

JOB SPECIFICATION
BASE PLANT DEBOTTLENECK PROJECT
EXXON CHEMICAL COMPANY U.S.A.

JOB SPECIFICATION

BASE PLANT DEBOTTLENECK PROJECT

EXXON CHEMICAL COMPANY U.S.A.

CAUTIONARY NOTICE

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EXXON CHEMICAL COMPANY

EXX 011193

INTRODUCTION TO
JOB SPECIFICATION

EXX 011194

INTRODUCTION TO JOB SPECIFICATION

The Contract for this project consists of the Agreement RC-1142 and this Job Specification. As part of the Contract, the Job Specification provides a detailed definition of Work, including Contractor's services, and describes the administrative, procedural, and technical requirements that Contractor shall satisfy in accomplishing the Work.

1. CONTENT: The actual contents of the Job Specification are as indicated in the Table of Contents. The following basic parts are included:

- a. Introduction to Job Specification
- b. Table of Contents
- c. Coordination Procedure
- d. Exxon Engineering Standards
- e. Process Specifications (to be issued later)

<u>PDS</u>	<u>Title</u>
CP.76-33	Sweep Gas System Revisions for Base Plant Debottleneck Project
CP.76-39	Base Plant Debottleneck Project; Reactor, Deashing and Fractionation Sections
CP.76-40	Revisions to Water Finishing and Vent Gas Systems for Base Plant Debottleneck Project
CP.76-41	Base Plant Control Room Secondary Air Intake
CP.76-42	Base Plant Debottleneck Project Offsites - Facilities for New DEAC Co-Catalyst Drum
CP.76-43	Revisions to Powder Transfer System for Base Plant Debottleneck Project
CP.76-44	Revisions to Powder Drying and Steam Systems for Base Plant Debottleneck Project

2. DESCRIPTION: The various parts of the Job Specification are briefly described as follows:
- b. Table of Contents is a complete index of the Job Specification. The Contents sheet will be revised during the project to include any revisions or additions.
 - c. Coordination Procedure supplements the contractual terms of the Agreement; outlines detailed procedures to be followed in performing Work; and further defines the duties and responsibilities of the contractual parties.
 - d. Exxon Engineering Standards define the minimum acceptable mandatory technically related requirements for the project.
Note: Copies presently in Contractor's possession.
 - e. Process Specifications provide basic design information for on-site and offsite facilities including requirements applicable to mechanical features and construction materials.

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Volume II - Exxon Engineering Standards

Issued Previously

Volume III - Process Specifications

Process Specifications CP.76-33; CP.76-39; CP.76-40; CP.76-41; CP.76-42;
CP.76-43; CP.76-44 (to be issued later)

COORDINATION
PROCEDURE

EXX 011200

COORDINATION PROCEDURE

The requirements of this Coordination Procedure, along with those in the Agreement and other parts of the Job Specification, are to be followed by the Owner and Contractor in the execution of the project.

All Supplements listed in the Table of Contents form a part of this Procedure, even if not specifically referenced herein.

Terminology

For the sake of brevity and clarity, the following terminology is used in this Procedure.

Owner	- Exxon Chemical Company U.S.A.
BTED	- Exxon Chemical's Engineering Division (Baytown)
BTPD	- Exxon Chemical's Plastics Division (Baytown)
EE	- Exxon Engineering of Exxon Research & Engineering Company
ECMD	- Exxon Chemical's Mechanical Division (Baytown)
Owner's Project Manager	- Duly authorized representative of Owner
Owner's Project Engineer	- Duly authorized representative of Owner's Project Manager
Contractor	- As named in the Agreement
Subcontractor	- Organization wholly responsible to Contractor for executing a specific part of the Work
Supervised Contractor	- Organization awarded work independent of Contract but supervised by Contractor as specified herein
Other Contractor	- Organization awarded work by Owner to execute other specific work <u>outside</u> scope of Work of Contractor and Supervised Contractor

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Project Organization

Mr. J. D. Ross has been designated Contractor's Project Manager. He will supervise and coordinate all aspects of the Contractor's duties and responsibilities relating to the Work. All contacts with the Contractor will be through its Project Manager or his authorized representative(s).

Mr. F. P. Jones has been appointed Owner's Project Manager.

The Owner's Project Manager or his authorized representative(s) are the Contractor's only contacts with the Owner (except as specified in the Agreement).

The normal relationships between the various organizations concerned with the project are indicated in the attached chart.

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RESPONSIBILITIES FOR EXECUTION
BASE PLANT DEBOTTLENECK PROJECT

PLASTICS TECHNOLOGY DIVISION
POLYPROPYLENE MANAGER
R. D. Motring

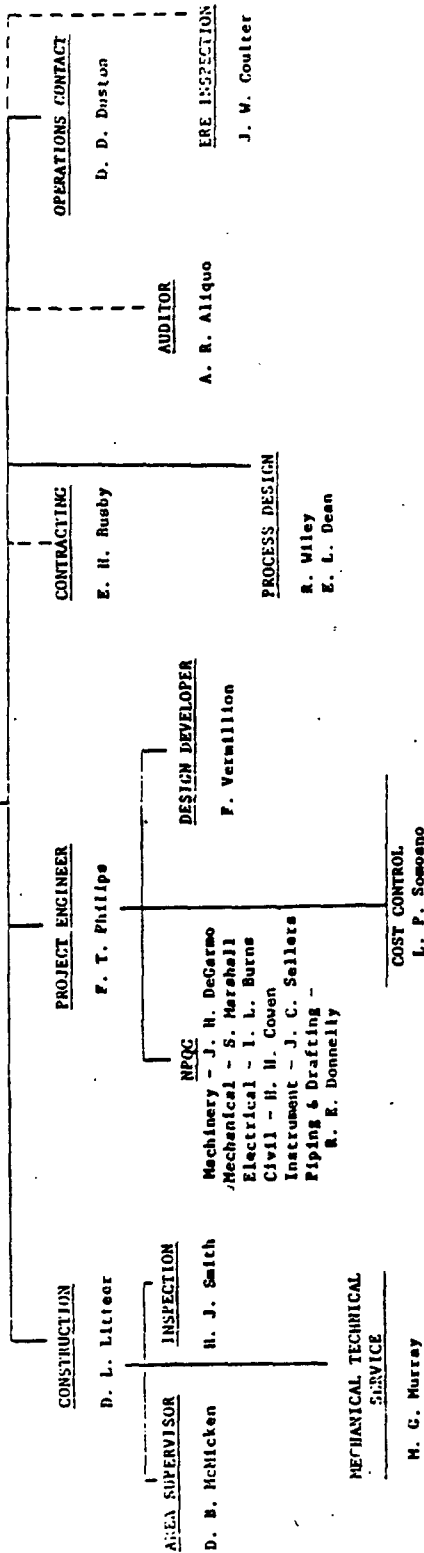
DAYTOWN PLASTICS DIVISION MANAGER
L. G. Haynes

DAYTOWN ENGINEERING DIVISION MANAGER
R. P. Orpinas

PROJECT MANAGER
F. P. Jones

BROWN & ROOT, INC.

Project Manager - J. D. Rose
Deputy Project Manager - F. J. Fato



EXX 011203

DIVISION OF RESPONSIBILITIES

1.0 Contract

1.1 Contractor

- a. Prepare detailed job procedures covering execution of all phases of the Work to disseminate the requirements of the Agreement and Coordination Procedure to all personnel responsible for performance of Work. Procedures shall include forms to be used and descriptions of individual responsibilities. (Note: Section 50 of Exxon Engineering Standards entitled "Instructions to Contractors" contains specific requirements for job execution in addition to those found in the Coordination Procedure Supplements 1 through 22 inclusive. Where conflicting requirements occur between these documents, Contractor shall bring it to the attention of Owner and Owner shall provide Contractor with a decision as to which document takes precedence. Except for conflicts, both documents are to be followed.)

2.0 Administration

2.1 Owner

- a. Coordinate work and services of Contractor with activities of Owner and any Other Contractors.
- b. Appraise Contractor's performance of the Work from standpoints of quality, cost and schedule. Judge Contractor's work for compliance with Contract. Bring any deficiencies judged to exist to attention of Contractor.
- c. Perform non-process quality control (NPQC) appraisal of critical areas of Contractor's work. Appraisal will be by specialist personnel in support of and coordinated by the Owner's Project Manager.
- d. Define specific areas within broad coverage of proprietary information containing "extra sensitive" knowledge, and monitor Contractor's performance in guarding this information per Supplement 20.
- e. Administer Contract, including Changes in Work, per Supplement 6.

2.2 Contractor

- a. Provide Owner's Project Manager with all information requested for appraisal of Contractor's performance of the Work. This shall include, but not be limited to, copies of calculations, working drawings, specifications, purchase requisitions and recommendations, estimates, labor productivity data, schedules, procedures, and alternative studies. Normal requirements are listed in the Correspondence Procedure.
- b. Appraise all engineering, procurement and field erection work performed by vendors and Subcontractors for quality, cost and schedule.

2.2 Administration - Contractor (Cont'd)

- c. At Owner's request, supervise and administer contracts related to the work which Owner awards independent of Contract. Such requests will be handled as contract changes.
- d. Conduct regularly scheduled meetings with the Owner's Project Manager to discuss status in various phases of the Work, methods for resolving difficulties encountered or foreseen, and other topic pertinent to the Work. Issue notes promptly after each meeting.
- e. Issue monthly progress report to Owner's Project Manager per Supplement 15.
- f. Process Changes in Work per Supplement 6.
- g. Provide suitable furnished offices and conference rooms, telephone, telex, cable, and duplication facilities, and travel services to the Owner's Project Manager and his staff. Private offices in contractor's office are required for the Owner's Project Manager and two others to be designated later. Full time secretarial and clerical assistance shall be provided, if requested. Facilities shall be furnished, adequately lighted, heated, ventilated and partitioned to the satisfaction of the Owner's Project Manager.
- h. Obtain work permits, transportation, travel and living accommodations for Contractor's personnel and ascertain that Subcontractors and Supervised Contractors also follow this requirement, as applicable.

- i. Submit to Owner's Project Manager, for advance approval, schedules and travel plans for its personnel (and those of Vendors, Sub-contractor's and Supervised Contractors) who will visit the Work Site or any other facility of Owner.
- j. Prepare and administer procedures for protection of extra sensitive information contained in the Job Specification per Supplement 20.
- k. Comply with requirements of Supplement 21 concerning Insurance.
- l. When not in conflict with other Job Specification documents of a higher order of precedence, Contractor shall follow all applicable Vendor's or Manufacturer's written instructions and recommended practices as relating to design, application, assembly, field installation, protective maintenance and testing.

3.0 Engineering

3.1 Owner

- a. Furnish bench marks, elevations, and boundary lines as required for proper location of each part of the plant by the Contractor.

3.2 Contractor

- a. Propose to Owner's Project Manager for approval any modifications to, or deviations from, the Job Specification, which in Contractor's judgment will advance Scheduled Completion Date or minimize costs to Owner.
- b. Prepare design studies within permissible limits of the Design Specifications, Design Specifications, Baytown Engineering Standards, Industry Codes so as to arrive at the optimum solution for detailed design, construction and operation. Prepare additional studies to optimize the Work as directed or as agreed by Owner's Project Manager.

- c. Review and approve vendor, subvendor and subcontractor drawings, designs, and specifications for conformance to Job Specification. Institute effective internal control for their prompt receipt, review and return.
- d. Prepare as-built drawings reflecting field modifications to engineering flow diagrams, electrical one-line diagrams, electrical schematic connection and interconnecting wiring diagrams, dimensioned equipment layouts, all underground installations and other Work not normally visible, such as vessel internals.
- e. Prepare and ascertain that vendors and Subcontractors prepare all engineering documents in the English language and using the English measure system.
- f. Provide operating manual information as required for inclusion in the operating manuals prepared by others, per Supplement 13.
- g. Provide Mechanical Catalogs per Supplement 11.
- h. Provide instrument loop diagrams at least three (3) months before scheduled turnover of the affected part of the Work.
- i. Provide daily force report showing number of persons assigned to the project, broken down by job classifications.

4.0 Procurement and Subcontracts

4.1 Owner

- a. Review spare parts recommendations and purchase same.
- b. Establish quantities and purchase all bulk material warehouse stocks (i.e., such items as pipe, valves, fittings, bolts, standard gaskets) for subsequent use by Owner after completion and acceptance of the Work.
- c. Provide list of equipment and equipment vendors for items Owner wishes to have duplicated to reduce spare parts inventory.
- d. Review lubricant schedule submitted by Contractor. Supply permanent lubricants to Contractor for installation prior to turnover.

4.2 Contractor

- a. Provide, for Owner Project Manager's approval, lists of proposed equipment and material vendors as well as Subcontractors and other agencies, per Supplement 1.
- b. Perform procurement activities per Supplements 2, 3, 4.
- c. Verify invoices received from vendors and Subcontractors.

4.2 Contractor (Cont'd)

- d. Provide all necessary replacement gaskets, packing, seals, temporary blanks and blinds, spool pieces, and other consumables which may be required to put the equipment in proper working order before it is turned over to the Owner per Supplement 12. Contractor must order these parts so as not to cause delay in the project. Spare parts purchased for Owner's use will not normally be available for Contractor's use.
- e. Provide to Owner a complete schedule of all permanent lubricants, based on vendors' recommendations.
- f. Execute procurement function in such manner as to minimize overall costs to Owner. For specific aspects, such as taxes or duties, Contractor shall take full advantage of proper procedures to obtain allowable exemptions. When refunds of items such as sales tax or duties must be applied for by Owner, the Contractor shall provide information and assistance as required to obtain such refunds.

5.0 Material Control

5.1 Contractor

- a. Place purchase orders for bulk material based on estimated quantities (including allowances for waste and loss) and with timing commensurate with construction schedule requirements.
- b. Recheck bulk material requirements by making takeoffs when engineering is 50% and 90% complete. Make additional material takeoffs as necessary to ensure effective control. Compare each new takeoff with materials on order and with actual field count, cancel excess quantities and place purchase orders to cover shortages immediately.
- c. Maintain bulk material summary sheets up-to-date showing takeoff quantities, purchase order quantities and surplus/shortage status. Issue summary sheets every two months or more frequently as requested by Owner's Project Manager.
- d. Advise Owner's Project Manager promptly when any items of equipment or materials are determined to be surplus to actual requirements, for appropriate decision on disposition.

5.2 Expediting, Inspection & Delivery

6.1 Contractor

- a. Expedite vendor proposal, vendor and subvendor engineering, parts lists and spare parts recommendations, design calculations and other data, and equipment and material fabrication and delivery, in accordance with Supplements 3 and 5. Ensure that Sub-contractors and Supervised Contractors follow these requirements.
- b. Participate in inspection activity as required by Supplement 4.
- c. Propose for consideration by the Owner's Project Manager additional or special testing or inspection considered necessary. If any supplemental inspection by Contractor is agreed upon, coordinate this effort with Esso Inspection.

7.0 Schedules & Schedule Control

7.1 Owner

- a. Provide desired schedule of completion for various steps in the project.

7.2 Contractor

- a. Prepare and maintain current schedules for all phases of the Work in accordance with Supplement 14.
- b. Demonstrate to Owner's Project Manager that all available steps have been taken to maintain, or better, the approved Scheduled Completion Date. This shall be repeated whenever any events have taken place that may jeopardize the schedule. Contractor shall propose steps to maintain the predicted dates in the detailed work schedule or to minimize delay, such as revision of work priorities, planned overtime, payment of premiums, or their means.

8.0 Cost Estimates, Cost Control and Accounting

8.1 Owner

- a. Provide such audits as may be required.
- b. Provide detailed cost estimate of the Work (unless otherwise stipulated) as soon as practicable after contract award to establish the initial Contract Price Budget, for use by Contractor as the basis for controlling the cost of the Work.
- c. Advise Contractor of guideline principles for allocating detailed estimate costs according to the code of accounts agreed to for use in project execution.

8.2 Cost Estimates, Cost Control and Accounting - Contractor

- a. Control cost of the work to maintain Contract Price within Contract Price Budget in accordance with Supplement 1b.
- b. Use Owner Cost Estimate, or prepare a detailed cost estimate for all or parts of the Work in accordance with Supplement 17, for controlling the cost of the Work.
- c. Promptly provide cost estimates for all changes in Work, and prepare and distribute change orders, per Supplement 6.
- d. Perform accounting and invoicing in accordance with Supplement 7.
- e. Provide Owner's Project Manager with an estimated schedule of payments of the Contract Price.
Update the schedule of payments quarterly or as otherwise requested by the Owner's Project Manager.
- f. Participate in limitation of non-recoverable costs during early execution phase, per Supplement 22.

9.0 Construction

9.1 Owner

- a. Provide work site.
- b. Provide information showing approximate location of known underground obstructions within the site.
- c. Issue work permits and perform duties as required by Supplement 19.
- d. Advise Contractor of the Work Site boundaries, including necessary easements, rights of way, and temporary or permanent access roads.
- e. Delineate point at which Contractor's responsibility commences for each construction utility.
- f. Allocate areas and facilities for Contractor's temporary field facilities including needs of its Subcontractors and Supervised Contractors.
- g. Arrange procedures for issuance of all required Owner's work permit

9.2 Construction - Contractor

a. Provide for Owner's Project Manager's review at the earliest possible time after contract award consistent with schedule requirements, but in any event no later than three months prior to initial move into the field, detailed field construction plans, including requirements of Subcontractors and Supervised Contractors. As a minimum, these details should cover:

- List of construction tools and equipment requirements for major items, including justification of needs, terms for supply (i.e., purchase, rental from Contractor or third party) and estimated usage.
- Temporary offices, warehousing and other facilities required, including justification of needs and manner of supply.
- Estimated manpower requirements by crafts showing periods of buildup, peak and rundown.
- Definition of scope and detailed procedure for procurement of materials and supplies from site office referred to in Supplement 2.
- Procedures and organization for maintaining site security, safety surveillance, sanitation and housekeeping during construction period, per Supplement 19.
- Procedures for procuring, receiving, storing and issuing equipment, materials, construction tools, and for processing claims for shortages or damages, etc.
- Procedure to limit access to areas where "extra sensitive" information could be obtained.
- Detailed plans for making all critical and heavy lifts. Heavy lifts are considered to be those in excess of 100 tons or which exceed 80% of the maximum rated load for the lifting equipment. All two-crane lifts are considered critical.
- Detailed plans for the use of vendors' technical representatives to advise Contractor during construction.
- Procedures for supervising Subcontractors.
- Procedures for all field testing and inspection, as well as maintaining quality of workmanship.

9.2 Construction - Contractor (Cont'd)

- b. Negotiate labor agreements as required after consultation with Owner's Project Manager. Keep Owner's Project Manager fully informed on labor conditions and in advance of any proposed change to labor agreements.
- c. Advise Owner's Project Manager of the time Contractor requests any required inspection or test on portion of field installation by governmental authority.
- d. Ascertain the exact location of underground obstructions, and ensure protection of Owner's operating or existing plant and facilities during execution of the Work.
- e. Provide appropriate protection from damage to Owner's bench marks and monuments.
- f. Arrange for services of vendors' technical representatives as required for equipment installation.
- g. Provide soils data, topographic and hydrographic surveys as required to supplement the information provided in the Job Specification and as necessary to execute Work.
- h. Provide to the Owner's Project Manager a daily force report showing the numbers of workers on the job, broken down by crafts (and for each subcontractor).

10.0 Government Contacts

10.1 Owner

- a. Handle/arrange for initial contacts with governmental authorities/agencies on matters pertaining to the Work.
- b. Provide appropriate procedures to be used in making subsequent Work-connected contacts with governmental authorities/agencies.

- c. Advise Contractor of procedures to be used in contacts with governmental authorities/agencies on matters pertaining to the Work.
- d. Arrange for required technical representation for meetings with government authorities/agencies.

10.2 Contractor

- a. Provide Owner's Project Manager with any required technical documents and services of technical personnel to assist Owner, as required, in contacts with governmental authorities/agencies.
- b. Obtain necessary export and/or import licenses for project material and equipment, including construction tools, equipment and supplies, and provide all documentation required for licenses and/or customs clearance.
- c. Clear material through customs in accordance with procedures established. Pay all clearance duties, fees, taxes, and other related charges.
- d. Handle any other required contacts with governmental authorities/agencies as requested by the Owner's Project Manager.

11.0 Completion & Acceptance

11.1 Owner

- a. Execute duties in accordance with Supplement 12 identified as Owner's responsibility.
- b. Provide all charging stocks, chemicals, catalysts (including spare charges), desiccants, Raschig rings and inert balls, except for package type equipment where chemicals, etc., are provided by vendor as part of package.
- c. Witness equipment testing, alignment, checking, calibration, run-in, adjustment, energizing, etc. performed by Contractor as required by Job Specification and Supplement 13.
- d. Coordinate completion and acceptance of work by Other Contractors with that of Contractor.

11.2 Completion & Acceptance - Contractor

- a. Accomplish work required in Supplement 12 identified as Contractor's responsibility.
- b. Provide at request of Owner's Project Manager, supervision, and labor to assist Owner in accomplishing its duties required by Supplement 12.
- c. Provide the Owner's Project Manager with records of field inspections, tests, alignments and calibrations performed under Contractor's supervision as required by Job Specification and Supplement 12.

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Correspondence Procedure

All correspondence to Owner from the Contractor shall be addressed to the Owner's Project Manager with separate copies as indicated in Schedules B and C.

All correspondence to the Contractor from Owner shall be via the Owner's Project Manager or his authorized representative.

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SCHEDULE A

ADDRESSES

Owner's Project Manager - F. P. Jones

Exxon Chemical Company U.S.A.
P. O. Box 4004
Baytown, Texas 77520
TWX 910-881-5522
Phone: 427-5711, Ext. 3863

Owner's Project Engineer - F. T. Philips

Exxon Chemical Company U.S.A.
P. O. Box 4004
Baytown, Texas 77520
TWX 910-881-5522
Phone: 427-5711, Ext. 3717

Owner's Construction
Supervisor - D. B. McMicken

Exxon Chemical Company U.S.A.
P. O. Box 4004
Baytown, Texas 77520
Phone: 427-5711, Ext. 3532

Owner's Contracting Engineer -
E. H. Busby

Exxon Company, U.S.A.
P. O. Box 4019
Baytown, Texas 77520
TWX 910-881-5522
Phone: 427-5711, Ext. 2189

EE Inspection (Houston) - J. W. Coulter

Inspection Section
Exxon Research & Engineering Co.
P. O. Box 1296
Exxon Chemical Building
Suite 980
1333 West Loop South
Houston, Texas 77001
Phone: 713 221-3228

Contractor's Project Manager - J. D. Ross

Brown & Root, Inc.
701 North Post Oak
Houston, Texas 77024
Phone: 713-686-7791

Contractor's Deputy Project Manager -
F. J. Fato

Brown & Root, Inc.
4100 Clinton Drive
Houston, Texas 77020
Phone: 713-676-3315
TELEX 713-762-943

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SCHEDULE B

CORRESPONDENCE ORIGINATING WITH CONTRACTOR

	Owner's Project Manager	Owner's Project Engineer	Owner's Contracting Engineer	Owner's Construction Supervisor
<u>Correspondence</u>				
General	0	1	-	-
Contractual	0	1	1	-
Invoice for Payment	-	0-1	-	-
Schedules	1	1	-	1
Progress Reports	1	1	-	1
Insurance	-	1	1	-
Change Proposals (For Approval)	-	1	-	1
<u>Procurement & Subcontracts: Expediting & Inspection</u>				
See distribution outlined in Schedule C				
<u>Specifications (Design & Purchase & Subcontracts</u>				
Index List	-	2	-	-
For Review	-	2	-	-
Final	-	2	-	-
<u>Drawings</u>				
Schedule and Index	-	2	-	1
For Review	-	2	-	-
For Construction (Including Vendor's Drawings)	See Schedule D			
Original Tracings (At Completion of Project)	-	1	-	-
<u>Mechanical Catalog & Addendum</u>				
	-	5	-	-

SCHEDULE C

PROCUREMENT, INSPECTION, AND EXPEDITING CORRESPONDENCE DISTRIBUTION

ORIGINATING THROUGH CONTRACTOR

	Owner's Project Engineer	Owner's Construction Supvr.	Owner's Inspector	Contractor	Owner's Contracting Engineer	EE Inspection - Houston	Owner's Spare Parts Coordinator (J. O. Casey)
<u>Procurement</u>							
Contractor's Vendors List	0+2	-	-	A	1	-	-
Release of Inquiry for Bids	3	-	-	A	-	-	-
Bid Summary and Purchase Recommendation	3	-	-	A	-	-	-
Purchase Orders with Attachments	2	-	-	A	1	3	-
Subcontracts	4	1	-	-	-	-	-
Record of Orders	1	1	-	A	-	-	-
Material Invoices, Packing Lists and Bills of Lading	2	-	-	3	-	-	-
Forecasts of Commitments and Expenditures	0	-	-	A	-	-	-
Follow-up Correspondence with Vendors	1	-	-	A	-	3	-
Minutes of Meetings with Vendors and Subcontractors	1	1	-	A	-	3	-
<u>Spare Parts</u>							
Recommend Parts List	2	-	-	A	-	-	-
Complete Parts List (Approved)	2	-	-	A	-	-	-
<u>Inspection</u>							
Inspection Notices (By Vendors)	1	-	-	-	-	1	-
Rejection Notices	1	-	1	1	-	A	-
Release Notices	-	-	1	1	-	A	-
Inspection Reports (Including Mill Test Certificates)	1	-	1	3	-	A	-
Waivers	1	-	1	1	-	A	-
Order Assignment Sheet	1	-	-	1	-	-	-

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SCHEDULE C CONT'D

PROCUREMENT, INSPECTION, AND EXPEDITING CORRESPONDENCE DISTRIBUTION

ORIGINATING THROUGH CONTRACTOR

	Owner's Project Engineer	Owner's Construction Supvr.	Owner's Mech. Tech. Service Supvr.	Contractor	Owner's Contracting Engineer	EE Inspection - Houston	Owner's Spare Parts Coordinator (J. O. Casey)
<u>Expediting</u>							
Material Status Report	1	-	1	A	-	1	-
Expediting Reports	1	1	A	-	-	1	-
<u>General Procurement, Expediting Inspection Correspondence</u>	0+1	-	-	1	-	-	-
(As Applicable)							

Notes:

- A - Originator
- 0 - Original or cover letter
- X - Send copy only if affected.

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SCHEDULE D

CONSTRUCTION DRAWINGS DISTRIBUTION

(FOR EXXON ORGANIZATION)

1. All drawings shall be full size.
2. Copies of drawings shall be distributed to the following:

<u>Name</u>	<u>Title</u>	<u>Number of Copies</u>
F. T. Philips	Project Engineer	1
D. B. McMicken	ECMD Supervisor	2
D. D. Duston	Operating Contact	1
H. J. Smith	Inspector	1
J. C. Brewer	ECMD Electrical Specialist	4, Partial Package ⁽¹⁾

(1) Package includes only the electrical drawings.

SUPPL ENCH TS

EXX 011221

CONTRACTOR'S LISTS OF VENDORS, SUBCONTRACTORS AND AGENCIES

I. Scope

- A. The Contractor shall prepare a list of vendors from which it proposes to solicit bids for major categories of materials and equipment, such as furnaces, boilers, tankage, towers, compressors/drivers, reactors and exchangers. This list shall be submitted to the Owner's Project Manager within two weeks of contract award. Within one month of contract award, a list of all other vendors shall be submitted to the Owner's Project Manager.
- B. The Owner's Project Manager will promptly review the vendor lists, indicating any additions or deletions. Exxon Chemicals may not have had experience with, or direct knowledge of the capabilities of some of the proposed vendors. Before accepting such vendors, the Owner's Project Manager will require convincing evidence of their capabilities to meet design specification, applicable codes and workmanship standards. This might require a survey of the vendor's facilities, for which sufficient time must be allowed.
- C. To assist in preparation of the Contractor's lists, the Owner may submit at the time of Contract Award a computerized list of vendors known to be acceptable for the applicable categories of materials and equipment in countries believed to be logical supply sources for the project. The Contractor's proposed vendors should only supplement this.
- D. The consolidated list of acceptable vendors will be released by the contractor for use on the project, and copies sent to the Owner's Project Manager, as soon as possible after reviews are completed. Solicitation of bids and placement of orders shall be confined to the acceptable vendors on the lists.
- E. The Contractor shall determine that materials used by subvendors, Subcontractors and Supervised Contractors are purchased only from the acceptable sources.

II. Vendor List Preparation

- A. Contractor shall submit its list of proposed vendors for each applicable subcategory of equipment in the same sequence as shown in Table 1, Caterory List of Materials and Equipment. The list shall be in the form illustrated by Table 2. In a column opposite each vendor's name, the country in which the equipment is to be manufactured is to be listed. Vendors listed are to be manufacturing sources only and not sales agencies or vendor representatives. Contractor shall identify all cases where it or one of its affiliated companies is listed as a potential supplier.

B. The following is the definition of vendor classifications to be used by the Owner in reviewing Contractor's proposed list.

1. "A" Vendors. Those vendors marked A are considered acceptable to submit proposals for review where required, or otherwise as manufacturing sources of equipment in their particular category. All material and equipment supplied must still meet the requirements of the Job Specification.
2. "B" Vendors. Vendors marked B are considered unacceptable sources of manufacture for the categories under which they are listed.
3. "C" Vendors. Vendors are marked C for the particular category for one or more of the following reasons:

- Vendor unknown
- Proposed manufacturing source unknown
- No direct experience with the vendor, or proposed manufacturing source.

If the Contractor can report entirely satisfactory experience with a "C" vendor, he should provide sufficient evidence for consideration by the Owner's Project Manager.

4. Added Vendors. In some cases, the Owner may add vendors' names. These are additional sources of supply which Contractor should consider.
5. Other markings and/or limitations as appropriate.

III. Subcontractor and Agency Lists

- A. For each category of work expected to be subcontracted, Contractor shall submit the list of Subcontractors from whom it wishes to solicit bids to the Owner's Project Manager for review. For each subcontractor listed, the Contractor shall provide a summary of the subcontractor's qualifications to perform the work proposed.
- B. Contractor shall submit the list of the agencies which it proposes to use to the Owner's Project Manager for review. This should include shipping, forwarding, expediting, testing, inspection and any other agencies, as appropriate. For each agency listed, the Contractor shall provide a summary of the agency's qualifications to perform the work proposed.

TABLE I
CATEGORY LIST
MATERIALS AND EQUIPMENT

This list presents materials and equipment for which the contractor's proposed manufacturing vendors will be reviewed.

1. Boilers

CO
Water Tube (Gas & Oil Fired)
Waste Heat

2. Condensers

Barometric
Surface

3. Cooling Towers

4. Electrical

Circuit Breakers, Power - 600 Volts & Lower
Circuit Breakers, Power - Above 600 Volts
Generators (Specify Driver Vendor, KV Rating & Voltage)
Instrument Power Supply - Rectating Type
Instrument Power Supply - Static Type
Motors - 600 Volts & Lower
Motors - Above 600 Volts
Motors - Above 1500 HP
Motor Control Centers - 600 Volts & Lower
Motor Control Centers - Above 600 Volts
Motor Starters - 600 Volts & Lower
Motor Starters - Above 600 Volts
Relays - Protective Type
Switchgear, Metalclad - 600 Volts & Lower
Switchgear, Metalclad - Above 600 Volts
Transformers - Primary Volts 34.5 KV & Lower
Transformers - Primary Volts Above 34.5 KV
Turnaround Power Centers
Wire & Cable - 1000 Volts & Lower
Wire & Cable - Above 1000 Volts

5. Furnaces

Cabin Type
CO Type
Special Service (See 18. Special Plants Equipment)
Steam Cracking Type (Vertical)
Steam Reforming Type
Vertical Cylindrical Type

6. Furnace And Boiler Parts

Burners - Lamon Type
Burners - Gas & Oil Type
Burners - Radiant Type
Castings - Alloy Steel
Castings - Carbon Steel
Castings - Special Alloys (INX40, 25 Chr-20 ni, HCH, etc.)
Breeches & Return Bends - Alloy Steel
Breeches & Return Bends - Carbon Steel
Breeches & Return Bends - Special Alloys
Stacks - Self Supporting (Steel Only)
Tube Supports (Including Tube Sheets & Hangers)
Tubing - (See 21. Tubing)

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7. Conveyors - Inert Gas

8. Heat Exchange Equipment

Air Cooled
Coolers - Evaporative
Double Pipe (Extended Surface) Type
Hempson Coil Type
Plate Fin (Core or Compact) Type
Scraped Surface Type
Shell & Tube - TEMA Type
Tank Heaters
Types Not Otherwise Classified

9. Instruments

Air Drives
Analyzers - Process Stream (Chromatograph, Infra Red, Moisture, Etc. Specify Type)
Annunciators
Board Mounted - (Controllers, Recorders, Indicators, Recorder Controllers)
Combustion Safeguard (Flame Detectors)
Flow Transmitters - Bellows Differential Pressure
Flow Transmitters - Force Balance Differential Pressure
Flow Integrator
Flow - Local (Controllers, Indicators, Recorders)
Flow - Magnetic Meter
Flow - Positive Displacement Meters
Flow - Primary Devices (Orifice Plate, Venturi, Etc.)
Flow - Rotameters
Flow - Turbine Meters
Level - Gauge Glasses
Level - Tank Gauges
Level Alarm Units - Ball Float Type
Level Controllers & Transmitters - Displacer Type
Level Transmitters - Force Balance Type (Differential)
Panel Boards & Consoles
Pressure - Differential (Transmitters & Indicators)
Pressure - Gauges
Pressure - Local (Controllers, Indicators, Recorders)
Pressure - Transmitters
Switches - Current Alarm
Switches - Flow
Switches - Level
Switches - Pressure
Switches - Temperature
Temperature - Digital Indicator
Temperature - Electronic & MV (Potentiometer & Wheatstone Type)
Temperature - DIF Converters
Temperature - Multipoint Indicators & Recorders
Temperature - Local Bulb Type (Controllers, Indicators, Recorders)
Temperature - Self Actuating Valves
Transducers - I/P for Control Valves
Valves - Control (Angle, Ball, Butterfly & Globe)
(Note: See 14-Piping Materials for Hand Operated Valves)
Valves - Motor Operated
Valves - Pressure Reducing
Valves - Solenoid
Valve Actuators - Electric
Valve Actuators - Hydraulic
Valve Actuators - Pneumatic
Valve Positioners

10. Insulation Materials

Cable Linings - Insulating & Friction Resistant Structures
Thermal Insulation - Hot Service
Thermal Insulation - Cold Service

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11. Marine Terminal Facilities

Blenders - Marine Fuel
Bollards and Cleats
Buffers - Resilient
Buffers - Yokohama
Capstans - Shore Mooring
Couplers - Quick Connect
Dolphins - Floatable
Fenders - Gravity
Fenders - Pneumatic
Gangways - Shore Based
Molets - Air
Hooks - Quick Release
Hose - Marine Loading
Loading Arms
Single Buooy Mooring
Tubing - Rubber (For Fenders)

12. Solids Handling Equipment

Begging Equipment
Catalyst Handling Equipment - Bins, Hoppers, Chutes, Flow Diverters, Etc.
Conveyors & Elevating Equipment - Air Slide, Belt, Vibrating Conveyors & Bucket Elevators
Cranes & Hoists
Crushers
Extruders
Feeders & Screw Conveyors
Flicking Equipment
Grinding
Killing Equipment
Mobile Equipment
Screen Classifiers
Solids Addition Equipment
Weighers & Weigh Scales

13. Mechanical Equipment

Agitators
Blowers - Centrifugal
Blowers - Positive Displacement
Compressors - Axial
Compressors - Centrifugal - Air Service
Compressors - Centrifugal - Gas Service - Horizontal Split
Compressors - Centrifugal - Gas Service - Barrel Type
Compressors - Lysolm Type
Compressors - Reciprocating - Air Service
Compressors - Reciprocating - Gas Service to 500 HP
Compressors - Reciprocating - Gas Service Above 500 HP
Compressors - Special Service
Engines - Diesel - 0 to 500 KW
Engines - Diesel - Above 500 KW
Engines - Gas - Integral Compressor Drive
Engines - Gas - Non Integral Compressor Drive
Engines - Jet
Expanders - Reciprocating
Expanders - Turbine - Below 500 P
Expanders - Turbine - Above 500 P
Fans (Industrial Type Only)
Gears (For Speed Increasers and Reducers)
Mixers (See Agitators)
Pumps - Centrifugal - Water Service
Pumps - Centrifugal - Process Type
Pumps - Centrifugal - In Line Process Type
Pumps - Reciprocating
Pumps - Proportioning

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Pumps - Cryogenic
Pumps - Rotary (Screw & Gear)
Pumps - Special Service
Refrigeration Units Packages (Excluding Air Conditioners)
Silencers - Gas Turbines (Air Intake & Exhaust)
Speed Increasers & Reducers - 0 to 500 HP
Speed Increasers & Reducers - Above 500 HP
Turbines - Combustion Gas
Turbines - Gas Expanders (See Expanders)
Turbines - Steam - General Purpose
Turbines - Steam - Special Purpose

14. Piping Materials

Expansion Joints
Fittings - Alloy - Butt Weld
Fittings - Alloy - Flanged
Fittings - Alloy - Threaded & Socket Weld
Fittings - Carbon Steel - Butt Weld
Fittings - Carbon Steel - Flanged
Fittings - Carbon Steel - Threaded & Socket Weld
Fittings - Above 900 lb. ANSI Rating
Flanges
Pipe - Alloy Steel
Pipe - Aluminum
Pipe - Carbon Steel - Seamless
Pipe - Carbon Steel - Spiral Weld
Pipe - Carbon Steel - Welded (EHW, LAP, EPW, ETC.)
Pipe - Plastic
Pipe - Fabricated
Pipe Line Pipe & Accessories
Valves - Alloy Steel - Ball
Valves - Alloy Steel - Butterfly Check
Valves - Alloy Steel - Check
Valves - Alloy Steel - Gate & Globe
Valves - Alloy Steel - Plug
Valves - Alloy Steel - Slide & Stack
Valves - Alloy Steel - Small Threaded & Socket Weld
Valves - Carbon Steel - Ball
Valves - Carbon Steel - Butterfly Check
Valves - Carbon Steel - Butterfly Rubber Lined
Valves - Carbon Steel - Check
Valves - Carbon Steel - Gate & Globe
Valves - Carbon Steel - Plug
Valves - Carbon Steel - Slide & Stack
Valves - Carbon Steel - Small Threaded & Socket Weld
Valves - Cast Iron - Ball
Valves - Cast Iron - Butterfly Rubber Lined
Valves - Cast Iron - Check Flanged
Valves - Cast Iron - Gate & Globe - Flanged
Valves - Cast Iron - Plug
Valves - Non Ferrous Alloys - Cryogenic Service
Valves - Modular Ductile Iron
Valves - Pipe Line Service
Valves - Plastic
Valves - Pressure & Thermal Relief
Valves - Special Service

15. Plate

Aluminum
Steel For Tankage

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16. Pressure Vessels

Cyclones
Drums to 2 in. thick
Drums over 2 in. thick
Internals & Trays
Plastic Material - Vessels
Reactors & Converters to 2 in. thick
Reactors & Converters over 2 in. thick
Towers to 10 ft. diameter
Towers over 10 ft. diameter

17. Special Equipment

Driers & Coalescers - Desiccant Type
Driers & Coalescers - Electric Type
Fire Protection Equipment
Rotary Driers
Rotary Filters
Shop Equipment
Traveling Water Screens

18. Special Plants Equipment

Acid Coolers
Blending Equipment
Caustic and Chlorine Cells
Caustic Soda Solidification Units
Cooling Systems - Packaged
Decomposers
Dehumidifiers & Dehydration Units
Distillation Plants
Desalters
Driers
Evaporation Plants
Furnaces - Special
Hydrochloric Acid Plants
Impactors
Loading & Offloading Equipment
Phosphoric Acid Plants
Precipitators
Rectifiers
Reactors
Rubber Lined Equipment
Scrapers
Scrubbers
Separators
Settlers
Sulfuric Acid Plants
Tanks - Special
Vacuum Equipment

19. Tanks

Cone Roof Tanks
Floating Roof Tanks
Spheres & Spheroids
Special Tanks

20. Structural Steel-Fabricated

21. Tubing

Alloy
Aluminizing Process for Tubing
Carbon Steel
Cast - Centrifugally
Finned
Graphite
Full Studded
Half Studded

22. Waste Treatment Units

Disposal Systems
Dust Collectors
Incinerators
Separators - API

23. Water Treatment Facilities

Chlorinators
Desaerators & Degassifiers (Decarbonators)
Feeders - Dry Chemical
Feeders - Wet Chemical
Filters
Water Treating Units

TABLE 2
SAMPLE PROPOSED VENDORS LIST

List No. _____

Page No. _____

Contractor's Name (1)

Project

ELECTRICAL EQUIPMENT

Motors - 600 Volts & Lower

ABC Electric Kogyo - K. K.
DEF Electro Societe S. A.
EGI Electricitats A. G.
JKL Electric Power, Ltd.
MNO Electric Corp.

Japan
France
Germany
U. K.
U. S. A.

Motors - Above 600 Volts

ABC Electric Kogyo, K. K.
DEF Electro Societe, S. A.
GHI Electricitats, A. G.
JKL Electric Power, Ltd.
MNO Electric Corp.

Japan
France
Germany
U. K.
U. S. A.

Motors - Above 1500 HP

GHI Electricitats, A. G.
MNO Electric Corp.

Germany
U. S. A.

(1) Name of Contractor and Project should be on first page, but inclusion on subsequent pages is optional.

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PROCUREMENT

I. Scope of Work

- A. The Contractor shall perform all necessary procurement work in accordance with the Contract. Special attention shall be given to protection of Owner's "extra sensitive" information as indicated in Supplement 20 by having proper confidentiality agreements drawn up and signed prior to discussions and/or placement of orders.
- B. It is intended that this Supplement be applied also to subcontracts for engineering or construction services.
- C. The Contractor shall assume responsibility for any procurement activity engaged in by the Owner prior to contract award. The Contractor shall take on and handle all subsequent activities for each item, regardless of the stage of procurement, as instructed by the Owner's Project Manager.
- D. The Contractor shall designate a Coordinator to act as liaison contact on procurement matters between the Contractor organization and the Owner's Project Manager.

II. Policy

- A. The Contractor shall ensure that the procurement activity undertaken in connection with the project shall be in accordance with the following policy:

IT IS THE POLICY OF THE COMPANY TO PURCHASE OR PROVIDE MATERIALS AND SERVICES OF ALL TYPES, INCLUDING CONSTRUCTION WORK, FROM WHATEVER SOURCE AFFORDS THE MOST ECONOMICAL COST, TAKING INTO CONSIDERATION QUALITY, PRICE, DELIVERY, RELIABILITY AND SERVICE. PURCHASES SHOULD BE ACCOMPLISHED THROUGH TRANSACTIONS WITH FINANCIALLY SOUND, REPUTABLE FIRMS CAPABLE OF SATISFYING OUR NEEDS, AND SHOULD BE CONSISTENT WITH THE EFFICIENT MANAGEMENT AND UTILITIZATION OF INVENTORIES WHERE APPLICABLE.

III. Source of Materials and Equipment

- A. Material may be procured from any acceptable source within the Free World Market. Contractor shall endeavor to supply local materials to the extent available and competitive. Placement of orders for material and equipment indicated in Table 1, Supplement 1, shall be confined to "A" rated vendors.

IV. Competitive Bids

- A. Except where only a single source is available (or stipulated in the Job Specification) all purchases shall be based on competitive bids from three or more acceptable vendors, including vendors from the source country assumed in the Control Estimate. As a further exception, supplemental orders may be placed with a selected vendor without formal competition when approved by the Owner's Project Manager
- B. Bids shall be solicited from only direct manufacturers of items unless the Owner's Project Manager authorizes the solicitation from specific nonmanufacturers representing acceptable manufacturers.

V. Content of Purchase Inquiry

- A. The inquiry documents shall include at least the following:

- Project name and location
- Project or unit symbol
- Contractor's requisition number
- Identification of Owner as ultimate purchaser
- Date delivery is required ex works
- Quantity and item numbers
- Complete description of item, including applicable Baytown Engineering Standards, local codes, and other specification data.
- Account code to be charged
- Date required for submittal of design calculations and data where applicable
- Request for complete parts lists, spare parts recommendation or special tools where applicable, and due date
- Inspection instructions
- Number of copies of operating and/or maintenance manuals required, including language, if applicable.

- B. The inquiry documents shall instruct the bidders:

- 1 - To submit bids by the specified date, said date to provide the bidders sufficient time to review the bidding documents and to prepare their bids adequately.
- 2 - To state any deviations from the inquiry basis.
- 3 - To specify delivery dates and commercial terms.

EXX 011232

4 - As applicable, vendor shall submit the following:

- a. A proposal for the recommended spare parts as shown in the Job Specification, Coordination Procedure, Supplement 5, or mandatory spare parts required by specific Owner requests.
- b. A detailed explanation of his organization and capability to provide technical assistance and service engineers for normal and emergency situations after plant commissioning.
- c. A detailed explanation of his procedures for the handling of repair and spare parts including:
 - (1) Parts vendor normally carries in stock and where located.
 - (2) Delivery time for normal and emergency requirements.
 - (3) Terms for furnishing technical field assistance for installation and startup.
- d. Detailed procedure and explanation of communication channels established to obtain expeditious handling of emergency and normal requests for subsequent parts and service including job title, addresses, cable and telephone numbers (both office and home) for representatives.

- C. Contractor shall not obtain bids from affiliates or subsidiaries unless granted permission to do so by Owner. When such bids are authorized, they will be transmitted unopened together with all other unopened bids for the same material/services to Owner's Project Manager or his designated representative. Owner will open all bids, retain a single copy of each for Owner files and transmit remaining copies to Contractor for normal processing.

Bids from any organization in which a substantial interest is held by any nominee of an officer or director or any officer or director (or any members of their families) of Contractor or any affiliate or subsidiary of Contractor will be similarly handled.

VI. Distribution of Inquiry Documents

- A. Copies of all inquiry documents (including purchase specifications with pertinent attachments) are to be provided to the Owner's Project Manager at the same time as they are issued to suppliers and others designated in Correspondence Schedule C. Owner comments or requested revisions, if any, will be given to the Contractor promptly, but purchasing shall proceed without delay. A review of the specification shall not be used by the Contractor as reason for delay in procurement.

VII. Interpretation of Inquiry Documents

- A. If, during the bidding period, any bidder raises questions about the inquiry documents which indicate that clarification is required, Contractor should see that such clarification is provided to all bidders, with a copy to the Owner's Project Manager. Contractor is not to provide oral interpretations or comments with respect to the inquiry documents, unless confirmed in writing.

VIII. Interchangeability of Equipment

- A. Equipment shall be designed and purchased, as far as practicable, to be duplicate or have interchangeable parts with other similar equipment entering into the construction of the project. This is required to keep the Owner's spare parts inventory at a reasonable minimum. A procedure for accomplishing this should be submitted to the Owner's Project Manager for review.

IX. Bid Summaries

- A. The Contractor shall prepare a bid summary for each major purchase. The Owner's Project Manager will designate the level of "major" for the project. Prior to placing the purchase order, the summary shall be reviewed with the Owner's Project Manager or his designated representative. A copy of pertinent vendors' quotations shall be attached to each summary.
- B. Each summary shall cover all technical and commercial factors which affect the bid evaluation, plus the Contractor's recommendation and basis therefor. The lowest cost offering (considering operating costs) with acceptable delivery, and complying with all requirements of the specification shall be selected. Each vendors' quotation need not be tabulated in detail if it is clear that its price and delivery is unacceptable. In such cases only the price and delivery need be shown.
- C. The Contractor shall ensure that the bid summaries include all applicable items such as: comparison of cost with Control Estimate, comparison of promised delivery with schedule requirements, confirmation that shop capacity is judged adequate to meet required delivery; promised dates for design data, drawings, parts list and spare parts recommendations; operating costs; firm prices for spare parts duplication and special tools; all deviations from specification requirements and how these are to be resolved; tax debits/credits, shipping costs, duties, discounts, credits, escalation, erection/installation/startup technical service costs, etc.

- D. The Contractor shall present appropriate evidence that a technical review has been made for, at least, the recommended supplier, including consideration of all factors required by the Job Specification.
- E. Contractor shall submit a weekly summary of all purchases made for which bid summaries are not required, and shall provide details at the request of the Owner's Project Manager.

X. Sealed Bid Procedure

- A. For inquiries in the range of \$100,000 or more, the following sealed bid procedure shall be used. The procedure may also be invoked by the Owner's Project Manager for special cases of lower value, such as when the Contractor is also a bidder.
- B. Prior to release of inquiries the Contractor shall submit to the Owner's Project Manager:
 - 1. Specific vendors to be solicited.
 - 2. Scheduled inquiry release date.
 - 3. Proposed bid due date.
 - 4. Basis for proposed prices (lump sum, unit price, etc.).
 - 5. Delivery terms (F.O.B., C.I.F., etc.).
- C. Inquiries shall describe to the bidders the proper use of the sealed bid envelope.
- D. The sealed priced bids will be opened only on the bid due date unless all bids have been received earlier.
- E. Once the sealed envelopes have been opened, any bids subsequently received shall be ignored for any award consideration.

XI. Purchasing

- A. Contractor shall purchase all equipment and materials for the account of and in the name of Exxon Chemical Company U.S.A. The mechanism for accomplishing this shall be approved by the Owner's Project Manager.

XII. Invoices

- A. Invoices for all equipment and materials purchased per paragraph XI shall be for the account of Exxon Chemical Company U.S.A.
- B. CONTRACTOR shall require all vendors to state separately on its invoices transportation costs for all equipment and materials purchased for incorporation as a permanent part of WORK.

CONTRACTOR shall require its subcontractors to comply with this requirement where feasible.

XIII. Special Tools

- A. Special tools supplied by vendors to install, adjust, and maintain equipment shall be turned over to the Owner with the equipment. Special tools needed for subsequent maintenance but not supplied by the vendor shall be ordered as spare parts items at time of placement of the initial order.

XIV. Manufacturers' Drawings and Data

- A. The Contractor shall obtain manufacturers' drawings and data in sufficient quantity to cover the Contractor's needs plus requirements for the Mechanical Catalogs and any other specified distribution

XV. Record of Orders

- A. The Contractor shall issue a Record of Orders report monthly, or as otherwise requested, reporting on the status of each order. The report shall include information on at least the following:

- Inquiry No. and Date
 - Order No. and Date
 - Vendor and Source of Manufacture
 - Brief Description
 - Item No./Equipment No.
 - Required Delivery Date for Design Data
 - Required Date for Equipment/Materials
 - Required Date for Principal Spare Parts

The Record of Orders may be combined with the Material Status Report described in Supplement 3, if the Contractor so desires.

XVI. Shipping Lists

- A. Contractor shall submit, for the Owner's Project Manager's approval, a list of shipping lines, air lines, and ports of export that it intends to use in its negotiations for major ocean and air freight movements.

XVII. Identification of Owner

- A. The Contractor shall ensure that each purchase inquiry and order has a prominent stamp indicating the Owner's name and address.
- B. In the case of secondary vendors, the Contractor shall instruct prime vendors or subcontractors to put similar identification stamps on all purchase inquiries, orders, etc.

XVIII. Correspondence Distribution and Identification

- A. All correspondence, specifications, drawings, data on spare parts and special tools, or other papers pertaining to procurement shall be distributed as specified by the Correspondence Schedule C. They shall bear the following references:

1. Project name and location.
2. Project symbol or code.
3. Equipment numbers, if any.
4. Owner's contract number.
5. Inquiry or purchase order numbers.

XIX. Exxon Burner Procurement

- A. If Exxon Burners are a Design Specification requirement, the Owner's Project Manager will provide the procedure to be used.

XX. Field Procurement

- A. All of the detailed requirements herein may not apply to the Contractor's field procurement. Requirements governing field procurement will be mutually agreed to by the Contractor and the Owner's Project Manager or his authorized representative.

EXX 011238

EXPEDITING

I. Scope of Work

- A. The Contractor shall expedite all purchase orders, revisions, and amendments (including vendors' quotation; engineering design calculations, drawings, spare parts data; installation, operating and maintenance instructions; welding procedures; invoices; import licenses; etc., and vendors' subcontracted orders) from placement of purchase order to receipt of the materials, equipment, supplies, and services at the Work Site. Where delivery is critical as indicated by construction schedules, Contractor shall check vendor before placement of order to determine if its shop loads may prevent maintaining shipping schedules.
- B. Contractor shall maintain control of delivery dates that are established for the project, ensuring that where Contractor's subsidiary offices are involved, they will have the necessary purchase documents to carry out their task.
- C. Contractor's expediting reports shall be distributed without delay in accordance with Correspondence Schedule C. Expediting reports shall be in English.
- D. The Contractor's expeditors shall become thoroughly familiar with the inspection procedures of EXES 20-1-2-1B. They shall also ensure that the vendors are thoroughly familiar with these requirements. Inspection discussions with vendors shall be noted in expediting reports. The latest delivery promise, in all cases, shall include time allotted for shop inspection.
- E. The attached expediting check list is provided as a guide for expeditors.

II. Expediting Action

- A. A copy of every purchase order and purchase order revision and amendment, and letter or cable of intent to purchase, shall be given to the Contractor's Expediting section as soon as it is issued. It is expected that an adequate number of visits will be made to any point of manufacture of any material or equipment which will have an effect on a logical engineering and construction sequence. Items critical to the construction schedule are to be rigorously and continuously expedited by visits. Telephone advice and advice from vendors regarding status of suborders shall not be considered factual or adequate.

II. Expediting Action (Cont'd)

- B.** Contractor shall expedite all drawing and engineering approvals. This includes design calculations, parts lists, special tools, spare parts recommendations and data generated by sub-vendors requiring approval of Contractor's home office specialists and review by the Owner's Project Manager, as necessary. It is suggested that Contractor shall maintain a vendors' drawing and data central control register with a single individual responsible for listing and keeping track of all shop drawings, engineering data, welding procedures, etc. that are required for approval, and making sure they are received, approved and returned on schedule.
- C.** Contractor shall determine if the material or any part of it is to be ordered from sub-vendors; obtain the factory addresses, reference numbers and delivery schedules. Material suborders are to be expedited and the expeditor is to obtain the necessary information and see that appropriate fast action is taken. Contractor shall determine that suborders for critical material have been placed far enough in advance to avoid fabrication delays. If castings are involved, full information shall be obtained about the patterns, including point of supply and past experience of supplier in meeting requirements applicable to this order. Contractor shall also check that sub-vendors request inspection in accordance with Supplement 4.
- D.** Contractor shall anticipate production problems and check that planned production will not be delayed because of material shortages. When necessary, Contractor is to ensure that the vendor obtains acceptable substitute materials. Substitute materials are to be reviewed by the Owner's Project Manager.
- E.** Indicated delays in critical equipment shall be telexed or phoned immediately to the Contractor's Project Manager for remedial action. Contractor's Project Manager shall notify the Owner's Project Manager immediately of impending critical delays.
- F.** The vendor's top management shall be contacted for assistance whenever necessary, and these contacts are to be documented and included in the expediting report.

III. Reports

- A.** All expediting reports are to be submitted on Contractor's standard report forms. The following are minimum requirements:

III. Reports (Cont'd)

1. Expediting Reports

A detailed visit or contact report shall be prepared by the expeditor. Information contained in the report is to be condensed and included in the Material Status Report described below. Each report is to include all information concerning the order in addition to the latest delivery promise and all pertinent order status information. Copies of expediting reports are to be transmitted to the Owner's Project Manager within three days of the visit or contact.

2. Material Status Report

The Material Status Report is to show current delivery status of all purchased equipment and material for the project, including concise summaries of information taken from daily expediting reports. It is to be issued at least monthly in accordance with the correspondence distribution schedule and shall include as a minimum the following:

- Purchase order number
- Brief description of material or equipment
- Vendor and location of manufacture
- Date Required
- Original promise
- Current promise
- Date of last contact
- Type of contact (visit, telephone, telex)
- Port of Export and Ship
- Scheduled Sailing Date/Date Sailed
- ETA destination
- Actual arrival date
- Remarks

- A separate list of all suborders pertaining to each main order, in detail, including all shop suborder numbers. The suborders are to be listed immediately following the main order, and are to include all data as above.
- Place of manufacture for each part of the order.
(May be combined with Record of Orders.)

EXPEDITING CHECK LIST

Preliminary Action	Engineering Status	Material Status	Production Status	Analysis of Delays	Shipping Status
Read and understand the order. Date placed. Required date. Quoted delivery. Type of material. Scope and importance. Shipping instructions. Import and export licenses.	Is engineering required by the manufacturer? By purchaser? Obtain the engineering schedule. Is it being done on schedule?	Has the bill of material been issued? Is the material in stock?	When will the order be in production? What is the estimated fabrication time? How does this compare with the time allowed in the shipping promise?	How many shifts working and number hours per shift? Will overtime improve delivery? How much? At what cost?	Are the shipping instructions available and understood? When will the invoice and packing lists be forwarded? On export orders report invoice date and number.
Has the order been received?	Do the drawings need approval? • Calculations? • Spare parts lists and prices? • Suborders? • Welding Procedures?	Obtain the sub-order numbers and schedules of the materials ordered.	What is the production and shipping schedule of the main unit and all auxiliary equipment?	Is there any other order interference? Give details.	
Obtain shop order no. (S.O.) or reference no.	When were drawings forwarded and to whom?	Indicate those orders needing special expediting assistance. Give full details.	Are any production problems anticipated?	Can substitution be made? Obtain full details.	Is packing and crating material available?
Does the mfg. understand the specifications?	Have the drawings been released to the shop?	Has advance placement of critical material been made?	If there are material shortages; take steps to get production started.	Press manufacturer to expedite critical sub-orders.	When will shipment go forward? What is the method and routing?
Alert the manufacturer if inspection is required.	Can the order be released for fabrication?	If castings are required, what is the status of the patterns?	Are the inspection requirements understood on both the main unit and all auxiliary equipment?	Contact top management when necessary.	When shipment is extremely urgent, have manufacturer trace and report full details.
Shop schedule and shipping date?		Check the status of all accessories to be shipped with unit.			

EXX 011243

INSPECTION

I. Scope

- A. EE Inspection on behalf of the Owner will inspect at the point of manufacture, and/or witness the test of, the equipment and materials that are specifically identified in EXES 20-1-1-1B as items to be inspected by EE.
- B. Contractor shall assist in EE source inspection activity by adhering to the procedures outlined in EXES 20-1-2-1B and the instructions contained herein.
- C. As soon as appropriate after Contract award, Contractor will be requested to participate in an inspection coordination meeting with the Owner's Project Manager and EE Inspection personnel. The purpose of this meeting is to establish a complete understanding of the inspection requirements and procedures for the project.

II. Procedures

- A. In connection with inspection assignments, EE Inspection will designate the type of inspection to be performed; i.e., "Final", "Partial" or "Complete", dependent upon the type and complexity of the items to be inspected, and prior EE experience with the vendor.
- B. Preinspection meetings may be initiated by the vendor, or EE Inspection, when either feels that such meetings are timely to resolve questions involving compliance with the order specification requirements.
- C. The Inspector is required to reject any equipment or material that is found to be of unacceptable quality or workmanship, or fails to comply fully with the requirements of the order.
- D. Inspection Release Notices and Rejection Notices will be issued "on-the-spot" to the vendor and distributed promptly in accordance with Correspondence Schedule B. Rejection Notices will clearly state the basis for rejection. If reason for rejection is that data are not available, the Rejection Notice will state that material has been inspected and found satisfactory but that sufficient copies of data are not available.

Equipment and material that has been shipped before inspection is carried out is automatically considered as rejected. Material which has been rejected by inspection, but shipped to the Work Site, may be:

- a) Accepted with appropriate qualification, or
- b) Inspected and repaired at the Work Site, or
- c) Returned to the vendor for inspection and repair,

as determined by the Owner's Project Manager.

- E. Contractor shall take corrective action, subject to the Owner's Project Manager's approval, with its vendor on rejections. Rejected items will remain rejected and not released for shipment until the inspection authority is advised by the Owner's Project Manager of a suitable basis for acceptance. Thereafter, EE Inspection will authorize the issuance of an Inspection Release to the vendor on this basis.
- F. Shop production should not be held up awaiting an inspector. In the event of overtime, weekends and holiday work it is the responsibility of the vendor to give sufficient advance notice in order to allow proper inspection arrangements.
- G. The Inspector will issue his inspection reports in accordance with Correspondence Schedule B.
- H. Based on evaluation of the order requirements, the criticality of the material, and past experience with the particular vendor, EE Inspection may choose to waive inspection.

III. Instructions to Vendors

- A. Contractor's orders and vendor's sub-orders for items requiring inspection shall be accompanied by all pertinent inspection procedures in this Supplement in addition to the standard inspection clause C-15 or C-16 per BTES 50-3-5-1A. Contractor shall ensure that all applicable direct order specifications and inspection requirements are properly noted on applicable sub-orders by obtaining and reviewing copies thereof.
- B. The Contractor and main vendor shall be responsible for maintaining the continuity of order identification, specifications and inspection requirements between the prime vendor and sub-vendors through any intermediary or agency.

- C. In the event that material cannot be identified, or a reasonable doubt exists as to its identity, the vendor will be required to have check tests carried out at his own expense. The Contractor will be made aware of this by EE Inspection when this action becomes necessary.

IV. Inspection Documentation

- A. Contractor shall forward copies of purchase orders, complete with specifications, data sheets and other pertinent information, to EE Inspection and to other recipients in accordance with distribution shown in Correspondence Schedule C. Pertinent parts of Schedules A and C shall be transmitted to vendors and sub-vendors by the Contractor. Purchase orders shall state the location of manufacture, name of contact, and telephone number. Purchase orders which do not include items to be inspected by EE Inspection (per EXES 20-1-1-1B) should not be forwarded to EE Inspection.
- B. After order issuance, all supplements, changes and correspondence concerning inspection shall be distributed identically as the original order. For European purchases, copies of transmittal letters or supplements dealing with drawing changes or revisions are sufficient for transmittal to EE Inspection rather than retransmitting the drawings. All supplements, or changes to the order or specification are to be documented by Purchase Order revision or amendment.
- C. Contractor shall instruct its vendors to make one copy of drawings available to the local inspector for inspection purposes. For inspection in Europe, Contractor shall forward two copies of the vendor's drawings, which it has reviewed and approved, directly to the designated Inspection Agency. For orders in Japan, these drawings should be sent to EE Inspection (Japan). The vendor's drawings shall include welding details. These drawings should be in the hands of the proper Inspection authority prior to the start of fabrication.
- D. Vendor's welding procedures shall be reviewed and approved by the Contractor prior to start of fabrication.
- E. For shop fabricated items, such as pressure vessels, heat exchangers, condensers, boilers and furnaces, copies are required of the vendor's sub-orders covering parts such as shell and head plates, tubes and other component materials shown as inspectable in EXES 20-1-1-1B. These sub-orders must carry the inspection clause. Contractor shall forward copies of all inspectable sub-orders to EE Inspection. Distribution of sub-orders shall be the same as for the Contractor's main orders.

- F. Where there will be an extended delay in issuing a formal purchase order, or for short delivery items, Contractor shall forward the required copies of letters of intent, cables of intent, bills of materials, requisitions and other data that can be used for inspection purposes to EE Inspection. The telexes or letters of intent for inspectable materials shall contain the order number, supplier, source location, material or equipment specifications, and state that the equipment is subject to EE Inspection.
- G. Contractor shall obtain copies of vendor's sub-orders and screen them to ensure that they include the main order requirements, with specifications and inspection requirements. Contractor shall ensure that inspection correspondence distribution is handled in the same manner as the main purchase orders. Where discrepancies are noted on the sub-order, such as, specifications not referenced, no inspection clause, no main order number, Project not identified, plant location omitted, etc., Contractor shall distribute the sub-order and note action taken with the main vendor.
- H. It is expected that all orders and sub-orders will be in English; however, as a minimum for inspectable sub-orders the description of the material or equipment involved, plus general specification, material specifications, and inspection and testing requirements shall be in English.
- I. Orders placed with agents shall identify the source of supply for inspection purposes, along with the order and works reference numbers.
- J. Contractor will be advised promptly of those items for which inspection is waived by EE Inspection and will forward a copy of the waiver to the vendor.
- K. For non-inspectable materials and equipment and for orders on which inspection has been waived, Contractor shall obtain copies of mill test certificates or test data reports for Owner's records when required by the Job Specification.

V. Inspection Notification

Vendor shall advise the appropriate EE Inspection office by phone or telex, per EXES 20-1-2-1B, Standard Clause C-15 or C-16 at least five working days prior to the dates indicated as follows:

- A. For fabricated items such as pressure vessels, heat exchangers, furnaces, boilers, compressors, etc. requiring "complete" inspection, notification is to be given of the date when actual fabrication or assembly starts in the shop. The inspector will, at the time of his initial visit, set up with the vendor the schedule of future visits, and subsequent interim inspection notices can be arranged between the inspector and the vendor. However the vendor is required to give specific notification to the inspector, with copy to EE Inspection, where hydrostatic, mechanical and performance tests are to be witnessed.
- B. For raw materials such as pipe, tubing, flanges, forgings, castings, fittings, etc. designated for "final" inspection, notification is to be given of the time when the items are to be completed, or when there is a sufficient quantity of the materials ready to justify an inspection visit and to permit partial shipments.
- C. Vendor shall ensure that the required number of copies of material data, code forms, charts and other required information are given to the Inspector at the time of, or before, final inspection. The Inspector will not release materials until he has received and reviewed these data. Certified mill test certificates of physical and chemical properties are adequate documentation and inspectors will not normally witness the conducting of these tests unless justified by the experience of EE Inspection. However, impact tests on materials will be witnessed by the Inspector unless otherwise directed by EE Inspection.

EXX 011249

SPARE PARTS PROCUREMENT

I. Scope

- A. Contractor shall provide the following information and services to the Spare Parts Technician in the Mechanical Services Section of the Owner's Mechanical Department.
 - 1. Complete parts list with detailed description of each part.
 - 2. Recommendations on parts to be stocked including routine maintenance parts as well as major components (such as compressor rotors) included in initial orders for machinery and equipment.
 - 3. Price quotations on spare parts including approximate delivery time.
- B. Spare parts covered herein are those that are normally found to be required for the continuous operation of equipment for one year, (two years for some parts, as noted), and which must be at the work site at least six weeks prior to startup. Spares are to be provided for those parts subject to the following:
 - ° Wear, corrosion or erosion during normal operation.
 - ° Failure that would cause shutdown of the equipment.
 - ° Damage or breakage during routine maintenance or inspection of the equipment.

II. Procurement Responsibility

- A. Bulk Material warehouse spares for items such as pipe, gaskets, valves, fittings, electrical hardware, etc., are the responsibility of the Owner, unless otherwise specified.
- B. Mechanical Equipment spare parts recommendations and descriptions for items such as compressors, pumps, exchangers, control valves, instruments, etc., are the responsibility of the Contractor. The Owner's Equipment Engineers will make final selection on spare parts; ordering of parts will be handled by the Owner's Purchasing Department from material requests prepared by the Owner's Spare Parts Technician.

III. Spare Parts Information Procurement Procedure

- A. The contractor shall establish an internal procedure to accomplish the following tasks:
 - 1. Provide Owner's Spare Parts Technician a list of equipment for which spare parts are to be procured.
 - 2. Review equipment inquiries for complete coverage of spare parts to ensure adequate quotations from vendors.
 - 3. Expedite vendors for early receipt of recommended spare parts lists including prices and delivery times.
 - 4. Tabulate vendors' recommendations and prices for spare parts.
 - 5. Distribute spare parts recommendations to the Spare Parts Technician in the Owner's Mechanical Services Section for review. This shall be done piecemeal as soon as information is available.
 - 6. Maintain a control log of status of the spare parts information procurement.
- B. The Owner shall be responsible for accomplishing the following tasks:
 - 1. Owner's Spare Parts Technician shall review parts data for accuracy and completeness. If any corrections or additions are necessary, list of required information will be sent to Contractor, who will obtain data from equipment vendor.
 - 2. Owner's Spare Parts Technician shall send parts data to Owner's Equipment Engineer as soon as it becomes available on each machine.
 - 3. Owner's Equipment Engineer shall indicate which parts should be stocked and the Stores stock minimums if justified by anticipated usage.
 - 4. Owner's Spare Parts Technician shall prepare material requests for the needed parts and send to Owner's Operating Department Head for approval.

EXX 011251

5. The material requests shall then be sent to Owner's Materials Department for assignment of symbol number and storage location and for issuance of purchase order.
6. Owner's Spare Parts Technician shall maintain and issue a control log which will list for each machine the status of material requests, purchase orders, and deliveries of spare parts. Format shall include the following:
 - a. Order number (for equipment item).
 - b. Brief description.
 - c. Equipment number.
 - d. Vendor.
 - e. Date of receipt of vendor parts data from Contractor.
 - f. Date spare parts data was sent to the Owner's Equipment Engineer.
 - g. Date parts selections recommendations were returned to the Spare Parts Technician.
 - h. Date material request prepared and sent to Stores.
 - i. Spare parts purchase order number and date.
 - j. Original and latest promised delivery date.

(The initial issue of the log will be made as soon as practical and thereafter updated monthly unless otherwise directed by the Owner's Project Manager.)

IV. Contractor Spare Parts Information Coordinator

- A. The Contractor shall appoint a spare parts coordinator. The coordinator's responsibilities are to include all phases of the spare parts information procurement effort as discussed herein. He is to serve as the direct point of contact with the Owner's Spare Parts Technician regarding all considerations pertaining to spare parts information procurement.

V. Requirements for Spare Parts Quotations

- A. The instructions to the vendors for recommended spare parts quotations shall be clearly stated in the inquiry and purchase order documents. The instructions are to include the following:
1. Number of spare part quotation copies required.
 2. Date quotations are due. Spare parts quotations should be obtained as soon as possible to permit early order placement. Requirements and cost for major capital spares shall be developed and ordered when the original equipment purchases are committed. Recommended spare parts information shall be developed and submitted for Owner's review within 15 days after the bill of material is available from the suppliers.
 3. Original equipment item, serial number, and description of that item for which part is recommended.
 4. The complete part number (not just reference numbers) for each part and original manufacturer's part numbers of parts supplied by others, such as bearings, seals, etc.
 5. Reference assembly drawing or complete parts list for each piece of equipment.
 6. A description, including materials, of each recommended spare part.
 7. A statement as to whether the part is a stock item, and if so, where it is stocked and the delivery time when ordered under both normal and emergency conditions.
 8. Unit weight and shipping weight.
 9. Interchangeability list indicating the number of times the identical part occurs in each equipment item the vendor is to supply and the total number of equipment items using the part.
 10. Quantity of each part recommended for purchase.
 11. Unit price and total price.
 12. Delivery time. Owner desires delivery concurrent with the original equipment order. In any event, delivery shall be no later than six weeks before scheduled mechanical completion date of the related facility.

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EXX 011253

EXX 011254

CHANGES IN WORK

I. Scope

This supplement covers the basic requirements for handling Changes in Work that occur during the execution of the Work.

II. Prompt Handling of Changes

Changes should be expected during the normal course of engineering, procurement and erection and are to be processed expeditiously and efficiently by the Contractor. The Contractor shall respond promptly to requests for estimates of (1) the cost of a proposed change and (2) the effect, if any, that the proposed change will have on the Scheduled Completion Date. The estimating effort associated with a proposed change will not in itself be a valid reason for extending the Scheduled Completion Date.

III. Procedures

- A. The detailed procedures to be followed in the processing of changes shall be as mutually agreed between the Owner's Project Manager and the Contractor. The intent is that the procedures be compatible with the Contractor's normal methods, including use of standard forms, etc., provided that these norms meet the requirements of the Contract and establish appropriate, streamlined control measures for handling changes. The procedures, which are to be documented by the Contractor, should detail the subjects of (1) initiation of change requests, (2) change proposals and timeliness thereof, (3) formalizing and authorizing the change and (4) implementing the Change.
- B. The Contractor shall respond to change requests by submitting a change proposal to the Owner's Project Manager within 7 calendar days of the initial request. The change proposal should be in the form of a draft Change Order, including the following data:

1. Effect on Contract Price Budget, with cost subtotals reflecting, as applicable, estimated increases/decreases in direct material, direct labor, subcontracts, indirect field costs, home office and branch office costs, freight and duty, other costs (to be identified), fee, and cost of preparing the Change Order. In addition, each subtotal amount shall be supported by accompanying backup data which clearly define how the subtotal was developed.
 2. Effect on Scheduled Completion Date, if any, with appropriate backup.
 3. Effect on Target Cost and Target Completion Date(s), if any, and if there is an incentive plan.
 4. A brief description of the change in facilities and/or services involved, including appropriate identifying references.
 5. An indication of who requested the change (Owner, Contractor) and reason therefor (safety, operability, Owner request investment return).
 6. If applicable, a statement on the effect of the change on the Contractor's guarantees.
 7. Effect, if any, on process or utility requirements.
- C. The change proposal shall be accompanied by a statement defining the latest date approval to proceed with the change can be given without affecting the Scheduled Completion Date.
- D. If the Contractor determines that the 7 calendar day schedule can not be met, the Owner's Project Manager must be promptly notified. At the same time, the Contractor shall advise the reason for the delay and the date the change proposal will be available for review.
- E. After agreement is reached on the total effect of the proposed change, the Owner's Project Manager will decide on whether or not to proceed with the change. If affirmative, the formal Change Order will be executed by the Contractor and Owner's Project Manager at which time the Contractor is authorized to proceed and take immediate action to incorporate the change into the Work. If the proposed change is negated, no further effort is to be expended by the Contractor, and the Owner's Project Manager will authorize only that portion of the Change Order which covers the cost of preparing the change proposal.

- F. Contractor shall maintain a Change Order Summary that is to include the following in tabular form: Change Order number, brief description of change, date change proposal is submitted to Owner's Project Manager, date approved or rejected, action on change (approval or rejection), effect on Contract Price Budget, effect on Scheduled Completion Date, and remarks.

Each change shall be assigned a C.O. number and be entered on the Summary at the time it is requested. Subsequent entries shall be made at appropriate times to ensure that the Summary is current. The Contractor shall issue the Summary to the Owner's Project Manager monthly with the project progress report (see Supplement 15) and, otherwise, as requested by the Owner's Project Manager.

IV. Distribution of Change Documents

Change proposals and formal Change Orders for approval shall be distributed in accordance with Correspondence Schedule C.

EXX 011258

ACCOUNTING AND INVOICING

I. Scope

- A. The requirements of this Supplement shall be followed in cost accounting, progressive invoicing, and final breakdown of costs in accordance with the Owner's Code of Accounts.

II. Accounting

- A. Cost accounting during the course of the Work may be in accordance with Contractor's normal systems, using account codes compatible with the Control Estimate (See Supplement 16).

II. Invoicing

- A. Contractor's invoices shall be prepared weekly (in quadruplicate). They shall be addressed to the Owner, and submitted to the Owner's Project Manager for approval. Contractor will then forward the approved invoices to the Owner's Accounting Department for payment. These invoices should show:

1. Costs itemized in accordance with Owner's holding accounts, paid by the Contractor during the previous month, and any costs paid by the Contractor but not included in previous invoices:

<u>Code</u>	<u>Description</u>
xxx-xxx	Holding Account, General
xxx-xxx	Holding Account, Direct Materials
xxx-xxx	Holding Account, Direct Labor
xxx-xxx	Holding Account, Subcontracts
xxx-xxx	Holding Account, Indirect Field Costs
xxx-xxx	Holding Account, Reimbursable Home and Branch Office Costs
xxx-xxx	Holding Account, Fee Payable
xxx-xxx	Holding Account, Freight, Duty and Import Tax

2. One complete set of supporting documents must accompany the original of all invoices.

Accounting and Invoicing - Continued

IV. Final Cost Breakdown

- A. Upon completion of the Work, the Contractor shall prepare an accounting breakdown of the total billed costs in accordance with the following Owner's Code of Accounts:

<u>Code</u>	<u>Description</u>
xxx-xxx	Engineering
xxx-xxx	Pumps
xxx-xxx	Etc.

- B. The above breakdown may be by means of an engineering estimate.

EXX 011261

Exxon Chemical Company
Job Specification
Base Plant Debottleneck Project

Coordination Procedure
Supplement 8
Revision 0
September 1, 1976
Page 801

SCALE MODELS

I. Scope

- A. Since a scale model of the recent plant facilities does not exist, a model for new facilities is not required. Model work, if performed at all, should therefore be limited to just that required to facilitate resolution of the more difficult design layouts.

EXX 011262

EXX 011263

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EXX 011264

Exxon Chemical Company
Job Specification
Base Plant Debottleneck Project

Coordination Procedure
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Revision 0
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Page 1001

MICROFILMING OF DRAWINGS

1. Scope

Owner will provide microfilms. Contractor will provide Owner with original tracings and/or alternative reproducibles for drawings prepared by Contractor and drawings required of Vendors in accordance with BTES 50-3-1.1A including applicable Standard Print Clauses, reference BTES 50-3-5.1A. All drawings to be microfilmed must be legible and of good quality.

EXX 011266

MECHANICAL CATALOG

I. Scope

- A. This supplement outlines the requirements for the Mechanical Catalog, which is a bound compilation of drawings and data which Contractor is required to furnish as a ready reference for all important equipment items installed on the project. It is intended to assist in the initial startup of the plant and to aid the Owner's personnel in subsequent operation and maintenance. It also provides information necessary for future check of equipment performance or for planning of plant expansion or redesign.

II. Information Security

- A. Where the information concerning process variables, operating sequences, or other data is "extra sensitive" because it is of a proprietary nature, special precautions shall be used to maintain information security during preparation of the Mechanical Catalog.
- B. Supplement 20 defines the information security requirements for the project.

III. Quantity & Distribution

- A. The Mechanical Catalog, consisting of as many volumes as required, shall be prepared and distributed in accordance with Correspondence Schedule C.
- B. The quantities of drawings, manufacturer's literature, or other data required for these catalogs are in addition to those otherwise required for normal distribution specified for the project by the Coordination Procedure. Total required quantities shall be specified on original requisitions and purchase orders.
- C. The time of distribution of the Catalog shall be as early as practicable in the project and should precede the initial startup of any mechanical equipment for plant operations by a minimum of three months.

- D. The Contractor shall note on the purchase order that "failure to send documents required shall cause the supply to be considered as unfilled."

III. Binding Details

- A. All pages shall be standard 8 1/2 X 11 inch size or approximate multiples thereof. Pages larger than 8 1/2 X 11 shall preferably be 11 X 17 inches to facilitate binding.
- B. All drawings larger than 8 1/2 X 11 inches shall be folded and inserted in individual 8 1/2 X 11 inch manila pockets which shall have standard three-ring side punching for insertion in the binders. The requisition and sheet number, Flow Plan Symbol Number or item number and the number of the drawing shall be written on the face of each containing pocket.
- C. Binders shall be black imitation leather-covered with gold block lettering per Table 1. Binders should have 3 inch minimum capacity with 2 inch free extendability, a center locking post, and 3 binding posts for papers and shall be approximately (not exceeding) 9 inches by 11 1/2 inches in size. Binders shall be equal to either:
1. Earl Gray Bookbinding Co. (1220 Maple Ave., Los Angeles 90015, California), 3" model GK binder, or
 2. American Loose Leaf Corp. (180 Main Avenue, Clifton, N.J.) Herculox type binder.

IV. Contents and Indexing

- A. Mechanical Catalogs shall contain purchase specifications, drawings, operating and maintenance manuals for major equipment items, and instructions and other information as indicated in Table 2.

- B. All catalog material shall be arranged in the sequence corresponding to Table 2. Suitable indexes shall be included in all volumes, using sequentially numbered index tabs to designate the Sections. Within each Section dealing with equipment, the material shall be grouped by requisition with all information on a particular requisition located immediately behind the requisition to which it applies. The arrangement and type of information to be filed (behind each requisition) shall be as follows:
1. Copy of requisition.
 2. Copy of requisition revision memorandum (if any) or purchase specification.
 3. Outline drawings, special construction details, electrical wiring and connection diagrams.
 4. Test or calculated performance data and engineering data sheets in accordance with applicable EE Basic Practices.
 5. Installation, operating and maintenance instruction manuals.
 6. Complete parts lists and sectional drawing with parts identification number. In addition to manufacturers' parts identification numbers, the manufacturer shall indicate the brand name, nomenclatures and brand identification number for all parts used by the manufacturer to complete his equipment.
- C. All volumes of the Mechanical Catalog shall contain a complete Table of Contents covering the contents of all volumes making up the Catalog.
- D. Volumes shall be numbered consecutively so that there will be no duplication or omission of volume numbers in any Catalog.

V. Late Distribution of Data

Project changes which are made in the late stages of execution may make it necessary to distribute data after the Mechanical Catalog has been distributed. In this event the data are to be segregated and each document is to clearly marked (volume, section, and page) for ease of proper insertion into the catalog set. New indexes, manila pockets, and/or additional binders are to be prepared and distributed as required.

TABLE I
GOLD BLOCK LETTERING FOR MECHANICAL CATALOGS

<u>Position No.</u>	<u>Distance Binder Top To Letter Top</u>	<u>Letter Height</u>	<u>Description</u>	<u>Typical Lettering (1)</u>
<u>BINDER COVER</u>				
1	2"	5/16"	Title	MECHANICAL CATALOG
2	9-5/8"	1/4"	Owner	CORPORATE TITLE
3	10-1/8"	3/16"	Detailed Mechanical Design by	CORPORATE TITLE
<u>BINDER BACKBONE (or Spine)</u>				
1	1-1/2"	3/16"	Title	MECHANICAL CATALOG
2	2-3/4"	1/4"	Project Title	COMPOUNDING & FINISHIN
2A (2)	3-1/8"	1/4"	ditto	EXPANSION PHASE I,
	3-3/4"	1/8"	Project Symbols	PLASTICS UNIT LINE 3-6
4	4-1/4"	3/16"	Owner	EXXON CHEMICAL COMPANY U.S.A.
4A (2)	4-3/4"	3/16"	ditto	
5	5-1/2"	3/16"	Location	BAYTOWN CHEMICAL PLANT
6	7"	1/4"	Volume No.	VOL II
7 (2)	9-1/4"	1/8"		
8 (2)	9-1/2"	1/8"		
9	10"	1/8"	Detailed Mechanical Designed by	CORPORATE TITLE

Notes:

- (1) Owner's Project Manager will furnish information to Contractor regarding desired lettering, on request, except that Contractor will always use its corporate title for front cover position 3, and for backbone positions 8 and 9.
- (2) Disregard backbone positions 2A, 4A, and 8 if only one line is required in each case.

TABLE 2
CONTENTS

ARRANGEMENT: The index and contents of the catalog shall be arranged in the following basic sequence:

NOTE: In accordance with Par. IVB., the material shall be arranged so that each requisition and/or purchase order is followed directly by the purchase specifications, drawings, data, instructions, and parts lists applying to the particular requisition.

DATE OF ISSUE _____

<u>Section No.</u>	<u>Purchase Order No.</u>	<u>Description</u>
1	-	Engineering Flow Plans and Line Classification Sheets
	-	Plot Plans
	-	Construction Drawing Summary
*	-	<u>Process Furnaces</u> - General arrangement drawings, tube hanger drawings, description of headers (with C to U dimensions) and tubes, furnace setting materials and tie-back materials; burner drawings including burner tile; list of special cleaning and rolling tools, tabulation of process and mechanical data, to include information shown in API-665 Fired Heater Data Sheet. Specification and general arrangement drawings for furnace accessories such as soot blowers, fans, stacks, ducts.
	-	<u>Boilers</u> - General arrangement drawings for boiler, and drum details. Boiler predicted performance sheets per Table 3 of BP7-2-1. Fan performance curve, materials of construction, burner detail drawings.
	-	<u>Pressure Vessels</u> (towers, drums, cyclones, etc.) Outline drawing including information indicated by Table 3 of BPS-1-1.

(* - Next number in sequence)

TABLE 2 (CONT'D)
CONTENTS

<u>Section No.</u>	<u>Purchase Order No.</u>	<u>Description</u>
*	-	<u>Pressure Storage Spheres:</u> Outline drawing including information indicated by Table 3 of BP9-2-1.
*	-	<u>Internals for Towers, Drums and Fixed Bed Reactors:</u> a) Trays, distributors, outlet collection rings, catalyst grids and support beams - list of detail assembly drawings, list of materials and specifications for all parts. b) Cyclones, entrainment screens, etc. - outline drawing showing dimensions, orientation, material specifications.
*	-	<u>Heat Exchangers:</u> TEMA Type - Final record documentation per Table 3 of BP6-1-1. Double Pipe Type - Final record documentation per Table 3 of BP6-2-1 Plate fin and Hampson Coil - Final record documentation per Table 3 or 4 of BP6-3-1.
*	-	<u>Air Cooled Heat Exchangers:</u> General arrangement drawing in plan and elevation, drawings per BP6-4-1, data sheets per API-661, schematic control diagram for automatically controllable fan blade adjustment or louver control.

(* -Next number in sequence)

TABLE 2 (CONT'D)
CONTENTS

<u>Section No.</u>	<u>Purchase Order No.</u>	<u>Description</u>
*	-	<u>Cooling Towers:</u> General arrangement drawing in plan and elevation, performance data indicating guaranteed zone of cold water temperature, tabulation of tower design and construction data including the information shown in CTI Standard 118.
*		<u>Tankage:</u> List of tank sizes, type and identification numbers; list of reference drawings per tank.
*		<u>Instruments:</u> Includes local and panel mounted instruments, orifice plate calculations, control valves, analyzers and sampling systems, analog computing devices, boiler safeguard equipment, sequencing controllers and programmers, electric controls and shutdown systems, positive displacement and turbine meters, tank gauging. Also, includes instrument layout drawings, process hook-up drawings, pneumatic and electronic connections diagrams, thermocouple layout drawings and instrument panel details.
*		<u>Piping:</u> Per BP3-1-1. Complete piping specification to include standard and special piping classes.
*		Safety valves- Drawings.

(* - Next number in sequence)

TABLE 2 (CONT'D)
CONTENTS

<u>Section No.</u>	<u>Purchase Order No.</u>	<u>Description</u>
*		<u>Pumps:</u> Include all performance curves in accordance with API-610 if tests are specified by purchase order. Include detailed drawings giving clearances and tolerances on rotating and static parts. Clearly indicate suppliers, type, size, and reference number of bearings. <u>Reciprocating Compressors:</u> (including vacuum pumps) Include assembly drawing of equipment and foundation drawing of compressor and driver, details of compressor cylinder stuffing box, lubrication, intake filters engine exhaust accessories, fuel regulator, governor, schematic drawings of control, starting equipment. Performance data for all specified operations. <u>Centrifugal Compressors:</u> (including blowers) Include assembly drawings of equipment and foundation drawing of compressor and driver; schematic drawing of control, lube and sealing systems; descriptive literature on all auxiliary equipment including control systems; and detailed drawings giving clearances and tolerances on rotating and static parts. Performance data for all specified operations. <u>Drivers (non-electrical), turbines, engines, expanders:</u> Generally, this information will be included with the driven units. Include general assembly, and foundation plan; schematic drawings of control and lube system; descriptive literature on all auxiliary equipment; and detailed drawings giving clearances and tolerances on rotating and static parts.

(* - Next number in sequence)

TABLE 2 (CONT'D)
CONTENTS

<u>Section No.</u>	<u>Purchase Order No.</u>	<u>Description</u>
*		<u>Miscellaneous Mechanical Equipment:</u> Includes materials handling equipment, API separator, machine tools, air conditioning equipment, mixers, rotary filters, desuperheaters, presses, elevators, etc.
*		<u>Electrical:</u> <u>Rotating Equipment</u> - Generally, this information should be included with the driven equipment. For motors, include certified test data required by BP16-9-1 and BP16-9-2. <u>Data Summary Sheet for all motors including:</u> 1. Flow Plan symbol of driven equipment. 2. Manufacturer's name. 3. Rated horsepower and speed. 4. Motor performance data including full load current, power factor and efficiency at 1/2, 3/4 and full load; locked rotor current and voltage ratio 5. Type enclosure, rated temperature rise, and service factor. <u>Stationary Equipment:</u> Includes transformers, reactors, etc. Provide connection diagrams, name-plate drawings and certified test data.

(* - Next number in sequence)

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TABLE 2 (CONT'D)
CONTENTS

<u>Section No.</u>	<u>Purchase Order No.</u>	<u>Description</u>
		<u>Switching Equipment:</u> Includes switch-gear, unit substation (including transformers), high voltage switches, etc. Provide inspection and test reports, relay coordination curves and settings.
		<u>Control Equipment:</u> (non-process type) - Includes motor control and turn-around centers, starters, power panelboards. Provide inspection and test reports.
		<u>High Voltage and Control Cables:</u> Includes power cables 5-kv and above and multi-conductor control cables. Also splicing and termination instructions and inspection and test reports.
		<u>Special Electrical Equipment:</u> Includes battery chargers, instrument power supply, telephones, signalling, radio, communications and testing equipment.

(* - Next number in sequence)

EXX 011277

COMPLETING AND TURNING OVER THE WORK

I. Scope

- A. Contractual requirements for achieving Mechanical Completion are covered in the Agreement.
- B. This Supplement delineates the division of responsibilities between the Owner and the Contractor for activities which occur during the turnover period. It is presupposed that all construction work has been accomplished, to the extent described in the Agreement.

II. Procedure

- A. The following information is given to clarify the mechanics of documenting and turning over portions of the Work.
 1. Interim Turnover Notices and the Final Turnover Notice (which establishes the Mechanical Completion Date of Work) are normally issued with reference to an attached "But-List" which lists all unfinished items of work and gives dates for their completion. The "But-List" may include unfinished work resulting from late changes, or known deficiencies, if the Owner's Project Manager judges that the work can be finished without impeding the Owner's planned pre-startup activities.
 2. Turnover Notices will not be issued by the Owner's Project Manager if, in his opinion, and that of the Owner, the area is unsafe for commencement of pre-startup activities. One important condition for turnover is that the number of contractor personnel must be reduced to a level, that in the opinion of the Owner, will not interfere with safe operations.
 3. Certain specific activities are itemized in the attached Table 1 entitled "Pre-Turnover" and "Post-Turnover" work. All Contractor work items in the Pre-Turnover column are to be completed before either an interim or the final Turnover Notice will be issued to the Contractor to signify Mechanical Completion of a portion (or all) of the Work. Following issue of a turnover notice, the Contractor shall continue to complete all unfinished work covered by the "But-List", and the work shown in the column "Post Turnover".
 5. Prior to Mechanical Completion of portions of the Work, the Contractor should prepare complete detailed lists of unfinished work for each area or facility. These lists will form the basis for the "But-Lists" at the appropriate time, and will receive close scrutiny by the Owner's Project Management field team and the Owner. All additional deficiencies discovered will be added to the list.

6. Three signatures are required on Turnover Notices; the Owner's, the Contractor's and the Owner's Project Manager's (or his authorized representative). The Owner's signature signifies acceptance of custody of the area or facility. After the date of turnover, Contractor's remaining work can only be accomplished upon issuance of work permits by the Owner as described in Supplement 19. At this time, startup activities take precedence and Contractor is expected to adjust its work plan to fit the Owner's operation. Notwithstanding the above, it is expected that the Contractor, the Owner and the Owner's Project Management team will work closely during the final stages of the project to permit an orderly and timely completion of the entire Work.
 7. The Contractor shall schedule the Work to achieve a uniform and orderly turnover of completed portions of the work prior to the Scheduled Completion Date.
- B. In the interest of safety and economy the Owner's Project Manager and the Owner may agree to have some of the remaining work done by the Owner at a later date if initial operation will not be impeded. The Final Turnover Notice "But-List" will indicate this. The following classes of work may fit this category:
1. Deficiencies discovered after Interim Turnover and prior to oil-in which cannot practically be completed by the oil-in date.
 2. Changes of all types which cannot practically be completed by the oil-in date.
- C. There will undoubtedly be a certain amount of "make-good" work required after issuance of a Turnover Notice. For example, insulation, paint, dikes or tank foundation rings may require repair through no fault of the Owner. In such instances the Contractor will be expected to make such repair promptly.
- D. 1. Contractor shall be responsible for Subcontractor and/or vendors representatives/technicians being available on the site during the first run-in of equipment, and is to arrange for manufacturers' representatives to check out equipment as required at the appropriate time.
2. In the event that a representative is required by the Owner to remain on the site in order to assist in the training of personnel or in the operation of equipment, jurisdiction over that representative will be transferred by the Contractor to the Owner. This will be accomplished by a letter from the Contractor to the Owner's Project Manager with copies to appropriate interested parties.

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Owner will then issue all instructions to the representatives
and keep such records on attendance, travel, etc. as are required
for approval of expenses.

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TABLE 1

DIVISION OF RESPONSIBILITIES FOR TURNOVER

Item	Mechanical Completion (Pre-Turnover)		Ready for Turnover	Remarks
	CONTR.	OWNER		
1. General				
a. Provide identification as specified by Owners for all equipment. Identification numbers shall be legible from 50 feet away for pumps. Instrument identification numbers should be legible 15 feet away.	X	X		
b. Remove all rust preventatives, oil, grease, etc. used to preserve equipment during construction, and install proper lubricants immediately prior to turnover, after review with Owner. (Owner will supply permanent lubricants)	X	X		
c. At time of turnover, all fire proofing and rough insulation shall be complete, i.e. all equipment, piping, instruments, instrument leads, etc. requiring insulation for heat conservation or proper operation shall be covered so that startup operations will not be delayed due to freeze-ups or excessive heat loss. Insulation required for personnel protection shall also be completed.	X	X		
d. In addition to c, final insulation jacketing shall be complete enough so that there will not be an excessive amount of scaffolding still standing in the areas where the operators must work to start up the plant. Also, the number of insulators still working in the area shall not be excessive.	X	X		
e. At time of turnover, painting shall be complete enough so that an excessive amount of scaffolding is not left still standing in the areas where the operators must work to start up the plant. Also, the number of painters still working in the area shall not be excessive.	X	X		
f. At the time of turnover the operating area and platforms shall be free of debris, tools and extraneous materials which would impede operation or cause an unsafe condition. All accessways shall be open for emergency vehicles.	X	X		
g. Make check of lighting intensities.		X		
h. Make check of noise levels (after startup).				X
2. Air Fin Coolers				
a. Check levels and dimensions of substructure, machinery mount, fan ring. Furnish record of measurements.	X	X		
b. Perform motor running test. (per SP 16-13-1)	X	W		
c. Set and align fan assembly, fan shaft, sheave and driver.	X	W		
d. Demonstrate satisfactory operation of louvers; adjust as necessary.	X	X		
e. Clean inside of the head and remove all extraneous articles around the air fin cooler.	X	X		
f. Set and adjust V-belts.	X	X		
g. Start up fans and check vibration.	X	W		
3. Boilers, Network and Stack				
a. Perform a cold hydrostatic test on boiler pressure parts in accordance with governing codes and SP7-2-1. Empty water completely after test.	X	W		
b. Perform air leak test on completed casing.	X	W		
c. Check to see if provision has been made for thermal expansion of all boiler parts and attached piping.		X		
X - Perform Work R - Review W - Witness I - Inspect				

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Item	Mechanical Completion (Pre-Turn-in)		Ready for Start-up (Post-Turn-in)	
	CONF	INS	CONF	INS
d. Cleanout stack and duct, open manholes and other openings for inspection. Check operation of dampers. Close stack and duct after inspection.	X	I		
e. Check mechanical operation of sootblowers.	X	W		
f. Prepare boiler dry-out procedure including manufacturer's recommendations and review with Owner 90 days in advance of turnover.	X	R		
g. Make check of boiler safety cutout.	X	W		
h. Re-couple fans to drivers after successful run-in of drivers.	X			
i. Commission fans and drivers, and check vibration.		X		
j. Dryout, boltout, and chemical cleaning according to manufacturer's and contractor's procedures. (Ref. SP 18-8-1)			X	W
k. Inspect internal surfaces of drums, remove all debris, and provide supervised labor to open, clean, and close boilers after boil out and/or acid cleaning.			X	W
l. Check out and fine tune instrumentation and controls.				X
m. Determine boiler response under manually imposed load changes and demonstrate operation of shutdown devices.				X
n. Conduct guarantee performance test.			W	X
4. Catalyst, Chemicals and Testagents				
a. Inspect all towers and drums for cleanliness before loading catalysts, etc.		X		
b. Install first loading of any chemical purchased as a package with the equipment.	X	W		
c. Supply supervised labor to load all other chemicals and catalyst, catalyst baskets, tower packings. (Owner schedule and direct.)			X	W
d. Air blow if required.				X
e. Inspect after final loading. Obtain samples of all catalysts loaded.				X
5. Compressors				
a. Install all compressor piping and make piping corrections as required by manufacturer's tolerances. Set and cold align compressor and driver. Furnish record of alignment to Owner per SP 2-19-1.	X	R		
b. Clean compressor suction and interstage piping and lube and seal oil piping per SP 18-8-1.	X	I		
c. Disassemble above piping for cleanliness inspection as required.	X	I		
d. Commission lube and seal oil systems, circulate oil, and replace with clean oil, etc., as required to prepare system for operation.				X
e. Re-couple compressor to driver after successful run-in of driver.			X	W
f. Check and run-in compressor on air or inert gas and do any required dovetailing of the compressor and driver.				X
g. Make comprehensive vibration check of rotating elements and auxiliary equipment.				X
h. Check hot alignment of compressor and driver.				X
i. Correct any piping mis-alignment or deficiency which may be necessary after the run-in of the compressor.			X	W

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Item	Mechanical Completion (Pre-Turnover)		Ready for Startup (Post-Turnover)	
	CPM	QWP	CPM	QWP
6. Cooling Tower				
a. Clean inside and outside the tower. Remove all extraneous articles around the tower.	X	I		
b. Clean the cold water basin.	X	I		
c. Couple fans to drivers after the motor has been checked for rotation, run-in 4 hours uncoupled, and bearings checked.	X	W		
d. Start up fans and check vibration.	X	W		
e. Run-in cooling tower.				X
f. Witness Vendor's performance test.				X
7. Electrical				
a. Perform tests on transformer oil and install when satisfactory.	X	W		
b. Check condition of grease in grease lubricated motor and generator bearings as specified in SP 19-8-1.	X	W		
c. Perform all necessary prestart-up nonoperating tests and checks on generator following manufacturers' instructions.	X	W		
d. Perform applicable checks, adjustments, and field tests covered in SP 16-13-1.	X	W		
e. Energize substations			X	
f. Calibrate and set relays on all circuit breakers. Set time delays.	X	W		
g. Check operability of emergency and instrument power systems.	X	W		
h. Issue work permits to Contractor for carrying out checks on electrical equipment, after electrical facilities are energized.			X	
i. Paint or tag all electrical apparatus (push button boxes, connection boxes, etc....) according to Owner's color code or regulations.	X	I		
8. Furnaces				
a. Perform cold hydrostatic test on completed furnace coils.	X	W		
b. Empty water from coil and air blow if necessary.	X	I		
c. Provide furnace dryout procedure based on manufacturer's recommendations.	X	I		
d. Check mechanical operation of soot blowers and dampers.	X	W		
e. Check out instruments on furnace.			X	
f. Prepare furnace and fuel systems for dry-out operation - ensure tubes vented adequately.				X
g. Dryout the furnace following the approved procedure.				X

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Item	Mechanical Completion (Pre-Turnover)		Ready for Startup (Post Turnover)	
	CONTR.	OWNER	OWNER	OWNER
9. Instrumentation				
a. Perform required pressure tests on instrument take-off piping and air piping and tubing.	X	V		
b. Check continuity and identification of transmission and control systems for each instrument to insure proper hook-up. Perform megger and continuity tests for instrument electrical wiring per SIS-10-1.	X	V		
c. Supply supervised labor to remove control valves, rotameters, orifice plates, flow nozzles, venturi and other in-line primary flow elements, strainers, and other equipment as necessary before hydrostatic testing or flushing.			X	
d. Supply supervised labor to reinstall above equipment. Check for direction of flow and proper operation, e.g. travel, action with air failure, etc. (Above operations under direction of Owner.)			X	V
e. Calibrate all instruments and synchronize transmitter and receiver readings for each instrument loop. Check and tag orifice plates and flow nozzles.			X	V
f. Install pressure and temperature gauges after line flushing.				X
g. Provide and install sealing fluids where required.				X
10. Lifting Equipment				
a. Test in presence of Insurance Inspector or appropriate governmental authority.	X	V		
11. Miscellaneous Mechanical Equipment				
a. Lubricate and adjust all equipment immediately prior to turning it over to Owner in a clean and operable condition.	X	V		
b. Calibrate all solids weighing and measuring devices in their field-installed operating positions. Furnish record of all calibration data. Show that equipment meets the specified tolerance for accuracy over full range of operating conditions.	X	V		
- As an exception to the above, Owner will arrange for independent calibration of weigh scales and product meters for custody transfer where required by government regulations.				
12. Piping				
a. Pressure test and clean piping as required by drawings and specifications, including SP 3-19-1 and SP 18-6-1.	X	V		
b. Provide and install all strainers, both temporary and permanent, figure eight blanks, and temporary blanks, called for on drawings and specifications.	X	X		
c. Provide and install other temporary blanks required for startup, as specified by Owner.			X	X
d. Check packing and packing materials and lubrication of valves; repack and lubricate as necessary.	X			
e. Supply supervised labor and necessary tools for flushing operations. This will include opening flanges, dropping out control valves, soft-seat valves, and spool pieces, installation of temporary blanks and piping connections, removing all debris, blowing out lines, cleaning temporary strainers, disassembling piping, repairing insulation and painting, etc., as requiring for flushing of piping and equipment run-in.			X	

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Item	Mechanical Completion (Pre-Turnover)		Ready For Startup (Post-Turnover)	
	CONTR.	OWNER	CONTR.	OWNER
f. Schedule and direct water flushing operations.				X
g. Provide all replacement gaskets, seal pieces, temporary connections, hoses, flanging and bolting equipment, and blinds required for flushing operation.			X	
h. Supply and install line identification tags and signs, including steam tracing systems per BP 3-9-2. Stencil lines for identification.	X	X		
i. Provide list and location of all blinds installed.	X			
j. Perform hot bolting of piping and equipment during initial plant startup.				X
k. Commission spring hangers and supports after hydro test. Provide cold and hot setting data.	X	X		
l. Check pipe anchors and guides.		X		
m. Check spring hangers and pipe anchors and guides in hot position.				X
n. Install corrosion probes.				X
o. Remove temporary strainers (normally after startup).				X
13. Pumps				
a. Set and cold align pump and driver. Furnish record of alignment to Owner per 373-19-1.	X	X		
b. Couple pump to driver after the motor has been checked for rotation, run-in four hours uncoupled, and bearings checked.	X	X		
c. Install temporary packing if permanent packing or mechanical seal is not suitable for flushing. (If pump used for flushing.)	X	X		
d. Reinstall mechanical seals or permanent packing prior to startup.			X	
e. Make final check of cold alignment after pipe flushing. Correct if necessary.				X
f. Check and run-in pump and do any required dovelling of the pump and driver.				X
g. Make final hot alignment check.				X
h. If fire water or other permanent pumps are to be used for supply of water during construction period they are to be operated by Owner.		X		
i. Maintenance of pumps covered by "h" above will be by contractor. At end of construction, pumps are to be put in first class condition by Contractor.	X			
14. Safety Equipment				
a. Install safety valves or dummy spools during construction.	X			
b. Schedule safety valve testing with Owner's agreement, sufficiently in advance of startup to permit orderly installation. All safety valves are to be tested within 60 days prior to turnover date.	X			
c. Remove as necessary and transport all safety valves to and from Owner's test facilities.	X			
d. Test, set, and tag safety valves prior to final installation.		X		
e. Install all safety valves after Owner sets and tests them.	X			
f. Install all safety shields.	X			

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Item	Mechanical Completion (Pre-Turnover)		Ready For Startup (Post Turnover)	
	CONTR.	OWNER	CONTR.	OWNER
a. Paint and/or tag all safety valves, ear sealed valves and safety equipment in color designated by Owner. (Ref. SP 3-2-4)	X			
b. Install ear seals on block valves where required.				X
c. Commission all new fire protection equipment and facilities.				X
15. Tankage				
a. Hydrostatic test of tank and internal piping, and clean inside tank.	X	X		
b. Paint floating roof, and inside of tank, if required.	X			
c. Close manways.	X			
d. Strap tank and issue record.				
+ As an exception, Owner will arrange for independent calibration of product tanks for custody transfer where required by government regulations.	X			
e. Install appurtenances.	X			
16. Tightness Tests				
a. Tightness test all piping and equipment handling process fluids.				X
b. Repair all leaks during tightness tests. Check all nuts and bolts to see that threads are fully engaged.			X	
17. Turbine Drivers				
a. Set and cold align turbine and associated piping. Check parallel flange alignment. Furnish record of alignment to Owner per SP 3-19-1.	X	X		
b. Clean steam inlet piping, lube, seal, flushing and control lines per SP 18-6-1.	X	X		
c. Install all permanent packing and accessories after flushing and immediately prior to startup.			X	
d. Check and run-in turbine, make vibration tests, check governor and trips.				X
e. Re-couple turbine to driven equipment.			X	X
f. Make final hot alignment check.				X
18. Vessels - Towers, Reactors and Drums				
a. Pressure test field fabricated vessels.	X	X		
b. Cure and dry out castable linings. (Contractor will provide procedure for time/temperature to be used during drying period, per SP19-3-2 and manufacturer's recommendations.)	X	X		
c. Install all tower, reactor and drum internals and perform tray leakage tests and leveling adjustments as required.	X	X		
d. Cleanout all vessels and open manholes and other openings for inspection.	X	X		
e. Issue to Contractor written authority to close up each vessel.		X		

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Item	Mechanical Completion (Pre-Turnover)		Ready for Startup (Post-Turnover)	
	CONTR.	OWNER	CONTR.	OWNER
6. Properly close up all vessel internal manways and openings after final inspection or after charging of chemicals, catalysts, etc., is completed.				
(1) For vessels where Contractor has responsibility for loading chemicals.	X			
(2) For vessels where Owner has responsibility for loading chemicals.			X	
7. Provide supervised labor to open, clean and close vessels during and after flushing, if required.			X	X

EXX 011287

EXX 011288

OPERATING MANUALS

I. Scope

A. Contractor shall furnish all information as required for inclusion in the Plant Operating Manuals to be prepared by others. Information furnished by the Contractor shall include, but not be limited to, preparation of the following type drawings:

- (1) Preparation of new Block flow drawings and updating of existing Block flow drawings. These will be simplified flow drawings.
- (2) Preparation of new Process Flow drawings and updating of existing Process Flow drawings. These drawings will be similar in detail to P&I flow sheets.
- (3) Updating of Utility Flow Plan drawings. These drawings will be similar in complexity to the Process Flow drawings described in (2) of this section.
- (4) Preparation of simplified plot plan drawings on which sewer systems, safety equipment location, etc., are to be indicated.
- (5) All new drawings will be made on the Owner's standard 36-inch by 24-inch drawing paper with lettering a minimum of 1/8-inch high.

B. Operating manuals for vendor supplied major equipment such as boilers, cooling towers, pumps, compressors, turbines, and other equipment will be furnished by the Contractor and included in the Mechanical Catalog. (See Attachment 11.)

II. Information Security

A. Where the information concerning process variables, operating sequences or other data is proprietary to either Exxon Chemical or an outside process licensor, special techniques shall be used to maintain information security.

B. Supplement 20 defines the information security requirements for the project.

EXX 011290

SCHEDULING

I. Scope

- A. This supplement covers procedures and instructions for Project Scheduling.
- B. At the option of the Owner's Project Manager, Contractor may be supplied with an Owner prepared schedule. The contractor shall plan and control his work in accordance with the Owner schedule until, as required by the Agreement, he has developed his own project execution plan and schedule.

II. Project Schedules

- A. As required by the Agreement, the Contractor shall prepare an overall project schedule showing definitive plans for project execution. The schedule must include but is not limited to the following detail:
 1. The schedule must be in the form of a logic diagram with the critical and sub-critical paths identified and all restraints and interrelationships clearly indicated. (A sub-critical path is defined as any series of activities whose completion is within two months of the critical path completion).
 2. When phased completions of units or systems are specified, the critical and sub-critical paths for each unit or system must be clearly indicated.
 3. The order date and delivery span for major equipment items; e.g., pumps, compressors, drums, towers, exchangers, switchgear, etc.
 4. Whether or not they are on the critical or sub-critical paths, the following project milestones are to be shown:
 - a. Start and completion dates for all major categories of engineering and field activities; e.g., P&I diagrams, underground design and construction, piping material takeoffs, piping design and construction, civil design and construction, etc.
 - b. 95% completion of engineering.
 - c. Field move-in date and start date for effective field work.

5. When construction planning reveals the need for sequential deliveries from a vendor, this logic should be included in the plan; e.g., T-1 first, T-3 second, T-2 third.
 6. All activities associated with subcontracts shall be shown; e.g., preparation of bid package, bidding period, bid review and award, engineering, mobilization, and construction activities.
- B. In order to satisfy the requirements outlined in Section A above, a computerized analysis is required. The minimum acceptable outputs are the following:
1. A printout showing order of criticality. This printout shall show early start and finish, late start and finish, and total float for each activity.
 2. A printout showing a sequential listing of start nodes (I - J sort) including the activity description: e.g.:

422 - 423 Prepare requisition
422 - 430 Design tower
423 - 450 Vendors' bids
 3. A printout or bar chart showing the planned start and finish of activities as dictated by manpower leveling, construction tool utilization, etc.
- C. Contractor shall continually review and revise the schedule as the job progresses. Re-issues of the updated logic diagrams and accompanying output data must be made at least at the following times:
1. Immediately after placement of orders for all major equipment.
 2. One (1) month before commencing field work.
 3. When changes occur that affect the critical path, or create a new critical path.
 4. When field work is 30% and 60% complete. In addition, further updates shall be made as warranted beyond the 60% complete point as the construction situation dictates. These may not have to be full updates but should be in sufficient detail to allow needed control of job progress during the latter stages of construction.

III. Reporting

- A. Contractor shall prepare and issue the following documents on a monthly basis in conjunction with the Progress Report (see Supplement 15).
1. Separate progress curves showing the projected and actual progress for overall engineering, material commitments and construction.
 2. Estimated monthly manpower requirements to meet the progress outlined in paragraph III-A-1 above. These manpower projections shall include the scheduled levels of designers, draftsmen, engineering specialists, purchasing personnel for the engineering and procurement phases...and the principal crafts for the construction phase. Where subcontractors are employed, the manning schedule for each subcontractor shall be shown.
- B. In addition, Contractor shall maintain progress curves (planned vs. actual performance) for each engineering discipline (project, process, instrument, electrical, piping, civil, etc.) and for each field craft (millwrights, pipefitters, welders, etc.) by unit or area of work.

IV. Schedule Control

- A. A monthly analysis of the entire schedule is to be made with particular emphasis on the critical and sub-critical paths. The conclusions of this analysis are to be covered in the monthly progress report and as a minimum shall include:
1. Narrative highlights of any changes over the status of the previous month.
 2. Special actions recommended or being implemented to maintain schedule.
 3. Outlook for activities to be started or finished during the next month.

EXX 011294

PROGRESS REPORT

I. Scope

- A. The Contractor shall issue a monthly progress report to the Owner's Project Manager by the tenth of each month. The format shall be mutually agreed to by the Contractor and Owner's Project Manager.

II. Content of Report

- A. Each progress report should include as a minimum the following:

1. Highlights of significant accomplishments during the report period, expressed in relation to the total of work to be done in each category.
2. Current status of the work. Project progress information shall be provided on graphs which show actual vs. scheduled progress for:

- Detailed Engineering
- Materials Commitment
- Materials Received at Site
- Field Construction

An explanation of deviations from the target schedules, their consequences, and corrective actions to be initiated shall be given.

3. Problems, along with actions taken to solve.
4. Highlights of significant work items anticipated to be completed in the succeeding month.
5. Status of subcontracts.
6. Contract Price outlook for the project including the cost effect of approved and pending changes to the Work (per Supplement 6).
7. Pictures of the site to indicate construction progress.

EXX 011296

COST CONTROL

I. Scope

- A. The Contractor is to control all project costs for the scope of his work and exert all reasonable efforts to keep the project cost within the detailed control estimate.
- B. The Contractor shall submit a detailed description of his proposed cost control procedures for the project shortly after contract award. These will be reviewed by the Owner's Project Manager for acceptability and the procedures should cover:
 - The Contractor's cost control organization and its relationship to the project organization.
 - A description of the duties of each individual assigned.
 - A description of the way cost information will flow through the system and how corrective action will be initiated when required.
 - A description of all the reports to be produced and the scheduled issue dates.
 - A description of the proposed method of handling change authorizations.
- C. Contractor is to supply the skilled manpower throughout the life of the project to cover all essential areas of cost control which include:

- Cost Control Organization
- Control Estimate
- Cost Reporting
- Cost Analysis
- Corrective Action
- Forecasting

II. Cost Control Organization

- A. Contractor shall assign a qualified home office Cost Control Engineer to the project on a full time basis.
- B. The Contractor's Cost Control Engineer should report directly to the Contractor's Project Manager. The Contractor's Cost Control team must have the back-up on a top priority basis of Contractor's Estimating Department for cost estimate of change orders, design alternatives, etc.
- C. Contractor must also furnish a full time Field Cost Control Engineer. He should report to the home office Cost Control Engineer for overall assembly of the project cost forecast.

III. Control Estimate

- A. The Contractor must have a detailed estimate which shall cover the full scope of the Contractor's work. This estimate will be used to establish the control budget for the project and will be used to predict the Contractor's job cost performance and as the yardstick for cost control.
- B. The Contractor shall use the detailed estimate provided by Owner for cost control, or, if requested by the Owner's Project Manager, prepare the detailed cost estimate for all or part of the project per Supplement 17. The Contractor shall provide all supplementary estimating work as necessary for execution and cost control.
- C. The cost estimate details must be available before any commitment is made. The details should include quantities, as well as cost. The complete detailed estimate will establish the Contract Price Budget.
- D. The detailed estimate, if to be prepared by Owner, will be released piecemeal, if necessary, in order to provide for C above. If the Contractor is to prepare the detailed estimate, he shall also release the estimate details piecemeal, as required, in order to always have a budget available before any commitments are made.
- E. The Contractor may have to recast the detailed Owner estimate to make it compatible with the Code of Accounts and cost control system used for the project. The transfer or recasting of costs within the estimate should not alter the estimate total.
- F. The Contractor shall provide the Owner's Project Manager with full detail of cost transfers made by any recasting of the detailed estimate.

IV. Cost Reporting

- A. Contractor shall prepare Cost Reports monthly in order to know at all times where the project stands. This report is to be a summary tabulation of the budget for cost control, commitments to date, and the latest cost forecast together with an analysis and discussion of all significant deviations between budget and forecast. Commitments include the total value of all purchase orders and subcontracts placed, all engineering costs, all field direct labor and all field indirect costs to date. The forecast should represent Contractor's best estimate of the final cost of his present scope of work. Where overruns or underruns are indicated, Contractor is to determine whether these deviations result from differences in quantity, purchase price, schedule delays, estimate errors, etc.

IV. Cost Reporting (Cont'd)

- B. The Contractor's Project Manager should hold regular meetings for the specific purpose of discussing cost control with his supervisors. The meetings should aim at deciding on corrective action to counter undesirable trends and to review the effectiveness of previous decisions. The schedule for these meetings should be discussed with the Owner's Project Manager and agreement reached as to their frequency.
- C. The control budget is to be revised only as changes are authorized, so that the scope of the budget is always the same as the scope of Contractor's current project responsibilities and is consistent with the scope as forecasted.

V. Cost Analysis

- A. Cost analysis is to be done on a daily basis and on an overall summary basis in the monthly cost report. Early cost analysis for any given item is critical. For instance, a cost analysis which pinpoints a potential overrun in piping quantity when piping design is only 15% complete is immensely more valuable than one that reveals the same information when the design is 60% complete. This type of analysis is to be done by sampling technique. The analysis should also compare purchase order price to control estimate in each case, prior to committing the order.

VI. Corrective Action

- A. The Contractor will take corrective action whenever there is a trend which indicates any overrun. Contractor is to look for areas where cost reductions can be made in order to counteract overrun trends.
- B. After Contractor institutes corrective action, it should review the results of this action to determine whether it has been effective in accomplishing its purpose.
- C. Corrective action is to be reviewed at least once a month.
- D. At the regular cost control meeting the following should be covered:
 - 1. Review and analysis of the last cost report.
 - 2. Review efforts taken to reduce any overruns.
 - 3. Decide on corrective action for other areas forecasted to overrun.
 - 4. Review the effectiveness of previous correction action.

EXX 011300

CONTRACTOR'S DETAILED ESTIMATE

I. Scope

- A. It is planned that the Owner will provide a detailed cost estimate for this project which will be of sufficient quality to be used as a basis for project cost reporting, forecasting and cost control during the engineering, procurement and construction phases of this project.

This estimate will be reviewed during a joint Owner/Contractor meeting to tailor the estimate details to the contractor's code of accounts. Thereafter, changes to the control estimate will only be made based upon approved estimate change authorizations.

In the event the Owner's estimate is judged by the Owner to be of insufficient quality for use as a cost control basis, the contractor will be requested to prepare a detailed estimate. The contractor's estimate will then be reviewed and reconciled to the Owner's estimate to develop an agreed control estimate for project cost reporting and control.

II. Estimating Basis (In the Event the Contractor is Requested to Prepare a Detailed Cost Control Estimate)

Prior to beginning work on the detailed estimate, a meeting will be held with the Owner's Project Manager to agree on the estimate basis. The agenda will typically cover the following topics:

1. Design Basis

- a. The estimate should be based on completed process design specifications and should, therefore, reflect a consistent design basis.
- b. The estimate should not reflect anticipated changes to these specifications resulting from preliminary detailed engineering, change proposals, etc.

2. Timing

The required completion dates of portions of the detailed estimate will be based on when they are required for control of purchasing, design, etc. Generally, the total unit estimates should be available approximately two months following release of the design specification. The contractor shall submit a schedule indicating when the various portions will be required and when they will be available.

3. Budget

The contractor shall submit a manpower and cost budget for preparation of the estimate.

4. Owner's Review

The timing and scope of the Owner's review of the contractor's estimates will be determined at the kickoff meeting.

5. Code of Accounts and Area Breakdown

The estimate will be prepared using the code of accounts and area breakdown which will be used to control and report job progress. (See Supplements 7 and 16.)

6. Cost Basis

In order to avoid problems during the Owner's reviews of the estimate, the cost basis will be discussed and agreed upon before the estimating is started. Items to be covered will typically include:

- a. Code wage rates and productivities.
- b. Unit cost for frequently occurring commodities.
- c. Data sources for equipment costs.
- d. Source of bulk material quantities.
- e. Escalation based on project timing.

7. Documentation

The amount of documentation required will be reviewed by examining a typical Owner's estimate. The Contractor's typical estimate and its backup data are to be available to the Owner's Project Manager during his review.

8. Contingencies/Take-Off Factors

Any allowances, take-off factors, or "contingencies" that the contractor feels are required as part of his estimating methods shall be fully discussed as to what they are intended to cover. Allowances shall not be made in anticipation of changes to the basic job specification.

9. Exclusions

Items outside of the scope of the main contract shall be excluded from the detailed estimate. The contractor shall provide a list of these items as he interprets the contract.

EXX 011303

EXX 011304

SUPERVISION AND ADMINISTRATION
OF THIRD PARTY CONTRACTS

I. Scope

- A. This Supplement delineates the responsibilities of Contractor in the supervision and administration of other contracts which Owner has awarded outside of Contract, as stipulated in the Agreement.

II. Other Contracts

- A. The Owner has awarded the following separate contracts, which shall be supervised and administered by Contractor:

1. (Name of other Contractor)
(Scope of work)
(Form of Contract)

2. (Same as above)

- B. The above contractors become "Supervised Contractors".

III. Responsibility of Contractor

- A. Contractor shall be responsible for the following:

1. Coordinate all aspects of the work of Supervised Contractors with that of Contractor so as to accomplish an orderly execution of the project.
2. Maintain continuing liaison with Supervised Contractors to ensure their awareness of current developments which might require adjustment to their work plans.
3. Develop complete details of all interfaces between Contractor, Supervised Contractors, and the Owner. Inform the Owner's Project Manager of actions required by Owner, and timing as indicated by the project schedule.

4. Ensure that Supervised Contractors adhere to all applicable parts of this Coordination Procedure.
5. Appraise and perform technical review of work of Supervised Contractors for quality, cost control, schedule performance, and all related activities. Bring any deficiencies to the attention of Supervised Contractors, and see that corrective actions are taken. Inform the Owner's Project Manager of any situations which might jeopardize success of the project.
6. Review Supervised Contractor's proposals for Changes in Work, and transmit to the Owner's Project Manager for approval.
7. Include in its progress reports to the Owner's Project Manager complete information on progress and performance of Supervised Contractors.
8. Review, endorse and transmit to the Owner's Project Manager all invoices of Supervised Contractors.
9. Review, endorse and transmit to the Owner's Project Manager all notices by the Supervised Contractor, including such notices as:
 - a. Notice of variation of subsurface conditions at the Work Site.
 - b. Notice of claim for Change in Work.
 - c. Notices of dates of Mechanical Completion and Acceptance of the Work.
 - d. Notice of Force Majeure.
 - e. Notice of intention to terminate part of Work suspended.
 - f. Notice of possible patent infringement.
10. Review, endorse, and transmit to the Owner's Project Manager all claims arising out of the work of Supervised Contractors. Alert the Owner's Project Manager of any impending claims.

EXX 011307

7

CONTRACTORS' RESPONSIBILITIES FOR
SAFETY, PLANT SECURITY, AND
TRAFFIC REGULATIONS

BAYTOWN PLANTS

January 2, 1975

EXX 011308

SECTION 2

CONTRACTORS' RESPONSIBILITIES

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SECTION 2

CONTRACTORS' RESPONSIBILITIES FOR SAFETY, PLANT SECURITY, AND TRAFFIC REGULATIONS

Contractor shall fully comply with these Safety, Plant Security, and Traffic Regulations in the performance of work described in the contract. These regulations shall also fully apply to all Subcontractors and their employees, as well as to the Prime Contractor and its employees. Contractor shall notify its employees, its Subcontractors, and the employees of its Subcontractors of the provisions of the regulations and shall secure compliance therewith by all such parties; and Contractor shall not allow any of such persons to begin work inside Owner's Baytown Plants until such notification has been given them.

Contractor shall observe and comply with the Texas Occupational Safety Act (Art. 5182a, V.C.S.) and with all safety and health standards promulgated by the Secretary of Labor under Section 107 of the Contract Work Hours and Standards Act, published in 29 CFR Part 1926 and adopted by the Secretary of Labor as occupational safety and health standards under the Williams-Steiger Occupational Safety and Health Act of 1970, and to any other legislation enacted for the safety and health of contractor employees. Such safety and health standards shall apply to all Subcontractors and their employees as well as to the Contractor and its employees.

Contractor is and shall remain an independent Contractor as to all work performed under the contract. The detail manner, means, and methods of performing said work shall be under the control and direction of Contractor, the Owner being interested only in the results obtained.

These Safety, Plant Security, and Traffic Regulations are designed as minimum requirements for Contractor, and Contractor shall take any additional precaution necessary or proper under the circumstances to prevent injury or death to persons or damage to property. These regulations are to be considered as an addition to any safety rules or regulations of the Contractor. Neither compliance with the regulations by Contractor nor Owner's approval of any actions or procedures of Contractor as provided therein shall relieve Contractor of its obligation always to use due care in performing work.

Nothing contained in these regulations shall be interpreted to enlarge the legal duty of the Owner to the Contractor, his agents, employees, or Subcontractors.

1. DEFINITIONS

As used herein, the following definitions are applicable:

1. Owner

Since Exxon Chemical Company U.S.A., an operating division of Exxon Chemical Company, a division of Exxon Corporation, Exxon Company, U.S.A. (a division of Exxon Corporation), and Exxon Research and Engineering Company (ER&E) all have facilities located within the Baytown Refinery complex, these three parties have agreed upon these common safety, plant security, and traffic regulations to be applicable on each corporation's property within said complex. Therefore, for purposes of these regulations, "Owner" shall mean Exxon Chemical, Exxon, or ER&E, as applicable.

2. Contact Man

The Owner's representative assigned to the project by the Mechanical Division of Exxon Chemical Company U.S.A. (EMD), the Maintenance & Construction (M&C) Division of Exxon Company, U.S.A., the Maintenance and Construction Foreman of ER&E, or the individual designated by the Technical Division involved on contracts for engineering services. The Contact Man, on proper request, will assist the Contractor in obtaining all permits required hereunder and will be the normal contact between the Contractor and all of Owner's personnel.

3. Basic Equipment Owner

The Exxon Chemical Company U.S.A., Exxon Research and Engineering Company, or Exxon Company, U.S.A. representative primarily responsible for the safety of Exxon Chemical, ER&E, and Exxon personnel and equipment in the area in which the work is to be performed.

4. Plant

The facilities of Exxon Chemical Company U.S.A., Exxon Research and Engineering Company, or Exxon Company, U.S.A., Baytown, Texas, or any combination of such facilities on which work is to be performed.

5. Contractor

Designates "Contractor," "Contractor's Subcontractors," and all employees of each.

II. SAFETY REGULATIONS

A. GENERAL

1. Authorization to Start Work

Contractor and Subcontractors shall not start work until authorized by the Contact Man at the job site. Such authorization does not constitute authority to proceed with any work involving special permits as outlined herein. Contractor shall also secure approval from Contact Man before any materials are delivered to job site when material deliveries precede Contractor's arrival on site.

2. Contractors' Equipment

- a. All equipment brought into the Plants by Contractors shall be in safe operating condition. Authorized Owner personnel at any time may inspect Contractors' equipment. Such inspections or failure to inspect shall not relieve Contractors of their responsibilities for the safe condition of their equipment.
- b. All Contractors moving trailer-type equipment within the Plants shall use a hitch equal to Premier's automatic latching hitch No. 105 for one-ton loads, or No. 550 for one-and-one-half ton loads, except that properly rated ball hitches may be used when provided with safety chains.
- c. Load limits for the San Jacinto Street overpass are as follows: maximum axle load - 32,000 pounds and maximum gross load - 72,000 pounds. A tandem axle vehicle shall be considered as being a single axle.

3. Smoking

2-3

Smoking within the Plant is prohibited, except at locations and times approved in writing by Owner. The Contact Man will obtain the required permission.

4A. Hot Work

"Hot work" is defined as any work requiring the use of burning or welding equipment, brazing equipment, explosives, open fires, portable grinders, internal combustion engines, soldering irons, nonexplosionproof electric motors (including motor chippers, drills, and saws), nonexplosionproof floor or string lights, sand blasting, explosive-actuated tools, electric hot plates, or any other flame or spark-producing equipment.

Contractors shall not use open fires or spark-producing equipment or do any "hot work" without a written permit on Form S41-0623 properly filled out and signed by (1) the Basic Equipment Owner in the space marked, (2) Owner's Safety Permit Inspector in the space marked "Gas Inspector," and (3) by the Contractor's authorized representative in the space marked "Mechanical Supervisor." Permits are valid for only the time and date specified on the face of permit. Owner will assign areas in which Contractor may do "hot work" on a job-duration basis and will give short-time permits in other locations when considered safe. Contractors shall stop any "hot work" upon request of any employee of Owner and shall not resume such work until authorized by the Contact Man. Contractor shall watch for conditions that make the use of "hot work" unsafe; and immediately upon observing such conditions, Contractor shall cease "hot work" and report the condition to the Contact Man.

4B. Cold Work

The Opening, Blanking, and Cold Work Permit is required to perform work inside operating areas or on operating equipment (not involving hot work or entry into vessels which is covered by other permits).

Contractors shall not enter any operating area (1) with mobilized equipment, (2) to perform "cold work," or (3) to blank or open equipment without a written permit on Form S41-0079A properly filled out and signed by Basic Equipment Owner and contractor's authorized representative.

5. Explosives

Explosives shall not be used without prior written approval of Owner.

**6. Connecting Into Existing Pipe Lines
or Equipment**

- a. Contractor shall not open or tie its work into Owner's existing pipe lines or equipment without a written permit on Form 541-0079A "Permit to Open and/or Blank And Cold Work", properly signed by Basic Equipment Owner in the space marked "Operating Man." After a tie-in has been made to Owner's existing lines or equipment, the whole piping or equipment system involved shall be considered the same as Owner's existing lines and equipment; and written approval on Form 541-0079A, mentioned above, shall be obtained from Owner before additional work can be done on any of these lines or equipment, unless a blank, approved by the Contact Man, has been installed separating the lines and equipment being worked on from the remainder of the system.
- b. Permission must be obtained from the Contact Man prior to the use of company utilities, such as, but not limited to, water, steam and air systems, and fire hydrants. Each connection shall be guarded by a check valve. When taking water from fire hydrants, the main center valve shall be opened completely.

7. Connecting into Existing Sewers

Contractor shall not open or tie into or work on Owner's sewer system without a written permit on Form 541-0079A, "Permit to Open and/or Blank And Cold Work" properly signed by the Basic Equipment Owner in the space marked "Operating Man." After sewers constructed by Contractor have been tied into Owner's sewer system, the "hot work" permit shall terminate. Contractor shall not perform any "hot work" in the area until a new "hot work" permit has been obtained.

**8. Work on, Adjacent to, or Connecting Into
Existing Electrical Power Circuits and Work
on Electrically Operated Equipment**

Under no circumstances shall Contractor work on, adjacent to, or connect into Owner's electrical system or work on Owner's electrically operated equipment without securing prior written permission from Owner in accordance with Owner's "Electrical Tagout Procedures," latest edition. Contractor shall comply with said procedures in performing all work.

**9. Entering Containers, Pits, Excavations,
and Tanks**

Contractor shall not enter any "Class A" Closed Container, as defined below, without a written permit on Form 541-0751, "Report of Gas Analysis" and "Permit to Enter," properly signed by (1) Owner's Safety Permit Inspector, (2) the Basic Equipment Owner in the space marked "Operating Head" and (3) Contractor's authorized representative in the space marked "Foreman Doing Work." The permit is valid for only the time and date shown on the face of the permit. "Class A" Closed Container is defined as any closed container (in custody and control of Owner) which has been in operation. This also includes furnaces, excavations, open top containers and sewers in care, custody and control of Owner where the head of a man working therein is below the top of the vessel, excavation, or sewer.

10. Work Involving the Use of Ionizing Radiation

Contractor shall not perform any work involving the use of ionizing radiation without written notification in duplicate to the Owner. Notification shall include the job reference, state time of entry, the type of ionizing radiation equipment and the strength of the ionizing source. Contractor shall comply with "Texas Regulations for Control of Radiation," latest edition, Texas State Department of Health, Division of Occupational Health and Radiation Control, Austin, Texas, together with all future amendments, additions, and revisions to said regulations and standards. Owner reserves the right to conduct independent and unannounced radiation surveys of Contractor's equipment and its uses on Owner's premises.

11. Housekeeping

At all times the job site shall be kept clean and free from debris, trash, and rubbish. Contractor shall store all materials in a neat and orderly fashion, and shall not store materials within four feet of any fence or along railroad tracks within a distance of seven feet and two inches horizontally from the edge of the nearest rail, and shall not construct temporary or permanent structures within this minimum clearance. Dismantled or surplus materials, trash, and debris (including earth, clay, lumber, concrete, metal, insulation, paper, etc.) that falls from Contractor's vehicles shall be promptly cleaned up by Contractor.

**12. Use of Lines, Conduits or Structures
as Supports**

Contractor shall not use Owner's pipe lines, electrical conduits, handrails or structures as supports for loads, for ladders, or for scaffolds without authorization from the Contact Man.

13. Use of Stanchions or Equipment for Anchors

Contractor shall not use Owner's pipe stanchions or other equipment for attaching snatch blocks, guy lines, or for other services which apply loads on the equipment without written approval of the Contact Man.

14. Guy Lines

When it is necessary for Contractor to install guy lines across Owner's electric lines, Contractor shall construct guards of a type approved by Owner, to prevent guy lines from coming in contact with the electric lines. No guy lines shall be detached nor buried guy line anchors disturbed without prior approval of the Contact Man. Contractor shall not place any guy line, mooring line, or load line in such a position that it will tighten against operating equipment, pipe lines, tanks, or machinery.

15. Working in the Vicinity of Electric Lines

When it is necessary for a Contractor to operate cranes or derricks, or perform other work within 12 feet of open electric lines (vertically or horizontally), Contractor shall consult the Contact Man and determine whether the electric lines can be de-energized. Contractor shall not proceed with any work until the electric lines have been de-energized or until guards have been installed.

16. Excavations

All excavations made by the Contractor shall be adequately protected to prevent sloughing of earth by shoring or sloping and shall be fenced in or boarded over to prevent personnel from slipping or falling into them. In excavations which employees may be required to enter, excavated or other material shall be effectively stored and retained at least two (2) feet or more from the edge of the excavation. Contractor shall not enter or perform work in an excavation which requires a person's head to be below the surface of the ground until a "Permit To Enter" has been issued.

WARNING-RED CONCRETE UNDERGROUND signifies the presence of an electrical circuit. Stop excavating and notify the Contact Man.

17. Moving Suspended Loads

Contractor shall not move loads suspended from mobile equipment without load being secured to prevent swinging. All chains, cables, ropes, etc., suspended from mobile equipment shall be properly fastened.

18. Damage to Owner's Property

If Contractor damages any of Owner's property, or property of any other Contractor or Subcontractor, the damage shall immediately be reported to the Contact Man.

19. Warning and Caution Signs

Contractors shall obey all safety warning signs posted by Owner and shall provide safety equipment required by signs.

20. Entering Operating Unit

Contractor shall not enter any operating unit or area with motorized equipment without permission of the Unit Chief Operator. Vehicles entering these areas may be required to have sparkproof mufflers or their equivalent.

21. Operating Owner's Equipment

Contractor shall not operate any of Owner's equipment, such as electric power switches, valves, etc., without prior specific approval of the Contact Man.

22. Use of Special Vehicles

No vehicle or piece of equipment having metallic-lugged wheels or tracks shall be operated on any hard surface street without adequate protection to the street, as approved by Contact Man. No tracked equipment having flat pavement treads shall be operated on a paved street without approval of the Contact Man.

23. Fire Extinguishers

Welding machines and tar pots shall have a 12-lb. CO₂ or 20-lb. dry chemical-type fire extinguisher in proper working condition located adjacent to the equipment. An extinguisher shall be located in each working area where "hot work" is being done.

Fire Hose — Where fixed hose reels are not available, the Contractor shall furnish and maintain a minimum of one fire hose in each working area where hot work is being done. Each hose shall be 1½" diameter with threaded coupling and NYC Fire Department threaded adapter suitable for 150 psi pressure. Each hose shall be equipped with a 1½" combination fog, straight stream, and shut-off nozzle equal to American LaFrance or Elkhart L-200. Hoses shall be connected to a hydrant. The Contractor shall be responsible for opening the water supply valve at the hydrant in full open position while hot work is in progress, but pressure is not to be left on hose over night.

24. Compressed Gas Cylinders—Transportation, Storage, and Use

- a. Compressed gas cylinders, empty or full, shall be adequately secured in an upright, vertical position when in transportation, storage, or use. Do not store cylinders under pipe or power lines.
- b. Protective caps must be kept in place when not in use.
- c. Use holders, chains, or keepers to prevent overturning.
- d. Secure cylinders in a vertical position with a suitable keeper while connected to equipment.
- e. Do not allow pure oxygen to come in contact with hydrocarbons in any form.
- f. Avoid any rough-type handling.
- g. Contractor shall not use oxygen or acetylene for testing purposes.
- h. Contractor shall not take oxygen or acetylene cylinders inside a vessel. (Exception — In storage tanks where door sheet has been removed.)

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1. Oxygen cylinders in storage shall be separated from fuel-gas cylinders or combustible materials (especially oil or grease), a minimum distance of twenty (20) feet or by a noncombustible barrier at least five (5) feet high having a fire-resistance rating of at least one-half hour.

25. Railroad Obstructions

Contractor shall not construct or place any permanent or temporary obstructions closer than seven feet, two inches horizontally, or twenty-three feet vertically from any railroad rail without specific authorization from the Contact Man.

26. Guarding

Contractor shall guard or place appropriate barricades around temporary openings in floors, handrails, etc., to prevent accidents. Contractor shall replace permanent handrails and guardrails immediately after need for opening has ended. Guards on moving machinery shall be in place or other protection provided before such machinery is operated.

Contractor shall guard or protect any area into which materials or tools are to be deliberately dropped or thrown.

27. Electrical Tools & Equipment

- a. Contractor shall ground portable electrical tools, metal buildings, and electrical equipment.
- b. Contractor may use general purpose flashlights provided they do not exceed three-cell (1.5v per cell), except at Docks where they shall meet Coast Guard requirements.
- c. Explosionproof, approved portable lights (Underwriters Laboratory—or Bureau of Mines—approved) must be used where hot work is not authorized. This includes, but is not limited to, the following:
 - (1) Portable explosionproof hand lamps.

(2) Portable explosionproof floodlights.

(3) Extension cords (plug boards) with explosion-proof fixtures.

28. Welding and Burning in Confined Spaces

- a. To prevent gas from escaping through leaking or improperly closed torch valves, the gas supply to the torch shall be positively shut off at some point outside the enclosed space or the hoses disconnected at the regulator whenever gas welding or burning is suspended for a substantial period of time or when the torch is left unattended such as during the lunch period, at shift change, etc.

The torch and hose shall be removed from the confined space, or if this is impractical, the hoses shall be disconnected at the regulators at the end of the shift when work is not to be continued on the next shift.

Open end fuel gas and oxygen hoses shall be immediately removed from the confined space when they are disconnected from the torch or other gas-consuming device.

- b. Contractor shall vent and clear any hollow or partially hollow vessel or equipment which may be overpressured by the application of heat before heating or burning into it.
- c. Contractor shall not weld on oil or gas lines or equipment in service unless there is an internal cooling agent to remove heat, such as flowing liquid or gas, and/or unless there is sufficient metal, as approved by the Contact Man, to prevent a burn-through.

Exception: No hot work is to be done on air lines in service between the reciprocating compressor discharge and the knockout drum or drier. Hot work can be done on air lines down-stream of knockout drum or drier, or on air lines pressured by centrifugal equipment, after a gas test shows the air in the line to have no hydrocarbons present.

29. Plant Air

Contractor shall not use plant system compressed air for breathing purposes.

30. Machinery

Contractor shall not work on any machinery while it is either in motion or operation without approval of the Contact Man.

31. Refueling Vehicles and Equipment

Whenever possible, gasoline and fuel should be dispensed through a pump and hose. If not possible, approved* safety cans with flexible spouts may be used. Transfer of fuel in nonapproved cans, open containers and glass containers is prohibited. Vehicles and equipment engines must be turned off during refueling.

*Underwriters Laboratory or Factory Mutual approved container for flammable liquid.

32. Protective Clothing, Protective Equipment, and Safe Tools

Every Contractor employee shall wear a shirt with long sleeves buttoned while within the Plant, except at certain locations specified by the Contact Man.

Contractor shall provide necessary protective clothing, protective equipment and safe tools.

33. Working Over or Near Water

- a. Ring buoys with at least ninety (90) feet of line shall be provided and readily available for emergency rescue operations. Distance between ring buoys shall not exceed two hundred (200) feet.
- b. At least one life saving skiff shall be immediately available at locations where employees are working over or adjacent to water.

34. Securing of Temporary Buildings

All temporary buildings shall be tied down by the Contractor in accordance with the Contact Man's instructions, and applicable Baytown Engineering Standards.

B. SUPERVISORY RESPONSIBILITY

1. Set a Good Example

Contractor Supervisory personnel shall at all times set a good example for Contractor employees in order to encourage compliance with these safety rules and regulations.

2. Provide Adequate Instruction

Contractor Supervisory personnel shall provide adequate instruction in and require compliance with:

- a. Accident prevention aspects of each job.
- b. Use and application of appropriate protective equipment and devices.
- c. Use or application of tools and equipment.

3. Cooperate with Owner's Designated Representative

Contractor Supervisory personnel shall cooperate with Owner's designated representative where the safety aspects of a job require coordination. This includes, among others, the securing of permits for cold work, opening and blanking vessels and lines, entering vessels and excavations, hot work, and lock out of electrical equipment.

4. Provide Adequate Procedure for Specific Job

Contractor Supervisory personnel shall see that there is an adequate safety procedure for the specific job to be done and that all procedures are well understood and followed.

C. INDIVIDUAL RESPONSIBILITY

1. Contractor Employees' Basic Rules for Personal Safety

- a. Do not go to a Plant fire.
- b. Report all injuries to your supervisor immediately after they occur.
- c. Follow all safety procedures applicable to the job being performed, including the use of appropriate protective equipment.
- d. Do not enter any operating equipment area or work on operating equipment without the approval of the Supervisor.
- e. Do not indulge in horseplay.
- f. Use the right tool for the job--no makeshifts.
- g. Keep clear of suspended loads.
- h. Eliminate or guard against known hazardous conditions.

2. Clothing and Protective Equipment

- a. Do not wear clothing contaminated with oil, hazardous liquids, or chemicals. If contamination does occur, wash immediately with soap and water and report to your supervisor.
- b. Wear clothing which covers and protects the body when working or visiting in areas where the probability of exposure to hot liquids, flash fires, or skin irritants exists. This includes some type of arm covering. Wear a shirt with long sleeves buttoned at all times.
- c. Loose clothing, loose sleeves, neckties, or gloves shall not be worn where there is a probability of their being caught in moving machinery.

d. Wear the following safety protective equipment under the circumstances indicated below:

- (1) Safety Hats, Safety Glasses, and shirts with long sleeves buttoned—In all areas of the Refinery and Chemical Plant except at certain locations specified by Contact Man.
- (2) Contact lenses represent an increased industrial safety hazard and shall not be worn inside the Refinery and Chemical Plant.
- (3) Goggles or face shields—Where flying objects exist.
- (4) Chemical Goggles—Where chemical or liquid hazards exist.
- (5) Respiratory Protection—Where atmosphere of the work area is contaminated by hazardous dust, toxic gases, excess vapors or fumes, or where an oxygen deficiency exists.
- (6) Protective Clothing—Where there is a probability of exposure to acid, caustic, or other hazardous material.
- (7) Safety Belts—attached to an independently supported lifeline:
 - (a) Where an oxygen deficiency exists; where the surrounding atmosphere is immediately hazardous to life; or where hazardous conditions exist.
 - (b) When working from scaffolds, platforms, or any other surface which may not afford sufficient protection against falling.
 - (c) While working on any roof with a slope greater than one on four.
 - (d) When working within six feet of the edge of any roof.
- (8) Life Preservers—When working over or near water.

- " (9) Ear Protection—While working in areas posted with noise warning signs, or while working with or near tools or equipment which generate sufficient noise to make normal conversation difficult, ear plugs, disposable plugs, Swedish wool, or ear muffs shall be worn. Cotton is not acceptable.

- (10) Note the location of eyewash fountains and safety showers and know how they work.

3. Guarding

- a. Guard or cover open excavations or manholes before leaving the job.
- b. Do not perform work above open moving machinery.
- c. Guard or protect any area onto which materials or tools are to be deliberately dropped or thrown.

4. Housekeeping

- a. Keep aisles, passageways, stairs, platforms, and ladders clear of all unnecessary obstructions.
- b. Remove or bend down all protruding nails that present a snag or puncture hazard.
- c. Keep worksite clean and orderly.

5. Smoking and Matches

- a. Do not smoke in the Refinery or Chemical Plant, except at locations approved by Owner.
- b. Do not bring "strike-anywhere" matches into the Plants.

6. Hand Tools

- a. Do not use defective tools.
- b. Do not subject tools to undue stress or use them for purposes for which they are not designed.

7. Electrical Tools and Equipment

- a. Do not open or close an electrical switch without full knowledge of the results which can be expected.
- b. Do not remove vapor proof globes, except for cleaning, repairing, or replacing lamps.
- c. Do not open explosionproof fixtures without approval of the supervisor.

8. Power Tools—Machinery

- a. Do not work on any machinery while it is in motion.

Exception: If it is impractical to shut the equipment down before working on it, secure supervisor's approval before proceeding.

- b. Keep abrasive wheel tool rest adjusted to within 1/8" maximum of the wheel. Do not use abrasive wheels which are visibly in bad order.
- c. Do not stand in line with high-speed abrasive wheels. Guards shall be provided.

9. Ladders and Scaffolds

- a. Use only ladders which are in good condition. Portable ladders in use shall be tied, blocked, or otherwise secured to prevent their being displaced. Where practical, the side rails shall extend not less than thirty-six (36) inches above the landing.
- b. Do not place any ladder where it can be bumped, such as in front of a door, in the street or aisles, etc., unless adequate precautions are taken to protect both the climber and others who may be in the area.
- c. Use good working techniques when climbing, working from, or descending from a ladder, such as holding with both hands and keeping the body within the side rails of the ladder.

- d. Lower swing scaffolds to the ground at the end of the shift.
- e. An access ladder or equivalent safe access shall be provided to all scaffolds.
- f. Provide guard rails, midrails and toe boards on all scaffolds more than six feet (6') above the ground or floor.
- g. Scaffolds and their components shall be capable of supporting without failure at least four times the maximum intended load.
- h. Platform planks shall be laid with their edges close together so the platform will be tight with no space through which tools or fragments of materials can fall.

10. Excavations and Trenches

- a. Do not enter or perform work in an excavation or trench which requires your head to be below the surface of the ground until:
 - (1) OK gas and oxygen tests have been secured and written "Permit to Enter" obtained.
 - (2) A ladder or stairway has been provided so as to require no more than twenty-five (25) feet of lateral travel for safe entrance and exit.
 - (3) Adequate shoring or sloping of excavation or trench walls has been provided.

11. Traffic and Railroad

- a. Observe traffic control signs, markers, and regulations. Obey persons directing traffic.
- b. Motorized vehicles and internal combustion engines are not permitted inside any tank firewall without permission of the Chief Operator in charge of storage facility.
- c. Do not board or ride on railroad equipment.

12. Hoisting Equipment

- a. Operate hoisting equipment so as not to endanger other people or damage equipment in the operating area.
- b. Do not ride on blocks, hooks, balls or crane loads unless a safety belt, sling, or bosun chair is provided.
- c. An insulating swivel shall be provided on all bosun chairs or baskets being used for welding.

13. Structures

Do not use handrails as a support for material or rigging.

14. Hazardous Materials

- a. Do not use materials from, or place hazardous materials in, unlabeled containers.
- b. Identify dismantled or relocated equipment which has been in "Hazardous Material" service.
- c. Use for cleaning purposes only those solvents which are approved by your supervisor.

15. Compressed Air—Yard System

Do not use compressed yard air to clean clothing or personnel.

16. Compressed Gases

- a. Do not release hazardous compressed gases into confined work spaces.
- b. Do not use compressed gases to clean clothing or personnel.

17. Fire Prevention—Fire Fighting

- a. Do not block fire-fighting equipment. (See Traffic Regulation—Item IV, page 23.)

- b. Do not fight an electrical fire with a solid stream of water. Water fog may be applied to an electrical fire only by a qualified Fire Fighter.

III. PLANT SECURITY REGULATIONS

1. Parking Locations

Parking locations will be designated for each Contractor by Owner. If Contractor desires to park on Owner's property, all parking shall be in the lot, or area designated. Posted regulations governing the use of the lot shall be followed. All vehicles on Owner's property shall be at the risk of the vehicle owner and Owner accepts no responsibility for paint or other damage to or theft of or from such vehicles.

2. Entrance Gate

Owner will designate a gate or gates for the use of Contractor and for the delivery of its material and supplies. Contractor and vehicles serving the Contractor shall use only the designated gate for entrance and exit to and from the Contractor's job site. Contractor shall make arrangements so that vehicle drivers will know which gate to enter and the appropriate job site location.

3. Walks and Roadways

Walks and roadways will be as designated for the use of Contractor when entering or leaving the job site, when moving from one area to another, or when obtaining material from Owner. Contractor shall use only designated roadways and walks. The use of short cuts or nondesignated pathways is prohibited.

4. Contractor Badges and Contractor Passes

Contractor's employees shall wear their Contractor's badge at all times they are in the Plant. Badges shall bear the firm's name and each badge shall be numbered with a different number. Contractor shall supply these badges and maintain a record of badge numbers with employees' names. Employees engaged for engineering services shall be required to

wear badges furnished by Owner showing a number only. Badges must be shown to the gate Security Officer each time any employee of Contractor enters or leaves the Plant. When Subcontractors to the prime Contractor do not have their own badges, they may use the prime Contractor's badges.

5. Use of Subcontractors

The Contractor shall give the names of Subcontractors in writing to the appropriate Purchasing organization or the appropriate Technical Division prior to starting work.

6. Car Passes

Owner will issue car passes to Contractor's personnel who require a car in connection with the work. Requests for such passes shall be made to the Contact Man.

Contractor's vehicles, which bear the Contractor's name or insignia prominently displayed, will not require a car pass, providing the driver has a badge. Such vehicles shall be restricted to the use of designated street or streets and Plant entrance or entrances assigned for use of Contractor. All equipment on rubber tires, such as mobile cranes, back hoes, air compressors, welding machines, etc., must have Contractor's name prominently displayed on both sides when being used by Contractor.

7. Material Passes

All tools and materials, other than trash, that the Contractor removes from the Plant shall be accompanied by a material pass obtained from the Contact Man. The material pass shall be completely filled out and shall be signed by a designated representative of Contractor and the Contact Man. The Contact Man retains one copy, and the original and one copy shall accompany the material to the gate. Both copies are to be surrendered to the gate Security Officer.

8. Thefts

Owner accepts no responsibility or liability for the theft of any property or material belonging to Contractor or its employees. It shall be the responsibility of Contractor to furnish any police protection it deems necessary to supplement the guard and patrol service provided by Owner.

Owner maintains an investigative service and will cooperate with Contractor by assisting in the investigation of all reported thefts within the Plant. Thefts of property or automobiles from Owner's outside parking lots should be reported to local law enforcement officials. Contractor may obtain forms for reporting thefts from within the Plant from the Contact Man.

9. Gambling

All forms of gambling are prohibited on Owner's property.

10. Business Visitors, Applicants, and Delivery Trucks

Contractor shall furnish Plant Security with a list of persons who are authorized to pass business visitors, new employees, and delivery trucks to the job site. Plant Security will obtain authorization from one of these people before passing such individuals into the Plant. Special permission shall be obtained from the Contact Man to admit union business agents or safety inspectors other than contractor employed into the Plant.

11. Ambulance Service

Contractor, when working in Plant, shall make any arrangements Contractor deems necessary for ambulance service from an outside firm. Requests for an ambulance shall be called in to 427-5711, extension number 3600. Accident location, ambulance firm and hospital desired, and Contractor's name shall be given. Plant Security will escort the ambulance to the scene of the accident. All accidents shall be reported to the Contact Man as soon as possible, whether resulting in injury to a person or damage to the equipment of Owner or Contractor.

12. Inspection of Lunch Boxes, Packages, Motor Vehicles, etc.

Security Officers have the right to inspect lunch containers, packages, bundles, tools, equipment and motor vehicles in the Plant at any time.

13. Cameras and Photographs

Unauthorized individuals shall not be permitted to enter the Plant with a camera. When Contractor desires to have photographs taken in the Plant, approval must be obtained from Public Relations Department.

14. Liquor, Drugs, Firearms, and Explosives

Any person possessing intoxicating liquors or drugs, or who is under the influence of such, will not be permitted to enter the Plant or loiter on Owner's property.

Firearms and explosives will not be permitted in the plant.

15. Visiting and Loiterings

Visiting and loitering by Contractor's employees at or around entrance gates or other places on Owner's property will not be permitted.

16. Fingerprinting

If requested by Owner, Contractor shall furnish the Owner two sets of fingerprints on each of his employees and each of his Subcontractor's employees.

IV. TRAFFIC REGULATIONS

1. Equipment Required on Motor Vehicles

All motor vehicles in the Plant must be in safe operating condition. When entering the Plant, all motor vehicles must display a valid state inspection sticker on the windshield. As a minimum, the following equipment must be in proper working condition for the vehicle to be considered safe: (1) brakes; (2) lights - two headlights, tail lights, brake light; (3) horn; (4) muffler; (5) safety glass; (6) windshield wiper and rear-view mirror. Vehicles having dual wheels shall be equipped with suitable flaps on each dual wheel so that objects will not be ejected past the flaps, to the rear, when the vehicle is in motion.

2. Driver's License

Motor vehicle drivers shall be qualified in accordance with driver's license regulations of the State of Texas.

3. Warning Flags

Red flags shall be used on any load that extends beyond the front, side, or rear of any vehicle.

4. Traffic Signs

All traffic signs and signals, whether fixed or portable, shall be obeyed, and drivers must cooperate with Owner's Security Officers and others appointed to direct traffic.

5. Speed Limit

All vehicles shall be operated within the Plant's speed limit of thirty miles per hour, unless otherwise posted.

6. Driving and Parking

Vehicles shall be driven on the right side of the street and parked on the right side of the street, except when parking in designated parking areas, or when directed otherwise by traffic signs or during emergencies. Vehicles shall not be parked on streets or roadways in such a manner as to slow down, hinder, or interfere with the free flow of traffic. Vehicles shall not be parked so as to block or interfere with the use of fire hydrants or fire equipment. The ignition key should be left in vehicles parked inside the Plant to permit moving of the vehicle to protect it from damage.

7. Right-of-Way

All motor vehicles shall give right-of-way to pedestrians, ambulances, fire-fighting equipment, and firemen (who will be identified by driving with lights on and horn sounding), and bicycles. Vehicles shall be pulled to one side and shall be brought to a complete stop when approached from either direction by an ambulance, or fire equipment and firemen (who will be identified by driving with their lights on and with horn sounding). Ordinary driving courtesy shall be practiced by all drivers of motor vehicles.

8. Passengers

- a. Passengers shall be limited to a reasonable number determined by Owner and vehicle shall not be overcrowded.
- b. Drivers of motor vehicles shall not permit passengers to ride on fenders, running boards, tops, or bumpers of motor vehicles. Passengers shall keep all parts of their bodies inside the cab or body of vehicles and shall be seated while vehicle is in motion.
- c. Drivers of mobile equipment shall not permit passengers unless special accommodations have been provided.
- d. Passengers shall not get on or off a vehicle while it is in motion.

9. Vehicles Prohibited

Motor bicycles or motorcycles are not permitted inside the Plants. Campers and recreational vehicles are not permitted in the Plant if loaded with gear or if they are otherwise difficult to inspect. Pressurized fuel containers shall be disconnected from refrigerators, stoves, etc. when the camper or recreational vehicle is in the Plant.

10. Windshield or Window Obstruction

Vehicles having nontransparent materials which interfere with clear visibility through any side window or windshield shall not be operated in the Plant. All vehicles shall be equipped with adequate rear-view devices.

11. "Road Closed" Signs

Areas blocked by traffic barriers, and/or "Road Closed" signs are closed to all traffic.

**12. Obstructing Streets, Roads, Fire Equipment
or Fire-Fighting Facilities.**

Contractor shall not block roads or streets without permission from the Contact Man. When Contractor's work obstructs a road or street, Contractor shall provide approved lights, barriers, warning devices, or signal men. Fire equipment, fire-fighting facilities, and fire hydrants shall not be blocked by parked vehicles.

13. Unless covered by a specific regulation in this Safety Manual, traffic regulations for safe driving inside the Plants shall be the same as the regulations of the State of Texas Motor Vehicle Laws.

PERMIT FORMS

HOT WORK PERMIT
 (WELDING - BURNING)

LOCATION _____

DATE ISSUED _____ A.M. P.M.
 PERMIT EXPIRES _____ A.M. P.M.
 GAS INSPECTOR _____
 FIRE EQUIPMENT ON HAND READY FOR USE
 YES NO
 SPECIAL PRECAUTIONS _____

BLANK EQUIPMENT _____
 OTHER _____

MECHANICAL SUPERVISOR _____
 DATE FOR _____

NOT WORK PERMIT

PERMIT TO ENTER

LOCATION _____

EQUIPMENT _____

DATE ISSUED _____ A.M. P.M.
 PERMIT EXPIRES _____ A.M. P.M.
 GAS INSPECTOR _____
 SPECIAL PRECAUTIONS _____

DO NOT OPER VALVE

DANGER

DO NOT OPEN VALVE

DATE _____

PERMIT FOR COLD WORK
 (BLANK OPERATING AREA OR EXISTING EQUIPMENT)

DATE _____ TIME _____ A.M. P.M. No. _____

UNIT OR OPERATING AREA _____

DESCRIPTION OF EQUIPMENT _____

DESCRIPTION OF WORK _____

PRECAUTIONS: FLAMMABLES IN AREA ☐ YES ☐ NO
 TOXIC MATERIALS IN AREA ☐ YES ☐ NO
 OTHER (See back) ☐ YES ☐ NO

DATE OF AUTHORIZED EQUIPMENT APPROVED ☐ YES ☐ NO

**PERMIT FOR WORK INVOLVING
 OPENING OR BLANKING**

DATE "B" CLOSED CONTAINER, LINE, ETC. (See back) _____

IS GAS TEST REQUIRED? ☐ YES ☐ NO

GAS TEST BY _____

PERMIT FOR OPENING, BLANKING AND COLD WORK

EXX 011339

PROTECTION OF OWNER/ERE'S TECHNOLOGY

I. Scope of Work

- A. The Contractor shall establish and maintain all required procedures to protect the technology provided by Owner in accordance with the Confidentiality Agreement it has executed with Exxon Chemical Company and in accordance with the Contract. This technology protection encompasses both broad form coverage of information contained in Job Specification and specific "extra sensitive" proprietary information covering identified data, drawings or equipment to be incorporated into the Work. The intent of this procedure is not to dilute the Contractor's basic responsibility for information security, but to facilitate the Owner's Project Manager's ability to appraise the Contractor's performance in monitoring and controlling "extra sensitive" technology.
- B. The capacity of the facilities as a whole is considered extra sensitive information. It is appropriate to discuss capacities of individual segments within the facility. This is to define but not to limit the extent of extra sensitive information.

II. Broad Coverage Protection

- A. This type of technology control is covered by the Confidentiality Agreement signed at contract award and remains in force for the period of time specified in the Confidentiality Agreement. Information in this category is identified with a "PROPRIETARY INFORMATION - FOR AUTHORIZED COMPANY USE ONLY" stamp on the documents affected... usually the cover sheet of the design specifications, drawings, etc. This designation indicates that proprietary information is contained within the document package.
- B. When documents in the Job Specification are so stamped the Contractor shall take all proper precautions to protect the information, including, but not limited to...
 1. In its office by normal security procedures including:
 - employee contract provisions,
 - "need to know" disclosure procedures,
 - use of segregated files,
 - restricting visitor access to project model, process flow sheets, drawings, etc., and
 - Owner approval of a patent application before filing which discloses any technical information provided Contractor under its confidentiality agreement to ensure non-publication of confidential technical information provided there under.

2. In disclosure of any technical information so designated to third parties (e.g., vendors, suppliers, subcontractors, others) by giving written notice to such parties that they may be receiving proprietary information.

- Such notices shall require third parties to hold such information in confidence and not use it except as authorized by the Contractor.

- Written agreement prior to receipt of proprietary information shall not be required from third parties.

III. Specific "Extra Sensitive" Information Protection

A. For all information identified by Owner as being "extra sensitive" the Contractor shall establish special means for protecting such technology both in its office and when dealing with third parties (e.g., vendors, suppliers, subcontractors). "Extra sensitive" information will be identified by one of the following means:

- stamping or printing "WRITTEN SECRECY AGREEMENT REQUIRED BEFORE RELEASING TO THIRD PARTIES" on individual sheets within the documents contained in the Job Specification or,

- a preprinted note or sticker on flow plans stating "THIS SHEET CONTAINS PROPRIETARY PROCESS/CONTROL SCHEME. WRITTEN SECRECY AGREEMENT REQUIRED FOR ANY RELEASE OF INFORMATION CONTAINED THEREIN TO THIRD PARTIES." or,

- a preprinted note or sticker on sketches stating "THIS SKETCH CONTAINS PROPRIETARY INFORMATION. WRITTEN SECRECY AGREEMENT REQUIRED FOR ANY RELEASE OF INFORMATION CONTAINED THEREIN TO THIRD PARTIES."

B. The Contractor shall be responsible for ensuring that all "extra sensitive" information is properly protected. When information provided in the Job Specification is so stamped, the Contractor shall take additional precautions beyond those discussed in Paragraph II above to guard the material, including but not limited to...

1. In its office by:

- isolating it in secured files or desks,
- being sure before transmittal that the people to whom it is disclosed realize its nature,
- recording its receipt and keeping an up-to-date record of each copy and its whereabouts.

- restricting reproduction of material...and providing safeguards to be sure tracings made from "extra sensitive" drawings are handled the same as the drawing itself.
- returning upon completion of the Work all copies provided or made to assist in the execution of the Work itself,
- performing random inspection of security procedures, and
- recording its receipt and keeping an up-to-date record of each copy and its whereabouts.

2. In disclosure to third parties by requiring:

- written signatures on a secrecy agreement before discussion or disclosure (suggested sample attached hereto).
- special handling by third parties using procedures agreed to before disclosure.
- arrangements for return of material after completion of third parties' work.
- written procedures for authorization of disclosure to others.
- access to facilities for periodic visits to evaluate third party interest in information security.

IV. Contractor's Responsibility

- A. Regardless of which of the preceeding categories the technology protection falls into, the Contractor is primarily responsible to guard information provided by the Owner and to take all necessary steps to maintain technology security. Furthermore, the Contractor shall promptly inform the Owner's Project Manager of the safeguards he proposes to use to accomplish this protection before he discloses information to third parties. Finally, the Contractor shall, upon request, arrange for access by the Owner's Project Manager to his own or other's facilities for random inspection of technology control procedures.

THE XYZ CORPORATION
ENGINEERS AND CONSTRUCTORS
PINE BLUFF, ARKANSAS

(SAMPLE)
SECRECY AGREEMENT
BETWEEN CONTRACTOR AND
SUBCONTRACTORS

.....
.....
.....

Gentlemen:

We understand that you would like to present a proposal for furnishing to us certain material or equipment. In order to permit you to prepare said proposal, it will be necessary for us to disclose to you confidential information. We are prepared to make such disclosure to you provided you agree as follows:

1. CONFIDENTIAL INFORMATION shall mean technical information, data, drawings, specifications, designs or know-how disclosed to you by the XYZ Corporation or its affiliates on behalf of the Exxon Corporation and its affiliates, including Exxon Research and Engineering Company, hereinafter collectively designated "EXXON". Particular care is to be taken with respect to information identified with a stamp or notation "WRITTEN SECRECY AGREEMENT REQUIRED BEFORE RELEASING TO THIRD PARTIES" or on flow plans as follows: "THIS SHEET CONTAINS PROPRIETARY PROCESS/CONTROL SCHEME. WRITTEN SECRECY AGREEMENT REQUIRED FOR ANY RELEASE OF INFORMATION CONTAINED THEREIN TO THIRD PARTIES", or on sketches "THIS SKETCH CONTAINS PROPRIETARY INFORMATION. WRITTEN SECRECY AGREEMENT REQUIRED FOR ANY RELEASE OF INFORMATION CONTAINED THEREIN TO THIRD PARTIES." Your company agrees to hold all such technical information in confidence except:

- (a) technical information which at the time of disclosure is in the public domain;
- (b) technical information which, after disclosure, is published or otherwise becomes part of the public domain through no fault of yours (but only after, and only to the extent that, it is published or otherwise becomes part of the public domain);

- (c) technical information which you can show was in your possession at the time of disclosure and was not acquired, directly or indirectly, from EXXON or XYZ Corporation, or its affiliates, or from a third party under an obligation of confidence; and
- (d) technical information which you can show was received by you after the time of disclosure hereunder from a third party who did not require you to hold it in confidence and who did not acquire it, directly or indirectly, from EXXON, XYZ Corporation, or its affiliates under an obligation of confidence.

For the purpose of this Paragraph 1, disclosures made to you under this Agreement which are specific, e.g., as to engineering and design practices and techniques, equipment, products, operating conditions, catalyst identity and/or method of catalyst preparation or treatment, etc., shall not be deemed to be within the foregoing exceptions merely because they are embraced by general disclosures in the public domain or in your possession. In addition, any combination of features shall not be deemed to be within the foregoing exceptions merely because individual features are in the public domain or in your possession, but only if the combination itself and its principle of operation are in the public domain or in your possession.

2. You agree that you will not, without first obtaining XYZ's written consent, disclose CONFIDENTIAL INFORMATION to any third party, nor to make any commercial use thereof, except that you may use CONFIDENTIAL INFORMATION to prepare your above referenced proposal to XYZ and if your proposal is accepted, to furnish for XYZ the material or equipment covered by a subsequent XYZ Purchase Order.

3. You agree to limit the disclosure of CONFIDENTIAL INFORMATION to those of your employees and/or executives who need it in order to prepare your referenced proposal, or to execute a subsequent XYZ Purchase Order, and you agree to inform each of said employees or executives of the obligations herein contained, and to obtain from each of them a written agreement obligating them with respect to said information to the same extent that you are obligated hereunder.

4. You agree to make no copies of the documents provided for this inquiry by XYZ unless authorized by XYZ in writing, and if you are not awarded a purchase order pursuant to this inquiry, to promptly return all such documents and copies to XYZ. If awarded the purchase order, you shall nevertheless return all documents identified by a stamp or notation as shown in Paragraph 1 above upon completion of your work.

Exxon Chemical Company
Job Specification
Base Plant Debottleneck Project

Coordination Procedure
Supplement 20
Revision 0
September 1, 1976
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5. You agree that prior to making any publicity release or other announcement incorporating CONFIDENTIAL INFORMATION, you will first obtain written approval of XYZ for each release or announcement. Furthermore, you agree not to make general disclosures to others concerning the general nature of the project upon which you are bidding, or if successful fulfilling design or construction work on units utilizing this CONFIDENTIAL INFORMATION.

Please indicate your agreement to the above by having an authorized officer sign the attached copy of this letter in the space provided below and return it to us.

Very truly yours,

THE XYZ CORPORATION

By _____

Accepted and Agreed:

Company Name _____
By _____
Title _____
Date _____

EXX 011346

INSURANCE

I. Scope

- A. Contractual requirements regarding insurance are covered in the Agreement.
- B. This Supplement defines the requirements for procedures and documentation needed for execution of insurance activities.

II. General

- A. Contractor shall be responsible to implement the following for each insurance category covered by the Agreement:
 - 1) Immediate notification to the Owner's Project Manager of claims, anticipated claims and losses or damage to Owner's property or the Work.
 - 2) Determination of costs for above with supporting evidence, as necessary.
 - 3) Investigation of claims, losses or damage.
 - 4) Claims handling.
 - 5) Other as needed.
- B. Contractor shall develop the necessary procedures and documentation needed to implement the above, to be available for review by the Owner's Project Manager at least two months before start of the activity covered by the insurance.
- C. Contractor shall also develop and implement procedures to minimize claims and losses or damage to Owner's property or the Work.

EXX 011348

"INITIAL EXECUTION PHASE" AND
"LIMITATION OF NON-RECOVERABLE COSTS"

I. Scope

- A. It is the Owner's intent that "non-recoverable costs", as defined in Par. II-C herein, shall be limited during the "Initial Execution Phase", as defined in Par. II-A, until an accurate estimate of total project costs can be completed. This Supplement outlines the procedures to be followed with respect to the "Initial Execution Phase".

II. Definitions and Limits

- A. The "Initial Execution Phase", as referred to herein, is estimated to be a ____ month period, extending from date of Contract Award to the date on which design status permits preparation of an estimate of total project cost with a degree of accuracy acceptable to Owner. Actual calendar dates will be established at the outset by the Owner's Project Manager.
- B. During the "Initial Execution Phase", the total amount of non-recoverable costs incurred by Owner as a result of Contractor's Work shall not be permitted to exceed \$ ____.
- C. A "non-recoverable cost" as referred to herein, is that part value of a cost commitment (whether expended or accrued as a permanent liability) which is judged to be not recoverable by the Owner if the Work should be terminated at the time.
- D. The "non-recoverable costs" are those which could result from commitments made for:
- all items of the Work which are defined as Costs in the Agreement
 - the purchase of materials, equipment, and third party contractor services for which Contractor provides procurement and/or administrative assistance services to the Owner under the Agreement and,
 - the applicable portion of Contractor's Fixed Fee as set forth in the Agreement.
- E. Immediately after Contract Award, Contractor shall develop the basis for estimating the detailed buildup of the "non-recoverable cost" at time, after initial commitment for all items or types of equipment, materials, and third party contracts. The basis proposed shall be reviewed with the Owner's Project Manager prior to proceeding with the estimate of these costs.

III. Schedule and Execution Plan By Contractor

A. Detailed Work Schedule

1. The detailed work schedule for the execution of the entire Work as required by the Contract shall highlight any restraints caused by the "non-recoverable costs" limitation during the "Initial Execution Phase".

B. Plan for "Initial Execution Phase"

1. In conjunction with the detailed work schedule for the overall project, the Contractor shall submit an execution plan specific to the "Initial Execution Phase", which shall present in the fullest possible detail all key activities planned, along with supporting logic. Emphasis should be placed on avoiding possible delay in early preparation of an accurate estimate of total project cost, caused by application of this procedure in specific critical areas of the Work. Any such cases should be pointed out and reconciled, to determine the extent to which work should proceed. In order to achieve an early and effective start of productive Work, the Contractor should complete this execution plan within 3 weeks from date of Contract Award. This plan shall be reviewed with the Owner's Project Manager, after which it shall be the basis for the initial project execution.
2. In addition to the execution plan, Contractor shall prepare appropriate charts which illustrate the anticipated monthly buildup, during the "Initial Execution Phase", of the following items:
 - (a) Home office manning (i.e., man-hours or numbers of personnel) including breakdowns by categories of personnel.
 - (b) Value of commitments including breakdowns by categories of home office services, fee, equipment and materials, and field costs.
 - (c) Estimated value of "non-recoverable costs" including breakdowns by categories of home office services, fee, equipment and materials, and field costs.

IV. Control and Reporting - "Initial Execution Phase"

A. Schedule control and reporting are to be in accordance with the requirements of the Contract, except for the following special requirements:

1. Contractor shall outline to Owner's Project Manager the procedures it intends to apply for monitoring the Work during the "Initial Execution Phase".
2. Contractor shall keep the Owner's Project Manager informed on a weekly basis of the progress of the Work, with special attention to deviations from the plan.
3. During the "Initial Execution Phase" the Contractor's monthly Progress Report shall highlight the current status (actual vs. plan) and the outlook for the following month for each of the items listed under III-B-2 of this Supplement.