag prior to shipment, however, the contractor must verify this with the salvage company and the appropriate Environmental Regulatory Agency.

12. Q Can we receive a second set of specification drawings and a second photo book?

A. No.

In addition to the above we are providing, with these minutes, copies of two tables (titled Table C-1 and Table C-3) from a separate report. These tables provide a better breakdown of the steel, piping and oil. These tables provide our best estimate, however, the contractors are still to make their own estimate.



Gorman L. Wallace

GLW

cc: D. Johns
M. Skowronski
C. Lopez
I. Katter
R. Martin (DOE)

7-16-93

SOLAR II

JOBWALK #2

NAME	COMPANY	PAGE
BILL REED	SCE E&C	
MARIO PEREA	R.M.R. INC	805-928-4013
John Scheck	STANDARD INDUSTRIES	805 643-6609
✓ Jim Biggs	BRACOG CORP	310-220-1075
Bob Murray	" "	" "
✓ Victor YARRA	AMAN Environmental	818-967-4287
John D. Farmer	" "	818-967-4287
Stewart Graham	PIC Environmental Serv.	714/842-6331
W.C. COAN	ACTION CLUG Co	619 233 1882
DEWAYNE HAFER	" " "	" " "
Chuck Forrest	Pacific 17	619/582-0775
MIKE CZARNECKI	R.M.R. Inc	805-928-4013
Steve Poole	SCE	818+302-8134
✓ NEIL ZOLLER	CUNNINGHAM-DAVIS	909. 823 3031
STUART LIPSETT	B.H.L.	213-321-1710
Tom LaVelle	NUTECH	619 631 0631
BILL LAVELLE	NUTECH	" "

Southern California Edison Company

8631 RUSH STREET, 2nd FLOOR
ROSEMEAD, CA 91770

July 15, 1993

See attachment for bidder list

SUBJECT: Addendum No. 01 to
Proposal Request No. C306302

Please refer to Edison's Proposal Request No. C306302 dated 06/24/93 covering the removal of the thermal storage system at Edison's Solar One Facility and incorporate the changes as indicated below.

The attendees at the Jobwalk are referenced in the attached "Bidders' Meeting Sign-In Sheet".

The following documents were transmitted to each bidder at the Jobwalk and are incorporated into the requirements of the Proposal Request:

- o Letter dated 7/8/93 directing bidders to remediate all contaminated soil, sand, and gravel through TPS Technologies.
- o "Solar One Demolition Project" picture book.
- o "Piping Material Specifications Index" dated 2/4/80.
- o Equipment Legend

Bidders shall comply with the following:

1. Bidders' work plan shall provide enough detail to show that they have a full understanding of the scope of work and that they will address Edison's concerns on safety, environmental protection, and schedule during performance of the work.
2. Bidders shall provide a fixed price for removing the concrete foundation supporting the thermal storage tank (TST) and the concrete (slab, slope cover, and retaining walls) that forms the TST pit area. **The fixed price for this work shall be provided as Item No. 9A in the Proposal Submittal Requirements section (C.1.1) of the specification.**

3. Bidders shall provide a fixed price to remove the portion of the pipe rack that extends into the TST pit area. Seven (7) drawings are included to show the limits of the pipe rack to be removed. The removal of the pipe rack portion within the TST pit will require modifications to the existing pipe rack stairway. The modifications are shown on the drawings. The fixed price for this work shall be provided as Item No. 9B in the Proposal Submittal Requirements section (C.1.1) of the specification.
4. Bidders shall provide a fixed price to backfill the pit area with clean granular fill (similar to the native soil). The backfill shall be placed in 6 - 8 inch thick lifts, properly moistened and compacted to 90% of maximum density per ASTM D 1557 - 70 method of compaction. The backfill shall be brought to existing adjacent grade with positive drainage away from the facilities left in place. The fixed price for this work shall be provided as Item No. 9C in the Proposal Submittal Requirements section (C.1.1) of the specification.
5. The work described in Item Nos 2, 3, and 4 above shall be performed in accordance with Section Nos. 3.5.5 (Piping and Equipment), 3.5.6 (Concrete Structures), 3.5.7 (Oil Contaminated Soil), and 3.5.8 (Backfill) of the specification.
6. Bidders shall provide a fixed price as an option bid for the disposal of the first 175,000 gallons of caloria oil to an adjacent facility to the Solar One property. The scope of work involved includes the removal, transportation, and sale of the oil. Edison will establish the unit price for the sale of the oil and the successful Bidder shall discount their price for the work by the same amount. The balance of the oil shall be removed and disposed of in accordance with Section 3.5.2 (Caloria Oil) of the specification. The option bid for this work shall be provided as Option No. 1 for the first 175,000 gallons and Option No. 1A (unit price/unit discount per gallon of oil) for the balance of the oil.
7. Bidders shall base their bids on the specification and drawings provided. Any changes will be transmitted through written instructions or revised drawings.
8. The purchase order issued from this Proposal Request will incorporate a 10% retention provision for the successful bidder's invoices.
9. Bidders shall bid with the understanding that the potential exists for as much as 6 inches of condensation under the caloria oil in the tank.

Acknowledgement of all addenda is required on your Proposal
submittal.



Colin E. Cushnie
Procurement Agent
(818) 302-5265

cc: Procurement Agent
M. J. Skowronski - SCE
C. L. Lopez - SCE
A. D. Riddle - SCE
G. L. Wallace - SCE
R. L. Martin - DOE
H. Reilly - Sandia
Correspondence

B I D D E R S L I S T

- * 03271 5 AMAN ENVIRONMENTAL
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- * 16030 5 BRAGG CRANE & RIGGING, INC.
- * 38643 4 R M R, INC.
- * 21057 1 PACIFIC 17, INC.
- * 21683 W3 MAYFIELD ENTERPRISES, INC.
- * 26820 W5 MANHIRE CONSTRUCTION, INC.
- * 38663 5 PIC ENVIRONMENTAL SERVICES
- * 50998 4 E A MENDOZA CONTRACTING

**Southern California Edison Company
BIDDERS' MEETING SIGN-IN SHEET**

Proposal No: C306302
 Description: REMOVE THERMAL STORAGE SYSTEM
 Location: SOLAR ONE FACILITY (12 MILES EAST OF BARSTOW)
 Date: 07/09/93 Time: 10:00AM

ATTENDEES: (please print)

<u>Name:</u>	<u>Firm Represented:</u>	<u>Telephone No:</u>
Chuck Chuck Forrest	Pacific 17	619/582-0775
Dennis Morgan	Pacific 17	619/582-0775
J. MURRAY	BRAGG	310 220-1272
Bill Davis	CIDC	909-823-3031
NEIL ZOLLER	CDC	" "
SONNY CENTENO	PENHALL COMPANY	714/772 7151 x205
JIM MANHIRE	MANHIRE CONSTRUCTION	909-944-6700
THEO MOORE	K.C.D. OIL	909 6871012
DERRICK S. NOLAN	K.C.B. OIL	(909) 687-1012
Jim Mayfield	Mayfield Ent Inc	310 434-2115
Spence Powell	Mayfield Ent Inc	310 944-9480
Bill SPEAKMAN	RMR, INC	805 928-4013
MARIO PEREA	RMR INC	805 928-4013
HUGH REILLY	SANDIA NATIONAL LABS	505 845-9811
DON Murashima	TPS Technologies Inc.	714 8483777/800 862 8001
MARK SKOWRONSKI	SCE - RESEARCH	818 302-8519
COLIN CUSHNIE	SCE - PROCUREMENT	818-302-5265
Ernest Mendoza Sr.	E.A. Mendoza Const.	714 521-8214
John D. Farmer	Aman Environmental Const., Inc.	(910) 967-4287 / 332-1877 Fax
Vijay Ybarra	Aman Envir. Const., Inc.	(910) 967-4287 / 332-1877 Fax
C. Stewart Graham	PIC Environmental Services	(714) 842-6331
GORMAN WALLACE	SCE	(818) 302-8030
CHARLES W. Lopez	SCE	818-302-4989

Southern California Edison Company
BIDDERS' MEETING SIGN-IN SHEET

Proposal No: C306302
Description: REMOVE THERMAL STORAGE SYSTEM
Location: SOLAR ONE FACILITY (12 MILES EAST OF BARSTOW)
Date: 07/09/93 Time: 10:00AM

ATTENDEES: (please print)

Name:

Firm Represented:

Telephone No:

Ernest Aguilar

ACTION CLEANING CO

619-233-1882

Tony TAPIA

SCE - COOL WATER

619 254-5289

BILL REED

SCE E&C

GO THRU SCE PAGE SYSTEM

GU AGUILAR

SCE E&C

(818) 302-8135

SOUTHERN CALIFORNIA EDISON COMPANY
Rosemead, California

SPECIFICATION E-93027

DEMOLITION AND REMOVAL OF SOLAR ONE
THERMAL STORAGE SYSTEM

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Demolition and Removal of
Solar One Thermal Stor. Sys.

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SPECIFICATION E-93027
Demolition and Removal of
Solar One Thermal Storage System

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SECTION 2

SUPPLEMENTAL REQUIREMENTS

2.1 PROJECT SUMMARY

The requirements of this Specification cover the removal of the Solar One Thermal Storage System (TSS). The Thermal Storage System is composed of a thermal storage tank, two steam/oil heat exchange units, heptane makeup tank, two extraction boilers, startup flash tank, a make-up tank filled with Caloria oil, two each of system charging and extraction pumps, and ullage maintenance system. Ullage refers to the head-space above the liquid level in a storage tank.

The Thermal Storage Tank (TST) is an above ground storage tank with an inner diameter of 60.0 feet and a height of 44.8 feet at the side wall. The tank is filled with approximately 6,800 tons of eight-mesh sand and one-inch diameter gravel and approximately 200,000 gallons of oil. The TST, and most exterior piping are all insulated with non-asbestos material and covered with aluminum shielding.

Three piping manifolds, located inside the tank at heights of two-feet, eight-feet and 41-feet, connect the tank to other components of the Thermal Storage System and provide for circulation of oil in and out of the tank during heat transfer. The charging heat exchange units and extraction boilers are located to the east of the Thermal Storage Tank and are connected to the storage tank through a piping network connected to the manifolds.

2.2 JOBSITE

The Jobsite is located in San Bernardino County, California, near the town of Daggett, 12 miles east of the City of Barstow.

2.3 WORK COMPLETION SCHEDULE

The Work shall commence upon award of Purchase Order and shall be completed within 90 calendar days.

2.4 CORRESPONDENCE

All correspondence of a contractual and commercial nature shall be addressed to the Procurement Agent named in the Purchase Order.

SPECIFICATION E-93027
Demolition and Removal of
Solar One Thermal Stor. Sys.

SUPPLEMENTAL REQUIREMENTS

2.5 EDISON REPRESENTATIVE

Prior to award of Purchase Order, all correspondence of a Work administrative and technical nature shall be directed to:

Southern California Edison Company
P.O. Box 800
Rosemead, California 91770
Attention: Mr. Gorman Wallace

After award of Purchase Order all correspondence of a Work administrative and technical nature shall be directed to Mr. Gorman Wallace or his designated representative at the Jobsite.

2.6 SHIPPING ADDRESS

All Material to be shipped to the Jobsite shall be marked with the following shipping address:

Southern California Edison Company
Solar One Facility
3 miles east of Daggett California
on Santa Fe Road
San Bernardino County, California

2.7 WORK SCHEDULE

Within 10 calendar days after notification of award of Purchase Order, Contractor shall submit to Edison for approval, two copies of its proposed Work schedule as described in the following:

2.7.1 Work Schedule

The Work schedule shall be compatible with and shall provide more detail than Contractors Bid Proposal Work Schedule and shall indicate the actual order in which Contractor proposes to proceed with the Work. Schedule shall include dates on which different stages of Work are to begin and the estimated dates of completion of each stage of Work. The schedule shall be legible on a 11-inch x 17-inch, or larger, chart.

The schedule shall be consistent in all respects with the time requirements described in the Purchase Order and shall be adequate to meet all other requirements of this Specification. Contractor shall specify its planned working hours to meet the Work schedule.

SPECIFICATION E-93027
Demolition and Removal of
Solar One Thermal Storage System

SUPPLEMENTAL REQUIREMENTS

2.7.2 Working Hours and Overtime

Contractor's normal working hours shall be as specified on the Work Schedule (Section 2.7.1). If Contractor desires to work outside of these times, prior arrangements shall be made through the Edison Representative.

2.7.3 Progress Reports

Contractor shall submit a progress report showing the actual progress of each stage of the Work at the end of each week, or at such intervals as directed by the Edison Representative.

Submit one copy to the Edison Representative at the scheduled weekly progress meetings. The progress report shall include a 4-week rolling schedule which shows 1) activities of the past week, 2) activities for the current week and 3) activities for the next two weeks.

2.8 AS BUILT (RECORD) DRAWINGS

One complete set of design drawings shall be marked-up to depict field changes. Such field changes include alterations in routing of cable, conduit or piping as shown on the drawings, items left in place that were to be removed and items removed that were to be left in place. These deviations from original particulars do not change the intent of the removal requirements, but they require approval of the Edison Representative. Such changes shall be recorded on the "as-built" set of design drawings as they are instituted. Light green pencil shall be used to indicate deletions; red to show additions and changes. One complete set of "as-built" drawings, fully marked-up, shall be submitted to the Edison Representative within one week after acceptance of the Work. Cost for the "as-built" drawings shall be included with the cost of performing the Work.

2.9 DOCUMENTATION SUBMITTALS

All documentation specified throughout this Specification and compiled in Table 3-1, Documentation Submittal Schedule, shall be provided by Contractor in the form and quantity specified.

2.10 WORK PLAN

Contractor shall submit its Work Plan with the Bid Proposal. The Work Plan shall outline the proposed method of performing the Work and shall include a Fire Plan, Safety Plan, and Environmental Protection Plan for its organization.

SPECIFICATION E-93027
Demolition and Removal of
Solar One Thermal Storage System

SUPPLEMENTAL REQUIREMENTS

Contractors plan shall be followed by it and its Subcontractors for site work. Contractor shall outline its proposed method of salvaging the oil, rock and sand, steel and equipment.

END OF THE FIRST PART OF SECTION 2 .

SPECIFICATION E-93027
Demolition and Removal of
Solar One Thermal Storage System

SUBSECTION 2A

JOBSITE REQUIREMENTS

2A.1 CONTRACTOR'S FACILITIES

Before proceeding with the placement or erection of any temporary structures, equipment, offices, trailers and/or warehouses, Contractor shall provide the dimensions, descriptions, and proposed location of all such temporary facilities to the Edison Representative for approval. Such facilities shall be clearly marked with Contractor's business title or logo, be adequate for the intended purpose and conform with the requirements of all State and local regulations.

2A.2 IDENTIFICATION OF CONTRACTOR

2A.2.1 Identification of Equipment

All equipment and vehicles used by Contractor or Subcontractors on the Jobsite shall be clearly marked with Contractor's or Subcontractor's business title or logo.

2A.2.2 Identification of Contractor's Employees

Contractor and its Subcontractors shall provide each of their employees with a hard hat bearing the business name or logo of Contractor or Subcontractor.

2A.2.3 Jobsite Security

Contractor shall be responsible for Jobsite security during performance of the Work and shall provide a Security Guard at the access gate during Contractor's working hours.

2A.3 VEHICLE TRAFFIC

- A. All vehicles entering or leaving the Jobsite shall stop at the entrance for registration by the Security Officer. All vehicles may be subject to search by the Security Officer.
- B. The maximum speed limit on the Jobsite is 15 mph except for forklift trucks and cranes which are limited to 6 mph.
- C. All personal vehicles shall park only in designated parking areas. Only properly identified Contractor work vehicles shall be allowed in work areas.

SPECIFICATION E-93027
Demolition and Removal of
Solar One Thermal Stor. Sys.

JOBSITE REQUIREMENTS

2A.4 FACILITIES

2A.4.1 Sanitation

Portable toilets shall be supplied by Contractor for their employees.

2A.5 UTILITIES

2A.5.1 Industrial Water

Edison shall provide industrial water for use by Contractor on the Jobsite, but not drinking water. Contractor shall furnish and connect all temporary water lines from the designated outlets in the work area. All service water hose couplings must be affixed with a safety device to prevent uncoupling during use.

2A.5.2 Electrical Power

Edison shall not provide electrical power. Contractor shall make its own arrangements for electrical power and shall furnish, install and shall be responsible for all required transformers, switches, and electrical lines to meet its needs.

2A.5.3 Compressed Air

Edison shall not provide compressed air. Contractor shall furnish and shall be responsible for compressed air to meet its needs. All compressed air hose couplings must be affixed with a safety device to prevent uncoupling during use.

2A.5.4 Telephones

Edison shall not provide outside telephone service for Contractor. Contractor shall make arrangements with the local telephone utility for outside telephones or shall have on the Jobsite, full time portable telephone service.

2A.6 DUST CONTROL

Contractor shall make every reasonable effort to keep the amount of dust raised during the course of the Work on the Jobsite and on haul and access roads to a minimum. Any methods known to be effective, which are approved by the Edison Representative shall be used. The measures employed shall not create a hazard or cause a nuisance to nearby residences, crops, the Work, or the operations of other contractors. No additional money shall be paid to Contractor for dust control. Petroleum products shall not be used for dust control.

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2A.7 CLEAN UP

- A. During the progress of the Work, Contractor shall keep the area occupied by it and its Subcontractors, and access to such areas, in a neat, clean, and safe condition.

B. Upon completion of any portion of the Work, Contractor shall promptly remove all rubbish and equipment, temporary structures, and surplus construction material not intended for future use at or near the same location.

C. Upon completion of the Work, Contractor shall, at its own expense, satisfactorily dispose of or remove from the vicinity of the Work all rubbish, unused material belonging to it or its Subcontractors or used in the performance of the Work, and shall leave the premises in a neat, clean, and safe condition.

2A.8 FIRE PROTECTION

A. Contractor shall be responsible for all fire fighting activities and all calls for outside fire fighting assistance.

B. Whenever Contractor is engaged in any activity involving the use of open flames, welding, cutting or burning which creates the risk of fire, Contractor shall provide adequate fire extinguishers at the Work site.

C. Any fire shall be immediately reported to the Edison Representative.

2A.9 LIABILITY

During the course of the Work, if Contractor damages any structures, foundations, wiring, piping or existing items that are not marked for removal, Contractor shall be liable for all expenses for repair and for value of lost commodity. Contractor shall provide for or perform immediate repair of such damaged facilities to the satisfaction of the Edison Representative.

2A.10 PROTECTION OF MATERIAL

A. Contractor shall be responsible for the care, custody and protection of its equipment and Material and all Edison-furnished components on the Jobsite until Acceptance.

B. Contractor shall provide all temporary storage rooms and shops that it may require at the Jobsite for the safe and proper storage of its materials, tools, etc. These rooms shall be constructed

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only in locations approved by the Edison Representative and shall in no way interfere with the progress of the Work.

C. Contractor shall replace, at no expense to Edison, any damaged or stolen equipment, Material or components that are specified to be removed and retained by Edison.

2A.11 HAZARDOUS MATERIALS

A. All containers brought onto the Jobsite by Contractor shall be marked with Contractor's business name or logo.

B. All containers brought onto the Jobsite shall be removed by Contractor (empty or full) at the end of the job.

C. All hazardous wastes created during the execution of the Work shall be placed in adequate containers and properly marked by Contractor. Hazardous waste, both solid and liquid, shall be disposed of offsite in a State approved Class I landfill by Contractor.

END SUBSECTION 2A

SUBSECTION 2B

CONTRACTOR'S PERSONNEL REQUIREMENTS

2B.1 CONTRACTOR'S JOBSITE REPRESENTATIVE

Throughout the construction period, Contractor shall have present at the Jobsite a representative who is empowered to speak and act for and on behalf of Contractor.

All written instructions, orders, or other communications delivered to Contractor's Jobsite representative shall be considered as having been delivered to Contractor's main office.

2B.2 SUPERINTENDENCE

Contractor shall provide, and maintain continually at the Jobsite, adequate and competent superintendence of all required operations. The superintendents shall be experienced in each type of demolition required by this Specification; they shall be employees of Contractor, and approved by the Edison Representative. If, in the opinion of the Edison Representative, the safety, quality, or progress of the Work is being impaired by a shortage of Contractor's supervisory personnel, Contractor shall assign additional qualified personnel to the Work.

2B.3 PROGRESS MEETINGS

Contractor's Jobsite representative shall attend weekly progress meetings at the Jobsite. The participants shall include Contractor's principal representatives, Subcontractor's representatives, as appropriate, and the Edison Representative. The purpose shall be to review the Work progress and schedule, and to obtain coordinated action that shall assure the schedule is met.

2B.4 WORK PRACTICES

Contractor shall at all times follow safe work practices in the performance of the Work. Failure to follow safe work practices could result in the Edison Representative stopping of specific Work activities deemed to be unsafe and could result in the removal of unsafe employees from the Jobsite and/or the termination of all Work by Contractor at the Jobsite.

2B.4.1 Intoxicants

No employee shall be allowed on the Jobsite under the influence of any intoxicant. Employees found under the influence or consuming intoxicants shall be removed from the Jobsite.

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2B.4.2 Welding or Cutting

Contractor shall guard against falling slag, sparks and fires. Precautions shall be taken to prevent sparks and slag from falling on areas below.

2B.4.3 High Pressure Cylinders

Cylinders shall be kept secure at all times with rope or wire. Cylinders, when not in use, shall have hoses disconnected and caps in place.

2B.4.4 Scaffolding

All scaffolding shall comply with CAL-OSHA requirements.

2B.4.5 Barricades

All openings shall be protected by substantial barricades such as tube lock scaffolding or 2X4 barriers. Red and White barricade tape shall be used to warn of mechanical hazards. Yellow and Black barricade tape shall be used to warn of electrical hazards.

2B.5 CONFINED SPACES

Prior to Contractor's entry into any confined space, Contractor's personnel must sample the space for oxygen and combustibles and complete a Confined Space Entry Form. Any Work within any confined space shall comply with the latest CAL-OSHA requirements.

2B.6 LADDERS

Damaged wooden ladders shall not be used. All ladders must be tied off when in use. Metal ladders shall not be used around electrical equipment.

2B.7 SAFETY BELTS

Employees required to work where there is danger of falling shall wear a safety belt with a lanyard and be properly tied off.

2B.8 SAFEGUARDS

Contractor shall provide temporary walks, rails, guards, construction fences, and similar safeguards, as required by any ordinances, or as necessary to protect Contractor's employees, the public and Edison employees from the time that Work is initiated until Acceptance.

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2B.9 SAFETY EQUIPMENT

Employees shall wear hard hats, safety glasses and substantial shoes at all times. Ear plugs are required in posted high noise areas. Other safety equipment may be required as dictated by the nature of the Work.

2B.10 ACCIDENTS

- A. In case of accidents, Contractor shall arrange for employee's medical treatment.
- B. Contractor shall immediately report any accident to the Edison Representative.
- C. As soon as practical, after having provided medical attention for injured employee, Contractor shall provide a written accident report to the Edison Representative, including the following:
 1. Name and age of injured employee.
 2. Classification of injured employee.
 3. Nature of injury. Is any lost time involved.
 4. Time and location of accident.
 5. How the accident occurred.
 6. Treatment rendered at the Jobsite and, if applicable, where the injured employee was taken.

2B.11 QUALIFICATIONS OF EMPLOYEES

Contractor shall employ only competent and skilled employees to perform the Work. If the Edison Representative notifies Contractor that any employee on the Jobsite is, in his opinion, incompetent, disorderly, uses threatening or abusive language to any person on the Jobsite, or is otherwise unsatisfactory, the following steps shall be taken:

- A. Contractor shall review the circumstances which prompted the Edison Representative to notify Contractor of the problem.
- B. Upon completion of A, the Edison Representative and Contractor shall meet and determine whether (i) any further action is necessary, (ii) the employee is to be counseled regarding the problem or (iii) the employee is to be discharged.

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C. The employee shall not be employed by Contractor on the Jobsite again if discharged, except with the written consent of the Edison Representative.

END SUBSECTION 2B

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SECTION 3

TECHNICAL REQUIREMENTS

3.1 SCOPE OF WORK

Contractor shall furnish all Work required for removal of the Solar One Thermal Storage System (TSS) as specified herein and indicated on the drawings. The Work includes removal of the Caloria Oil from the equipment, TST, and piping and thermal treatment of oil contaminated sand and gravel in the TST and thermal treatment of all oil contaminated soil.

3.2 MAJOR ITEMS OF WORK BY CONTRACTOR

The major items of Work to be performed by Contractor include, but are not limited to, the following:

- A. Removal and disposal of 526 bulk, cubic yards of insulation and 5,600 pounds of aluminum shielding.
- B. Removal and disposal of approximately 200,000 gallons of the Caloria HT 43™ heat exchange oil in the thermal storage tank, makeup tank, heat exchanger, and system piping.
- C. Removal, thermal treatment, and disposal of 6,800 tons of oily sand and gravel contained in the thermal storage tank.
- D. Demolition and salvage of approximately 245,000 pounds of steel from the 60-foot diameter by 40-foot high, steel thermal storage tank.
- E. Demolition and salvage of approximately 95,000 pounds of steel from the heat exchangers, associated piping and equipment.
- F. Demolition and disposal of approximately 450 tons of associated concrete containment structures.
- G. Excavation, thermal treatment, and disposal of approximately 150 tons of oil contaminated soils.
- H. Backfilling the soil excavations with approximately 150 tons of clean, imported, granular soil.
- J. The volumes of insulation and Caloria oil and the weights of the oil contaminated soil, sand and gravel, salvageable steel and waste concrete are based on Edison's best judgement. Contractor shall satisfy itself as to the actual volumes and weights.

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Payment for these items shall be as specified in the following sections of this Specification.

3.3 MATERIAL FURNISHED BY CONTRACTOR

Contractor shall furnish all Material required to complete the Work, unless otherwise specified herein.

3.4 CODES AND STANDARDS

The Work shall be performed in compliance with the following codes and standards, as amended to the date of this Specification, which are, by reference, incorporated herein and made a part of this Specification:

California Health and Safety Code (HSC)

California Above-Ground Petroleum Storage Act (APSA)

California Department of Transportation (DOT) Regulations

California Environmental Protection Agency (EPA)

California Regional Water Quality Control Board - Lahontan Region (RWQCB)

Mohave Air Quality Management District (MAQMD)

San Bernardino County Solid Waste Management Department

San Bernardino County Environmental Health Services Agency

ASTM D 1556 Field Density Test

ASTM D 1557 Test for Moisture Density

3.5 WORK DESCRIPTION

3.5.1 Insulation and Aluminum Shielding

3.5.1.1 Thermal Storage Tank (TST)

The thermal storage tank is covered with a non-asbestos fiberglass insulation and with an outer layer of aluminum shielding. The material is attached to the thermal storage tank by a series of steel bands. There is an estimated 3,240 pounds of aluminum and 450 bulk, cubic yards of insulation.

TECHNICAL REQUIREMENTS

3.5.1.2 Piping and Equipment

The piping and equipment is covered with a non-asbestos, calcium silicate type insulation with an outer layer of aluminum shielding. There is an estimated 2,400 pounds of aluminum and 76 cubic yards of insulation.

3.5.1.3 Removal

Material shall be removed by cutting the steel bands. Scaffolding may be required. The insulation shall be inspected for oil staining as removed.

3.5.1.4 Disposal

Any oil stained insulation shall be set aside and tested for oil content and disposed of in accordance with the California Environmental Regulations. The clean insulation shall be disposed of at an offsite Class III landfill. The aluminum shall be salvaged for scrap. Contractor shall provide the Edison Representative with the name, address, telephone number and contact for each disposal site, including landfill and scrap dealer prior to removal from the Jobsite.

3.5.1.5 Payment

A. Payment for removal, inspection and disposal shall be for a lump sum fixed price. For bidding purposes, Contractor shall assume that all of the insulation may be disposed of at a Class III landfill. A Change Order will be issued for Contractor's actual increased costs plus 15%, for disposal in a Class I or II landfill.

B. Contractor shall provide the Edison Representative with the actual weight and salvage value received for the aluminum. There shall be no adjustments to the fixed cost regardless of the actual weight and/or if the salvage value is more or less than Contractor anticipated.

3.5.2 Caloria Oil

3.5.2.1 General

A. The Caloria oil was analyzed for pH, PCBs, Total Organic Halogen (TOX), and four potentially toxic metals (Arsenic, Cadmium, Chromium, and Lead) to determine its status with respect to federal and state solid and hazardous waste regulations.

TECHNICAL REQUIREMENTS

In addition, the physical parameters of the oil (flashpoint, specific gravity, percent water, viscosity, and energy content) were tested to investigate possible changes to the oil that may have occurred during its use and storage. A summary of the analytical test results are presented in Appendix 3A of this Specification. A copy of the Material Safety Data Sheet (MSDS) and product specifications for the Caloria HT 43™ oil is also presented in Appendix 3A for future reference.

B. The specific objectives of the oil disposal are to remove the oil from the thermal storage system so that decommissioning can proceed, to comply with the California environmental regulations for use as an exempted used oil, and to reduce the possibility of future liability with respect to the oil by assuring its complete destruction or reuse as initially intended. The oil may be sold as a fuel oil or as a heat transfer oil as approved by Edison and DOE.

C. The Department of Energy (DOE) has a letter from the California EPA, stating that the oil currently stored in the above-ground tank is an exempt used oil under the California Health and Safety Code. Contractor, shall complete the Oil Shipment Certification (Appendix 3C). The transporting and receiving facility Operator shall also be noted on the form ("Oil Shipment Certification"). Copies of the Oil Shipment certification shall accompany all shipments and the signed copies of acceptance from the transporting and receiving facility of shipments shall be obtained and provided to the Edison Representative.

D. Contractor shall be responsible for performing the above outlined tasks or for ascertaining that these tasks are completed in accordance with the instructions on the Oil Shipment Certification form under Section 25250.1(e) and 25250.18, Chapter 6.5, Division 20, California Health and Safety Code.

3.5.2.2 Oil Removal Plan

A. Contractor shall submit a detailed Oil Removal Plan showing the sequence of tasks for collecting the oil within 10 days after award of Purchase Order. The Oil Removal Plan shall be compatible with and shall amplify Contractors Bid Proposal Work Plan and shall address environmental and safety concerns. A recommended sequence of tasks are:

TECHNICAL REQUIREMENTS

1. Draining of the oil in the main tank, make-up tank, and heat transfer system by gravity or purging with inert gas and pump with portable pumps into tank trucks.

2. Draining of any remaining oil by "pigging" the larger pipe lines, purging some tanks and equipment with nitrogen gas, and/or vacuum pumping. Note, that after draining oil from the thermal storage tank, up to 2.26 feet of oil may remain inaccessible because it is located below the midline of the lower manifold. Special provisions may be necessary to remove the oil below the lower manifold.

3. Placement of temporary containment vessels or pads capable of holding the largest probable oil spills around all hose and pipe connections used in the removal of the oil and park the tanker trucks on lined containment pads during all oil transfer operations and cleaning of the truck/tanker connection before transport.

B. The quantity of oil present in the thermal storage tank could not be accurately estimated because the oil level in the main storage tank is unknown. The maximum volume present is estimated at approximately 255,000 gallons, and the lowest estimate of the volume is approximately 69,000 gallons. Contractor shall base its bid on a volume of 200,000 gallons. Payment will be as specified in Section 3.5.2.6.

3.5.2.3 Disposition

A. As noted in Section 3.5.2.1, testing to determine the oil's status as exempted used oil, with respect to Federal and State Solid and Hazardous Waste regulations was performed on the Caloria HT 43™ oil; however, potential buyers of the oil have stated that they will require samples to perform their own independent testing prior to committing to purchasing the oil.

B. Assuming the oil shall be burned as a substitute for fuel oil by a buyer, the Caloria HT 43™ used oil shall be used in a manner similar to a commercial product. The user of the oil shall be required to sign the Oil Shipment Certification, as the receiving location. Contractor shall provide the Edison Representative with the name, address, telephone number and contact of the buyer prior to removal of the oil from the Jobsite.

C. No special provisions for on-site storage of oil shall be made during the project. Arrangements for acceptance and storage of all oil shall be made with the identified user of the oil prior to removing the oil from the system.

TECHNICAL REQUIREMENTS

3.5.2.4 Transportation

A. Transporting of exempted used oil in California is regulated under Federal and State regulations. California has adopted by reference U.S. Department of Transportation (DOT) regulations under 49 CFR, Parts 150-173 and 178-179.

B. The Caloria oil is regulated according to the flashpoint which it exhibits. Analyses of the oil determined a 197°F, average flash point with a range over five samples of 114° - 294°F. As DOT has expressed a preference for a single value to represent the oil, the flashpoint shall be declared 197°F, the average value and, therefore, consistent with the regulations determined to be combustible for transportation purposes.

C. Documenting the oil as combustible shall be, at a minimum, by labeling, manifesting, and placarding in accordance with DOT regulations. Contractor shall be responsible for overseeing that the transporter follows US DOT regulations and that the transporter is certified as a hauler by the California Highway Patrol. Contractor shall provide a copy of certification to the Edison Representative prior to transporting the oil from the Jobsite. Certification shall include permits for transporting oil, EPA Identification Number; DOT Numbers, Contractor and Pollution Liability Insurance.

3.5.2.5 Documentation

A. The following documents shall be obtained by Contractor, and signed by appropriate transporter and buyer, and maintained in good condition during shipment of the oil:

1. Oil Shipment Certification Form
2. California Highway Patrol Certificates to Operate Vehicle
3. US DOT Manifest in Accordance with 49 CFR 100-173 and 178-179

B. Copies of Oil Shipment Certification along with a manifest shall accompany all shipments of oil. Completed forms shall be copied and returned to the Edison Representative following shipments.

TECHNICAL REQUIREMENTS

3.5.2.6 Payment

A. Payment shall be for a unit cost per gallon of oil collected. The unit cost shall include costs for collecting, testing, transporting, documentation and environmental protection based on 200,000 gallons of oil. Contractor shall provide a separate unit cost for add or deduct.

B. Payment shall be based on the actual volume of oil collected.

C. Contractor shall provide the Edison Representative with certification of the actual volume of the oil collected and the value received from the buyer. There shall be no adjustment to the unit cost regardless if the actual value received is more or less than Contractor anticipated.

3.5.3 Oily Sand and Gravel

3.5.3.1 General

A. The sand and gravel at the Solar One facility is located within the thermal storage tank (TST) along with the Caloria HT 43™ oil and is considered to be saturated with the oil even after its removal from the thermal storage tank.

B. The objectives of the sand and gravel treatment are to eliminate potential future liability by thermal destruction of oil contaminants in the sand and gravel. Low Temperature Thermal Desorption treatment was determined to be the most cost effective and implementable method of treatment. The detailed methods for achieving objectives for the sand and gravel, are as follows:

1. Characterization of the sand and gravel after draining the oil from the thermal storage tank; (i.e., percent moisture, percent oil, desorption temperature, etc.).
2. Removal of the sand and gravel from the thermal storage tank.
3. Transportation to the selected Low Temperature Thermal Desorption treatment facility.
4. Treatment of the sand and gravel to remove the residual oil.
5. Testing of the sand and gravel for confirmation of established removal criteria.

TECHNICAL REQUIREMENTS

6. Certification that the treated sand and gravel meet the requirements of this Specification.

3.5.3.2 Removal Plan

A. Contractor shall submit a detailed oil contaminated Sand and Gravel Removal Plan showing how the sand and gravel will be removed from the TST within **ten days** after award of Purchase Order. The Sand and Gravel Removal Plan shall be compatible with and shall provide more detail than Contractor's Bid Proposal Work Plan and shall address environmental and safety concerns.

B. The thermal storage tank contains an estimated 6,800 tons of oil-contaminated sand and gravel requiring Low Temperature Thermal Desorption treatment and off-site disposal. A 5-ton friction crane equipped with a clam-shell bucket, vacuum hose or other similar approved equipment, may be used to remove the sand and gravel from the tank and to load it directly onto trucks. Under applicable DOT regulations, trucks shall not leak any oil during loading or transporting and shall be lined with suitable plastic sheeting, if required. Staging or stockpiling of the sand and gravel shall not be allowed, however, this requirement may be waived by the Edison Representative if Contractor's Sand and Gravel Removal Plan includes a suitable means to prevent oil contamination of underlying soils or concrete. Any oil contamination of the soil or concrete shall be cleaned at Contractor's expense, to meet regulatory requirements.

C. Materials shall be transported by trucks to an approved off-site Low Temperature Thermal Desorption treatment facility selected for the project.

3.5.3.3 Transportation

As provided in the California Health and Safety Code, Sections 25250.1(e), 25250.18, and 25250.19, a copy of a completed Oil Certification form (Appendix 3B) shall be maintained with each shipment of recycled or exempt oil from the generator's location to the shipment's destination. A copy of the Oil Shipment Certification shall accompany the sand and gravel to the Low Temperature Thermal Desorption treatment facility along with any pre-treatment certifications. Transporter shall be certified to operate in the State of California and shall be required to document all shipments.

TECHNICAL REQUIREMENTS

3.5.3.4 Documentation

A. Contractor shall document quantities of sand and gravel by truck load according to dates of shipment, truck load number, date received, and identify the Low Temperature Thermal Desorption treatment facility receiving sand and gravel. Chain-of-custody documentation procedures shall be generated and maintained by Contractor and copies shall be given to the Edison Representative within 10 days after the transportation phase is completed.

B. Contractor shall be responsible for obtaining signed certificates of disposition from the Low Temperature Thermal Desorption treatment facility, analytical data generated for pretreatment, and post-treatment analytical data performed by the Low Temperature Thermal Desorption treatment facility (and independently verified) for the Edison Representative.

3.5.3.5 Low Temperature Thermal Desorption Treatment

A. Thermally treat approximately 6,800 tons of oil contaminated sand and gravel to less than 10 ppm of petroleum hydrocarbons. The sand and gravel are estimated to contain about 20,000 ppm of petroleum hydrocarbons after free draining the Caloria oil.

B. Contractor shall provide laboratory testing by an independent test laboratory to certify treatment. Perform one each test for TPH for each 100 tons of material per Modified SW-846 Method 8015 and one test for BTEX for each 1000-tons of material per Method 8020.

C. The Low Temperature Thermal Desorption treatment facility shall be licensed to treat non-hazardous wastes and shall have all permits required by the State, County or City regulatory agencies.

D. The Low Temperature Thermal Desorption treatment facility shall submit a Quality Assurance and Quality Control Plan showing Permits, Codes and Standards, regulatory requirements and Safety Plan and a Work Plan showing all steps for processing the sand and gravel. This shall include material staging, treatment, pre-testing, and certification testing after treatment.

E. Submit daily weight records to the Edison Representative.

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F. Material from Solar One shall be treated and stockpiled separately (before and after treatment) until all of the material has been certified to be less than 10 ppm.

G. Contractor shall provide the Edison Representative with written certification from the Low Temperature Thermal Desorption Treatment facility that the oil contaminated sand and gravel, and site soil was treated to the requirements of their specification.

H. Contractor shall provide Edison with the address and name of the owner of the final resting place for the treated sand and gravel.

J. The Low Temperature Thermal Desorption treatment shall be the same for the sand and gravel and all oil contaminated soil that may be encountered.

3.5.3.6 Payment

Payment for collecting, transporting, testing and treating the oily sand and gravel shall be for a fixed cost. Contractor shall provide the Edison Representative with the actual weight of the sand and gravel and the actual cost for the Low Temperature Thermal Desorption treatment paid to the Low Temperature Thermal Desorption treatment facility. There shall be no adjustment to the fixed cost regardless of the actual weight and/or if the cost for the Low Temperature Thermal Desorption Treatment is more or less than Contractor anticipated.

3.5.4 Thermal Storage Tank

3.5.4.1 General

A. Tank demolition shall require special precautions because of the potential for fire or explosion hazards and other unique safety concerns. Tankage includes the main thermal storage tank, the Caloria HT 43™ make-up tank, and the heptane and propane tanks associated with the ullage maintenance system.

B. The objectives of tank removal are to prevent damage to, or oil contamination of, the existing concrete containment pad, prevent potentially hazardous conditions, and comply with applicable Worker Health and Safety Regulations. Tank demolition shall require purging with inert gases and monitoring for potentially explosive conditions.

TECHNICAL REQUIREMENTS

3.5.4.2 Thermal Storage Tank Demolition Plan

Contractor shall submit a detailed demolition plan showing the sequence of tasks for the tank demolition within 10 days after award of Purchase Order. The demolition plan shall be compatible with and shall amplify Contractor's Bid Proposal Work Plan and shall address environmental and safety concerns. A recommended sequence of tasks are as follows:

- A. Remove the outer steel covering the inner layer of insulation, the inner steel shell and then the roof trusses. All appropriate Worker Health and Safety procedures shall be observed during this operation. Cutting the outer sheeting with a torch shall be avoided because of the potential for ignition of the insulation. Also, the tank shall be purged with nitrogen or other inert gas prior to cutting through the roof.
- B. Remove the upper piping manifold by cold cutting or unbolting the piping connections. Worker entry may be required for this task, and all appropriate Worker Health and Safety procedures shall be observed. Remove the intermediate and lower manifolds as the sand and gravel are removed.
- C. Sand and gravel shall be removed as described in Section 3.5.3.
- D. Remove the tank walls by use of hydraulic shearing equipment, wipe clean with rags or rinse with a surfactant and load onto trucks.
- E. Transport the steel to a scrap dealer. The estimated quantity of steel in the thermal storage tank, including the roof trusses and tank piping is 245,000 pounds.

3.5.4.3 Cleaning

Contractor shall be responsible for cleaning the tank steel and piping to meet all associated regulatory requirements. Wash water shall be controlled to prevent spillage and shall be transported off-site and treated in accordance with the California EPA requirements.

3.5.4.4 Transportation

Transportation shall be in accordance with all applicable DOT regulations.

TECHNICAL REQUIREMENTS

3.5.4.5 Payment

A. Payment shall be for a fixed cost for the demolition, cleaning and transportation of the thermal storage tank, the ullage maintenance tanks (heptane and propane storage tanks), the Caloria make-up tank, and associated tank wiring and piping.

B. Contractor shall provide the Edison Representative with the actual weight of the salvaged material (tank steel and piping) and the value received from the scrap dealer. There shall be no adjustments to the fixed cost regardless of the actual weight and/or if the value received is more or less than Contractor anticipated.

3.5.5 Piping and Equipment (Includes Electrical)

3.5.5.1 General

A. During dismantling of the Solar One facility, the tanks, piping, other auxiliary equipment to the system, and concrete pads, shall be generated as potential wastes. Every effort shall be made to recycle as much of the metal as possible as scrap. Licensed California recyclers and disposal facilities shall be used by Contractor.

B. The objectives for the process of removal of piping, equipment and associated wiring are to assure that all materials are sufficiently cleaned of oil before transport and sale as scrap in accordance with applicable State regulations. Dismantling, removal, and disposal shall be as outlined in Contractor's Bid Proposal Work Plan. Completion of the following tasks are recommended for piping, equipment and wiring demolition:

1. Removal of oil from the piping and equipment prior to salvaging.
2. Demolition and salvaging of the piping as scrap steel.
3. Cleaning the scrap as necessary to meet California EPA regulatory requirements.
4. Disposing of debris such as concrete, insulation, wiring and miscellaneous items at a Class III landfill.

TECHNICAL REQUIREMENTS

3.5.5.2 Demolition

A. The charging heat exchangers, extraction boilers, superheaters, preheaters, and pumps shall be purged of oil and rinsed with biodegradable surfactant solutions. Each piece of equipment shall then be cut or unbolted from the connecting piping and removed. The smaller tanks and piping shall be purged, rinsed, isolated, stripped of insulation, and then sheared on-site. Pumps and valves shall be removed by isolating and unbolting with hand tools, or cutting. It is estimated there is approximately 95,000 pounds of steel piping.

B. Oil in the underground oil/water separator shall be removed. A non-toxic detergent shall be used to pump out the contents of the separator prior to its removal and disposal. It is anticipated that disposal of the contents shall be at a local wastewater treatment plant. Contractor shall be responsible for any required testing of the contents. The thermal storage system is documented as a closed system, so the oil in the separator should possess the same characteristics as the oil in the thermal storage tank. Contractor shall be responsible for seeking approval from authorities for decisions on final disposition.

C. Prior to removal, the existing oil/water separator and sump may be used for collection waste water during the cleaning of the piping and equipment. The oil/water separator and all associated underground piping shall be excavated and removed. Caution shall be taken to segregate any oil-contaminated soils during the removal of underground equipment and piping and to prevent any additional oil contamination.

3.5.5.3 Disposal

A. Non-salvageable equipment and debris shall be disposed of in a Class III landfill, if not recyclable. The landfills in San Bernardino County are all Class III and cannot accept any liquids, designated wastes, or hazardous wastes. Approval for disposal in a Class III landfill is required from three entities:

1. Lahontan Regional Water Quality Control Board
15428 Civic Drive, Suite 100
Victorville, California 92392
Attention: Chris Maxwell

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2. San Bernardino County
Solid Waste Management Department
222 West Hospitality Lane
Second Floor
San Bernardino, California 92415-0017
Attention: Ken Caz
3. Environmental Health Services
385 North Arrowhead
San Bernardino, California 92415-0160
Attention: Jim Trujillo

B. Approval from the Regional Water Quality Control Board (RWQCB) shall be obtained prior to implementing the work plan. Other approvals, from the County Solid Waste Management Department and Environmental Health Services Agency, shall be obtained prior to implementation of the work plan, however, it is assumed that meeting the RWQCB requirements will satisfy the Environmental Health Services Agency and the County Solid Waste Management Department. Therefore, initial approval should be sought from the RWQCB.

C. Contractor shall be responsible to ensure the debris is drained and cleaned to the greatest extent possible to increase the likelihood of acceptance into a Class III landfill. If Class III disposal is disapproved, alternatives shall be disposal in a Class I or Class II landfill, and/or other treatment methods performed. In this case, Contractor shall be paid for the extra work at cost plus 15%.

D. Disposal costs are \$36.65 per ton. For materials over four feet in any direction, the cost is \$86.65 per ton. The Solid Waste Management Department's local section shall be contacted at (909) 381-0404 for payment arrangements.

3.5.5.4 Transportation

A. According to Kathryn Richards of Environmental Health Services (909) 387-2020, a manifest is not required if the materials are considered scrap or deemed non-hazardous. Records of each shipment as to dates, quantities, and facilities shipped to, shall be maintained by Contractor. California certified transporters shall be used to transport all materials. Contractor shall provide the Edison Representative with a copy of the shipment records within 5 days after completion of transportation.

B. Materials may be cut up on-site to ease transport truck size demands. Contractor shall be required to obtain a

SPECIFICATION E-93027
Demolition and Removal of
Solar One Thermal Storage System

TECHNICAL REQUIREMENTS

permit from CALTRANS permit office in San Bernardino at (714) 383-4637 for oversized loads. CALTRANS shall inform Contractor if a California Highway Patrol escort car is required for any oversized load. The California Highway Patrol can be reached at (619) 256-1727, to arrange for an escort.

3.5.5.5 Documentation

Contractor shall be responsible for obtaining written authorizations from the Regional Water Quality Control Board, San Bernardino County Solid Waste Management Department, and Environmental Health Services of San Bernardino. Copies of the authorizations shall accompany all shipments to the landfill disposal facility along with the copy of Certification of Non-Regulated Used Oil. A signed receipt from the landfill disposal facility operator or metal recycling facility shall be obtained as to the type, quantity, and condition of materials that have been received at that facility, for Edison's records. The record of documentation shall be similar to chain-of-custody procedures and documentation.

3.5.5.6 Payment

A. Payment shall be for a fixed cost for the demolition and disposal of the piping, equipment and associated wiring as shown on the drawings.

B. Contractor shall provide the Edison Representative with the actual weight of the salvaged material and the actual value received from the scrap dealer. There shall be no adjustment to the fixed cost regardless of the actual weight and/or if the value is more or less than Contractor anticipated.

3.5.6 Concrete Structures

3.5.6.1 General

A. The concrete containment structure surrounding the thermal storage tank shall be retained for possible use during the Solar Two thermal storage tank project. Only the smaller concrete pads around the thermal storage system pumps, heat exchangers, and boilers shall be removed.

B. The objective of the demolition of the concrete containment structures are to facilitate construction of the Solar Two thermal storage system and to allow inspection of

TECHNICAL REQUIREMENTS

subsurface soils for possible oil contamination. Work includes the following:

1. Cleaning of any residual oil from the external surfaces of the concrete.
2. Demolishing the concrete into pieces sufficiently small to facilitate transporting and disposal.
3. Off-site disposal in a Class III landfill.

3.5.6.2 Demolition

A. Concrete foundations and containment pads supporting the heat exchangers, extraction boilers, and pumps could be demolished by use of an excavator equipped with a hoe ram. A second excavator equipped with hydraulic shears and a bucket may be required to cut rebar in the concrete and load onto trucks for off-site disposal. The concrete shall be disposed of at a Class III landfill.

B. The concrete thermal storage tank basin and drain sump shall be left in place. The total quantity of concrete from demolition of the other containment pads was estimated at approximately 225 cubic yards, in place, or approximately 450 tons.

C. The concrete equipment pads are assumed to not contain any soluble pollutants in concentrations exceeding the State's water quality objectives. However, if it is determined upon decommissioning by the Edison Representative, that the concrete is heavily soiled by oil, the concrete area(s) shall be washed to remove excess oil. Water from this activity shall be collected and properly disposed of. Cleaning shall be paid at Contractors cost plus 15%.

3.5.6.3 Transportation

Transportation shall be in accordance with DOT rules and regulations.

3.5.6.4 Payment

Payment shall be for a fixed cost to remove and dispose of the concrete foundations, slabs or structures as shown on the drawings and to clean, remove and dispose of the concrete oil-water separator. Contractor shall provide the Edison Representative with the actual weight of the concrete and the actual costs for disposal. There shall be no adjustment to

TECHNICAL REQUIREMENTS

the fixed cost regardless of the actual weight and/or if the actual cost is more or less than Contractor anticipated.

3.5.7 Oil Contaminated Soil

3.5.7.1 General

A. Several small areas of oil-staining of surficial soils have been observed, most notably, around the oil/water separator. Since some oil piping runs underground, the concern exists that leaks may have occurred outside the containment areas, resulting in other potential areas of contamination. Therefore, procedures for delineating the horizontal and vertical extent of soil contamination are included in the current work plan to allow for their removal and treatment. Remediation of oil-contaminated soils will consist of the following tasks:

1. Visual inspection of soils during excavation of the buried piping, oil/water separator and concrete to determine the extent of the oil contamination.
2. Analysis of contaminated soil samples for Total Petroleum Hydrocarbons (TPH) and other parameters as required by the Low Temperature Thermal Desorption treatment facility.
3. Excavation of oil-contaminated soil.
4. Treatment of soils by the Low Temperature Thermal Desorption treatment facility in accordance with Section 3.5.3.5.
5. Analysis of the exposed soils following excavation to verify all contaminated soil has been removed.
6. Backfilling the excavation with clean soil in accordance with Section 3.5.8.

B. Depending on conditions observed during demolition of the above referenced concrete pads, additional subsurface investigations shall be required to determine the extent and nature of possible contamination.

3.5.7.2 Disposition

All contaminated soils shall be transported to the Low Temperature Thermal Desorption facility for treatment and stabilization. An assumed quantity of 150 tons of oily soils

TECHNICAL REQUIREMENTS

shall be used for cost estimating purposes; however, the actual quantity of soils requiring treatment are unknown.

3.5.7.3 Certification of Subgrade Soil

After excavation of all visibly stained soils, the exposed soils shall be sampled and analyzed. Also, a confirmatory sampling and analysis shall be performed after the visibly stained soils have been removed to verify complete removal of contaminated materials.

3.5.7.4 Transportation

Transportation of contaminated soil shall be in accordance with the California Health Safety Code, Sections 25250.1(e), 25250.18 and 25250.19 (as described in Subsection 3.5.3 for sand and gravel). The Oil Certification Form shall accompany the shipment(s) of soil to the Low Temperature Thermal Desorption treatment facility.

3.5.7.5 Documentation

A. Documentation procedures for disposition of contaminated soil shall be as stated in Subsection 3.5.3.

B. Chain-of-custody documentation shall be maintained and provided to the Edison Representative after decommissioning is complete.

3.5.7.6 Low Temperature Thermal Desorption Treatment

Thermally treat all oil contaminated soil in accordance with Section 3.5.3.5.

3.5.7.7 Payment

A. Costs for the excavation, transportation and thermal treatment for the first 150 tons of oil contaminated soil shall be a fixed cost. Contractor shall assume the depth of contamination is limited to the top 5 feet of soil and shall not involve the removal or support of a foundation that is not scheduled to be removed. Contractor shall document and notify the Edison Representative when the 150 ton limit is reached.

B. Costs and payment for investigating the limits of any excess contamination, including field exploration, sampling, testing and Low Temperature Thermal Desorption treatment shall be at Contractors cost plus 15%.

TECHNICAL REQUIREMENTS

3.5.8 Backfill

3.5.8.1 General

Clean, granular structural backfill shall be transported to the Jobsite by truck to replace the areas of excavated soil. The backfill shall be placed in 12-inch lifts and compacted to 95 percent of its standard proctor density per ASTM D 1557. Compaction testing shall be performed on all soil excavations greater than 100 square feet in surface area or greater than 2 feet deep. All areas shall be regraded to match existing contours. Clean native soil is acceptable for backfill.

3.5.8.2 Payment

Costs for supplying, placing and compacting the first 150 tons of backfill shall be at a fixed cost. Costs and payment for over excavation backfill shall be at Contractor's costs plus 15%. Costs for regrading all disturbed areas to match the existing contours shall be included with the cost of other work.

3.6 EDISON DRAWINGS

Edison drawings which are part of this Specification are listed in Appendix 3C, Edison Drawing List.

3.7 ACCEPTANCE

Acceptance of the completed Work, pursuant to the General Terms and Conditions, shall include the Edison Representative in receipt of all submittals listed in Table 3-1 and all phases of the Work performed to the satisfaction of the Edison Representative.

END SECTION 3

ITEM	TYPE OF DOCUMENTATION REQUIRED	REFERENCE SECTION	NUMBER AND TYPE OF SUBMITTALS AFTER AWARD OF CONTRACT				APPROVAL DOCUMENTS REQUIRED NO. OF DAYS AFTER AWARD	REMARKS
			FOR APPROVAL		AFTER APPROVAL			
			QTY.	FORM *	QTY.	FORM *		
1.	Work Schedule	2.7.1	2	R	1	R	10	
2.	Progress Reports	2.7.3	1	N	--	--	--	Submit Weekly
3.	As-Built Drawings	2.8	1 Set	R	--	--	--	Within one Week after acceptance of the Work
4.	Disposal Sites	3.5.1.4	1	--	1	--	--	
5.	Weight/Salvage Value	3.5.1.5B	1	--	1	--	--	
6.	Oil Shipment Certification	3.5.2.1C	1	--	1	--	--	
7.	Disposition	3.5.2.3.B	1	--	1	--	--	
8.	Certification	3.5.2.4C	1	--	1	--	--	
9.	Oil Removal Plan	3.5.2.2	2	N	1	N	10	
10.	Documentation	3.5.2.5	--	--	1	N	--	Following Shipments
11.	Certificate/Volume Oil Collected	3.5.2.6C	1	--	1	--	--	
12.	Sand and Gravel Removal Plan	3.5.3.2	2	N	1	N	10	
13.	Documentation	3.5.3.4	--	--	1	N	--	Following Thermal Treatment

*LEGEND: N — NONREPRODUCIBLE R — REPRODUCIBLE

EA-624 NEW 4/93

TABLE 3-1. DOCUMENTATION SUBMITTAL SCHEDULE

SPECIFICATION E-93027
Demolition and Removal of
Solar One Thermal Storage System

ITEM	TYPE OF DOCUMENTATION REQUIRED	REFERENCE SECTION	NUMBER AND TYPE OF SUBMITTALS AFTER AWARD OF CONTRACT				APPROVAL DOCUMENTS REQUIRED NO. OF DAYS AFTER AWARD	REMARKS
			FOR APPROVAL		AFTER APPROVAL			
			QTY.	FORM *	QTY.	FORM *		
14.	Weight Records	3.5.3.5	1	--	1	--		
15.	Thermal Storage Tank Demolition Plan	3.5.4.2	2	N	1	N	10	
16.	Documentation	3.5.5.5	--	--	1	N	--	Following Disposal
17.	Documentation	3.5.7.4	--	--	1	N	--	Following Thermal Treatment
18.	Work Plan: Fire Plan Safety Plan Environmental Plan	B.4	2	N	2		--	With Bid Submittal

*LEGEND: N — NONREPRODUCIBLE R — REPRODUCIBLE

E4-624 NEW 4/93

TABLE 3-1. DOCUMENTATION SUBMITTAL SCHEDULE

SPECIFICATION E-93027
Demolition and Removal of
Solar One Thermal Storage System

APPENDIX 3A

ANALYTICAL TESTS
MATERIAL SAFETY DATA SHEET (MSDS)

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

400 P Street, 4th Floor
P.O. Box 806
Sacramento, CA 95812-0806



(916) 323-6042

January 25, 1993

Mr. Thomas L. Anderson
Dames & Moore
1125 Seventeenth Street, Suite 1200
Denver, Colorado 80202-2027

USED OIL CERTIFICATION FORM REQUEST

Dear Mr. Anderson:

This is in response to your January 19, 1993 request for a copy of the oil shipment certification form as required under section 25250.1(e) of Chapter 6.5, Division 20 of the Health and Safety Code (HSC) when used oil is certified to meet the requirements of HSC section 25250.1(e). Your letter states that the oil in question is a hydrocarbon based heat transfer fluid which was used at a solar energy collection facility. You also supplied copies of laboratory analysis data related to the used heat transfer oil.

As provided in HSC section 25250.4, used oil shall be managed as hazardous waste until it has been shown to meet the requirements of HSC section 25250.1(e). From the information provided in your letter and attachments, we believe that the used heat transfer oil would be included in the definition of used oil as provided in HSC section 25250.1(a). In addition, from the information you have provided, it seems as though the oil would meet the conditions required in HSC section 25250.1(e) so as to not be regulated by the Department of Toxic Substances Control (Department). As provided in HSC sections 25250.1(e), 25250.18, and 25250.19, a copy of a completed oil certification form must be maintained with each shipment of recycled oil or exempt oil from the generator's (or recycling facility's) location to the shipment's destination. In addition, as required in HSC section 25250.19(b), the generator must maintain a copy of the oil analysis information and the oil shipment certification form for a period of three years.



Mr. Thomas L. Anderson
January 25, 1993
Page 2

We have included a copy of the oil shipment certification form and a copy of the used oil statutes with this letter. You may make copies of the certification form if additional forms are required. If you have any questions concerning this letter or the management of used oil, please contact me at (916) 322-1005 or the letterhead address.

Sincerely,



Leif Peterson

Enclosures

cc: Ms. Pamela Bennett, Director
Environmental Health Services
Environmental Public Works Agency
385 N. Arrowhead Avenue
San Bernardino, California 92415-0160

Ms. Paula Rasmussen, Chief
Surveillance and Enforcement Branch
Department of Toxic Substances Control
Region 4/Long Beach
245 West Broadway, Suite 350
Long Beach, California 90802

DRAFT

Analytical Test Results for Caloria HT 43™ Oil Samples From The Solar I Thermal Storage System

Parameter	Sample Identification					Evaluation Criteria	
	HE-1B	EB-1B	ST-1B	ST-2B	MT-1B	CA Recycled Oil ⁽⁶⁾ Regs	CA Used Oil ⁽⁶⁾
Metals							
Arsenic ⁽¹⁾	<0.5	<0.5	<0.5	<0.5	<0.5	≤5.0	≤5.0
Cadmium ⁽¹⁾	<1.0	<1.0	<1.0	<1.0	<1.0	≤2.0	≤2.0
Chromium ⁽¹⁾	<2.0	<2.0	<2.0	<2.0	<2.0	≤10.0	≤10.0
Lead ⁽¹⁾	<0.5	<0.5	<0.5	<0.5	<0.5	≤50.0	≤100.0
Organic Analyses							
PCBs ⁽¹⁾	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<5.0
TOX ⁽¹⁾	8.2	8.1	7.6	5.9	6.8	<1,000	<4,000
Oil Typing							
Viscosity ⁽²⁾	18.5	19.1	20.5	18.2	26.3	NA	NA
Specific Gravity ⁽³⁾	.8560	.8560	.8578	.8556	.8591	NA	NA
Flashpoint ⁽⁴⁾	182°	114°	294°	120°	279°	400 ⁽⁵⁾	≥100°
Energy Content ⁽⁵⁾	142,071	140,283	139,854	138,496	137,709	NA	NA
Light Hydrocarbons ⁽¹⁾	770	1100	530	1400	1300	NA	NA
Miscellaneous Analyses							
pH	7.1	5.6	6.6	6.8	6.8	NA	NA
H ₂ O%	<.01	<.01	<.01	<.01	<.01	NA	NA

- ⁽¹⁾ Concentration in ppm
- ⁽²⁾ In Centistokes @40°F *40°C per Gorman Wallace 7/23/93*
- ⁽³⁾ @60° fahrenheit
- ⁽⁴⁾ In degrees fahrenheit
- ⁽⁵⁾ BTU/gal
- ⁽⁶⁾ Recycled oil definition in California is for a treated oil product. i.e., hazardous waste oil which has been treated.
- ⁽⁷⁾ MSDS Flashpoint for Exxon Caloria HT 43™
- ⁽⁸⁾ Specifications for used oil if over 4,000 ppm halogens
- NA Not Applicable

DATE OF MSDS : 1990-12-14

*** MANUFACTURER INFORMATION ***

MANUFACTURER : ESSO PETROLEUM CANADA
ADDRESS : 55 ST CLAIR AVENUE WEST
TORONTO ONTARIO
CANADA MSW 2J8
Telephone: 416-968-4111
EMERGENCY TELEPHONE NO.(S) : 519-339-2145 (Emergency, 24 hour service)
416-968-5114 (Technical Info)

*** SUPPLIER INFORMATION ***

SUPPLIER/DISTRIBUTOR : ESSO PETROLEUM CANADA
ADDRESS : 55 ST CLAIR AVENUE WEST
TORONTO ONTARIO
CANADA MSW 2J8
Telephone: 416-968-4111
EMERGENCY TELEPHONE NO.(S) : 519-339-2145 (Emergency, 24 hour service)
416-968-5114 (Technical Info)

*** MATERIAL SAFETY DATA ***

Date Prepared: December 14, 1990

Supersedes:

MSDS Number : 268154

Reference:

1. PRODUCT INFORMATION

Product Identifier: EXXON CALORIA HT 43

Application and Use:

Inhibited premium quality heat transfer oil for open and closed systems

Product Description:

A lubricating oil consisting of a mixture of saturated and unsaturated hydrocarbons derived from paraffinic distillate, and additives.

REGULATORY CLASSIFICATION

WHMIS:

NOT A CONTROLLED PRODUCT

TRANSPORTATION OF DANGEROUS GOODS INFORMATION

Shipping Name: Petroleum Lubricating Oil

Class: Not applicable

PIN Number: Not applicable

Packing Group: Not applicable
Guide Number: 129

Please be aware that other regulations may apply.

TELEPHONE NUMBERS

Emergency 24 hr. (519) 339-2145
Technical Info. (416) 968-5114

MANUFACTURER/SUPPLIER:

Esso Petroleum Canada
55 St Clair Avenue West
Toronto, Ontario
MSW 2J8
(416) 968-4111

2. REGULATED COMPONENTS

The following components are defined in accordance with sub-paragraph 13(a) (i) to (iv) or paragraph 14(a) of the Hazardous Products Act:

NAME	†	CAS #
------	---	-------

No regulated components

3. TYPICAL PHYSICAL & CHEMICAL PROPERTIES

Physical State: Liquid
Specific gravity: 0.880 at 20 deg C
Viscosity: 28.00 cSt at 40 deg C
Boiling Point: 293 deg C
Evaporation rate: <0.01 l= n-butylacetate
Solubility in water: 0.00%
Freezing/Melting Point: -6 deg C D97
Appearance/odour: Yellow oil, petroleum odour

4. HEALTH HAZARD INFORMATION**Nature of Hazard****INHALATION:**

Negligible hazard at normal temperatures (up to 38 deg C).
Elevated temperatures or mechanical action may form vapours, mists or fumes which may be irritating to the eyes, nose, throat and lungs.
Avoid breathing vapours or mists.

EYE CONTACT:

Slightly irritating, but will not injure eye tissue.

SKIN CONTACT:

Low toxicity.
Frequent or prolonged contact may irritate the skin.

INGESTION:

Low toxicity.

OCCUPATIONAL EXPOSURE LIMIT:

ACGIH recommends:

For oil mists, 5 mg/m³.

Local regulated limits may vary.

5. FIRST AID MEASURES

INHALATION:

Vapour pressure of this material is low and as such inhalation under normal conditions is usually not a problem. If overexposed to oil mist, remove from further exposure. Administer artificial respiration if breathing has stopped. Keep at rest. Call for prompt medical attention.

EYE CONTACT:

Flush eyes with large amounts of water until irritation subsides. If irritation persists, get medical attention.

SKIN CONTACT:

Flush with large amounts of water. Use soap if available. Remove severely contaminated clothing (including shoes) and launder before reuse. If irritation persists, seek medical attention.

INGESTION:

If swallowed, DO NOT induce vomiting. Keep at rest. Get prompt medical attention.

6. PREVENTIVE AND CORRECTIVE MEASURES

PERSONAL PROTECTION:

The selection of personal protective equipment varies, depending upon conditions of use.

Where prolonged and/or repeated skin and eye contact is likely to occur, wear safety glasses with side shields, long sleeves, and chemical resistant gloves.

Where eye contact is unlikely, but may occur as a result of short and/or periodic exposures, wear safety glasses with side shields.

Where concentrations in air may exceed the occupational exposure limits given in Section 4 and where engineering, work practices or other means of exposure reduction are not adequate, approved respirators may be necessary to prevent overexposure by inhalation.

ENGINEERING CONTROLS:

The use of local exhaust ventilation is recommended to control emissions near the source. Laboratory samples should be handled in a fumehood. Provide mechanical ventilation of confined spaces.

HANDLING, STORAGE AND SHIPPING:

Keep containers closed. Handle and open containers with care. Store in a cool, well ventilated place away from incompatible materials. In keeping with good personal hygiene practices, wash hands thoroughly after handling the material. Do not breathe gas, vapour or mist. Do not handle or store near an open flame, sources of heat, or sources of ignition.

LAND SPILL:

Eliminate source of ignition. Keep public away. Prevent additional discharge of material, if possible to do so without hazard. Prevent spills from entering sewers, watercourses or low areas. Contain spilled liquid with sand or earth.

Recover by pumping or by using a suitable absorbant. Consult an expert on disposal of recovered material. Ensure disposal in compliance with government requirements and ensure conformity to local disposal regulations. Notify the appropriate authorities immediately. Take all additional action necessary to prevent and remedy the adverse effects of the spill.

WATER SPILL:

Remove from surface by skimming or with suitable absorbents. If allowed by local authorities and environmental agencies, sinking and/or suitable dispersants may be used in unconfined waters. Consult an expert on disposal of recovered material. Ensure disposal in compliance with government requirements and ensure conformity to local disposal regulations. Notify the appropriate authorities immediately. Take all additional action necessary to prevent and remedy the adverse effects of the spill.

7. FIRE AND EXPLOSION HAZARD

Flashpoint and method: 199 deg C COC

Autoignition: 315 deg C

GENERAL HAZARDS:

Low Hazard; liquids may burn upon heating to temperatures at or above the flash point.

Toxic gases will form upon combustion.

Empty product containers may contain product residue. Do not pressurize, cut, heat, weld, or expose containers to flame or other sources of ignition.

FIRE FIGHTING:

Use water spray to cool fire exposed surfaces and to protect personnel.
Shut off fuel to fire.

Use foam, dry chemical or water spray to extinguish fire.

Respiratory and eye protection required for fire fighting personnel.

Avoid spraying water directly into storage containers due to danger of
boilover.

A self-contained breathing apparatus (SCBA) should be used for all indoor
fires and any significant outdoor fires. For small outdoor fires, which
may easily be extinguished with a portable fire extinguisher, use of an
SCBA may not be required.

HAZARDOUS COMBUSTION PRODUCTS:

Smoke, carbon monoxide, carbon dioxide and traces of oxides of sulphur

8. REACTIVITY DATA

STABILITY:

This product is stable. Hazardous polymerization will not occur.

INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID:

Strong oxidizing agents

9. NOTES

10. PREPARATION

Prepared by: SPECIALTIES TECHNICAL SERVICES
ESSO PETROLEUM CANADA
55 St Clair Avenue West
Toronto, Ontario
M5W 2J8
(416) 968-5114

CAUTION: " The information contained herein relates only to this product or
material and may not be valid when used in combination with any other product
or material or in any process. If the product is not to be used for a purpose
or under conditions which are normal or reasonably foreseeable, this
information cannot be relied upon as complete or applicable. For greater
certainty, uses other than those described in Section 1 must be reviewed
with the supplier. The information contained herein is based on the
information available at the indicated date of preparation. This MSDS is for
the use of Esso Petroleum Canada customers and their employees and agents
only. Any further distribution of this MSDS by Esso Petroleum Canada
customers is prohibited without the written consent of Esso Petroleum Canada."

APPENDIX 3B

OIL SHIPMENT CERTIFICATION

OIL SHIPMENT CERTIFICATION

Pursuant to Sections 25250.1(e) and 25250.18, Chapter 6.5, Division 20, Health and Safety Code, this form must be maintained with each shipment of recycled oil or exempt oil from the recycling facility or generator to the shipment's destination. Use of this form fulfills this requirement. This form or a copy of this form must be kept for three years by the person certifying the shipment and by the transporter. These forms are subject to audit and verification by the Department and the California Integrated Waste Management Board.

Instructions to complete this form are on the reverse. Please print or type.

1. SHIPMENT

Cross Reference to Laboratory Analysis Data: _____ Quantity of Oil Shipped: _____
 Date of Shipment _____ Invoice/Bill of Lading Number: _____ (gallons)

2. RECYCLING FACILITY/GENERATOR

Name: _____
 Address: _____ Contact: _____
 _____ Telephone Number: _____

3. TRANSPORTER

Name: _____
 Address: _____ Contact: _____
 _____ Telephone Number: _____

4. RECEIVING LOCATION (If more than one location, use space on reverse of this form.)

Name: _____
 Address: _____ Contact: _____
 _____ Telephone Number: _____

5. CERTIFICATION (check one box)

Recycling Facility Generator

I hereby declare under penalty of perjury that the oil in this shipment has been tested and is in compliance with the applicable standards and requirements of Article 13, Chapter 6.5 of Division 20, Health and Safety Code.

Print/Type Name: _____

Title: _____

Signature: _____ Date: _____

INSTRUCTIONS

- Item 1. Enter a cross reference to the laboratory analysis data used to certify the oil, the quantity of oil being transferred, the date the shipment leaves the recycling facility or generator, and the identifying number from the shipping papers.
- Item 2. Enter the name, address, telephone number, and contact of either the recycling facility or generator corresponding to the box checked in item 5.
- Item 3. Enter the names, addresses, and telephone numbers of all transporters transporting this shipment until the destination listed in item 4 is reached, or until the shipment is outside California. If more than two transporters are used to complete the shipment, attach an additional DTSC 1004 form, completing only item 3 on the additional form.
- Item 4. Enter the name, address, contact, and telephone number of the receiving location. If more than one location will receive the oil in this shipment, complete item 4 below.
- Item 5. The recycling facility operator or the generator is to sign, date, and check the appropriate box in this section.

You may use this form as a master for photocopying purposes.

If you wish to order certification forms, or if you have any questions, please write or call:

Department of Toxic Substances Control
Alternative Technology Division
P.O. Box 806
Sacramento, CA 95812-0806
(916) 324-1807

4. RECEIVING LOCATION (continued)

Name: _____

Address: _____

Contact: _____

Telephone Number: _____

Name: _____

Address: _____

Contact: _____

Telephone Number: _____

Name: _____

Address: _____

Contact: _____

Telephone Number: _____

Article 13. Management of Used Oil
(Added by Stats. 1986, Ch. 871)
(As Amended January 1, 1992)

25250. (a) The Legislature finds that almost 100 million gallons of used oil is generated each year in the state; that this oil is a valuable petroleum resource which can be recycled; and that, in spite of this potential for recycling, significant quantities of used oil are wastefully disposed of or improperly used by means which pollute the water, land, and air, and endanger the public health, safety, and welfare.

(b) The Legislature also finds that readily available technologies exist to recycle used oil into useful products and that used oil should be collected and recycled, to the maximum extent possible, by means which are economically feasible and environmentally sound, in order to conserve irreplaceable petroleum resources, to protect the environment, and to protect public health, safety, and welfare.

(Added by Stats. 1986, Ch. 871.)

25250.1. As used in this article, the following terms have the following meanings:

(a) "Used oil" means any of the following:

(1) Any oil that has been refined from crude oil, and has been used, and, as a result of use, has been contaminated with physical or chemical impurities.

(2) Any oil that has been refined from crude oil and, as a consequence of extended storage, spillage, or contamination with nonhazardous impurities such as dirt and water, is no longer useful to the original purchaser.

(3) Spent lubricating fluids which have been removed from an engine crankcase, transmission, gearbox, or differential of an automobile, bus, truck, vessel, plane, heavy equipment, or machinery powered by an internal combustion engine.

(4) Spent industrial oils, including compressor, turbine, and bearing oil, hydraulic oil, metal-working oil, refrigeration oil, and railroad drainings.

(5) Contaminated fuel oil with a flashpoint equal to or greater than 100°F.

"Used oil" does not include oil which has a flashpoint below 100°F or which has been intentionally mixed with hazardous waste, other than minimal amounts of vehicle fuel. "Used oil" also does not include oil which contains polychlorinated biphenyls (PCBs) at a concentration of 5 ppm or greater. Used oil containing more than 1,000 ppm total halogens shall also meet the Environmental Protection Agency requirements listed in paragraph (c) of Section 266.40 of Title 40 of the Code of Federal Regulations.

(b) "Board" means the California Integrated Waste Management Board.

(c) "Recycled oil" means any oil, produced from used oil, which has been prepared for reuse and which achieves minimum standards of purity, in liquid form, as established by the department. This subdivision does not apply to oil which is to be disposed. The following standards of purity are in effect unless the department, by regulation, establishes more stringent standards:

(1) Flashpoint: minimum standards set by the American Society for Testing and Materials for the recycled products.

(2) Lead: 100 ppm or less prior to January 1, 1988; 50 ppm or less on and after January 1, 1988.

(3) Arsenic: 5 ppm or less.

(4) Chromium: 10 ppm or less.

(5) Cadmium: 2 ppm or less.

(6) Total halogens: if the oil contains more than 1,000 ppm total halogens, the oil shall meet the requirements of Section 266.40 of Title 40 of the Code of Federal Regulations (50 Fed. Reg. 49205), so that the oil is regulated as used oil pursuant to Subpart E (commencing with Section 266.40) of Part 266 of Subchapter I of Chapter 1 of Title 40 of the Code of Federal Regulations, and not as a RCRA hazardous waste pursuant to Subpart D (commencing with Section 266.30) of Part 266 of Subchapter I of Chapter 1 of Title 40 of the Code of Federal Regulations. However, the oil shall not contain more than 3,000 ppm total halogens.

(7) Polychlorinated biphenyls (PCBs): less than 2 ppm.

Compliance with these standards shall not be met by blending or diluting used oil with crude or virgin oil and shall be determined in accordance with the procedures for identification and listing of hazardous waste adopted in regulations by the department. Persons authorized by the department to recycle oil shall maintain records of volumes and characteristics of incoming used oil and outgoing recycled oil and documentation concerning the recycling technology utilized to demonstrate to the satisfaction of the department or other enforcement agencies that the recycling has been achieved in compliance with this subdivision.

(d) The standards set in subdivision (c) include the only concentrations allowed above the criteria adopted pursuant to Section 25141.

(e) Used oil which meets the standards set in subdivision (c), is not hazardous pursuant to the criteria adopted pursuant to Section 25141 for constituents other than those listed in subdivision (c), and is not mixed with any waste listed as a hazardous waste in Part 261 (commencing with Section 261.1) of Chapter 1 of Title 40 of the Code of Federal Regulations is not regulated by the department, unless otherwise specified. Used oil recycling facilities that are the first to claim that the used oil meets these requirements shall maintain an operating log and copies of certification forms as specified in Section 25250.19.

Any person who generates used oil, and who claims that the oil is exempt from regulation pursuant to this subdivision, shall notify the department, in writing, of that claim and shall comply with the testing and recordkeeping requirements of Section 25250.19 prior to its reuse. In any action to enforce this article, the burden is on the generator or recycling facility (whichever first claimed that the used oil met the standards and criteria) and user of the used oil to prove that the oil met those standards and criteria.

(f) "Used oil recycling facility" means a facility which reprocesses or rerefines used oil.

(g) "Used oil storage facility" means a storage facility, as defined in subdivision (a) of Section 25123.3, which stores used oil.

(h) "Used oil transfer facility" means a transfer facility, as defined in subdivision (c) of Section 25123.3, that either stores used oil for periods greater than 144 hours or that transfers used oil from one container to another.

(Amended by Stats. 1991, Ch. 1173)

25250.3. Any virgin oil product or partially refined product, which has not been previously used, which has become contaminated with nonhazardous impurities such as dirt or water, and which has been returned to bulk storage by the product's manufacturer, transporter, or wholesaler for gravity separation of contaminants, is exempt from this article. Any petroleum product which becomes contaminated with any other petroleum product during refining, transportation by pipeline, or storage and which remains usable as a refinery feed stock or as a refinery fuel is exempt from this article.

(Added by Stats. 1986, Ch. 871.)

25250.4. Used oil shall be managed as a hazardous waste in accordance with the requirements of this chapter until it has been shown to meet the requirements of subdivision (e) of Section 25250.1 or is excluded from regulation as a hazardous waste pursuant to Section 25143.2.

(Amended by Stats. 1991, Ch. 1173)

25250.5. (a) Disposal of used oil by discharge to sewers, drainage systems, surface or groundwaters, watercourses, or marine waters; by incineration or burning as fuel; or by deposit on land, is prohibited, unless authorized under other provisions of law.

(b) The use of used oil, recycled oil, or oil exempted pursuant to subdivision (e) of Section 25250.1 as a dust suppressant or weed control agent is prohibited unless the oil meets the requirements of subdivision (e) of Section 25250.1 and additionally meets all of the following standards:

(1) Lead is less than 5 mg/l.

- (2) Cadmium is less than 1 mg/l.
- (3) Total regulated halogenated solvents identified by hazardous waste number F001 or F002 in Section 261.31 of Title 40 of the Code of Federal Regulations or listed by the department as a hazardous waste are 100 ppm or less.

(c) Any person who claims that oil complies with the requirements of subdivision (b) for use of oil as a dust suppressant or weed control agent shall do all of the following:

- (1) Notify the department, in writing, of that claim.
- (2) Test the oil.
- (3) Certify the oil as being in compliance with these requirements.

Records of tests performed shall be maintained for three years and are subject to audit and verification by the department or the board.

(Amended by Stats. 1990, Ch. 1219)

25250.7. No person who generates, stores, or transfers used oil shall intentionally contaminate used oil with other hazardous waste, other than minimal amounts of vehicle fuel.

(Added by Stats. 1989, Ch. 1254.)

25250.8. Used oil shall be manifested under either one of the following procedures:

- (a) The procedures prescribed by Sections 25160 and 25161.
- (b) The following modified manifesting procedure, which may be used only by a registered hazardous waste hauler and shall be used only with the consent of the generator:

(1) A separate manifest shall be completed by each vehicle driver, with respect to each transport vehicle operated by that driver for each date.

(2) The hauler shall complete both the generator's and the hauler's sections of the manifest using the hauler's name, Environmental Protection Agency identification number, terminal address, and phone number. The hauler's section shall be completed prior to commencing each day's used oil collections. The driver shall sign and date the generator's and hauler's sections of the manifest.

(3) The hauler shall attach to the front of the manifest legible receipts for each quantity of used oil that is received from a generator. The receipts shall be used to determine the total volume of used oil in the vehicle. After the used oil is delivered, the receipts shall be affixed to the hauler's copy of the manifest. The hauler shall leave a copy of the receipt with the generator of the used oil. The generator shall retain each receipt for at least three years.

(4) All copies of each receipt shall contain all of the following information:

(A) The name, address, and telephone number of the generator, and the signature of the generator or the generator's representative.

(B) The date of the shipment.

(C) The state manifest number.

(D) The volume of the used oil received and its proper shipping description, including the hazardous class and identification number, if applicable.

(E) The name and address of the permitted facility to which the used oil will be transported.

(F) The hauler's name, address, and Environmental Protection Agency identification number.

(G) The driver's signature.

(5) The hauler shall enter the total volume of used oil transported on the manifest at the change of each date, change of driver, change of transport vehicle, or upon the last delivery of used oil to the designated facility. The total volume shall be the cumulative amount of used oil collected from the generators listed on the individual receipts.

(6) The hauler shall submit the generator copy of the manifest to the department within 30 days of each shipment.

(7) The hauler shall retain a copy of the manifest and all receipts for each manifest for three years.

(8) The hauler shall submit all copies of the manifest to the designated facility. A representative of the designated facility which receives the used oil shall sign and date the manifest, return two copies to the hauler, retain one copy, and send the original to the department within 30 days.

(9) All other manifesting requirements of Sections 25160 and 25161 shall be complied with unless specifically exempted under this subdivision.

(Amended by Stats. 1988, Ch. 545.)

25250.10. Every registered hazardous waste hauler who transports used oil shall report to the department on or before March 1 of each year, the following information on a form provided by the department:

(a) The shipping descriptions of used oil transported during the preceding year.

(b) The volume of each type of used oil transported, identified by shipping description.

(c) The facilities to which the used oil was transported, identified by name, address, telephone number, and Environmental Protection Agency identification number.

(Amended by Stats. 1988, Ch. 545.)

25250.11. (a) Any person who receives used oil from consumers or other used oil generators, is exempt from hazardous waste facility permit requirements imposed pursuant to Article 9 (commencing with Section 25200) with respect to any location at which used oil is received if all of the following conditions are met:

(1) Each shipment of used oil received does not exceed 20 gallons, and the contents of any single container does not exceed five gallons.

(2) No other hazardous wastes are received at the location, unless authorized by other provisions of law.

(3) The used oil is transported by the generator of the used oil.

(b) Any person who transports used oil is exempt from the requirements of subdivision (a) and (e) of Section 25163 and from the requirements of Section 25160 concerning the possession of a manifest while transporting used oil to a location described in subdivision (a) if all of the following conditions are met:

(1) The contents of any single container do not exceed five gallons.

(2) Each shipment of used oil does not exceed 20 gallons.

(3) The person transporting the used oil had generated the oil.

(Amended by Stats. 1990, Ch. 1219)

25250.12. (a) Used oil generated during maintenance operations may be transferred from its point of generation to the maintenance person's place of business, other than a residence, for the purpose of consolidation in a tank or container, without meeting the requirements of Sections 25160, 25163, and 25201, if the material is to be recycled at an authorized offsite hazardous waste facility and if all the following conditions are met:

(1) Not more than 70 gallons are transferred in the vehicle at any one time.

(2) The used oil is managed in accordance with all laws concerning storage and handling of hazardous wastes upon consolidation at the maintenance person's place of business.

(3) The used oil is deemed to be generated at the point of consolidation upon consolidation.

(Added by Stats. 1990, Ch. 1219)

25250.15. (a) Any person operating a refuse removal vehicle or a curbside collection vehicle used to collect or transport used oil which has been generated as a household waste or as part of a curbside recycling program, as defined by the board, is exempt from the requirements of Sections 25160 and 25250.8,

and subdivisions (a) and (e) of Section 25163 of this code and Chapter 2.5 (commencing with Section 2500) of Division 2, Division 14.1 (commencing with Section 32000), and subdivision (g) of Section 34500 of the Vehicle Code.

(b) Refuse removal and other curbside collection operations exempted under subdivision (a) are also exempt from permit requirements pursuant to Article 9 (commencing with Section 25200), if the storage location meets all applicable hazardous waste generator, container, and tank requirements, except for the generator fee requirement specified in subdivision (d).

(c) Used oil collected under the requirements of this section shall be deemed to be generated by the storage location upon receipt.

(d) Used oil collected pursuant to this section is exempt from the generator fee imposed pursuant to Section 25205.5.

(Amended by Stats. 1991, Ch. 1173)

25250.16. No person may recycle used oil without obtaining authorization from the department pursuant to Section 25200 or 25200.5, or unless exempted pursuant to Section 25143.2.

(Amended by Stats. 1989, Ch. 1254.)

25250.17. Unless the facility meets the requirements of Section 25250.11, each used oil recycling, storage, or transfer facility shall submit a report, on or before March 1 of each year, to the department, on a form provided by the department, containing all of the following information:

(a) The total volume of used oil possessed at the beginning and end of the preceding calendar year.

(b) The total volume of used oil received during the preceding calendar year.

(c) The total volume of used oil recycled during the preceding calendar year, itemized as follows:

(1) Prepared for reuse as a petroleum product.

(2) Consumed in the process of preparing for reuse, including wastes generated.

(3) Prepared for reuse other than as a petroleum product, specifying each type of other use.

(4) Not recycled but transported offsite.

(d) Any other information which the department may require.

(Amended by Stats. 1988, Ch. 545.)

25250.18. (a) any person who transports recycled oil or oil exempted pursuant to subdivision (e) of Section 25250.1 shall maintain with each shipment a certification form, provided by the department, which contains all of the following information:

(1) The name and address of the used oil recycling facility or generator claiming the oil meets the requirements of Section 25250.1.

(2) The name and address of the facility receiving the shipment.

(3) The quantity of oil delivered.

(4) The date of shipment or delivery.

(5) A cross-reference to the records and documentation required under Section 25250.1.

(b) Certification forms required in subdivision (a) shall be maintained for three years and are subject to an audit and verification by the department or the board.

(Amended by Stats. 1990, Ch. 1219)

25250.19. (a) A used oil recycler shall test all recycled oil, prior to transportation from the recycling facility, pursuant to applicable methods in the Environmental Protection Agency Document No. Solid Waste 846 or any equivalent alternative method approved or required by the department, and shall ensure and certify the oil as being in compliance with the standards specified in subdivision (c) of Section 25250.1. The standards for recycled oil specified in subdivision (c) of Section 25250.1 are the only concentrations allowed above the criteria adopted pursuant to Section 25141. Records of tests performed and a copy of each form completed pursuant to Section 25250.18 shall be maintained for three years and are subject to audit and verification by the department or the board. The department may charge a reasonable fee for this activity.

(b) A generator claiming that used oil is exempted from regulation pursuant to subdivision (e) of Section 25250.1 shall ensure that all used oil for which the exemption is claimed has been tested and certified as being in compliance with the standards specified in subdivision (e) of Section 25250.1, prior to transportation from the generator location. Records of test performed and a copy of each form completed pursuant to Section 25250.18 shall be maintained for three years and are subject to audit and verification by the department or the board.

(c) Used oil recyclers identified in subdivision (a) and generators identified in subdivision (b) shall record in an operating log and retain for three years the information specified in paragraphs (1) to (5), inclusive, of subdivision (a) of Section 25250.18 on each shipment of recycled or exempted oil.

(d) Operating logs required in subdivision (c) are subject to audit and verification by the department or the board.
(Amended by Stats. 1990, Ch. 1219)

25250.20. Any person whose permit or registration has been revoked may not apply for a new or renewed permit or registration for a period of one year after the revocation of the permit or registration.
(Added by Stats. 1986, Ch. 871.)

25250.21. Any person whose permit or registration has been revoked may not serve in the employ of a hazardous waste hauler or used oil recycler during the period of revocation of the permit or registration.
(Added by Stats. 1986, Ch. 871.)

25250.22. (Repealed by Stats. 1990, Ch. 1219.)

25250.23. Any person who transports used oil shall register as a hazardous waste hauler and, unless specifically exempted or unless the used oil is not regulated by the department pursuant to subdivision (e) of Section 25250.1, shall comply with all provisions of this chapter.
(Added by Stats. 1986, Ch. 871.)

25250.24. (a) Except as provided in subdivision (b), any person who generates, receives, stores, transfers, transports, treats, or recycles used oil, unless specifically exempted or unless the used oil is not regulated by the department pursuant to subdivision (e) of Section 25250.1, shall comply with all provisions of this chapter.

(b) Used oil which is removed from a motor vehicle and which is subsequently recycled, by a recycler who is permitted pursuant to this article, shall not be included in the calculation of the amount of hazardous waste generated for purposes of the generator fee imposed pursuant to Section 25205.5.
(Amended by Stats. 1988, Ch. 1085.)

25250.25. (a) Any person who manufactures containers which are produced specifically for the noncommercial storage or transportation of used oil and which are sold in this state to consumers, shall not sell or transfer any of those containers in this state to any person, unless the container meets all of the following requirements:

(1) The used oil cannot leak or unintentionally be spilled from the container with normal handling.

(2) No part of the container that comes in contact with the used oil can absorb any of the used oil being collected and transported.

(3) The following statement shall be printed on a readily visible part of the container in at least 12-point typeface by the manufacturers of the container:

"Used oil is classified as a hazardous waste under California law. Used oil must be recycled properly. Placing used oil into household garbage or commercial dumpsters or pouring it into sewers or onto the ground is prohibited by law."

(b) Any person who manufactures containers which are produced specifically for the noncommercial drainage of used oil and which are sold in this state to consumers, shall not sell or transfer any of those containers in this state to any person unless the container meets the requirements of paragraphs (2) or (3) of subdivision (a).

(Added by Stats. 1988, Ch. 776.)

APPENDIX 3C

EDISON DRAWING LIST

APPENDIX 3C

EDISON DRAWING LIST

<u>Drawing No.</u>	<u>Title</u>
5173632	General Arrangement Plot Plan
5173633	General Arrangement Core Area
5173670	Core Area Plan & General Notes
5173689	Thermal Storage Subsystem Equipment Foundations
5173690	Thermal Storage Subsystem Tank & Containment Plan, Sections & Details
5173691	Thermal Storage Subsystem Tank Foundation Section & Details
5173692	Thermal Storage Subsystem Miscellaneous Foundations
5173693	Pipe Rack Foundations
5173694	Misc. Slabs & Foundations
5173752	Pipe Rack - Plan @ Elevation 120'
5173753	Pipe Rack - Plan @ Elevation 110'
5173754	Pipe Rack - Sections & Elevations
5173818	Underground Yard Piping Plot Plan Core Area
5173821	Underground Yard Piping TSS Drainage
5173824	Above Ground Yard Piping Key Plan & Index
5173828	Above Ground Yard Piping Thermal Storage Unit - Plans
5173829	Above Ground Yard Piping Thermal Storage Unit - Sections & Elevations
5173830	Above Ground Yard Piping Plan - North Half 110' level
5173831	Above Ground Yard Piping Plan - South Half 110' level
5173832	Above Ground Yard Piping Plan - North Half 115' level
5173833	Above Ground Yard Piping Plan - South Half 115' level
5173834	Above Ground Yard Piping Plan - North Half 120' level
5173835	Above Ground Yard Piping Plan - South Half 120' level
5173836	Above Ground Yard Piping Sections
5173837	Above Ground Yard Piping Sections
5173840	Above Ground Yard Piping Make-Up & UMU Area
5173842	Above Ground Yard Piping Details
5173844	Temp. Steam Blow, Velocity Flush & Chem. Piping
5173845	Temp. Steam Blow, Velocity Flush & Chem. Piping
5163131	Composite - Piping & Instru. Diagram
5163141	Operational Piping & Instru. Diagram TSS Area
5163148	Operational Piping & Instru. Diagram Power Gen. Sys.

New to list

SPECIFICATION E-93027
 Demolition and Removal of
 Solar One Thermal Storage System

APPENDIX 3C

EDISON DRAWING LIST

<u>Drawing No.</u>	<u>Title</u>
5163155	Operational Piping & Instru. Diagram Sump & Drains
5163163	Operational Piping & Instru. Diagram Misc. Sys.
5133310	Gen. Arrangement - Lower Plan & Section
5133316	Lower Plan Elevation 100' (Area 1)
5133320	Sections & Details (Area 1)
5133322	Plan, Elev. 100' to 116' (Area 2)
5133334	Drains & Embedded Pipe (Area 1)
5173361	Skid Assembly 304 Piping Plan
5173362	Skid Assembly 304 Steel Plan
5173363	Skid Assembly 305 & 306 Piping Plan
5173364	Skid Assembly 305 & 306 Steel Plan
5173365	Skid Assembly 307 & 308 Piping Plan
5173366	Skid Assembly 307 & 308 Side Elevation
5173367	Skid Assembly 307 & 308 Front Elevation
5173368	Skid Assembly 307 & 308 Steel Plan
5173369	Skid Assembly 307 & 308 Steel Elevation
5173370	Skid Assembly 309 Piping Plan & Elevation
5173910	Interconn. Skid Piping
5174014	Elect'l Plot Plan - Core Area
5133221 E11-3	Elect'l Underground Conduit TSS Area
5133234 E11-3	Grounding - Core Area
5174050	Conduit Plan - TSS Oil Pump Area
5174051	Conduit Plan - TSS Preheat Area
5174052	Conduit Plan - TSU Area
5173335	Solar Pilot Plant, Skid Assembly 301
5173336	Solar Pilot Plant, Skid Assembly 302 & 303

New to list

New to list

END APPENDIX 3C

PROPOSAL SUBMITTAL REQUIREMENTS

SOUTHERN CALIFORNIA EDISON COMPANY
Rosemead, California

PROPOSAL SUBMITTAL REQUIREMENTS

SPECIFICATION E-93027

DEMOLITION AND REMOVAL OF SOLAR ONE
THERMAL STORAGE SYSTEM

Part A
General

A.1 SCOPE

A. Bidder shall comply with all requirements of these Proposal Submittal Requirements. These Proposal Submittal Requirements shall be submitted with all instructions fulfilled and all spaces filled in and signed where requested, to present a complete proposal for the Work described in the Specification. Incomplete proposals may be rejected. Failure to prepare the proposal in accordance with the prescribed format may disqualify the proposal.

B. All proposals submitted by Bidder, including drawings and other data, shall become the property of Edison and shall not be used for any purpose other than in connection with the procurement of the Work.

C. Edison reserves the right to reject any and all proposals, to reject any part of a proposal, and accept other parts, or to accept any proposal which it deems to be in its best interest.

D. All copies of the proposal shall be enclosed in a sealed bid package, using the preaddressed sealed bid envelope.

E. All copies of the proposal shall be either delivered, or mailed to Edison at the address shown on the sealed bid envelope and shall arrive by the 2:00 p.m. deadline.

F. Submittal of proposal or disclosure of proposal information to other than the Procurement Agent will disqualify the proposal.

SPECIFICATION E-93027
Demolition and Removal of
Solar One Thermal Stor. Sys.

Bidder _____

Date _____

A.2 INSPECTION OF JOBSITE

Each Bidder, before submitting its proposal, shall attend the jobwalk conducted by Edison to satisfy itself as to the nature and location of the Work, the general and local Jobsite conditions, the transportation and handling of Material, the environmental and physical conditions at the Jobsite, the character of the equipment, facilities, Edison-provided components and services, labor conditions, safety and security precautions, and all matters which may affect the performance of the Work and its cost. Notification of the jobwalk shall be made through the Procurement Agent. Failure to attend the jobwalk may result in disqualification from the Proposal Request.

END PART A

SPECIFICATION E-93027
Demolition and Removal of
Solar One Thermal Stor. Sys.

Bidder _____
Date _____

SOUTHERN CALIFORNIA EDISON COMPANY
Rosémead, California

PROPOSAL SUBMITTAL REQUIREMENTS

SPECIFICATION E-93027

DEMOLITION AND REMOVAL OF SOLAR ONE
THERMAL STORAGE SYSTEM

Part B
Technical Submittal Requirements

B.1 EXCEPTIONS TO THE SPECIFICATION

A. Bidder shall not substitute, nor use a preprinted reference to Bidder's general terms and conditions in lieu of Edison's General Terms and Conditions as set forth in Section 1 of the Specification. Any proposal received with such substitution may be considered nonresponsive and be subject to rejection.

B. In order for Bidder's proposal to be considered, Bidder shall indicate its compliance with the Specification by having the representative who signs the proposal sign adjacent to the following appropriate statements.

1. Insurance

Bidder certifies that, if awarded the contract, it shall comply with the insurance requirements stated in the General Terms and Conditions and specifically with the requirements for the waiver of subrogation and acknowledgement of Edison as an additional insured.

(Signature)

SPECIFICATION E-93027 Bidder _____
Demolition and Removal of Date _____
Solar One Thermal Storage System

PROPOSAL SUBMITTAL REQUIREMENTS

2. No Exceptions

Our proposal is in strict accordance with the complete Specification and the General Terms and Conditions. We take no exceptions.

(Signature)

3. Exceptions to Specification

Our proposal is in strict accordance with the Specification and the General Terms and Conditions, except for the deviations and assumptions as specifically listed. We take no other exceptions.

(Signature)

NOTE

All deviations and assumptions shall be fully explained on a separate attachment with the proposal and shall refer to the Section No. of the Specification where the deviation applies.

4. Exceptions to Table 3-1

Our proposal is in strict accordance with the Documentation submittal dates specified in Table 3-1, except for the following submittals (use following format for additional items):

(Signature)

<u>Table 3-1 Item No.</u>	<u>Title</u>	<u>Edison's Req'd Schedule</u>	<u>Bidder's Proposed Schedule</u>
_____	_____	_____	_____

SPECIFICATION E-93027
Demolition and Removal of
Solar One Thermal Storage System

Bidder _____

Date _____

PROPOSAL SUBMITTAL REQUIREMENTS

B.2 SUBCONTRACTORS

A. Bidder shall list all Work to be subcontracted and the name of each Subcontractor.

<u>Work by Subcontractor</u>	<u>Subcontractor</u>
_____	_____
_____	_____
_____	_____

NOTE

Identify above if Subcontractor is Female-owned (F), Minority-owned (M), or non-Female/Minority-owned (N).

B. In addition, it is Edison's commitment to the communities it serves and to the California Public Utilities Commission to emphasize the development and employment of Female-owned and Minority-owned business enterprises; and expects its suppliers and contractors to identify and utilize Female-owned and Minority-owned business subcontractors when contracting for work with Edison.

C. Bidder shall provide evidence with its proposal (i.e., names of firms and individuals contacted, dates, response received) that Female and Minority subcontractors have been solicited for subcontract Work, if Contractor elects to have certain items of Work performed by Subcontractor(s).

NOTE

Female and Minority subcontract sources can be obtained from Edison's Female and Minority Business Development Administrator, Ms. Diana Roberson, at (818) 302-5393.

B.3 EXPERIENCE RECORD OF SUPERINTENDENT

A. Bidder shall provide an attachment listing the name(s) and experience record of the superintendent(s) whom it expects to employ in the Work. The record shall cover in detail the supervisor's experience in the subject Work, and indicate his reliability for satisfactorily meeting scheduled completion dates and for meeting safety requirements.

SPECIFICATION E-93027	Bidder	_____
Demolition and Removal of		
Solar One Thermal Storage System	Date	_____

PROPOSAL SUBMITTAL REQUIREMENTS

B. The construction superintendent shall be at the Jobsite at all times during construction and shall be authorized to speak and act on behalf of Contractor.

B.4 WORK PLAN

A. Bidder shall provide a narrative description of how the Work is planned to be performed, including the Work area and laydown area required.

B. The number and size of construction teams to be utilized.

C. A listing of the major types and quantities of construction equipment required (both Bidder-owned and leased).

D. The quantities of Material estimated for the Work.

E. A manpower-loaded summary milestone schedule showing the time phasing of the main activities to be performed within the Work start date and Work Completion Date.

F. A Fire Plan for handling oil or structure fires.

G. A Safety Plan for all phases of the Work.

H. An Environmental Plan for collecting, transporting, or handling oil or oil contaminated material including clean up of potential oil spills.

B.5 SUPPLEMENTAL INFORMATION

Bidder shall furnish the following supplemental information as part of its proposal:

Maximum water demand will be ___ gallons per minute at ___ psi.

B.6 STATE CONTRACTOR'S LICENSE / AND HAZARDOUS MATERIAL LICENSE

Bidder shall furnish one copy each, clearly marked "Copy for Information Only", of the California State Contractor's License and Hazardous Material License under which the Work will be performed.

END OF PART B

SPECIFICATION E-93027
Demolition and Removal of
Solar One Thermal Storage System

Bidder

Date

SOUTHERN CALIFORNIA EDISON COMPANY
Rosemead, California

PROPOSAL SUBMITTAL REQUIREMENTS

SPECIFICATION E-93027

DEMOLITION AND REMOVAL OF SOLAR ONE
THERMAL STORAGE SYSTEM

Part C
Commercial Submittal Information

This Part C shall be individually stapled or clipped for easy removal from the balance of the proposal.

C.1 PRICES

TOTAL FIXED PRICE for performing the Work, including all applicable taxes, as set forth in the Specification:

\$ _____
(Figures)

Dollars

(Words)

C.1.1 Base Bid Breakdown

The following items represent an allocation of the TOTAL FIXED PRICE.

<u>Item</u>	<u>Description</u>	<u>Price</u>
1.	Insulation and Aluminum	\$ _____
2.	Caloria Oil (Based on 200,000 gallons)	\$ _____
2A	Caloria Oil add/deduct Unit Cost	\$ _____
3.	Oily Sand and Gravel	\$ _____
4.	Thermal Storage Tank	\$ _____
5.	Piping and Equipment	\$ _____
6.	Concrete	\$ _____

SPECIFICATION E-93027
Demolition and Removal of
Solar One Thermal Stor. Sys.

Bidder _____
Date _____

PROPOSAL SUBMITTAL REQUIREMENTS

- 7. Oil-Contaminated Soil (Based on 150 tons) \$ _____
- 8. Backfill (Based on 150 Tons) \$ _____

C.1.2 Suspension

If the Edison Representative directs the suspension of the Work for a period of 31 calendar days, or less, the payment for suspension, the period of non-performance, and the resumption of Work, in accordance with the General Terms and Conditions, shall be \$ _____ (Dollars). This payment shall be full compensation for discontinuing Work, all expenses incurred by Contractor during suspension, (including but not limited to) disassembly and reassembly of any and all of Contractor's facilities including the removal and return of same from the Jobsite, as appropriate, and reactivation of the Work.

In the event the suspension is for a longer period than the aforementioned period, the off and on charges shall be negotiated in accordance with the General Terms and Conditions. No payment shall be made for off and on charges required by the sequence of operations as specified in this Specification and as shown on the drawings.

C.2 PAYMENT SCHEDULE

Payment shall be made within 30 days after receipt of each invoice in Edison's Accounts Payable Division. Invoices may be submitted monthly and shall be based on the percentage of Work completed, as agreed to by Contractor and the Edison Representative, less 10% retention until final acceptance of the Work.

C.3 TIME AND MATERIAL RATES

A. All cost resulting from authorized changes to the Work that are not covered by the Total Fixed Price shall be charged in accordance with the following rates: List only classification required to perform Work.

B. Bidder shall list the labor rates by union affiliation, if applicable, by classifications. If more than one union affiliation is applicable, show in similar format on separate sheet of paper.

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Demolition and Removal of
Solar One Thermal Stor. Sys.

Bidder _____
Date _____

PROPOSAL SUBMITTAL REQUIREMENTS

C. Union Affiliation:

Labor Rates (List Manual and Non-Manual Classifications)

<u>Classification</u>	<u>Normal time</u>	<u>Overtime</u>	<u>**Differential Rates for Overtime</u>	<u>Premium Time</u>	<u>*Differential Rates for Premium Time</u>
_____	\$_____/hr	\$_____/hr	\$_____/hr	\$_____/hr	\$_____/hr
_____	\$_____/hr	\$_____/hr	\$_____/hr	\$_____/hr	\$_____/hr
_____	\$_____/hr	\$_____/hr	\$_____/hr	\$_____/hr	\$_____/hr

*Maximum allowable ratios are 1.38 times normal time for overtime and 1.75 times normal time for premium time.

**NOTE: When asked to perform Work that is within the fixed price scope of Work when Overtime or Premium Rates of pay prevail, Contractor shall be reimbursed the appropriate Differential Rates only.

Normal Time, Overtime, Premium Time, and Holidays are defined as follows:

NT: _____

OT: _____

PT: _____

Holidays: (If applicable, define and list) _____

Subsistence: (If applicable, define) _____

Material Markup: Contractor's cost plus _____ % (10% maximum)

Subcontract Markup: Contractor's cost plus _____ % (10% maximum)

Rented Equipment Markup: Contractor's cost plus _____ % (10% maximum)

Contractor-Owned Equipment Rates:

<u>Equipment Description</u>	<u>per hour</u>	<u>per week</u>	<u>per month</u>
_____	\$_____	\$_____	\$_____
_____	\$_____	\$_____	\$_____
_____	\$_____	\$_____	\$_____

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Demolition and Removal of

Solar One Thermal Storage System

Bidder _____

Date _____

PROPOSAL SUBMITTAL REQUIREMENTS

C.4 LABOR CONTRACTS

Bidder shall list its major labor contracts and the date of expiration of each contract.

_____ / _____
(Contract) / Date
_____ / _____
(Contract) / Date

C.5 PROPOSAL EXPIRATION DATE

This proposal shall remain in force for a period of 90 calendar days from the day appointed for which bids are due.

C.6 WORK COMPLETION SCHEDULE

Bidder shall state its Work completion schedule, if different from that specified in Section 2.3: _____ calendar days.

The Work completion schedule shall commence upon award of Purchase Order.

PROPOSAL SUBMITTAL REQUIREMENTS

C.7 LICENSES REQUIREMENTS AND CERTIFICATION

The undersigned hereby declares, as Bidder, that the only persons or parties interested in this proposal as principals are those named herein; that this proposal is made without any connection with any other person or persons making a proposal for the same purpose; that this proposal is in all respects fair and without collusion or fraud; that Bidder shall perform the Work and all obligations of Bidder and shall complete the Work within the time specified; and shall accept in full payment therefor the prices named herein; that the licenses and certifications as listed below, are the licenses that are required to perform the Work as described in the Proposal Request and that the Bidder is authorized by law to use such licenses in the performance of the Work. In the event Contractor's license, certifications and associated special permits and classifications appropriate to perform the Work, are suspended, revoked, or terminated, or any combination thereof, Contractor shall give Edison oral notification thereof within three calendar days and shall transmit to Edison written confirmation of same within two working days.

Date _____

Bidder

By (Typed)

By (Signature)

Title

Address and Telephone Number

Bidder's Federal Tax
Identification Number

Contractor's License Number,
Classification, Description and
Number, and Certifications/Permits

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Solar One Thermal Storage System

TSS Thermal Storage System
 B.P.G.S. Gebit. Power Gen. Sta.

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PIPING MATERIAL SPECIFICATIONS
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<u>PIPING CODE LETTER</u>	<u>DATE</u>	<u>TITLE</u>	<u>RECOMMENDED SERVICE</u>	
— ABA —	2/4/80	Class 125 - Carbon Steel	Service Water, Service Air, Instrument Air Ahead of Receivers Raw Water (Above Grade Only)	3 1
ACA	12/14/79	Class 125 - Copper	Instrument Air After the Receivers	3
ACB	2/4/80	Class 125 - Copper	Potable Water (Above Ground), Pressure Sensing Lines for Fire Pump & Jockey Pump Controller	3
AQD	12/14/79	Class 125 - Plastic (FRP)	Raw Water (For Below Ground Use Only)	1,3
BBA	2/4/80	Class 150 - Carbon Steel	L.P. Steam, Condensate, TSS Oil	3
BBD	2/4/80	Class 150 - Carbon Steel	Nitrogen (Low Press.)	2,3
BSA	8/1/79	Class 150 - Stainless Steel	Demineralized Water	
CBC	2/4/80	Class 175 - Carbon Steel	Fire Protection Water - (Above Grade Only - Welded Pipe)	1,3
CBD	9/5/79	Class 175 - Carbon Steel	Fire Protection Water - (Indoors Only - Threaded Pipe)	1
CQA	10/1/79	Class 175 - Fiberglass (FRP)	Fire Protection Water - Below Ground	1
FBA	2/4/80	Class 300 - Carbon Steel	Steam, Condensate, Admission Steam, Admission Feedwater	1,3
FEA (Sh. 1)	2/4/80	Class 300 - Alloy Steel	Steam (Desuperheated)	1,3
FEA (Sh. 2)	12/14/79	Class 300 - Alloy Steel	Steam (Desuperheated)	1,3

FP

FIRE PROTECTION

PIPING MATERIAL SPECIFICATIONS
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<u>PIPING CODE LETTER</u>	<u>DATE</u>	<u>TITLE</u>	<u>RECOMMENDED SERVICE</u>	
KBA	2/4/80	Class 900 - Carbon Steel	Steam (De-rated)	3
KEB (Sh. 1)	2/4/80	Class 900 - Alloy Steel	Steam, Flash Tank Vent	3
KEB (Sh. 2 & 3)	9/6/79	Class 900 - Alloy Steel	Steam, Flash Tank Vent	
KEX (Sh. 1, 2 & 3)	2/4/80	Class 900 - Alloy Steel	Vents, (Rocketdyne, Receiver Area Only)	3
LBA	2/4/80	Class 900 - Carbon Steel	Nitrogen (High Press.)	2,3
MBA (Sh. 1)	2/4/80	Class 1500 - Carbon Steel	Feedwater	3
MBA (Sh. 2)	8/1/79	Class 1500 - Carbon Steel	Feedwater	
MBX	2/4/80	Class 1500 - Carbon Steel	Feedwater (Rocketdyne, Receiver Area Only)	3
QEB (Sh. 1)	2/4/80	Class 2500 - Alloy Steel	Main Steam	3
QEB (Sh. 2)	12/14/79	Class 2500 - Alloy Steel	Main Steam	3
QEX (Sh. 1 & 2)	2/4/80	Class 2500 - Alloy Steel	Main Steam (Rocketdyne, Receiver Area Only)	3
RNX	2/4/80	Class 2500 Incoloy 800	Main Steam (Rocketdyne, Receiver Area Only)	2,3
YDA	8/1/79	Drains - Duriron	Corrosive Drains	
YFY	2/4/80	Drains - Concrete	Secondary Fire Pump Bldg. Suction	3
YIA	8/1/79	Drains - Cast Iron	Sanitary Vents and Drains (Above Ground)	
YIB	8/1/79	Drains - Cast Iron	Floor Drains with Buried Piping	
ZBA	8/1/79	Instrumentation - Carbon Steel	Low Pressure Line Mounted Pressure Gages	

PIPING MATERIAL SPECIFICATIONS
INDEX

<u>PIPING CODE LETTER</u>	<u>DATE</u>	<u>TITLE</u>	<u>RECOMMENDED SERVICE</u>	
ZBB	8/1/79	Instrumentation - Carbon Steel	High Pressure Line Mounted Pressure Gages	
ZCA (Sh. 1)	2/4/80	Instrumentation - Copper	Circulating, Raw, Service, Bearing Cooling, Potable and Purge Water	3
ZCA (Sh. 2)	8/1/79	Instrumentation - Copper	Circulating, Raw, Service, Bearing Cooling, Potable and Purge Water	
ZCB (Sh. 1)	2/4/80	Instrumentation - Copper	Purge Air	3
ZCB (Sh. 2)	8/1/79	Instrumentation - Copper	Purge Air	
ZCC (Sh. 1)	2/4/80	Instrumentation - Copper	Instrument Control and Service Air	3
ZCC (Sh. 2)	8/1/79	Instrumentation - Copper	Instrument Control and Service Air	
ZSA	2/4/80	Sample Panel Sample Line	Sample Lines	3
ZSC	8/1/79	Instrumentation - Stainless Steel	Dead End Instrumentation Service and Sample Lines Downstream of the Cooler/Regulator	
ZSD	8/1/79	Instrumentation - Stainless Steel	Dead End Instrumentation Service	