

Brown & Root, Inc. Post Office Box Three, Houston, Texas 77001

October 6, 1977



Texas Automatic Sprinkler, Inc.
P. O. Box 112
Houston, Texas 77001

Re: Subcontract No. 34-1232-2102
Modification to Existing Water Spray System
Exxon Chemical Company, U.S.A.
Baytown, Texas

Gentlemen:

We are enclosing herewith one fully executed copy of Subcontract No. 34-1232-2102 dated September 15, 1977 for your permanent file.

Thank you for your cooperation and if you have any questions please call me.

Very truly yours,

BROWN & ROOT, INC.

ORIGINAL SIGNED BY R. H. SALMONS

R. H. Salmons
Senior Subcontract Administrator
Subcontracts Department
Procurement Division

RHS/yde

Enclosure

bcc: D. A. Sadler (w/original attached)
D. H. Dodd (2 w/2 copies attached)
J. C. Coco
F. T. Phillips
V. F. Tracy
N. C. Hay
R. M. Fitzgerald

EXX 010732



BROWN & ROOT, INC.

SUBCONTRACT

Job Number 34-1232Subcontract No. 34-1232-2102EXXON CHEMICAL COMPANY U.S.A.

(Project)

PLASTICS UNIT BASE PLANT DEBOTTLENECK PROJECT
 MODIFICATION TO EXISTING WATER SPRAY SYSTEM

(Sublet Work)

SEPTEMBER 15, 1977

(Effective Date)

THIS SUBCONTRACT, by and between BROWN & ROOT, INC., a Texas Corporation, P. O. BOX 3,
 HOUSTON, TEXAS 77001, "GENERAL CONTRACTOR" and,

TEXAS AUTOMATIC SPRINKLER, INC.

a CORPORATION

(Corporation, Proprietorship, Partnership)

under laws of TEXAS

(State)

whose address is P. O. BOX 112, HOUSTON, TEXAS 77001

"SUBCONTRACTOR," whose contractor's license number under laws of NOT APPLICABLE

is NOT APPLICABLE, entered into as of the EFFECTIVE DATE stated above,

WITNESSETH:

In consideration of the mutual promises herein contained General Contractor and Subcontractor agree, promise, and obligate themselves as follows:

1. Subcontractor promises to perform the Sublet Work for the Project in accordance with the Contract Documents.

2. General Contractor promises to pay Subcontractor, for full, accurate and timely performance of the Sublet Work in accordance herewith, the Price and other payments, and promises to perform all of the other obligations of General Contractor, as set forth in the Contract Documents.

3. The Contract Documents constituting this Subcontract consist of:

a. "Subcontract Terms" and exhibits thereto.

b. "Special Conditions" and exhibits thereto.

c. "General Conditions"

d. "AFFIDAVIT FOR SUBCONTRACTORS"

e.

f.

"CONTRACTOR'S RESPONSIBILITIES FOR SAFETY,
 PLANT SECURITY, AND TRAFFIC REGULATIONS."

RECEIVED

SEP 26 1977

TEXAS AUTOMATIC SPRINKLERS, INC.

HOUSTON, TEXAS

Subcontract No. 34-1232-2102

The foregoing constitutes the entire contract, and supersede all prior proposals, negotiations, agreements, awards, letter of intent and written or oral statements, representations or agreements.

4. The Effective Date set forth above is the date as to which all Contract Documents and provisions thereof have reference for purposes of coordination of their meaning and effect. The price relates to the Sublet Work as described in drawings, specifications and other Contract Documents in their condition on that date. Changes after the effective date will be dealt with in accordance with the provision for changes. Any work commenced and any payments made pursuant to an Award or Letter of Intent prior to the execution hereof shall be deemed to have been done and paid after the Effective Date under the terms of this Subcontract.

GENERAL CONTRACTOR:

BROWN & ROOT, INC.

By: S. S. Mather
for D. E. NEWTON, JR.
Title: VICE PRESIDENT, PROCUREMENT DIVISION
Date: October 5, 1977

SUBCONTRACTOR:

TEXAS AUTOMATIC SPRINKLER, INC.
By: Owen W. Johnson
Title: Branch Manager
Date: 9-29-77

SUBCONTRACT TERMS

EXX 010735

SUBCONTRACT TERMS

EXXON CHEMICAL COMPANY, U.S.A.

SUBCONTRACT NO. 34-1232-2102

1. SUBLET WORK

The Sublet Work, in general, covers performing modification work to the existing Water Spray System at Exxon Chemical Company, U.S.A., Plastics Unit - Base Plant Debottleneck Project, Baytown, Texas, as part of the "Project", which is more fully described in the Special Conditions, paragraph number 1.

More specifically, Subcontractor agrees to perform the Sublet Work, which consists of furnishing all labor, materials, tools, equipment, engineering services (drawings, calculations), supervision and all other things necessary or required to perform the modification work to the existing Water Spray System in accordance with the Scope of Work, drawings, specifications, instructions and all other provisions of the Subcontract Documents.

2. DRAWINGS AND SPECIFICATIONS

The following drawings and specifications are attached hereto and hereby made a part of this Subcontract Document:

2.1 Drawings:

Brown & Root, Inc. Drawing No. SK-FP-1, Rev. 0 dated 7-26-77, entitled Plastics Unit - Base Plant Plot Plan.

Brown & Root, Inc. Drawing No. 51-192-700, entitled Plastics Unit - Base Plant DR-404, DR-405, DC-404, DC-405, & D-419

Brown & Root, Inc. Drawing No. 51-192-701, entitled Plastics Unit - Base Plant DR-409 Area Piping Sections.

Brown & Root, Inc. Drawing No. 51-192-702, Rev. 0, dated 7-14-77, entitled Plastics Unit - Base Plant P-307A-D, TK-114 and E-302A-D, Piping Sections.

Brown & Root, Inc. Drawing No. 51-192-703, Rev. 0, dated 7-21-77, entitled Plastics Unit - Base Plant D-453, D-415, D-428, E-430 & E-431, Piping Sections.

Brown & Root, Inc. Drawing No. 51-192-704, dated 7-21-77, entitled Plastics Unit - Base Plant D-494, D-453, D-428, D-415 & D-430 Piping Sections.

EXX 010736

2.1 Drawings - (Continued)

Brown & Root, Inc. Drawing No. 51-192-720, Rev. 0, dated 6-15-77,
Plastics Unit - Base Plant, Blower AS-404 Area Piping Sections.

2.2 Specifications:

Exxon Company, U.S.A., Specification For Fire Protection Systems
Revision, Base Plant Debottleneck Project, Sketch No. SK-FP1, pages
1-5.

Exxon Company, U.S.A., Baytown Engineering Standard No. BTES-3-2-3.1A,
Revision 1, dated March, 1972, entitled Onsite Fire Water Systems
Design, pages 1 of 6.

Brown & Root, Inc., Piping Specification No. 125A5, dated 03-7-77.

3. TIME OF PERFORMANCE

The Sublet Work shall begin after Notice of Award and Notice to Proceed.
Subcontractor shall complete all modification work to the Water Spray
Systems during the unit shutdown period, tentatively scheduled on or
about April 1, 1978. Subcontractor shall complete Sublet Work within
four (4) weeks thereafter, or on or about May, 1978. Subcontractor
guarantees that the modifications to the Water Spray Systems shall be
complete on or before the start up of the unit. For execution of the
Sublet Work contact Mr. Jerry De Lay, Brown & Root, Inc., (713) 424-4588.

4. SUBCONTRACT UNIT PRICES

General Contractor agrees to pay Subcontractor for complete, satisfactory
and timely performance of the Sublet Work in accordance with the Draw-
ings, Specifications and all other Requirements of the Subcontract Docu-
ments, the following firm unit prices which includes Insurance, Taxes,
Tools, Fringe Benefits, Overhead and Profit.

4.1 Sprinkler Foreman\$23.00/Per Hour

4.2 Sprinkler Fitter.\$22.00/Per Hour

4.3 Sprinkler Fitter Apprentice\$19.00/Per Hour

4.4 Shop and All Others\$16.00/Per Hour

4.5 Engineers\$21.00/Per Hour

4.5.1 MaterialsPrevailing Houston
Market Prices Plus 10%
For Overhead and 10%
For Profit.

4.5.2 FreightActual Charges

EXX-010737

- 4.5.3 Third Party Equipment, including
Rental, Maintenance Charges, and
Fuel Cost Actual Charges
Plus 10%

For any Overtime Work in the Field, the following Unit Prices will apply, which includes Insurance, Taxes, Tools, Fringe Benefits, Overhead and Profit.

- 4.6 Sprinkler Foreman \$.39.27/Per Hour
- 4.7 Sprinkler Fitter. \$.37.05/Per Hour
- 4.8 Sprinkler Fitter Apprentice \$.32.55/Per Hour
- 4.9 All Field Time Sheets, Material Received Reports, Rental Equipment Time Sheets shall be co-signed by Exxon and Brown & Root's designated representative on a daily basis.
- 4.10 All invoicing shall be separated by category of service, i.e. Field Labor, Equipment/Tool Rental. Copies bearing original signatures verifying Time Expended Materials/Equipment Received, and Services Obtained shall be attached as support data for all invoices. Subcontractor shall render invoices on a weekly basis, unless agreed otherwise.
- 4.11 Payment and Performance Bonds (if required)

In the event General Contractor requires Subcontractor to furnish Payment and Performance Bonds, General Contractor shall reimburse Subcontractor the premium cost in the amount of:

Two Hundred and 00/100 DOLLARS
(Words)

\$ 200.00
(Figures)

National Surety Corp.
(Surety Name)

Dallas, Texas
(Surety Address)

6. PAYMENT

Subcontractor will be paid the firm lump sum price in monthly progress

EXX 010738

payments in proportion to the value of the Sublet Work performed during the preceding month, less 10% of such value as retainage until final completion and acceptance of the Sublet Work by the General Contractor and when approved payment shall be made within thirty days thereafter. Final payment and release of retainage shall be made when the Sublet Work has been satisfactorily completed and accepted and Subcontractor has submitted an affidavit in form prescribed by General Contractor providing proof of payment of all bills for labor and materials and a satisfactory release of all claims against General Contractor and Owner.

7. SUBCONTRACTOR'S REPRESENTATIVE

Subcontractor's supervisor will be designated to the General Contractor prior to commencement of its work hereunder. He, or in his temporary absence his designated assistant, will be in attendance at the work site from commencement of this work until completion thereof.

8. INVOICES

Subcontractor shall submit invoices in triplicate to the following address:

Brown & Root, Inc.
P. O. Box 3836
Baytown, Texas 77520

Attn: Project Manager

9. DRAWINGS AND TRANSMITTALS

Subcontractor shall insure all drawings and submittals and other transmittal correspondence is addressed as follows:

Brown & Root, Inc.
P. O. Box 3
Houston, Texas 77001

Attn: R. M. Fitzgerald, Jr.
Project Engineering Manager

10. SERVICES AND FACILITIES FURNISHED BY GENERAL CONTRACTOR

10.1 Compressed and utility air.

10.2 Electrical and lighting.

10.3 Sanitary Facility.

10.4 Potable water.

10.5 Work permits, except those required for hauling material to jobsite.

EXX 010739

11. INSURANCE CERTIFICATE

Insurance coverage requirements shall be in strict accordance with Paragraph 21 of the General Conditions. Subcontractor must have copies of its Insurance Certificate in General Contractor's possession before commencement of any work at the jobsite. Subcontractor shall submit current copies of its Insurance Certificate to the following addresses:

Brown & Root, Inc.
P. O. Box 3836
Baytown, Texas 77520

Attn: Project Manager

Brown & Root, Inc.
P. O. Box 3
Houston, Texas 77001

Attn: S. S. Mather
(01-114)

12. LABOR RELATIONS

The following supplements Paragraph 14 of the General Conditions:

Subcontractor represents that its pre-hiring collective bargaining agreements, if any, contain or will contain provisions that, or Subcontractor has entered into or will enter into a project agreement modifying such collective bargaining agreement to provide that, there shall be no strikes, slowdowns, picketing, secondary boycotts, or work stoppages during the performance of the Sublet Work. Subcontractor will further subcontract only to lower-tier subcontractors having similar provisions in their collective bargaining agreements, if any.

13. CORRESPONDENCE IDENTIFICATION

Subcontractor shall identify each copy of all correspondence of every description (including each drawing and each parts and operating instructions bulletin) in connection with this Subcontract, with the following information:

Appropriation	32001-80401
Subcontract Number	34-1232-2102
Item Number	
Equipment Number	
Process Unit	Plastics Unit-Base Plant
Manufacturer's Serial Number	
(Vendor Furnishes)	

14. PRINT CLAUSE

Required prints or drawings are those (excluding shop detail drawings) used in the design, fabrication, and assembly of the equipment. These prints or drawings as well as all correspondence pertaining to drawings shall be mailed directly to: Brown & Root, Inc., P. O. Box 3, Houston, Texas 77001,

Attention; Mr. R. M. Fitzgerald, Jr., Project Engineering Manager. A copy of the letter of transmittal shall be mailed separately to Mr. D. E. Newton, Jr., Vice President of Procurement, at the same address, to whom you shall also address all correspondence pertaining to shipment, invoice, or other particulars. Attention is called to the fact that General Contractor's acceptance of the prints, in case design has been made by Subcontractor, does not relieve Subcontractor of responsibility as to design, strength, or performance of equipment.

Immediately upon receipt of Subcontract, you are to stamp "Certified" and furnish to General Contractor in the following order of preference: (1) the original tracing and five (5) paper prints, (2) an autopositive blackline vellum-silver emulsion and five (5) paper prints, or (3) an autopositive blackline cloth transparency-silver emulsion and five (5) paper prints. SEPIAS ARE NOT ACCEPTABLE! The following requirements should be adhered to strictly:

14.1 Maximum size of drawings shall be 24 by 36 inches and all letters and numbers on drawings shall be no smaller than 1/8 inch to comply with microfilming requirements.

14.2 Duplicates that are submitted in lieu of the original drawing must maintain a ratio 1:1 from original to duplicate. A minimum of generations should be used in preparation of duplicates.

14.3 Duplicates and prints must be right reading on emulsion side.

14.4 Originals, duplicates, and prints must be LEGIBLE AND CLEAR (no background).

Approval prints are not required. Fabrication of equipment may start as soon as this material has been mailed.

15. OPERATING INSTRUCTIONS

Subcontractor shall mail directly to: Brown & Root, Inc., P. O. Box 3, Houston, Texas 77001, Attention: Mr. R. M. Fitzgerald, Jr., Project Engineering Manager separately from equipment fifteen (15) properly identified and "Certified" copies of operating and maintenance instructions, including wiring diagrams and flow diagrams, where applicable. A copy of the letter of transmittal shall be mailed separately to Mr. D. E. Newton, Jr., Vice President of Procurement, at the same address.

16. PAYMENT WITHHOLDING

The information required by Paragraph Nos. 14 and 15, shall be submitted as soon as possible after receipt of Subcontract. Final payment on this Subcontract will not be made until this information is received.

EXX 010741

17. RESTRICTIVE NOTES

Acceptance of this Subcontract constitutes a waiver by Subcontractor of any restrictive clauses appearing on drawings, data or any material submitted by Subcontractor to Exxon under this Subcontract. Such clauses shall not be binding, nor have any effect on Exxon. Subcontractor hereby authorizes Exxon to nullify, obliterate, or otherwise remove any such restrictive clauses from any drawings, data, or any other material described above.

18. CODES AND STANDARDS "LATEST EDITION"

National or industry codes and standards referred to herein are defined as the latest published edition as of the date of the Subcontract.

SPECIAL CONDITIONS

EXX 010743

SPECIAL CONDITIONS

PHASE I PROJECT AT THE
BAYTOWN CHEMICAL PLANT

1. DESCRIPTION OF PROJECT

The project, as a whole, is the construction of the Baytown Chemical Plant (Plant) located in Baytown, Texas for Exxon Chemical Company, U.S.A. (Owner).

2. SALES/USE TAX

Subcontractor shall include all Texas State and local sales/use taxes in his proposal.

3. SAFETY, CLEANLINESS AND SANITATION

The following provisions supplement Article 8 of the General Conditions:

- A. Subcontractor shall be responsible for safety related to and during the prosecution of work on Owner's property to protect work, workers, the public and all other people, Owner's property and the property of third parties.
- B. Subcontractor shall observe and comply 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 1518 and adopted by the Secretary of Labor as Occupational Safety and Health Standards under the Williams-Steiger Occupational Safety and Health Act of 1970. Such Safety and Health Standards shall apply to all lower tier subcontractors and their employees as well as to the Subcontractor and its employees.
- C. Subcontractor shall comply and obtain compliance by lower tier subcontractors, with Owner's publication entitled, "Contractor's Responsibilities for Safety, Plant Protection, and Traffic Regulations", latest edition, a copy of which is attached hereto as Exhibit A and made a part hereof.

4. DELAYS

The following provision hereby supplements Article 9 of the General Conditions:

No extension of time shall be granted Subcontractor because of:

EXX 010744

- a. late delivery of equipment or materials caused by congestion at a manufacturer's plant or elsewhere, an oversold condition of the market, inefficiencies, or similar occurrences, or
- b. late performance by a subcontractor caused by a shortage of supervisors or labor, inefficiencies, or similar occurrences

unless the delay arises out of a FORCE MAJEURE occurrence (an occurrence other than described in paragraphs a and b above) and is beyond both Subcontractor's and lower tier subcontractor's or supplier's control and an alternate acceptable source of services, equipment or materials is unavailable.

5. WORKMEN AND EMPLOYMENT PRACTICES

The following provisions supplement Article 13 of the General Conditions:

- A. Subcontractor is aware of and is fully informed of subcontractor's responsibilities under Executive Order 11246 and shall file compliance reports as required by Section 203 of Executive Order 11246 and otherwise comply with the requirements of such order.
- B. Subcontractor shall be bound by and agrees to the following provisions as contained in Section 202 of Executive Order 11246, to wit:
 - (1) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer, recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation, and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.
 - (2) The Contractor will in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

- (3) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the Contractor's commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (4) The Contractor will comply with all provisions of Executive Order No. 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
- (5) The Contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- (6) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be cancelled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
- (7) The Contractor will include the provisions of Paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions including sanctions for non-compliance:

Provided, however, that in the event the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

- C. Subcontractor certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. He certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. Subcontractor agrees that a breach of this certification is a violation of the Equal Opportunity Clause in this contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or national origin, because of habit, local customs or otherwise. He further agrees that (except where he has obtained identical certifications from proposed lower tier subcontractors for specific time periods) he will obtain identical certifications from proposed lower tier subcontractors prior to the award of sub-subcontracts exceeding \$10,000 which are not exempt from the provisions of Equal Opportunity Clause; that he will retain such certifications in his files; and that he will forward the following notice to such proposed lower tier subcontractors (except where the proposed lower tier subcontractors have submitted identical certifications for specific time periods): NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENT FOR CERTIFICATIONS OF NONSEGREGATED FACILITIES. A Certification of Nonsegregated Facilities, as required by the May 9, 1967, order on Elimination of Segregated Facilities, by the Secretary of Labor (32 Fed. Reg. 7439, May 19, 1967), must be submitted prior to the award of a subcontract exceeding \$10,000 which is not exempt from the provisions of the Equal Opportunity Clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (e.g., quarterly,

semiannually, or annually). (1968 MAR.) Note: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001).

D. Requirement for Employment of the Handicapped as written below.

This clause applies to all nonexempt subcontracts which exceed \$2,500 as follows: (1) Part A applies to subcontracts which provide for performance in less than 90 days, (2) Part A and B apply to subcontracts which provide for performance in 90 days or more and the amount of the subcontract is less than \$500,000, and (3) Parts A, B, and C apply to subcontracts which provide for performance in 90 days or more and the amount of the subcontract is \$500,000 or more.

PART A

- (a) The Contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap in regard to any position for which the employee or applicant for employment is qualified. The contractor agrees to take affirmative action to employ, advance in employment and otherwise treat qualified handicapped individuals without discrimination based upon their physical or mental handicap in all employment practices such as the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising; layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.
- (b) The Contractor agrees that, if a handicapped individual files a complaint with the Contractor that he is not complying with the requirements of the Act, he will (1) investigate the complaint and take appropriate action consistent with the requirements of 20 CFR 741.29 and (2) maintain on file for three years, the record regarding the complaint and the actions taken.
- (c) The Contractor agrees that, if a handicapped individual files a complaint with the Department of Labor that he has not complied with the requirements of the Act, (1) he will cooperate with the Department in its investigation of the complaint, and (2) he will provide all pertinent information regarding his employment practices with respect to the handicapped.
- (d) The Contractor agrees to comply with the rules and regulations of the Secretary of Labor in 20 CFT Ch VI, Part 741.

EXX 010748

- (e) In the event of the Contractor's noncompliance with the requirements of this clause, the contract may be terminated or suspended in whole or in part.
- (f) This clause shall be included in all subcontracts over \$2,500.

PART B

- (g) The Contractor agrees (1) to establish an affirmative action program, including appropriate procedures consistent with the guidelines and rules of the Secretary of Labor, which will provide the affirmative action regarding the employment and advancement of the handicapped required by P.L. 93-112, (2) to publish the program in his employee's or personnel handbook or otherwise distribute a copy to all personnel, (3) to review his program on or before March 31 of each year and to make such changes as may be appropriate, and (4) to designate one of his principal officials to be responsible for the establishment and operation of the program.
- (h) The Contractor agrees to permit the examination by appropriate contracting agency officials or the Assistant Secretary for Employment Standards of his designee, of pertinent books, documents, papers and records concerning his employment and advancement of the handicapped.
- (i) The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices in a form to be prescribed by the Assistant Secretary for Employment Standards, provided by the contracting officer stating contractor's obligation under the law to take affirmative action to employ and advance in employment qualified handicapped employees and applicants for employment and the rights and remedies available.
- (j) The Contractor will notify each labor union or representative of workers with which he has a collective bargaining agreement or other contract understanding, that the contractor is bound by the terms of Section 503 of the Rehabilitation Act, and is committed to take affirmative action to employ and advance in employment physically and mentally handicapped individuals.

PART C

- (k) The Contractor agrees to submit a copy of his affirmative action program to the Assistant Secretary for Employment Standards within 90 days after the award to him of a contract or subcontract.
 - (l) The Contractor agrees to submit a summary report to the Assistant Secretary for Employment Standards, by March 31 of each year during performance of the Contract, and by March 31 of the year following completion of the contract, in the form prescribed by the Assistant Secretary, covering employment and complaint experience, accommodations made and all steps taken to effectuate and carry out the commitments set forth in the affirmative action program.
- E. Subcontractor shall comply, and secure compliance by its lower tier subcontractors, with the requirements of Fair Labor Standards Act of 1938, as amended.
- F. Field employees of subcontractor and its lower tier subcontractors engaged in the performance of sublet work on Owner's property shall be governed by the following provision:
- i. Compensation rates for employees up through craft foremen level shall not exceed prevailing rates for the area where work is performed, and policies relative to fringe benefits shall not be more liberal than prevailing practices. Before Subcontractor or any lower tier subcontractor commences any field operations, Subcontractor shall have obtained Owner's approval of its proposed salary and wage ranges and fringe benefits, by job classifications, for such employees. No changes shall be made in said salary and wage ranges and fringe benefits without General Contractor's prior approval it being understood that Subcontractor normally adjusts salaries, salary and wage ranges and wages annually.
 - ii. If requested by General Contractor, Subcontractor shall furnish General Contractor with name and addresses of its lower tier subcontractors, field employees of Subcontractor or its lower tier subcontractors, or others who have performed or are performing work under subcontract.

6. LAWS

The following provision hereby supplements Article 30 of the General Conditions:

Subcontractor shall defend, indemnify and hold harmless General Contractor and/or Owner from any liability or penalty which may be imposed on General Contractor and/or Owner by reason of any alleged violation or violation of Law by Subcontractor or its

EXX 010750

sub-subcontractors and also from all claims, suits or proceedings that may be brought against General Contractor and/or Owner arising under, growing out of, or by reason of work with respect to such alleged violation or violation of Law whether brought by employees of Subcontractor or its sub-subcontractors, by third parties or by any governmental authority.

7. PATENTS AND PROPRIETARY RIGHTS

The following provision supplements Article 25 of the General Conditions:

Subcontractor agrees to abide by and to obtain acceptance of the following patents hold-harmless provision by all lower tier subcontractors and vendors:

"Except and to the extent that items purchased herein are made to the design, specifications or instructions of Exxon Chemical Company, U.S.A., an operating division of Exxon Chemical Company, a division of Exxon Corporation (herein referred to as Exxon Chemical Company, U.S.A.), seller shall indemnify and hold harmless purchaser and Exxon Chemical Company, U.S.A., their successors, assignees, vendees, and users of said items from and against any and all claims, demands, losses, costs and liabilities arising out of or resulting from the actual or alleged infringement of any rights under patents or any litigation based thereon."

8. TECHNICAL INFORMATION

- a. Subcontractor shall hold in confidence and not divulge to third parties or use in any way other than for accomplishing sublet work, any technical information disclosed, directly or indirectly, to Subcontractor by General Contractor and/or Owner or its affiliates in regard to sublet work, including any changes or suggested changes with respect to sublet work or any processes, process data or correlations or any drawings or designs showing the equipment, devices and machinery in which and by which the processing is to be performed or carried out, which are provided by General Contractor and/or Owner or its affiliates, or are prepared for General Contractor and/or Owner by Subcontractor, without General Contractor's and/or Owner's prior approval so long as and to the extent that such information is not in the public domain, or was not prior to receipt from General Contractor and/or Owner or an affiliate of Owner already in the possession of Subcontractor, or is not received by Subcontractor, after receipt from General Contractor and/or Owner or its affiliates, from a third party who does not require Subcontractor to hold it in confidence and who did not acquire such information directly or indirectly, from General Contractor and/or Owner or its affiliates. For the purpose of the provisions of this paragraph, disclo-

asures relating to sublet work which are specific, e.g., as to equipment, products or operating conditions, shall not be deemed to be in the public domain or in the prior possession of Subcontractor merely because they, or individual features thereof, are embraced by general disclosures in the public domain or are in the possession of Subcontractor, unless the combination itself and its principle of operation are in the public domain or in the possession of Subcontractor.

- b. Nothing contained herein shall prevent Subcontractor from using information it can show was lawfully disclosed to it in writing by a third party who did not acquire it, directly or indirectly, from General Contractor and/or Owner or its affiliates in accordance with the terms under which such information is disclosed to Subcontractor by said third party.
- c. In the event Subcontractor files a patent application in which any of the technical information provided to Subcontractor by General Contractor and/or Owner or by any subsidiary or affiliate of Owner is disclosed, Subcontractor agrees to provide General Contractor with a copy of such application. If such application includes technical information which General Contractor and/or Owner or its affiliates consider proprietary, Subcontractor shall not permit the publication in any country of a patent based on such application without General Contractor's and/or Owner's prior approval.

9. SUBCONTRACTOR'S DRAWINGS, SPECIFICATIONS, ETC.

All drawings, specifications, requisitions, purchase orders and other pertinent documents, and the designs, concepts and technical information contained thereon, prepared by Subcontractor or its lower tier subcontractors pursuant to subcontract may be used by or for General Contractor or Owner or for any subsidiary or affiliate of Exxon Corporation without limitation for: construction, operation, modification, revamp, bottleneck removal, repair and maintenance of Plant; replacing any portion of Plant from any source; duplicating any portion of Plant or the entire Plant; or designing or constructing other plants, subject only to the following exception.

If certain drawings, specifications, requisitions, purchase orders and other pertinent documents are to be prepared by Subcontractor for General Contractor which contain special design or technical information originating with Subcontractor, which special design or technical information should not be divulged to Subcontractor's competitors, Subcontractor shall give notice to General Contractor and supply a descriptive list of the items placed in this category as a part of said notice. Such special design or technical information shall be incorporated into sublet work only with General

Contractor's prior approval, and when so incorporated, General Contractor's and/or Owner's right to use said special design or technical information will be limited for a period of seven (7) years from May 7, 1975 unless otherwise expressly permitted in writing by Subcontractor to purposes of construction, operation, modification, revamp, bottleneck removal, repair and maintenance of Plant so long as and to the extent that said special design or technical information is not in the public domain or was not prior to receipt from Subcontractor already in the possession of General Contractor or Owner or any of its affiliates, or is not received by General Contractor or Owner or its affiliates after receipt from Subcontractor from a third party who did not require such information, directly or indirectly, from Subcontractor. The documents or parts thereof, containing said special design or technical information shall be identified by a special stamp or legend, the wording of which shall be agreed by Subcontractor and General Contractor.

10. INSPECTION AND QUALITY CONTROL

The following provision supplements Paragraph 7 of the General Conditions:

- A. Subcontractor shall be responsible to see that inspecting and testing of the component parts of work, including its subcontractors' work, required by Law is provided.
- B. General Contractor shall have the right at all times to inspect, or witness the test of, any part of Sublet Work at any place where equipment or materials are located or in preparation or at work site. Inspection or non-inspection, or witnessing or non-witnessing, by General Contractor shall not be construed as acceptance of any part of sublet work nor as relieving subcontractor of its responsibility for said items complying with Job Specification and being free from defects and capable of performing their respective functions.
- C. If Law requires inspection or test of any part of Work at any place where equipment or materials are located or in preparation or at work site, Subcontractor shall advise General Contractor, sufficiently in advance, of the arrangements for said inspection or test.
- D. General Contractor shall have the right to inspect all construction tools and equipment when they are brought on work site and at any time during the progress of sublet work. If any tool or item of equipment is, in the judgement of General Contractor, unsafe or incapable of doing the work for which it is intended, Subcontractor shall repair or replace it with a safe and capable tool or item of equipment. The foregoing does not relieve Subcontractor of its responsibility for safety related to construction tools and equipment pursuant to Article 8 - Safety.

11. TITLE TO AND RESPONSIBILITY FOR SUBLET WORK AND MATERIALS

The following provision supplements Paragraph 16 of the General Conditions:

Subcontractor shall be responsible for and shall make good to the satisfaction of General Contractor any damage to, or destruction or loss of, existing structures, and other property belonging to Owner or for which General Contractor and/or Owner are responsible arising out of any act or omission of Subcontractor, its officers, employees, agents, representatives or lower tier subcontractors, without regard to whether any acts or omissions of General Contractor and/or Owner or other parties contributed to the property damage. However, Subcontractor shall not be responsible for any property damage caused by sole negligence of General Contractor or Owner.

12. CONFIDENTIALITY

The following provision supplements Paragraph 28 of the General Conditions:

Subcontractor shall not unnecessarily disclose to its lower tier subcontractors and vendors the name or location of Owner. Subcontractor shall also require its sub-subcontractors and vendors to comply with this requirement.

13. CHANGES

The following provision supplements Paragraph 12 of the General Conditions:

If, during the prosecution of Sublet Work, Subcontractor believes that any instruction, interpretation or decision received from General Contractor and/or Owner or that any act of General Contractor and/or Owner or Engineering Contractor affects Subcontractor's work and should be treated as a change pursuant to the provisions of subcontract, then Subcontractor shall give prompt notice to General Contractor prior to proceeding with the sublet work affected. If General Contractor agrees that said instruction, interpretation, decision or act requires a change, General Contractor will authorize said change.

No change will be authorized by General Contractor if Subcontractor has proceeded with the work affected by said instruction, interpretation, decision or act prior to giving the aforesaid notice to General Contractor.

14. LIENS

The following provision supplements Paragraph 15 of the General Conditions:

Subcontractor shall ensure that there is no reservation of ownership or security interest from suppliers of materials or equipment to Subcontractor. If unable to fulfill this obligation Subcontractor shall immediately give written notice to General Contractor.

15. GENERAL CONTRACTOR'S AUDIT RIGHTS

General Contractor's duly authorized representatives shall have access, at all reasonable times, to all Subcontractor's and lower tier subcontractors' personnel, job descriptions, employment and qualification records, books, records, correspondence, instructions, plans, drawings, receipts, vouchers, data stored in computers and memoranda of every description pertaining to sublet work under subcontract for the purpose of auditing and verifying costs of sublet work or for any other reasonable purpose. General Contractor's representatives shall have the right to reproduce any of the aforesaid documents. Subcontractor shall preserve, and shall cause its lower tier subcontractors to preserve, all the aforesaid documents for a period of two years after completion and acceptance or termination of sublet work.

16. CONSTRUCTION TOOLS AND EQUIPMENT

If General Contractor requests, Subcontractor shall issue an itemized tool list giving the quantity and description of all construction tools and equipment at Work Site.

EXX 010755

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

BAYTOWN REFINERY

January 1, 1977

EXX 010756

TABLE OF CONTENTS

	Page
Section 1	
General Definitions	I-1
Section 2	
Safety Rules	II-1
Personal	
Clothing and Protective Equipment	II-2
Entering Process Areas	II-4
Working Over or Near Water	II-5
Guarding Equipment	II-5
Housekeeping	II-6
Smoking and Matches	II-6
Hand and Power Tools	II-6
Electrical Tools	II-7
Ladders and Scaffolds	II-8
Evacuations	II-9
Connections into Existing Equipment	II-9
Railroad	II-10
Hoisting Equipment	II-10
Hazardous Materials	II-11
Compressed Air — Yard Air System	II-11
Warning Signs	II-12
Compressed Gas Cylinders	II-12
Fire Prevention -- Fire Fighting	II-12
Working in Vicinity of Electrical Lines	II-13
Refueling Vehicles and Equipment	II-13
Potable Water	II-14
Working on Asbestos Cement Roof	II-14
Traffic Safety Regulations	II-14
Section 3	
Contractor's Safety Responsibilities	III-1
Section 4	
Electrical Lockout Procedures	IV-1
Electrical Circuits and Electrically Powered Equipment	IV-1
Electrical Lockout	IV-1
Electrical Disconnect	IV-4
Abnormal Conditions	IV-5
Power Lines	IV-6
Removing from Service	IV-8
Work On or Adjacent 2,300-Volt Lines	IV-12

EXX 010757

Table of Contents - Continued

	Page
Section 5	
Hot Work Permit	V-1
Open Areas	V-3
Marine Docks	V-9
Enclosed Spaces	V-10
Section 6	
Procedure for Entering Enclosed Spaces	VI-1
Entering Without Protective Equipment	VI-2
Entering With Protective Equipment	VI-5
Standby Duties	VI-6
Section 7	
Opening or Blinding Permit	VII-1
Section 8	
Cold Work Permit	VIII-1
Section 9	
Security Regulations	IX-1
Parking Locations	IX-1
Entrance Gate	IX-1
Walks and Roadways	IX-1
Contractor Employee Badges	IX-1
Contractor Vehicle Identification	IX-2
Material Passes	IX-2
Thefts	IX-2
Gambling	IX-2
Business Visitors, Applicants, and Delivery Trucks	IX-2
Ambulance Service	IX-3
Inspection of Lunch Boxes, Packages, Motor Vehicles, etc.	IX-3
Cameras and Photographs	IX-3
Liquor, Drugs, Firearms, and Explosives	IX-3
Visiting and Loiterings	IX-3
Fingerprinting	IX-4

Table of Contents - Continued

	Page
Section 10	
General Regulations	X-1
Authorization to Start Work	X-1
Contractor's Equipment	X-1
Explosives	X-1
Use of Lines, Conduits, or Structures as Supports	X-1
Use of Stanchions or Equipment for Anchors	X-1
Damage to Owner's Property	X-1
Operating Owner's Equipment	X-2
Use of Special Vehicles	X-2
Fire Extinguishers	X-2
Welding	X-2
Securing of Temporary Buildings	X-3
Exit from the Plant	X-3
Non-English-Speaking Personnel	X-3
Hurricane Precautions	X-3
Contractor Accident Reporting	X-3
Emergency Evacuation Procedure	X-4
Contractor Safety Meetings	X-4

EXX 010759

Section 1

GENERAL DEFINITIONS FOR SAFETY MANUAL

PERSONS

1. Chief Operator — The Process person who is responsible for Process operations in a processing area and has the authority to supervise Process personnel and issue work permits.
2. Contract Administrator — The Exxon Mechanical or Process supervisor assigned by the owner to assure that the contractor adheres to the plans, specifications, and Refinery safety rules.
3. Contractor — *The firm under contract to Exxon Company, U.S.A. to perform work at the Baytown Refinery. The term also includes those firms employed as subcontractors by the prime contractor.*
4. Department Head — The person in charge of a Process department, i.e., Fuels, Specialties, Oil Movements, Utilities and Environmental Control, or Baytown Fuels Expansion.
5. Maintenance Supervisor — The Mechanical person, either Exxon or contractor, who has the authority to supervise the Mechanical work crew and is responsible for their work execution.
6. Mechanical Personnel or Person — Any of the Mechanical work crew (Supervisor, Craftsman, Trainee), either Exxon or contractor, performing work in the Refinery.
7. Owner — Exxon Company, U.S.A., Baytown Refinery.
8. Operating Supervisor — The second-line supervisor in Process and the immediate supervisor of the Chief Operators.

9. Process Personnel or Person — Any of the Process work crew (Chief Operator, Process Technician, or Process Technician Trainee) who has job responsibility for the assigned processing area.

10. Safety Permit Inspector — The person who has the primary responsibility of performing gas tests and inspecting the jobsite for compliance with applicable safety rules and standards for the purpose of issuing work permits.

11. Standby — The person designated by the Chief Operator and/or the maintenance supervisor to warn persons of hazardous or emergency conditions that could affect their safety.

PLACES

1. Enclosed Space — Any space that can be closed or has restricted entry or exit, such as vessels, tanks, boilers, furnaces, etc. Also included are confined spaces, such as pits, sewers, excavations, where the heads of personnel working are below the top of the confined space.

2. Processing Area — Any area under the jurisdiction of Process personnel.

3. Refinery — The manufacturing facilities of Exxon Company, U.S.A. located in Baytown, Texas.

ACTIVITIES — CONDITIONS

1. Cold Work — Any mechanical work that does not involve hot work or opening, blinding, and entering processing equipment.

2. Hot Work — Any work requiring the use of burning or welding and brazing equipment, explosives, open fires, portable grinders, unattended internal combustion engines, concrete busters, soldering irons, nonexplosionproof electric motors (including motor chippers, drills, and

saws), nonexplosionproof floor or string lights, sandblasting, explosion actuated tools, electric hot plates, or any other flame- or spark-producing equipment.

3. Hot Tap — Any connection made to a pipeline or other equipment that is under pressure or has not been cleared and prepared for tapping using conventional construction methods.

4. Opening — Exposing the interior of any processing equipment, including piping, to the atmosphere. This includes removing covers, breaking flanges, pulling plugs, etc. It does not include draining or venting through a valve.

5. Blinding — Installing temporary slip blinds into piping or blind flanges onto equipment for the purpose of isolating or closing processing equipment.

6. Flammable Material — Any material that will ignite and continue to burn in air.

7. Explosive Mixture — Any mixture of gas or vapor with air that will ignite (explode) when exposed to a source of ignition.

8. Oxygen Deficiency — Any atmosphere that has oxygen concentration of less than 19.5 percent.

9. Toxic Materials — Any substance (other than a radioactive substance) that has the capacity to produce personal injury or illness to man through ingestion, inhalation, or absorption through any body surface.

10. Must and May — "Must" is used in the manual to indicate mandatory compliance. "May" is used to indicate that good judgment shall be exercised.

Section 2

SAFETY RULES

PURPOSE

The purpose of these personnel, equipment, and traffic safety rules is to specify minimum safety requirements that must be followed to prevent injury or death to persons and damage to property. These rules in their entirety apply to all persons, including the contractor employees working in Exxon Company, U.S.A.'s Baytown Refinery. *Additional requirements for contractors and their employees are shown in italic type throughout the manual.*

DEFINITIONS

Definitions of terms used throughout this manual will be found in Section 1. Special definitions that apply to a specific permit or work procedure are in the applicable section of this manual.

RESPONSIBILITIES

1. Supervisors are responsible for the health and safety of the people under their work direction. They must:

a. Set a good example.

b. Provide adequate instruction in and require compliance with:

(1) Accident prevention aspects of each job.

(2) Use and application of appropriate protective clothing, equipment, and devices.

(3) Use or application of tools and equipment.

c. Cooperate with others where the safety aspects of a job require coordinating the efforts of one or more work groups. This includes, but is not limited to, the securing and/or issuing of a yellow PERMIT TO ENTER, green HOT WORK PERMIT, white OPENING OR BLINDING

PERMIT, blue COLD WORK PERMIT, or ELECTRICAL LOCKOUT PROCEDURES.

d. Develop a safe work plan for the job to be done and see that the plan is well understood and followed.

e. Require additional accident prevention measures, other than those contained in this safety manual, if, in any supervisor's opinion, they are necessary. In instances or situations not specifically covered herein, it is expected that they will be handled within the guidelines contained in this manual. Safety is not to be sacrificed for production.

2. Individuals, Exxon and contractor, working in the Baytown Refinery are responsible for their own safety and for the safety of other workers and for reporting injuries to themselves or others to their appropriate supervisor. Each person must assure himself that his work situation is safe and that he has adequate instructions, proper tools, and proper protective clothing and equipment. He must also make sure that necessary work permits have been obtained and are valid over the term of his shift.

As a minimum, each person must adhere to the following safety regulations:

a. Clothing and Protective Equipment

(1) Clothing contaminated with oil, hazardous liquids, or chemicals must not be worn. If a person is inadvertently sprayed or contacted by oils, hazardous liquid, or chemicals, the clothing must be removed as quickly as practical, the affected parts washed with soap and water, and the situation reported to the supervisor and to the Exxon supervisor in charge or Contract Administrator in case of contractors.

(2) Protective clothing that fully covers the body (arms, legs, shoulders, etc.) must be

worn except at certain locations specified by the Department Head after consultation with the Safety Coordinator.

(3) Loose clothing, loose sleeves, neckties, or gloves must not be worn where there is a probability of their being caught in moving machinery.

(4) Safety hats and safety glasses must be worn in all areas of the Refinery except at certain locations specified by the Department Head after consultation with the Safety Coordinator.

EXCEPTION: Welders need not wear safety hats while welding.

(5) Contact lenses must not be worn inside the Refinery. Employees with unusual visual problems requiring the wearing of contact lenses must use appropriate eye protection as recommended by a medical doctor depending on occupational exposure. (For Exxon employees, the Medical Department will recommend appropriate eye protection.)

(6) Goggles and/or safety glasses with side shields must be worn in those areas where the possibility of flying objects exists.

(7) Chemical goggles must be worn in those areas where exposure to chemicals or liquid hazards exist.

(8) Respiratory protection must be worn where the atmosphere of the work area is contaminated by hazardous dust, toxic gases, excess vapors or fumes, or where an oxygen deficiency exists (for example, a vessel blanketed with nitrogen).

(9) Special protective clothing for the particular hazard must be worn where there is a possibility of exposure to acid, caustic, or

other hazardous material.

(10) Bright-colored vests or equivalent highly visible attire must be worn by members of survey parties when working on or adjacent roads.

(11) Safety belts attached to an independently supported line must be worn:

(a) When working from scaffolds, platforms, or any other surfaces that may not afford sufficient protection against falling.

(b) While working on any roof with a slope greater than one on four.

(c) When working within six feet of the edge of any roof.

(d) Where an oxygen deficiency exists or where the surrounding atmosphere is immediately hazardous to life.

(12) Approved ear protection such as ear plugs, disposable plugs, (Swedish wool and cotton are unacceptable), or ear muffs must be worn when working in areas designated with warning signs as "high noise area." Ear protection is required when using tools marked "caution — hearing protection required when using this tool" and in areas where equipment or tools generate sufficient noise to make normal conversation difficult.

b. Entering Processing Area

No person shall enter a processing area (including firewalls of operating tanks) without the permission of the Chief Operator or his designated representative. Chief Operator permission is also required when motorized equipment initially enters a closed processing area (radio or telephone approval by dispatcher is acceptable). No further permission is required as long as mechanical work is continuous. Once

work is interrupted, such as for lunch breaks, permission must again be obtained. Vehicles entering these areas may be required to have sparkproof mufflers or their equivalent as required by the Chief Operator or the Contract Administrator in the case of contractor vehicles.

c. Working Over or Near Water

The U.S. Coast Guard approved life preservers must be worn when working on barges or directly over water, such as under the docks, from a boat, above pits, etc.

d. Working On or Over Machinery

(1) Do not work on moving machinery or above open operating machinery unless it is impractical to shut down the equipment. In such instances, secure Maintenance Supervisor's and/or Chief Operator's approval and take necessary precautions before proceeding.

(2) Do not start up machinery unless all guards are in place.

EXCEPTION: In temporary situations where guards must be removed to make running adjustments, secure Maintenance Supervisor's and/or Chief Operator's approval before proceeding.

e. Guarding

(1) Temporary openings in floors, handrails, etc., must be guarded to prevent falling. Restore permanent handrails and guardrails immediately after need for opening has ended.

(2) Open excavations or manholes must be guarded or covered before leaving the job and during the job if practical.

(3) Areas into which materials or tools are to

be deliberately dropped or thrown must be guarded or protected.

f. Housekeeping

(1) Aisles, passageways, stairs, platforms, and ladders must be kept clear of all unnecessary obstructions.

(2) Protruding nails that present a snag or puncture hazard must be removed or bent down.

(3) Worksite must be kept clean and orderly.

(4) Debris (including mud from wheels) that falls from transporting vehicles must be picked up.

g. Smoking and Matches

Smoking in the Refinery except at approved locations is prohibited. "Strike-anywhere" matches must not be brought into the Refinery.

h. Hand and Power Tools — Portable Machinery

(1) Defective tools must not be used.

(2) Tools must not be subject to undue stress or used for purposes for which they are not designed. Makeshift tools must not be used.

(3) Portable Machinery must be shut down for repair work. If it is impractical to stop or shut the equipment down before working on it, secure Maintenance Supervisor's approval before proceeding.

(4) Abrasive wheel tool rests must be adjusted to within 1/8-inch maximum of the wheel. Do not use abrasive wheels that are visibly in bad order.

(5) High-speed abrasive wheels must be properly guarded as required. Do not stand

in line of unguarded wheels.

(6) Tools must not be started or used unless all required guards are in place.

I. Electrical Tools and Equipment

(1) Electrical switches must not be operated without full knowledge that the results will not constitute a safety hazard.

(2) Portable electrical tools, metal buildings with electrical service, and electrical equipment (including motor-driven welding machines and portable generators) must be grounded. Report them to the Maintenance Supervisor if they are found to be defective.

EXCEPTION: Double insulated tools and engine driven welding machines may be used without grounding.

(3) General purpose two- or three-cell flashlights (1.5 volts per cell) may be used everywhere except where use is prohibited by governmental agencies, such as at the docks.

(4) Explosionproof, approved portable lights (Underwriters Laboratory or Bureau of Mines approved) must be used where hot work is not authorized. This includes portable explosionproof hand lamps, portable explosionproof floodlights, and extension cords (plug boards) with explosionproof fixtures.

EXCEPTION: Fixed-mount, take-up, reel-type mechanic's lamp or other special appliances that have been specifically approved by the Department Head.

(5) Vaporproof globes must not be removed except for cleaning, repairing, or replacing lamps. Explosionproof fixtures shall be opened only by authorized persons.

J. Ladders and Scaffolds

(1) Ladders must be checked to insure that they are in good condition before use. Portable ladders must either be held or lashed securely while in use. Where practical, the siderails shall extend at least 36 inches above the landing.

(2) Ladders must be located where possible where they cannot be bumped. When located in areas such as in front of a door, in the street or aisles, etc., adequate precautions must be taken to protect both the climber and others who may be in the area.

(3) Good working techniques must be used when climbing, working from, or descending a ladder, such as holding with both hands and keeping the body within the siderails of the ladder.

(4) Scaffolds must be constructed to support at least four times the maximum intended load without failure.

(5) Platform planks must be laid with their edges close together so that there are no spaces large enough for tools or fragments of materials to fall through.

(6) Swing scaffolds must be lowered and lashed at the end of the shift.

(7) Access ladders or other safe means of access to all scaffolds must be provided.

(8) Standard handrails and toe boards must be provided on all scaffolds 10 feet or more in height.

(9) Tools or materials on scaffold platforms must be placed in such a manner that they will not create a tripping hazard or become dislodged and fall.

(10) Alterations to scaffolds must be re-

ported to the appropriate supervisor.

(11) Non Conductive ladders or scaffolds must be used when working on open energized electrical circuits.

k. Excavations

(1) Do not enter or work in excavations that will require a person's head to be below the level of the ground until:

(a) Obtaining a yellow PERMIT TO ENTER,

(b) Shoring or sloping the excavation to prevent sloughing of earth,

(c) Effectively storing or retaining excavated material at least two feet from the edge of the excavation and

(d) A ladder or ramp for safe entrance and exit has been provided.

(2) Guard or cover all excavations before leaving job, and during the job if practical.

(3) RED CONCRETE UNDERGROUND signifies the presence of an electrical circuit. Stop excavating and notify the Maintenance Supervisor and the Contract Administrator in case of contractor employees.

l. Connections Into Existing Pipelines, Equipment, or Service

After a tie-in has been made connecting new construction to existing lines, equipment, or sewers, the whole piping equipment or sewer system involved must be considered the same as existing lines and equipment; and applicable work permits must be obtained from the Chief Operator before additional work can be done on any of these lines or equipment. After new

sewers have been tied into the sewer system, any hot work in the area of the new sewer must terminate. Any further hot work requires a new HOT WORK PERMIT.

m. Railroad

(1) Constructing or placing any permanent or temporary obstructions closer than eight feet six inches horizontally from the centerline of the track or 22 feet vertically from any top of rail is prohibited without specific authorization from the Exxon Supervisor responsible for railroad trackage.

(2) Riding on railroad equipment is prohibited.

(3) Tank car ladders and hand irons must be used. Do not jump from loading rack to tank car, from car to car, or from car to ground.

n. Hoisting Equipment

(1) Keep clear of suspended loads.

(2) Hoisting equipment must be operated so as not to endanger other people or damage equipment in the operating area.

(3) Blocks, hooks, balls, or crane loads must not be ridden. Approved sling or bosun chair must be used.

(4) Loads suspended from mobile equipment must be secured to prevent swinging.

(5) Guy lines, mooring lines, or load lines must not be placed in such a position that they will tighten against operating equipment, pipelines, tanks, or machinery.

(6) Insulating swivels must be used on all bosun chairs or baskets when supporting a

welder.

o. Hazardous Materials

(1) Note locations of eyewash fountains and safety showers and know how they work.

(2) Labeled containers must be used for handling hazardous materials.

(3) Dismantled or relocated equipment that has been in "hazardous material" service must be identified by tagging or other physical marking.

(4) Solvents for cleaning purposes must be varsol, or other approved materials.

(5) High boiling point materials (above 700°F) from catalytic cracking operations or other highly aromatic or toxic materials are hazardous and precautions must be taken to prevent breathing of vapor or contacting the skin. If these oils do come in contact with the skin, they must be washed off promptly with soap and water.

(6) Appropriate Process Unit Instructions (PUI) or Mechanical Operating Practices (MOP) must be followed when working in areas where toxic materials are present.

p. Compressed Air — Yard System

(1) Compressed yard air must not be used to clean clothing or personnel except at outlets that are especially equipped to permit a maximum pressure of 30 psi.

(2) Compressed air must not be used to open plugged sewers.

(3) Compressed yard air must not be used for breathing purposes.

II-11

q. Warning Signs

Caution and warning signs must be obeyed including use of specified protective or safety equipment.

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

Observe the following in the transportation, storage, and use of compressed gas cylinders:

(1) Protective caps must be in place when cylinders not in use.

(2) Full cylinders (except chlorine) must be stored and transported in vertical position with caps on. Chlorine cylinders must be transported in the horizontal position. Separate oxygen cylinders in storage from fuel gas cylinders or combustible materials (especially oil or grease), a minimum distance of 20 feet or by a noncombustible barrier at least five feet high, having a fire-resistance rating of at least one-half hour.

(3) Holders, chains, or keepers must be used to prevent overturning.

(4) Empty cylinders, except acetylene, may be stored and transported in a horizontal position. Acetylene cylinders must be vertical at all times.

(5) Cylinders in a vertical position must be secured with a suitable keeper while connected to equipment.

(6) Pure oxygen and chlorine must not be allowed to contact hydrocarbons in any form.

(7) Rough handling of cylinders must be avoided.

(8) Oxygen or acetylene must not be used for testing purposes.

II-12

EXX 010767

(9) Hazardous compressed gases must not be released into enclosed spaces.

(10) Compressed bottled gases must not be used to clean clothing or personnel.

(11) Oxygen or acetylene cylinders must not be taken into enclosed spaces except into storage tanks where door sheet has been removed.

(12) Repair of leaking compressed gas cylinders must not be attempted. If cylinder can be moved, move to a safe location and allow to depressure itself. If it cannot be moved safely, clear area and allow the cylinder to depressure. If the cylinder is chlorine, evacuate the area and initiate procedure outlined in MOP-C4. If leak involves contractor cylinders, the Contract Administrator must be immediately notified.

s. Fire Prevention — Fire Fighting

(1) No one shall go to the scene of a fire unless directly involved or assigned to fire-fighting activities. Others not having operating duties shall evacuate the fire area. Contractor employees must proceed to a prearranged assembly area.

(2) Fire-fighting equipment access must not be blocked by traffic or other equipment.

(3) Electrical fires must not be fought with a solid stream of water. Water fog may be applied to an electrical fire only by an Exxon fire fighter.

t. Working In the Vicinity of Electric Lines

When it is necessary to operate cranes or derricks or perform other work within 10 feet of open electric lines (measured radially), the Maintenance Supervisor must consult the Utilities Chief Operator or the Contract Adminis-

trator in the case of contractor work to determine whether the electric lines can be deenergized. No work can proceed until the electric lines have been deenergized or until guards have been installed. Install approved guards when it is necessary to install guy lines across any electric lines to prevent guy lines from coming in contact with the electric lines. All work on open electric lines must be done in accordance with Mechanical Safety Procedure No. 8.

u. Refuelling Vehicles and Equipment

Dispensing gasoline and fuel must be done through a pump and hose. If not possible, approved (Underwriters Laboratory or Factor Manual approved container for flammable liquid) safety cans with flexible spouts must be used. Vehicles and equipment engines must be turned off during refueling.

v. Potable Water

Drink water only from potable water outlets or from authorized containers or drinking fountains.

w. Asbestos Cement Roof

When installing or working on an asbestos cement roof, workers must use a spreader board or roofer ladder to distribute their weight over a minimum of two purlins.

TRAFFIC SAFETY REGULATIONS

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

1. Equipment and Identification Required on Motor Vehicles

All motor vehicles in the Refinery must be in safe operating condition. When entering the Refinery,

all non-company 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: (a) brakes; (b) lights — two headlights, tail lights, brake lights; (c) horn; (d) muffler; (e) safety glass; (f) windshield wiper and rear-view mirror; and (g) turn signals. Vehicles having dual wheels must 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. Contractors' self-propelled, rubber-tired equipment must have contractor's name or insignia prominently displayed on both sides of the vehicle.

2. Driver's License

Persons operating motor vehicles in the Refinery must have a valid operator's (automobile) license as a minimum.

3. Warning Flags

Red flags must 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, must be obeyed; and drivers must cooperate with owner's security officers and others appointed to direct traffic.

5. "Road Closed" Signs

Areas blocked by traffic barriers and/or "road closed" signs are closed to all traffic. Follow procedure specified in PUI-55 for blocking Refinery streets.

6. Speed Limit

All vehicles must be operated within the Refinery's maximum speed limit of 30 miles per hour, unless a lower speed is posted.

7. Driving and Parking

Vehicles must 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 must 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 must not be parked so as to block or interfere with the use of fire hydrants or fire equipment.

8. Right-of-Way

All motor vehicles must give the 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 must pull to one side and be brought to a complete stop when approached from any direction by an ambulance or fire equipment and firemen. Ordinary driving courtesy must be practiced by all drivers of motor vehicles.

9. Passengers

a. Passengers must be limited to a reasonable number so that vehicles will not be overcrowded.

b. Drivers of motor vehicles must not permit passengers to ride on fenders, running boards, tops, or bumpers of motor vehicles. Passengers must keep all parts of their bodies inside the car or body of vehicles and must be seated while vehicle is in motion.

c. Drivers of mobile equipment must not permit passengers unless special accommodations have been provided.

d. Passengers must not get on or off a vehicle while it is in motion.

10. Vehicles Prohibited

Motor bicycles or motorcycles are not permitted inside the Refinery except to and from the designated "motorcycle only" parking areas provided near gates. Campers and recreational vehicles are not permitted in the Refinery if loaded with gear or if they are otherwise difficult to inspect. Pressurized fuel containers shall be disconnected from refrigerators, stoves, etc., when a camper or recreational vehicle is in the Refinery.

11. Vehicle Entry Into Processing Areas

Vehicles must not enter processing areas, including tank firewalls, without the permission of the Chief Operator or his designated representative.

EXCEPTION: Roadways through processing areas where entry is not prohibited by a sign or barrier may be used without permission of the Chief Operator.

12. Windshield or Window Obstruction

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

13. Failure To Comply With Regulations

Any person may have his in-plant driving privileges canceled or be subject to disciplinary action, or both, for failure to comply with these traffic regulations or for the improper use of his vehicle.

Section 3

CONTRACTOR'S SAFETY RESPONSIBILITIES

PURPOSE

The purpose of the personnel and equipment safety regulations contained in this section is to set out safety requirements for contractors, which are in addition to those contained in other sections of this manual. Each contractor must take any additional precautions necessary or proper under the circumstances to prevent injury or death to persons or damage to property.

SPECIAL DEFINITIONS

1. **Owner** - For purposes of these safety regulations, "owner" shall mean Exxon Company, U.S.A. (a division of Exxon Corporation).
2. **Contract Administrator** - The person assigned by the owner to assure contractor adherence to the contract provisions.
3. **Contractor** - The firm that has been contracted by the Exxon Company, U.S.A. to perform work at the Baytown Refinery. The term also includes those firms employed as subcontractors to the prime contractor.
4. **Maintenance Supervisor** - The Mechanical person, either Exxon or contractor, who has the authority to supervise the Mechanical work crew and the responsibility for their work execution. As used in this section, the Maintenance Supervisor refers specifically to the contractor first line supervisor.

RESPONSIBILITIES

1. **Contractor**, as an independent contractor, is responsible for performing work under the contract in a healthful and safe manner including protecting the safety and welfare of other contractors and the owner's personnel and equipment. 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.

- a. The contractor is responsible for informing his employees of the required safety rules and that the employees adhere to said rules.

- b. The prime contractor is responsible for assuring compliance with these regulations by all subcontractors and their employees. Contractor must notify its employees, its subcontractors, and the employees of its subcontractors of these provisions of the regulations and shall secure compliance therewith by all such parties; and contractor must not allow any of such persons to begin work inside the Baytown Refinery until such notification has been given them.

- c. Contractor must observe and comply with the Texas Occupational Safety Act (Article 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 apply to all subcontractors and their employees as well as to the contractor and its employees.

- d. Nothing contained in these regulations shall be interpreted to enlarge the legal duty of the owner to the contractor, his agents, employees, or subcontractors.

2. **Maintenance Supervisors** are responsible for the safe conduct of their jobs and for the safety of the persons under their direction. Specific supervisory responsibilities are contained in Section 1-2 of this manual. Each Maintenance Supervisor is responsible for assuring that each individual under his direction un-

MI-1

MI-2

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derstands and adheres to the safety rules contained in Section 1-2 of this manual.

3. Individual person doing work in the Refinery must assure himself that the work situation is safe and that he has the proper instructions, tools, and protective equipment. Each person must become familiar with and adhere to the safety rules contained in Section 1-2 of this manual.

4. Contract Administrator will monitor the contractor's performance to assure safe execution of the work specified in the contract. He will, on proper request, assist the contractor in dealing with other owner personnel to obtain safety permits and to implement other safety related procedures. He will insure that all contractor's Maintenance Supervisors are properly indoctrinated in the relevant safety regulations.

PROCEDURES

1. Work Execution

All work in processing areas must be performed with the approval of the Chief Operator responsible for the area. The Maintenance Supervisor must coordinate his work through the Chief Operator and must keep him informed as to the number, location, and activities of contract personnel. Any work performed after normal working hours and on weekends and holidays requires authorization by the owner. Such authorization will be obtained by the Contract Administrator.

2. Required Work Permits and Procedures

Before beginning any work in processing areas, an appropriate permit must be obtained from the Chief Operator or his designated representative. Required work permits and procedures are:

- a. Electrical Lockout Procedures - Section 4.
- b. Hot Work Permits - Section 5.
- c. Permit to Enter Enclosed Spaces - Section 6.

d. Opening or Blinding Permit - Section 7.

e. Cold Work Permit - Section 8.

Other work procedures may be specified in specialized work situations such as hot tap procedure, procedure for cleaning tanks, etc.

3. Oil and Chemical Spills

Any hydrocarbon or chemical spill, whether accidental or otherwise, must be reported to the Chief Operator and the Contract Administrator.

4. Connections Into Owner's Utilities Systems

Permission must be obtained from Contract Administrator prior to connecting into owner's utility system such as, but not limited to, water, air, nitrogen, and steam systems. Each connection shall be guarded by a check valve. When taking water from fire hydrants, the center valve must be opened completely.

5. Contractor's Equipment

a. All equipment brought into the Refinery by contractors must be in safe operating condition. Authorized owner personnel may at any time inspect contractor's equipment. Such inspection or failure to inspect does not relieve the contractor of its responsibilities for the safe condition of its equipment.

b. Equipment must be operated only by properly licensed persons.

c. Load limits for the San Jacinto Street overpass are a maximum axle load of 32,000 pounds and a maximum gross load of 72,000 pounds. A tandem axle load vehicle will be considered as being a single axle.

6. Working Over or Near Water

a. Ring Buoys with at least 90 feet of line must be readily available for rescue operations. Distance between ring buoys must not exceed 200 feet.

b. A life saving skiff must be immediately available

at locations where persons are working over or adjacent water.

7. Work Involving Use of Ionizing Radiation

Contractors must not perform any work involving the use of ionizing radiation without notification to the Exxon Supervisor in charge or the Contract Administrator. A COLD WORK PERMIT must be obtained to perform this type work in processing areas. Contractors must 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 energy surveys of contractor's equipment and their uses on owner's premises.

Section 4

ELECTRICAL LOCKOUT PROCEDURES

ELECTRICAL CIRCUITS AND ELECTRICALLY POWERED EQUIPMENT

PURPOSE

The purpose of these procedures is to protect anyone who works on either electrical circuits or electrically powered equipment from injury or death.

SPECIAL DEFINITIONS

Electrical circuits and electrically powered equipment do not include (1) lighting circuits for the purpose of relamping, (2) circuits of less than 100 volts, or (3) circuits that must remain energized. For circuits that must remain energized, a blue COLD WORK PERMIT may be required (see section 8).

RESPONSIBILITIES

1. Process person is responsible for isolating and preparing the equipment to assure it is in safe condition for mechanical work.
2. Person performing work is responsible for assuring himself that the equipment is safe for him to do his prescribed work, and that he has tagged and locked out the equipment in accordance with the electrical lockout procedures.
3. *Contractor Administrator is the contractor's contact with Process personnel for performing work under the electrical lockout procedure.*

PROCEDURE

1. **Lockout Procedures** — Before anyone works on electrical circuits or electrically powered equipment where they could be endangered, the

electrical supply must be turned off and locked out in accordance with the following procedures:

a. **Shut Equipment Down** — The Process person must shut the equipment down at the local start-stop switch or local "Hand-Off-Auto" switch. In case there are remote start-stop switches on this equipment, he must notify other operating personnel responsible for operating the remote start-stop switches and request that a white DO NOT OPERATE tag be placed on the start-stop switches. If the start-stop switch is located on a control panel, then it must be covered with a section of DO NOT OPERATE pressure-sensitive tape.

b. **Lock and Tag Disconnect Switch** — The Process person must turn the disconnect switch to the off position, lock it with a Process lock, and tag it with the white DO NOT OPERATE tag. If a Process or another person is to work on the equipment, the Process person must use a multiple lockout adapter. The Process operations lock must be in the position closest to the switch. All Process locks will be identical, and the same key will unlock all of them.

c. **Check Disconnect and Tag** — The Process person must try the local pushbutton station to be sure the correct disconnect switch is locked out. When the local control station is a "Hand-Off-Auto" selector switch the process person must lock the switch in the "Off" position. He must then tag the pushbutton or selector switch with a white DO NOT OPERATE tag.

d. **Enter in Log** — The Process person must enter the "lockout" in the Process log book.

e. **Apply Mechanical Lock** — Before mechanical work is performed on equipment, a mechanical lock must be applied by the person performing the work.

IV-1

IV-2

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(1) Mechanical Person — Each Mechanical person who works on the equipment must first add his own lock and a red DO NOT OPERATE tag on which he will write his name, skill, and the date. It is the responsibility of each person working on the equipment to assure his own safety by keeping his tag and individual lock on the disconnect switch while he works on the equipment. If two or more people in the same craft are working together on the equipment, only one mechanical lock and red DO NOT OPERATE tag are required. *If a contractor employee is doing the work, he must use an Exxon mechanical-type lock and the appropriate electrical lockout procedures tag obtained from the Contract Administrator. He must write on the tag his name and the name of the contractor firm.*

(2) Process Person — When a Process person is to perform work on the equipment, he must obtain his individual mechanical-type lock and key from the supply in the control room or center and then follow the above procedures in e(1).

f. Remove Lock and Tag — Locks and DO NOT OPERATE tags must be removed as follows:

(1) Remove Mechanical Lock and Tag — As each person finishes his work, he must remove his own lock and red DO NOT OPERATE tag. At the end of his work shift, he must remove his lock and tag whether his work is finished or not. This does not include the original Process lock or white DO NOT OPERATE tag.

(2) Remove Process Lock or Locks and Tags — The Process lock or locks must be the last to be removed. When the local control station is a "Hand-off-Auto" selector switch the lock on this selector switch must be the last removed. The Process person, after determin-

ing that it is safe to do so, must remove the Process lock or locks and white DO NOT OPERATE tags and must notify other operating personnel to remove the white DO NOT OPERATE tags or DO NOT OPERATE pressure-sensitive tape from remote start-stop switches. He must then enter the lock removal in the log book.

(3) Emergency Lock Removal — If it becomes necessary to remove a lock by other than the Mechanical person who installed it, only the Shift Superintendent is allowed to remove it. Upon removal of the lock, the Shift Superintendent must send a note to the Department Heads of the Process and Mechanical Departments stating whose lock was removed, where it was located, and why it was removed. A log of the same information must be maintained in the Shift Superintendent's office. A master key for the mechanical person's locks must be kept at the Shift Superintendent's office only.

2. Wiring Disconnect Procedures — For some types of work, the lockout procedure alone is not adequate. Such work includes, but is not restricted to, the following: (1) work on fans inside cooling towers, (2) work inside confined spaces containing electrically powered equipment such as mixers or filters or electrodes (desalters), and (3) work on equipment where the switch controls more than the one piece of equipment. In such cases, this wiring disconnect procedure must be followed:

a. Lockout Equipment — The disconnect switch must be locked out in accordance with the above lockout procedure in this section.

b. Check and Disconnect Circuit — After making sure the circuit is clear by checking with a

voltage tester, the Mechanical or Process person must disconnect the wires and tape them together.

c. Tag Circuit— The Mechanical or Process person must tag the disconnect switch with a yellow WIRING DISCONNECTED tag. On the tag, he must note where the wiring is disconnected and must sign and date the tag.

d. Remove Lock and Red DO NOT OPERATE Tag — After the wiring has been disconnected, and taped together, the Mechanical or Process person must remove his individual lock and red DO NOT OPERATE tag unless he must do other work on the equipment. Do not remove the yellow WIRING DISCONNECTED tag.

e. Wiring Reconnect — The Mechanical or Process person who reconnects the wiring must place his individual lock and red DO NOT OPERATE tag on the disconnect switch, reconnect the wiring, and then remove his lock and the red DO NOT OPERATE and yellow WIRING DISCONNECTED tags. *If a contractor employee is doing the work, he must obtain the required tags from the Contract Administrator and follow the above wiring disconnect procedures a through e. He must also include on the tags the name of the contractor's firm.*

3. Abnormal Condition Procedures — Conditions may exist that appear normal but actually are not. The following are examples of such abnormal conditions that require use of the orange ABNORMAL CONDITION tag. Such abnormal conditions include but are not limited to the following: (1) temporary power to equipment; (2) inside plastic handle broken off switch so outside handle will not operate switch; (3) one pushbutton inoperative but another will operate equipment; (4) a switch is left energized but a part of the equipment supplied by it is disconnected, such as

one out of several motor-operated valves (MOVs) supplied by one circuit breaker; and (5) a switch is off and tagged out but a separate circuit is still supplying power to the switch housing for controls, lights, heaters, etc.

a. Application of Orange ABNORMAL CONDITION Tag — Before a Mechanical Person leaves electrical equipment with temporary wiring connected or with any other abnormal condition existing, he must tag the equipment with orange ABNORMAL CONDITION tags; he must place one tag on the outside of the equipment and one inside on the wiring if it is practical to do so. He must describe the abnormal condition on the tags and must sign and date them. The abnormal condition must be entered in the log book. *If a contractor employee is doing the work, he must obtain the tags from the Contract Administrator and proceed according to a and b. In addition, he must also include on the tag the name of the contractor's firm.*

b. Removal of ABNORMAL CONDITION Tags — The tags must remain in place until the equipment has been returned to its normal condition. The Mechanical person who removed the temporary wiring or eliminates the abnormal condition must remove the tags and notify the Chief Operator responsible for the equipment, who must enter the action in the log book.

POWER LINES

PURPOSE

The purpose of these procedures is to protect anyone who works on or near power lines and on direct-connected Process equipment from injury or death.

SPECIAL DEFINITIONS

1. Power Lines — Those electrical lines that radiate

from generating stations and distribution substations.

2. Direct-Connected Process Equipment — A piece of electrical equipment on a Process unit supplied by a single power line having its electrical disconnect switch at an electrical substation or at a power plant.

3. Electrical Maintenance Supervisor — The Line Crew Supervisor or the Power Systems Maintenance Supervisor or their designated representative.

4. Utilities Chief Operator — The Process person responsible for the operation of the power system.

5. Electrical Mechanical Person — Any lineman, electrician, or Mechanical person working on the power system or on the direct-connected Process equipment.

6. Power Plant Process Person — The Process person who operates the power plant.

RESPONSIBILITIES

1. Electrical Maintenance Supervisor is responsible for requesting that power lines be removed from service and returned to service and for determining that the lines to be worked on are deenergized and tagged out.

2. Process Chief Operator or His Designated Representative is responsible for the removal and return to service of direct connected process equipment. He is also responsible for requesting the Utilities Chief Operator to deenergize the circuit serving the equipment and tag out.

3. Utilities Chief Operator is responsible for authorizing the removal and return to service of the power lines to be worked on.

4. Electrical Mechanical person is responsible for assuring himself that the equipment is safe for

him to do the prescribed work and that the following provisions of these procedures for which he is responsible are carried out.

5. Power Plant Process person is responsible for removing from service and returning to service power lines to be worked on and for properly tagging.

PROCEDURES

1. Procedure for Removing Power Lines or Direct-Connected Process Equipment from Service.

a. Request for Removal of Power Lines or Direct-Connected Process Equipment from Service: For power lines, the Electrical Maintenance Supervisor must make his request in person to the Utilities Chief Operator. For direct-connected Process equipment, the Process Chief Operator or his designated representative must request the Utilities Chief Operator for removal of these particular power lines from service. *If a contractor employee is to work on power lines or do electrical work on Process equipment, the Contract Administrator must make the arrangements for removing the lines from service and for returning them to service.*

b. Removal of Power Lines or Direct-Connected Process Equipment from Service: The Utilities Chief Operator must make the necessary arrangements with the Power Plant Process person to remove the power lines or the direct-connected Process equipment from service.

c. Check Circuit Removal before Work Begins: For power lines, the Utilities Chief Operator, the Electrical Maintenance Supervisor, and a representative of the group actually doing the work must personally observe that the line has been removed from service by

lowering the circuit breaker or opening the disconnect switches at each substation and power plant involved. They must then tag on the equipment by attaching the red LOWER LINE DISCONNECT tags filled out and signed by the Utilities Chief Operator and signed by the Electrical Maintenance Supervisor on the equipment at each substation or power plant involved.

If work is being done on a line by more than one group, then each group must be protected by separate red POWER LINE DISCONNECT tags.

For direct connected process equipment, the Process Chief Operator or his designated representative shall notify the Utilities Chief Operator that this equipment has been removed from service and is ready for tagging. The Utilities Chief Operator will proceed to the site of the direct connected equipment, where he will meet the Process Chief Operator or his designated representative and a representative of the group which will actually work on the equipment. The Process Chief Operator or his designated representative will fill out and sign a red POWER LINE DISCONNECT tag and personally give that tag to the Utilities Chief Operator, verifying the equipment is ready for tagging on. The Utilities Chief Operator will keep that tag, and along with the representative of the group which will actually work on the equipment he must then proceed to the electrical substation and observe that the circuit serving the equipment has been removed from service by lowering the circuit breaker or opening the disconnect switches. They must then tag on the appropriate circuit breaker with a red POWER LINE DISCONNECT tag filled out and signed by the Utilities Chief Operator

and the representative of the group which will actually work on the equipment. After completing that step, they must proceed to the Power Plant and tag on a red POWER LINE DISCONNECT tag filled out and signed by the Utilities Chief Operator and a representative of the group actually doing the work on the equipment to the remote switch serving the equipment. Finally, the Utilities Chief Operator and the representative of the group actually doing the work will return to the site of the direct connected process equipment and sign and tag on to the local start-stop switches the red POWER LINE DISCONNECT tag originally signed by the Process Chief Operator or his designated representative. After completing this procedure the work can begin.

In the case of contractor personnel the contractor's Supervisor and the Contract Administrator must accompany the Utilities Chief Operator in the inspection and the Contractor's Supervisor along with the Utilities Chief Operator must sign on the disconnect tags.

Before any work is done on an open power line up to and including 13,800 volts, the line must be checked with a voltage tester and a ground chain must be pulled across the line to assure that it is deenergized.

d. Return Power Lines or Direct-Connected Process Equipment to Service: To return a power line to service, the Electrical Maintenance Supervisor must personally report to the Utilities Chief Operator that the work has been completed and accompany the Utilities Chief Operator to the substations and main power plants and properly tag off the power lines by signing and removing the red POWER DIS-

CONNECT tags at the electrical substations and at the main power plants. The lines may then be energized by the Power Plant Process Operator.

In the case of direct connected process equipment, the Process Chief Operator or his designated representative must report to the Utilities Chief Operator that the work has been completed. The Utilities Chief Operator and a representative of the group actually working on the equipment will proceed to the site of the equipment and personally meet with the Process Chief Operator or his designated representative who will tag off the local start-stop switches by signing and removing the red POWER LINE DISCONNECT tag. He will give the tag to the Utilities Chief Operator who will also sign it, along with the representative of the group actually working on the equipment. The Utilities Chief Operator and the representative of the group actually doing the work must then proceed to the electrical substation and properly tag off the disconnect switches by signing and removing the red POWER LINE DISCONNECT tags. Finally, they must proceed to the Power Plant and tag off the remote control switch by signing and removing the red POWER LINE DISCONNECT tag from the remote control switch. The Utilities Chief Operator will keep the signed tags and notify the Process Chief Operator or his designated representative that the tag off procedure has been completed.

In the case of Contractor personnel the Contractor's Supervisor and the Contract Administrator must accompany the Utilities Chief Operator in the inspection and the Contractor's Supervisor along with the Utilities Chief Operator must sign off the disconnect tags.

2. Procedure for Working on or Adjacent 2,300-Volt Power Lines

a. Tag Power Lines — Before beginning work on live uninsulated 2,300-volt power lines or working adjacent to any live uninsulated power line, the Maintenance Supervisor or his designated representative must notify the Utilities Chief Operator about the nature and location of the work to be performed.

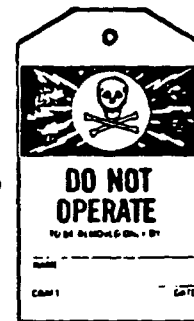
The Utilities Chief Operator must request the appropriate Power Plant Process person to attach a yellow CAUTION-PEOPLE WORKING ON THIS CIRCUIT tag to the switch or switches controlling the power lines. *In the case of contractor linemen, the Contract Administrator must contact the Utilities Chief Operator.*

b. In Case of Circuit Trouble — In the event of circuit trouble at the jobsite, the Mechanical Supervisor must immediately notify the Power Plant Process person. *In the case of contractor linemen, the Contract Administrator must contact the Power Plant Process person.* If any switch to which a tag is attached is tripped, it must not be reclosed until the Power Plant Process person is notified that it is safe to reclose.

c. Removal of Tags — Upon completion of the job, the Maintenance Supervisor who made the original request must notify the Power Plant Process person to remove the tags. *In the case of contractor linemen, the Contract Administrator must contact the Power Plant Process person.*



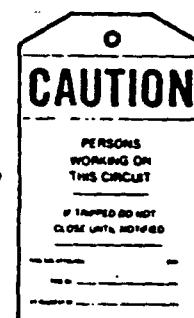
Red Tag



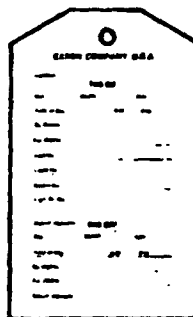
Red Lettering
On White Tag



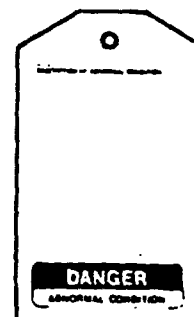
Yellow Tag



Yellow Tag



Orange Tag



Red Tag

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Section 5

HOT WORK PERMIT

PURPOSE

The purpose of this permit procedure is to protect personnel and equipment from fires and/or explosions that could result from hot work performed in a hazardous area. This section outlines minimum precautions for safety when performing hot work in any location not designated as a routine hot work area. In all such areas, a green HOT WORK PERMIT is required for all hot work.

SPECIAL DEFINITIONS

1. Hot Work — Any work requiring the use of burning, welding, or brazing equipment, explosives, open fires, portable grinders, unattended internal combustion engines, concrete busters, soldering irons, nonexplosionproof electric motors (including motor chippers, drills, and saws), nonexplosionproof floor or string lights, sandblasting, explosion-actuated tools, electric hot plates, or any other flame- or spark-producing equipment.

EXCEPTION: work on energized intrinsically safe circuits, electrical instruments and electrical power circuits covered under Cold Work Permits in Section 8.

2. Hot Tap — Any connection made to a pipeline or other equipment that is under pressure or has not been cleared and prepared for tapping using conventional construction methods.

RESPONSIBILITIES

1. Chief Operator is responsible for issuing the green HOT WORK PERMIT for his equipment. He or his designated representative must designate boundaries within which the permit applies and must insure that all necessary safety precau-

tions have been completed prior to the Chief Operator signing the permit.

When hot work is to be performed on equipment passing through or adjacent one processing area, but controlled from another, the Chief Operators from both processing areas are responsible for issuing the permit. This rule applies if the hot work to be performed is within approximately 50 feet of operating equipment. (Example: Oil Movements line in pipe rack adjacent a process unit.)

When hot work is to be performed on equipment in a non-processing area adjacent a processing area both the Chief Operator from the adjacent processing area and the Basic Equipment Owner of the non-processing area or his authorized representative are responsible for issuing the green HOT WORK PERMIT. (Example: road work adjacent a process unit.)

2. Maintenance Supervisor is primarily responsible for seeing that only the type of work covered by the permit is performed, and that conditions at the jobsite are safe for the scheduled work; also that hot work is confined to the area covered by the permit.

3. Safety Permit Inspector is primarily responsible for making the required gas tests and inspecting the jobsite for compliance with all applicable safety rules and standards.

4. Mechanical personnel performing the work are responsible for checking the green HOT WORK PERMIT to be sure it is current, valid, and properly signed by the Chief Operator, Mechanical Supervisor, and the Safety Permit Inspector. If any of the signatures are missing, work must not begin.

5. All persons at or near the hot work site must be constantly alert for any condition that could make

V-1

V-2

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hot work hazardous. If such a condition develops, all hot work and machines must be stopped at once. All personnel must immediately vacate the area and notify the Chief Operator or the nearest Process person of the hazardous condition. The green HOT WORK PERMIT is no longer valid and must be removed. All persons associated with the work must be notified. Before work may resume, a new green HOT WORK PERMIT must be issued. When Mechanical personnel leave the job (such as lunch break), they must check to see that conditions have not changed and the permit has not been removed before resuming hot work.

PROCEDURES

1. Area Other than Enclosed Spaces and on Marine Docks — For performing hot work in any area not designated as safe for routine performance of hot work, the following requirements apply:

a. Hot Work Planning — The Maintenance Supervisor will advise the Chief Operator of the nature and location of the hot work to be performed as well as the proposed timing. Normally this should be done at least one day before hot work is scheduled to begin.

b. Preparing for Hot Work — The Chief Operator will work with the Maintenance Supervisor to see that the area is prepared properly for hot work. The Chief Operator will see that the following work is completed and checks performed before the Safety Permit Inspector is called:

(1) Clearing and Blinding — Check to make sure all blinding and clearing of equipment necessary for execution of hot work is completed. If any blinding is required, make sure a blinding list has been prepared. All opening and blinding that requires white OPENING OR BLINDING PERMIT must be done

in accordance with Section 7 of this manual.

(2) Remove Flammable Material — Check to make sure that no flammable liquids or solids are spilled or trapped in or around equipment at the site of the proposed hot work.

(3) Prepare Sewers — Cover all sewer catch basins and manholes in vicinity of hot work. Catch basins containing flammable material must be flushed with water before covering. Also, check for and seal off sewer vents in the area that may present a hazard.

(4) Remove Trash — Remove other flammable materials such as trash, wood, or dry grass. Where hot work is to be carried out over dry grass, the area must be saturated with water before performing hot work, and a water hose left connected and readily accessible.

(5) Provide Fire-Fighting Equipment — Make sure that adequate fire-fighting equipment is at the jobsite. At least one fully charged fire extinguisher of a type and size designated as suitable must be provided where hot work is to be performed.

(6) Make Surrounding Area Safe — Check surrounding area for possible release of flammable vapors in the hot work area. Such things as safety valve discharges, leaks from pumps and/or compressors, valve packing leaks, etc., must be identified and necessary corrective action taken.

(7) Prepare for Hot Taps — For hot taps or other jobs requiring hot work on equipment in service, all requirements of the "Hot Tap Procedure Safety Standard" (Mechanical Division Safety Procedure No. 11) must be satisfied. Before the green HOT WORK PERMIT can be issued, the checklist attached

to the above mentioned standard must be completed. The Chief Operator must make sure that his Operating Supervisor has approved the work to be done and so note in the space provided on the back of the permit. Also, he must see that the Mechanical Engineering Department Inspector has checked for adequate metal thickness and initialed the space provided on the back side of the tag.

(8) Check Other Work in Area — The Chief Operator must check for active white OPENING OR BLINDING PERMITS in the area of the hot work. A HOT WORK PERMIT must not be issued if work associated with existing white OPENING OR BLINDING PERMIT could create a hazard by spill or gas release. All openings from which release of flammable material could occur are to be considered hazardous. The area of concern must cover the geographical limits where there is a remote possibility that sparks from hot work could come in contact with flammable materials from any opening. If such a possibility exists in the proposed hot work area, the white OPENING OR BLINDING PERMIT must be killed. The green HOT WORK PERMIT shall not be issued until all openings from which flammable material could be released are blinded, and the area is cleared of flammable liquid or vapor.

(9) Provide for Overhead Hot Work — When hot work is to be performed in overhead locations, a suitable method for catching hot metal, electrode stubs, etc., must be provided where these materials would cause a fire hazard or when they would create a safety hazard when work is going on below.

(10) Safe Location of Welding Equipment — When electric welding is to be performed, the ground lead connection must be at-

tached at a point within the area covered by the permit. The welding machine must be in the same area or an adjacent area approved for nonrestricted movement of motorized equipment.

c. Filling Out Green Card — After completion of all items covered in b above, the Chief Operator or his designated representative must double check the hot worksite. He and the Maintenance Supervisor will determine if a standby man or other special precautions are necessary. The Chief Operator or his designated representative will then fill out the green HOT WORK PERMIT and the checklist on the back side of the tag.

d. Maintenance Supervisor Site Inspection — The Maintenance Supervisor must also inspect the site to make sure all necessary work and checks have been completed. His signature on the green HOT WORK PERMIT indicates he checked the work area and agrees all is safe for hot work.

e. Safety Permit Inspector/Chief Operator Site Inspection — When all is considered ready by both the Chief Operator and Maintenance Supervisor, the Safety Permit Inspector shall be called for gas tests and a final inspection of the worksite. The Safety Permit Inspector shall perform gas tests for explosivity and/or oxygen deficiency and/or toxic materials depending on the nature of the job. The Safety Permit Inspector and the Chief Operator must inspect the site together before the permit can be issued. The Safety Permit Inspector signifies all is safe for hot work by signing the green HOT WORK PERMIT. The Chief Operator then signs the permit signifying that hot work can begin.

f. Permit Duration and Disposition — Before the green HOT WORK PERMIT is issued, the

V-5

V-6

EXX 010783

Chief Operator, Maintenance Supervisor, and Safety Permit Inspector must agree on the expiration time and note same in the space provided on the permit. This decision on duration as well as disposition of the permit copies must be in accordance with the following guidelines:

(1) **Eight-Hour Permit** — Permits to do hot work in or around processing areas where flammable or toxic materials exist are normally eight-hour permits. Such a permit is good for the shift in which it was issued. It can be continued into the next mechanical shift only after the Chief Operator and Maintenance Supervisor for the new shift have inspected the site and are confident no changes have taken place. If there is any question, the Safety Permit Inspector must be called for a gas test. Hot work on the new shift must not begin until the Chief Operator and the Maintenance Supervisor have signed the cardboard portion of the green permit. They must also sign the control center copy. If work continues into the third shift, the same procedure must be followed. Eight-hour permits are void at the end of 24 hours, and a new permit must be issued including job site inspection by the Safety Permit Inspector along with required gas tests.

When a green HOT WORK PERMIT is issued: (1) the cardboard portion must be placed in a conspicuous location at the jobsite by the Chief Operator or his designated representative; (2) the original copy is to be given to the Safety Permit Inspector for his file; and (3) the carbon copy kept in the Process permit files. Upon expiration of the permit, the cardboard portion of the permit must be removed from the jobsite and filed along with the carbon copy in the Process file. Both copies must be retained for at least 24 hours after expiration and then discarded.

V-7

(2) **'Drop Card'** — For some jobs where hot work is in an area where there is no nearby equipment in flammable or toxic service or in offsite areas where there is virtually no chance of hazard from flammable or toxic materials, a "drop card" may be used. Examples of such jobs are: (1) work in a unit that contains no flammable or toxic materials; (2) work in or adjacent a cleaned tank where no other tanks or equipment are within the same firewall; and (3) work adjacent an offsite pipe rack where no hazard from flammable or toxic materials exist. For such jobs, The Chief Operator is not required to inspect the job with the Safety Permit Inspector. The Safety Permit Inspector may visit the site and make gas tests as deemed necessary before the work shift begins and presign the green HOT WORK PERMIT. All other requirements for the "drop card" shall be the same as the "eight-hour" permit.

(3) **Job Completion** — Under certain conditions, a green HOT WORK PERMIT may be issued for the job duration. In general, it is when the job conditions at and surrounding the work area will not change and create a flammable or toxic material hazard. Examples of such jobs are: (1) construction of a new Process unit; (2) a field pipe fabrication shop in an open area; (3) construction of a new tank in an open area; and (4) during turnarounds when oil, gas, and chemical lines are blinded at the unit limits. The cardboard portion of the permit must be placed at the Maintenance Supervisor's jobsite office. The Safety Permit Inspector will keep the original on file and the carbon copy must be kept in the Process permit file. The Operating Supervisor must approve all job completion permits including contract jobs.

V-8

EXX 010784

g. Hot Work Authorization — Only after all of the above items have been completed and green HOT WORK PERMIT has been signed by the Chief Operator, Maintenance Supervisor, and Safety Permit Inspector is hot work authorized. After the Chief Operator or his designated representative has personally hung the cardboard portion of the permit in a conspicuous location at the job site, hot work can begin.

2. Marine Docks — For performing hot work on or under Marine Docks, all provisions given in the basic procedure above shall apply. In addition, the following work shall be completed and checks made before a green HOT WORK PERMIT can be issued.

a. Safe Tide Level — When hot work is to be performed under a dock, the tide level must be below any pipelines at the water level to prevent trapping oil between the pipelines, thus eliminating a possible source of combustible material.

b. Avoid Falling Materials — The hot work area must be isolated to prevent molten metal and/or any combustible material from falling into the water.

c. Remove Grating — Grating in the fender system must be removed in the hot work area when work is to be performed under a dock.

d. Secure Coast Guard Approval — The Docks' Operating Supervisor must secure approval of the Houston Coast Guard Port Captain prior to any hot work.

e. No hot work can be performed on any dock while a ship is berthed at that dock.

EXCEPTION: At Dock No. 1, hot work will be permitted 150 feet or more from vessels handling materials with a flash point of above 150F.

3. Enclosed Spaces — For performing hot work in enclosed spaces, all provisions given in the basic procedure above apply. In addition, the following work must be completed and/or checks made before a green HOT WORK PERMIT can be issued:

a. Obtain Yellow PERMIT TO ENTER — Before many of the items listed in the basic procedure above can be done, it is necessary to enter the enclosed space. A yellow PERMIT TO ENTER is required to initially enter the enclosed space where hot work is to be done. Once the necessary requirements have been met and a green HOT WORK PERMIT has been issued, no yellow PERMIT TO ENTER tag is required as long as a valid green HOT WORK PERMIT is in effect.

b. Other Requirements for Hot Work in Enclosed Spaces — After entry is made into the enclosed space, applicable portions of the basic Procedure above can be completed. In addition, the following must be performed and/or checks made before a green HOT WORK PERMIT can be issued:

(1) No Cylinders In Enclosed Spaces — Cylinders containing any type of flammable material must not be placed in an enclosed space where hot work is to be done.

EXCEPTION: In storage tanks where door sheets have been removed.

(2) Thoroughly Clean — The enclosed space, including all internals, must be thoroughly cleaned and made safe for hot work. This includes freeing the container of all flammable gases, liquids, and solids as well as inert atmospheres and toxic materials.

(3) Provide Adequate Ventilation — A fresh air ventilation system must be provided and shall be adequate to remove fumes and gases created by the proposed hot work. If ade-

quate ventilation is not possible, suitable respiratory protection must be used.

SPECIAL REQUIREMENTS

1. Work on Tank Cars — Hot work must not be done on tank cars while located at a loading rack.

2. Venting Hollow Equipment — Before burning into or heating any hollow vessel or equipment such as ball floats, pistons, impellers, vessels, pipes, valves, fittings, or similar equipment that has been in service of any kind, the vessel or equipment must be properly vented (unless the operation is performed under controlled conditions so that any over-pressuring will be avoided).

3. Gas Hoses In Confined Spaces — When gas hoses are used in connection with welding and/or burning in an enclosed space, the hoses must either (1) be removed from the enclosed space or (2) disconnected at the regulators at any time when positive ventilation is discontinued. A torch or other gas-consuming device must never be removed from a hose while inside a confined space. When torches are left unattended (such as lunch period, shift change, etc.), the gas supply must be positively shut off at a point outside the enclosed space or the hoses disconnected at the regulators.

4. Establishment of Smoking Permits—Requires written approval by the appropriate Department Head. Procedures for obtaining this approval are given in the Mechanical Operating Procedures Manual (S-13) and the Process Operating Practice Manual (S-6).

S. Hot Work by Process — When hot work is to be performed by Process personnel, the Chief Operator will assume the responsibilities and functions of the Maintenance Supervisor including signing the green Hot Work Permit in space marked Maintenance Supervisor.

DISPLAY PERMIT  AT JOB SITE

HOT WORK PERMIT

EXXON COMPANY, U.S.A.

BAYTOWN REFINERY

LOCATION

EQUIPMENT

DATE ISSUED

PERMIT EXPIRES

SPECIAL PRECAUTIONS

A.M.

P.M.

A.M.

P.M.

AUTHORIZATION

DATE

TIME

SAFETY TEAM INSPECTOR

A.M.

P.M.

CHIEF OPERATOR

A.M.

P.M.

MAINTENANCE SUPERVISOR

A.M.

P.M.

CHIEF OPERATOR

A.M.

P.M.

MAINTENANCE SUPERVISOR

A.M.

P.M.

CHIEF OPERATOR

A.M.

P.M.

MAINTENANCE SUPERVISOR

A.M.

P.M.

DO NOT WRITE

NOTE: Return List to Chief Operator upon completion or at end of mechanical shift.

Green Tag

EXX 010786

Section 6

PROCEDURE FOR ENTERING ENCLOSED SPACES

PURPOSE

This procedure is designed to protect personnel against such hazards as oxygen deficiency, toxic materials, flammable substances, and power-driven equipment when working in enclosed spaces. A yellow PERMIT TO ENTER tag is required to enter any enclosed space. If hot work is to be performed in an enclosed space, a yellow PERMIT TO ENTER tag is required to initially enter the enclosed space. This procedure is to be considered the minimum precautions for the safety of personnel entering enclosed spaces.

SPECIAL DEFINITIONS

1. Enclosed Space — Any space that can be closed or has restricted entry or exit, such as vessels, tanks, boilers, furnaces, etc. Also included are confined spaces, such as pits, sewers, excavations, where the heads of workmen are below the top of the confined space.

2. Oxygen Deficiency — Any atmosphere that has oxygen concentration of less than 19.5 percent.

3. Standby — The person designated by the Chief Operator and/or the Maintenance Supervisor to warn persons in enclosed spaces of hazardous or emergency conditions that could affect their safety.

RESPONSIBILITIES

1. Chief Operator is responsible for issuing the yellow PERMIT TO ENTER for entry into enclosed spaces in his processing area. He or his designated representative is responsible for insuring that all necessary safety precautions have

been completed prior to issuance of the permit. The Chief Operator must sign the yellow PERMIT TO ENTER tag certifying that all requirements have been met.

2. Maintenance Supervisor is responsible for obtaining the yellow PERMIT TO ENTER and assisting in final preparation of the enclosed space for entry. He must inspect the area and sign the tag to indicate his approval of the required safety precautions. He must see that all proper job safety precautions are followed and be alert for changing conditions that might affect the safety of the job.

3. Safety Permit Inspector is responsible for making the necessary gas tests for explosivity, safe oxygen level, and safe toxic material levels. He will also inspect the jobsite for compliance with all applicable safety rules and standards.

4. Individual, before entering an enclosed space, shall assure himself that the necessary safety preparations have been made and that a current yellow PERMIT TO ENTER, properly filled out and signed by the Chief Operator, the Maintenance Supervisor, and the Safety Permit Inspector, has been posted at the job site.

5. Standby is responsible for assuring the well-being of persons working in enclosed spaces when breathing equipment is in use or when conditions are such that outside warning may be necessary.

PROCEDURE

1. Entering an Enclosed Space Without Protective Equipment

a. Preparing Enclosed Spaces for Entry — The Chief Operator will see that the enclosed space is emptied and purged in preparation for opening. Process personnel may also physically disconnect or blind the enclosed space in accordance with Section 7.

VI-1

VI-2

EXX 010787

b. Requesting PERMIT TO OPEN OR BLIND — The Maintenance Supervisor will request a white OPENING OR BLINDING PERMIT from the Chief Operator in accordance with provisions of Section 7.

c. Isolating the Enclosed Space — If not already done by Process, the Maintenance Supervisor will insure that all connecting lines to the enclosed space are physically disconnected or blinded at a point as near to the enclosed space as is safely practical. Double block valves with an intervening bleeder are not considered equivalent to a blind where personnel bodily enter the space.

EXCEPTION: In steam, water, and air service where no blinding points exist, isolation valves shall be chained and locked with Mechanical locks to prevent opening.

d. Immobilizing of Power-Driven Equipment — Before entry, the Maintenance Supervisor will arrange for electrical equipment to be immobilized in accordance with the electrical lockout procedure. The power supply to other equipment driven by air, steam, internal combustion engines, or hydraulic fluid shall be blinded or disconnected.

e. Cleaning and Establishing Ventilation of Enclosed Space — The Maintenance Supervisor will have the space cleaned and if necessary, place in operation a fresh air ventilating system.

EXCEPTION: No forced ventilation system is required where a natural draft is established and the Chief Operator, Maintenance Supervisor, and Safety Permit Inspector agree that entry is safe.

f. Gas Testing the Atmosphere of the Enclosed Space — The Safety Permit Inspector must satisfactorily test for explosivity, oxygen defi-

ciency, and toxic materials.

(1) **Explosivity** — Entry will not be permitted unless the test indicates a safe range.

(2) **Oxygen Deficiency** — Entry will not be permitted unless oxygen concentration is greater than 19.5 percent.

(3) **Toxic Materials** — Entry will not be permitted unless test indicates a safe range. Additional checks are to be made as work proceeds in the enclosed space if a possibility of release of fumes or depletion of oxygen exists.

g. Standby Requirement — A standby must be required and noted on the yellow PERMIT TO ENTER when the Chief Operator and/or the Maintenance Supervisor determines that an unsafe condition may develop during the course of the work. The standby shall be equipped with a standby kit, a Claxon horn, and a unit radio for communication.

h. Issuance of PERMIT TO ENTER — When the Maintenance Supervisor and Safety Permit Inspector are both satisfied that all requirements and safety precautions have been completed satisfactorily, each must complete applicable portions of the checklist and sign the permit. The Chief Operator will complete and sign the permit signifying that entry can be made. He will then post the cardboard portion of the permit in a conspicuous location at the jobsite and file the original paper portion in the Process permit file.

i. Permit Duration and Disposition — A yellow PERMIT TO ENTER will have the same requirements for duration and disposition as a green HOT WORK PERMIT except that no "drop card" type permits will be allowed. Job completion permits will be allowed provided

work in the enclosed space is continuous.

2. Entering an Enclosed Space with Protective Equipment

Enclosed spaces to be entered with protective equipment must be emptied, cleaned of hazardous materials, and purged, insofar as practical, prior to entry. It must be physically isolated and all power-driven equipment immobilized as required in Procedure 1 above.

a. Required Tests — A yellow PERMIT TO ENTER will be issued only when the atmosphere in the enclosed space meets the following tests:

(1) Explosivity — Entry will not be permitted unless the test indicates a safe range.

(2) Oxygen Deficiency — If oxygen level is below 19.5 percent, entry will be permitted only with a pressure-demand, hose-line air mask.

(3) Toxic Materials — Entry will be permitted only with appropriate protective equipment.

Additional checks are to be made as work proceeds in the enclosed space if a possibility of release of fumes exists.

b. Required Protective Equipment — All personnel entering enclosed spaces must wear protective equipment appropriate for the hazard involved. Use of respiratory masks and other protective equipment (such as rubber suits, goggles, gloves, etc.) inside closed spaces is to be determined by the Chief Operator, the Maintenance Supervisor, and the Safety Permit Inspector and indicated on the yellow PERMIT TO ENTER permit. The cardboard section of the permit must be posted at a conspicuous location at the jobsite. In the case of oxygen-deficient atmospheres, pressure-demand, hose-line air masks with self-contained life lines must be

used and Operating Supervisor approval obtained for entry.

A standby is required when personnel are required to wear pressure-demand, hose-line air masks inside an enclosed space or the situation is such that outside warning is necessary. Scott Air-Paks are permissible in place of the pressure-demand, hose-line air masks for emergency or rescue use where life is in immediate danger.

3. Duties of Standby

a. Accounting for personnel working in the enclosed space.

b. Preventing fouling of air or life lines.

c. Being alert for hazards to workers.

d. Providing normal assistance in handling materials, tools, messages, etc.

e. Evacuating the enclosed space in case of fire or disaster alarm.

f. Being well trained in the operation of respiratory equipment and administering of artificial respiration.

g. Maintaining an adequate air supply.

h. The standby should never attempt to enter the enclosed space even in an emergency until help has arrived.



VI-5

VI-6

EXX 010789

SPECIAL REQUIREMENTS

1. Entry to Prepare for Hot Work — A yellow PERMIT TO ENTER is required to initially enter an enclosed space where hot work is to be performed. Once the necessary requirements have been met and a green HOT WORK PERMIT has been issued, no yellow PERMIT TO ENTER is required as long as a valid green HOT WORK PERMIT is in effect.

2. Entry by Process without Mechanical Involvement — When entry is made by Process personnel without mechanical personnel involvement, the Chief Operator will assume the responsibilities and functions of the Maintenance Supervisor including signing the yellow PERMIT TO ENTER in the space marked Maintenance Supervisor.



DISPLAY PERMIT AT JOB SITE

PERMIT TO ENTER

EXXON COMPANY, U.S.A. DAYTOWN REFINERY

LOCATION: _____

EQUIPMENT: _____

DATE ISSUED: _____ A.M.

PERMIT EXPIRES: _____ P.M.

SPECIAL PRECAUTIONS: _____

PROTECTIVE EQUIPMENT REQUIRED: _____

AUTHORIZATION	DATE	TIME
SAFETY PERMIT INSPECTOR		A.M. P.M.
CHIEF OPERATOR		A.M. P.M.
MAINTENANCE SUPERVISOR		A.M. P.M.
CHIEF OPERATOR		A.M. P.M.
MAINTENANCE SUPERVISOR		A.M. P.M.
CHIEF OPERATOR		A.M. P.M.
MAINTENANCE SUPERVISOR		A.M. P.M.

REMARKS: _____

NOTE: Return Log to Chief Operator upon completion or at end of mechanical shift.

VI-7

Yellow Tag

EXX 010790

Section 7

OPENING AND/OR BLINDING PERMIT

PURPOSE

This permit procedure is designed to prevent accidents by insuring adequate communications between Process and Mechanical Personnel when opening and/or blinding equipment in a processing area. A white OPENING OR BLINDING PERMIT shall be obtained before beginning such work.

SPECIAL DEFINITIONS

1. Opening — Exposing the interior of any processing equipment, including piping, to the atmosphere. This includes removing covers, breaking flanges, pulling header plugs, etc. It does not include draining or venting through a valve.

2. Blinding — Installing temporary slip blinds into piping or blind flanges onto equipment to isolate or close for mechanical work.

RESPONSIBILITIES

1. Chief Operator is responsible for issuing the white OPENING AND/OR BLINDING PERMIT. He or his designated representative has the responsibility for preparing the equipment, determining if the surrounding area is safe for the proposed work, and listing any special safety precautions required.

2. Maintenance Supervisor is responsible for seeing that a permit is secured to perform work involving opening or blinding. He is also responsible to see that Mechanical Personnel work within the limits of the permit and that all stipulated safety precautions are taken.

PROCEDURES

1. Requesting Permit — The Mechanical Supervisor or his designated representative must request a permit from the Chief Operator.

2. Initiating Safety Inspection — The Chief Operator or his designated representative must perform a safety inspection of the area. He must check for other active permits, prepare the equipment, and identify all locations to be opened. If blinding is required, he must also prepare a blinding list.

3. Blinding Requirements — Generally all opened equipment must be blinded for hot work (see Section 5), for entering (see Section 6), and opened piping left unattended. The installation and removal of slip blinds and blind flanges (except daily closure blinds) shall be recorded on the blinding list.

Specific blinding requirements and exceptions are as follows:

a. Pumps — Minor repairs, such as small piping and seal replacement, may be performed without blinding provided (1) the suction and discharge valves are tightly closed and tagged with "DANGER — DO NOT OPEN" tags, (2) the case has been depressured through bleeders, (3) the driver has been properly immobilized, and (4) the work can be completed in one shift.

Pumps taking suction on vessels operating below atmospheric pressure must be blinded on the suction side.

b. Compressors — Minor repairs, such as cover plate gasket and valve replacements and bearing inspections may be performed without blinding provided (1) the compressor can be isolated by block valves, (2) block valves are tagged with "DANGER — DO NOT OPEN"

VII-1

VII-2

EXX 010791

tags, (3) the case is depressured through bleeders, (4) the driver has been properly immobilized, (5) the work is continuous until completion, and (6) no more than one cover plate and valve is open at any time.

c. Drivers — To perform major work on drivers, the driven end must be disconnected or blinded. Additional isolation must be as follows:

(1) Electric motors must be immobilized, using Electrical Lockout Procedure (see Section 4).

(2) Gas engines must be blinded and the fly wheel blocked.

(3) Combustion turbines must have fuel lines blinded and the auxiliary motors immobilized.

(4) Expansion gas turbines must be blocked by closing the inlet and exhaust valves, tagging the valves with "DANGER — DO NOT OPEN" tags, and depressuring through bleeders.

(5) Steam turbines must be blocked by closing the inlet and exhaust valves, tagging the valves with "DANGER — DO NOT OPEN" tags, and opening bleeders.

d. Piping — Unattended open Piping must be isolated with slip blinds or closed with blind flanges.

EXCEPTION: Lines in water and air service of less than 100 psig may be left unattended without blinding.

e. Vessels — Isolation blinds must be installed as close to the vessel as safely practical and in a manner to insure that no liquid or vapor can be trapped between the blind and vessel.

4. Preparing Blinding List — Before blinding begins, Process Personnel must prepare a blinding list indicating the size and location for all slip blinds and blind flanges to be installed.

5. Issuing Permit — Process and Mechanical Personnel must make a safety tour of the job site, identify and mark the places to be opened and/or blinded, and review the limitations and safety requirements stipulated on the permit. When both Process and Mechanical Persons are satisfied that no green HOT WORK PERMIT is in effect and the task can be safely accomplished, then both will sign the permit.

The Process person must post the cardboard portion in a conspicuous place at the job site and file the original copy in the permit file.

EXCEPTIONS:

Process Personnel — Mechanical work by Process may be done without a written permit provided the Chief Operator has authorized the work.

Dock Personnel — Marine hookups on the dock may be performed by the Dock Connection Crew working under the direction of the Chief Operator without a written OPENING OR BLINDING permit.

6. Blinding — The Mechanical Person must record each slip blind installed by signing and dating the blinding list. At the completion of the blinding list or at the end of the shift, the blinding list must be returned to the Chief Operator or his designated representative.

7. Duration of Permit — The permit is issued for one Mechanical shift. The permit must be signed and dated by the Mechanical Person and returned to the Chief Operator or his designated representative at the completion of the job or at the end of

the shift. The permit may be extended into the next shift by both Process and Mechanical signing the extension block. No blinding permit shall be valid for more than 24 hours. An opening permit may be issued for duration of turnarounds provided all oil, gas, and chemical lines are blinded at the unit limits.

8. Removing Blinds — The removal of blinds requires another permit unless the installation and removal work is continuous and completed within 24 hours. The Process Person issuing the permit and the Mechanical Person accepting the permit must tour the area and physically identify the blinds to be removed. The Mechanical Person must sign and date the blinding list as each slip blind and blind flange is removed. After the last blind has been removed or at the end of the Mechanical shift, the Mechanical Person must sign and date the cardboard portion and return both the permit and blinding list to the Chief Operator.

9. Filing of Permits and Blinding Lists — Each permit must be filed for 24 hours after its expiration and then discarded. Blinding lists must be filed until all blinds have been removed. The blinding list may be discarded 24 hours after the last blind is removed.

WHITE TAG

OPENING OR BLINDING PERMIT

TO BE COMPLETED BY THE PROCESS PERSON

DATE: _____ TIME: _____

LOCATION: _____

DESCRIPTION OF WORK: _____

ISSUED BY: _____

ACCEPTED BY: _____

EXTENSION BLOCK: _____

White Tag

BUFF TAG

BLINDING LIST

TO BE COMPLETED BY THE MECHANICAL PERSON

DATE: _____ TIME: _____

LOCATION: _____

DESCRIPTION OF WORK: _____

ISSUED BY: _____

ACCEPTED BY: _____

EXTENSION BLOCK: _____

Buff Tag

Section 8

COLD WORK PERMIT

PURPOSE

This permit procedure is designed to prevent accidents by giving Process Personnel control over cold work activities taking place in their processing area. To insure proper communications between Process and Mechanical, a blue COLD WORK PERMIT must be completed before work is started in a Process area.

SPECIAL DEFINITIONS

1. Cold Work — Any mechanical work on processing equipment including work on intrinsically safe circuits and energized electrical instruments and electrical power circuits that does not involve opening, blinding, entering, hot work, or electrical lockout.

RESPONSIBILITIES

1. Chief Operator or his designated representative is responsible for approving blue COLD WORK PERMITS. He or his designated representative is responsible for insuring that all safety precautions have been completed prior to issuance of the permit.

2. Maintenance Supervisor or his designated representative has the responsibility for initiating the blue COLD WORK PERMIT and securing approval from Process personnel. He is responsible for seeing that only the work authorized by the permit is performed.

PROCEDURE

1. Initiating COLD WORK PERMIT — The Mechanical Person in charge of the work group assigned to perform mechanical work in a processing area must fill in the date, time, area,

equipment, and description of work on the blue COLD WORK PERMIT. He will then contact the Chief Operator and secure approval before starting to work.

EXCEPTIONS: Blue COLD WORK PERMITS are not required:

a. When Process Personnel are performing mechanical work.

b. When the Dock Connection Crew is working in the dock area under instructions from the Chief Operator.

c. When instrument technicians and electricians who are regularly assigned to the processing area perform routine work authorized by the Chief Operator.

NOTICE: A COLD WORK PERMIT is required to work on energized electrical instruments and electrical power circuits above 100 volts.

d. When Technical, Safety Permit Inspection, or Laboratory personnel perform sampling and/or test work authorized by the Chief Operator.

e. When janitors perform janitorial-type work in the processing area.

f. When contractor employees take work direction from Process Personnel.

g. When Mechanical performs cold work in preparation for the issuance of other work permits on the same shift. Samples of such work are covering sewers, hooking up hoses, securing fire-fighting or safety equipment, hanging tarps, electrical lockout, etc.

h. When oil, gas and chemical lines are blinded at unit limits during unit turnarounds and work is being performed in accordance with the turnaround procedure.

2. Making Safety Inspection — The Process Person designated to approve the permit must assure himself that the conditions at the job site are safe for the work. He must determine if a gas test is required and may make the gas test himself.

3. Issuing Permit — When both Process and Mechanical Persons are satisfied that the work can be safely performed in the area, each must sign the permit.

4. Posting Permit — The Mechanical person must display the cardboard portion in a conspicuous place at the job site. The Process Person must file the original portion in the permit file.

5. Duration of Permit — Blue COLD WORK PERMITS are issued for one mechanical shift. At the end of the shift or at job completion, whichever comes first, the Mechanical Person must sign the permit and turn it in to the Chief Operator. The permit must be filed for 24 hours after its expiration and then discarded.

6. Extension of Permit — The permit may be extended by determining that the job conditions remain unchanged and by both Process and Mechanical signing the permit. No permit shall be extended beyond 24 hours' total duration.

DISPLAY PERMIT		AT JOB SITE	
COLD WORK PERMIT			
EXXON COMPANY, U.S.A.		BAYTOWN REFINERY	
LOCATION _____			
EQUIPMENT _____			
DESCRIPTION OF WORK _____			
Hazard Test Required? YES/NO _____			
Special Precautions _____			
DATE ISSUED _____		PERMIT EXPIRES _____	
REQUESTED BY MECHANICAL _____		APPROVED BY PROCESS _____	
JOB COMPLETED _____		DATE EXTENDED _____	
MECHANICAL _____		PROCESS _____	
JOB COMPLETED _____		DATE EXTENDED _____	
MECHANICAL _____		PROCESS _____	
JOB COMPLETED _____		DATE EXTENDED _____	
MECHANICAL _____		PROCESS _____	
RETURN PERMIT TO CHIEF OPERATOR AT JOB COMPLETION OR END OF MECHANICAL SHIFT			

Light Blue

SECTION 9
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 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 shortcuts or nondesignated pathways is prohibited.

4. Contractor Employee Badges

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.

When contract employees enter the Plant, the Contractor's supervisor is responsible for checking that every contract employee has a Contractor badge.

IX-1

EXX 010796

5. Contractor Vehicle Identification

Contractor's vehicles must bear the Contractor's name or insignia prominently displayed, and the driver must have 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, backhoes, air compressors, welding machines, etc., must have Contractor's name prominently displayed on both sides when being used by Contractor.

6. Material Passes

All tools and materials that the Contractor removes from the Plant shall be accompanied by a material pass obtained from the Contract Administrator. The material pass shall be completely filled out and shall be signed by a designated representative of Contractor and the Contract Administrator. The Contract Administrator 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.

7. 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 Contract Administrator.

8. Gambling

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

9. 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 Contract Administrator to admit union business agents or safety inspectors other than contractor employed into the Plant.

10. 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 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 Contract Administrator as soon as possible, whether resulting in injury to a person or damage to the equipment of Owner or Contractor.

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

When contract employees leave the Plant, the Contractor's supervisor is responsible for inspecting lunch containers, packages, and bundles.

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

12. 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.

13. 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.

14. 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.

15. 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.

II-4

EXX 010799

SECTION 10
GENERAL REGULATIONS

1. Authorization to Start Work

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

2. Contractor's Equipment

All Contractors moving trailer-type equipment within the Plant shall use a hitch equal to Premier's automatic latching hitch No. 105 for one-ton loads, or No. 380 for one-and-one-half-ton loads, except that properly rated ball hitches may be used when provided with safety chains.

3. Explosives

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

4. 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 Contract Administrator.

5. 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 equipment without written approval of the Contract Administrator.

6. Damage to Owner's Property

If Contractor damages any of Owner's property, or property of any other contractor

I-1

EXX 010800

or subcontractor, the damage shall immediately be reported to the Contract Administrator.

7. 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 Contract Administrator.

8. 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 Contract Administrator. No tracked equipment having flat pavement treads shall be operated on a paved street without approval of the Contract Administrator.

9. Fire Extinguishers

Welding machines and tar pots shall have a 12-pound CO₂ or 20-pound 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 1-1/2" diameter with threaded coupling and NYC Fire Department threaded adapter suitable for 150 psi pressure. Each hose shall be equipped with a 1-1/2" 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 overnight.

10. Welding

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 there is sufficient metal, as approved by the Contract Administrator, 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 downstream 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.

11. Securing of Temporary Buildings

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

12. Exit from the Plant

Contract employees, except for the driver, must dismount and walk through the gate when leaving the Refinery.

13. Non-English-Speaking Personnel

The ability to communicate with Contractor employees is essential to safe job execution. When the contract employee cannot speak English, the job foreman must be able to speak both English and the employee's language fluently. If there is reason to doubt the foreman's ability in this regard, a practical demonstration is in order. When the foreman cannot speak both English and the employee's language, the employee must either be placed under a foreman who can, or he must be prohibited from working in the Baytown Refinery.

14. Hurricane Precautions

The period between June 15 and October 15 is recognized as the hurricane season. Prior to this time, all material that is not needed for the job and that might become wind-borne in hurricane winds should be removed. That material still needed should be piled as compactly as possible. Provision should be made for tying down lightweight objects should the need arise. Scaffolds and some open-type structures should be dismantled if a hurricane approaches. Thus, there should be a plan formulated in advance to handle necessary actions, particularly in terms of the time and manpower required.

15. Contractor Accident Reporting

The contractor is responsible for notifying the Contract Administrator immediately:

- a. Any time an ambulance is called;
- b. In the event of any injury which could possibly result in lost time;
- c. In the event of any incident which had serious potential, such as mobile equipment overturning, equipment contacting electric supply lines, etc.

All injuries shall be reported on the Industrial Accident Board Standard Form for Employee's First Report of Injury or Illness — latest revision.

16. Emergency Evacuation Procedure

An emergency evacuation procedure form shall be completed by each Contractor prior to starting a contract. An assembly point should be chosen to provide a relatively safe, open area, in the event an emergency occurs that requires evacuation of all or part of the Refinery.

17. Contractor Safety Meetings

Each Contractor is strongly encouraged to hold a weekly safety meeting for his employees. Either a combined meeting of all the Contractor's employees in the Refinery or smaller meetings for each job or each foreman is suitable.

GENERAL CONDITIONS

EXX 010804

GENERAL CONDITIONS**1. INVESTIGATION OF SITE AND PROJECT CONDITIONS**

Subcontractor represents that he is familiar with the site and the physical conditions, the availability of labor and materials and all other matters at the site or in the vicinity of the site which affects the Sublet Work. Subcontractor represents that he has examined the subcontract document and familiarized himself with the Project, the laws, rules and regulations relating to the Project; the environmental considerations affecting the Project and the Sublet Work; the participants in the Project; and the contractual and regulatory provisions of governmental agencies, the Owner and General Contractor affecting the participants in the Project and the Sublet Work. No allowance will be made to Subcontractor for not having made such examination and review or for requirements with which a reasonable examination, inquiry and review would have disclosed.

2. RESPONSIBILITY

a. Subcontractor agrees to perform the Sublet Work in accordance with good construction practices and the plans, specifications and other requirements of this Subcontract, and to furnish all supervision, labor, supplies, tools, construction equipment, facilities, storage, permanent equipment and materials (except as Owner or General Contractor specifically agrees herein to furnish) and all other things and services necessary or desirable to perform the Sublet Work.

b. Subcontractor shall be responsible for the correctness of the positions, levels and dimensions of the Sublet Work, notwithstanding the Subcontractor may have been assisted by the General Contractor or any other Contractor in setting out the same; and if at any time during the performance of the Sublet Work, any error shall appear or arise therein, the Subcontractor shall immediately advise the General Contractor's Site Representative and await instructions for removal and replacement or performance of corrective work, before proceeding with that portion of the Sublet Work.

c. All work which is manifestly necessary to carry out the intent of the drawings and specifications pertaining to the Sublet Work, or which is customarily done in performing this type of work for the Owner or General Contractor, shall be performed by the Subcontractor as a part of the Sublet Work.

3. COORDINATION OF THE PROJECT

General Contractor is charged with the responsibility of accomplishing the work of the entire Project, or a significant portion thereof, in accordance with drawings, specifications, permits, licenses, rules and regulations, laws and ordinances, and requirements of the Owner. The contract price provisions, and the definition of requirements of the Sublet Work, as of the effective date, are coordinated and identified in the Subcontract Terms. General Contractor is charged with the responsibility of coordinating the efforts of all, or a significant portion of, the participants in the Project, including various subcontractors, specialty service contractors, suppliers, and other workmen, and the direct employees of General Contractor. Subcontractor agrees to perform the Sublet Work as part of the team of participants in the Project in cooperation with all other participants, and subject to all reasonable rules, regulations, and directives of General Contractor (a) for the coordination of the work of all participants, (b) for the maintenance of safety, efficiency, security and good order on the Project as a whole, (c) for compliance with the terms hereof, and (d) for the protection of the environment and the rights of the public.

4. SCHEDULING SUBLET WORK

Subcontractor agrees to commence the Sublet Work promptly when directed by General Contractor and to prosecute the Sublet Work diligently to completion. Sub-

contractor agrees to provide adequate number and types of: (a) laborers, skilled craftsmen and technicians, supervisors, administrators, and managers, (b) construction equipment in good condition, (c) materials, permanent equipment, and supplies, except for items specified to be supplied by General Contractor or Owner, to accomplish the work and maintain the Schedule or restore the Sublet Work to the Schedule. Subcontractor shall provide General Contractor a detailed Schedule for performance of the Sublet Work and shall revise and update such Schedule from time to time as the work on the Project progresses. The Schedule for the Sublet Work shall be subject to revision or approval by General Contractor to coordinate the Sublet Work with the over-all rate of progress of General Contractor and other participants in the Project as a whole, and to expedite performance of critical items of work on the schedule. General Contractor will schedule and coordinate the use by Subcontractor and others of jointly used facilities, construction equipment, and space, and Subcontractor shall accommodate its Schedule to such shared use. General Contractor will determine the normal working hours for the Project as a whole, and any special working hours for the Sublet Work on a normal shift or overtime basis will be subject to prior approval of General Contractor.

5. INTEGRATION WITH WORK OF OTHERS

Subcontractor shall inform itself regarding the nature, condition and state of progress of work of others which affects or connects with the Sublet Work. Before connecting Sublet Work to work of others, Subcontractor shall ascertain that such work of others is ready, properly aligned, and in suitable condition for such connection and integration with the Sublet Work, and shall report any discrepancies to General Contractor for adjustment prior to proceeding. Subcontractor is not responsible for latent defects in the work of others.

6. ALLOCATION OF FACILITIES

General Contractor will designate for use by Subcontractor, entrances, parking areas, storage areas, office and work areas, and such facilities and construction equipment as General Contractor is to provide. General Contractor will allocate, and schedule the use of, such common facilities and utilities as are provided by General Contractor for use of Subcontractor and other participants in the Project. Temporary interruption of services, utilities and use of facilities are anticipated and shall not justify a claim for additional compensation.

7. INSPECTION AND QUALITY CONTROL

The Sublet Work shall be performed to the specified standards of workmanship and strictly in accordance with drawings, specifications, procedures, and other requirements of this Subcontract. General Contractor shall have the right to inspect the Sublet Work and Subcontractor's equipment, tools, records and facilities at all times. No work shall be covered until inspected and released in accordance with established inspection procedures, and any work improperly covered shall be uncovered and exposed by Subcontractor for inspection on request. Inspection and approval shall not relieve Subcontractor of the obligation to complete the entire Sublet Work in strict compliance with the requirements of this Subcontract. Any defective Sublet Work shall be discontinued, removed and replaced or corrected in accordance with specifications and directions of General Contractor. Subcontractor shall furnish for the Sublet Work all Quality Assurance and Quality Control documentation, as required by General Contractor for the Project as a whole or for the specific part thereof affected by the Sublet Work.

8. SAFETY, CLEANLINESS AND SANITATION

Subcontractor shall comply with all applicable laws, rules and regulations relating to safety. Subcontractor

shall comply with all safety standards, rules and regulations relating to safety, cleanliness and sanitation established by General Contractor for the Project as a whole. Subcontractor shall immediately stop work and take corrective action when directed by General Contractor because of any unsafe condition or practice. Subcontractor shall be responsible for the safety of its workmen and the Sublet Work and shall not create hazards for others or the work of others. Subcontractor shall provide first aid and ambulance facilities for its workmen to the extent sufficient facilities are not provided for the Project as a whole by General Contractor. General Contractor shall be responsible for safety of the Project as a whole. In case of emergency, General Contractor may direct Subcontractor's personnel and resources for the protection of life and property.

9. DELAYS

If Subcontractor's performance of the Sublet Work is delayed by Owner's or General Contractor's failure to perform their obligations hereunder, or by orders of the General Contractor delaying or suspending the work, or by changes in the work, Subcontractor shall be entitled to an equitable adjustment in the price and time for performance in accordance with the provision for Changes in Article 12; but no price adjustment shall be due for delays or inconvenience to Subcontractor from the scheduling and coordination of the Sublet Work with the rate of progress made by all participants in the Project. In the event Subcontractor is delayed by force majeure, Subcontractor shall be entitled to an equitable extension of time but no adjustment in the price; provided, that inadequate manpower or failure of Subcontractor's workmen to prosecute their work because of strikes, boycott, picketing, or other form of labor dispute shall not be deemed force majeure unless there is clear and substantial danger of bodily harm or property damage if the employees undertook to enter the work site and perform their work, as determined by General Contractor or the chief local law enforcement officer. Subcontractor shall notify General Contractor in writing within 48 hours after the commencement of a delay, if Subcontractor claims an extension of time or an adjustment of price because of such delay, or the right to such extension or adjustment shall be waived.

10. SUPPLEMENTING OR TAKING OVER BY GENERAL CONTRACTOR

If, after seven (7) days written notice by General Contractor to Subcontractor specifying any deficiency in the Sublet Work or the promptness with which it is being performed, Subcontractor has not promptly commenced to correct, and within a reasonable time, corrected, such deficiency to the satisfaction of General Contractor, General Contractor may supplement the work of Subcontractor, or take over performance of the Sublet Work temporarily or completely, with General Contractor's own forces or by contract with others. General Contractor may use all or part of Subcontractor's construction equipment, tools and facilities at the project site, and any materials, permanent equipment and supplies, in the performance of the Sublet Work, without payment to Subcontractor otherwise than by the extent such use of Subcontractor's items causes a reduction of cost of completing the Sublet Work. All costs incurred by General Contractor in performing all or part of the Sublet Work, including a mark-up of 10% of such cost, shall be deducted from the price payable to Subcontractor and if such sum plus all payments previously made to Subcontractor shall exceed the price, Subcontractor shall refund to General Contractor the excess within ten (10) days after submittal of a properly documented invoice. If the price is on a cost reimbursable basis, Subcontractor will be reimbursed for use of construction equipment at the lowest applicable rate provided for herein or at prevailing rental rates if no rate is specified, and the cost of Subcontractor's materials used. Upon notice from General Contractor to Subcontractor, Subcontractor shall resume and complete the Sublet Work, but this right to supplement or take over the Sublet Work may again be exercised if necessary.

The determination of General Contractor's project manager to invoke the provisions of this Article 10 shall be final and conclusive; provided Subcontractor may within said seven day period, appeal to an executive officer designated by the President of General Contractor, whose decision shall be final absent actual fraud, and only the issue of actual fraud shall be subject to arbitration.

11. DEFERMENT OR TERMINATION

In the event the Project is deferred or terminated by Owner, or if General Contractor shall elect to defer or terminate the Sublet Work, Subcontractor shall be paid: (1) the price earned for work completed and accepted, (2) a proportionate part of the price allocated to the portion of the work partially completed, (3) the reasonable cost incurred by Subcontractor in securing and protecting the work in progress against loss, damage or deterioration, and (4) unamortized mobilization and demobilization costs; standby costs, cancellation or deferment charges of suppliers; the cost of materials and equipment not sold or disposed of; and other special costs for terminating or suspending work or preserving the work accomplished and turning it over to General Contractor but (5) no compensation for the portion of the Sublet Work not performed. General Contractor shall notify Subcontractor whether the Sublet Work is terminated or deferred to an indefinite or specified date and the deferment shall not exceed six months (or other limits expressed in the Subcontract Terms) without the consent of Subcontractor if deferred, the Sublet Work may thereafter be terminated and shall be terminated upon expiration of the maximum period of deferment without notice to resume. Following deferment and notice to resume given by General Contractor to Subcontractor in writing, Subcontractor shall resume the Sublet Work in accordance with the terms hereof with an equitable adjustment in the price, if required, and time of completion, determined as in the case of changes. Subcontractor shall, as directed by General Contractor, secure, safeguard, remove or deliver to General Contractor all material, equipment, supplies, work in progress, and contract rights.

12. CHANGES

General Contractor reserves the right to make changes in the Sublet Work or the manner of its performance. No change shall be made by Subcontractor in the Sublet Work or its manner of performance, without prior written instructions from General Contractor, in a written Change Order specifying the change in plans, specifications, procedures, time, sequence, or other requirement of this subcontract, and specifying whether there is to be an adjustment in the price or time for performance and how any such adjustment shall be determined. No adjustment in price or time of performance shall be made for changes in arrangement, aesthetics, substitution of equivalent materials or equipment or other changes, unless such changes significantly affect Subcontractor's cost of performing the Sublet Work or extend the time that Subcontractor's equipment and forces are required at the project site. An equitable adjustment will be made in price or time of performance or both, if the change ordered by General Contractor substantially increases the cost to Subcontractor of the Sublet Work or the time that Subcontractor's equipment and forces are required at the project site. The method of determining the equitable adjustment shall be specified, and if possible, the price fixed at the time of the issuance of written direction for the change. Unless a lump sum is established by agreement or another method of pricing is established by agreement, General Contractor may direct determination of the equitable adjustment in price, whether an increase or decrease, by any of the following methods: (a) agreed or established fixed unit prices, (b) force account, or (c) cost plus fee. If the force account method is directed by General Contractor, the force account rates for equipment use, man-hour labor rate including payroll burden and markup for overhead and profit, with reimbursement of actual cost of materials, as established in the Subcontract terms or by other agreements, shall be used to determine the ad-

justment. If the cost plus fee method is directed by General Contractor the adjustment will be based on the direct cost of the change in the work using the formula established in the Subcontract terms or by other agreement, and in the absence of agreement, Subcontractor shall be paid all actual, direct additional cost incurred, without allocation of home office general and administrative expense, plus 10% of such costs, and Subcontractor shall maintain and furnish General Contractor accurate and detailed records daily segregating the cost of the change in the Sublet Work. In case of deletion or reduction of the Sublet Work by such change, Subcontractor shall not be entitled to anticipated contribution to home office overhead and profit from any portion of the Sublet Work not performed.

13. WORKMEN AND EMPLOYMENT PRACTICES

Subcontractor shall provide competent and adequately trained and skilled personnel. Subcontractor shall, on request, remove from the Project any person found by General Contractor to be incompetent, unsafe, disorderly, unreliable, or unwilling to comply with regulations. Subcontractor shall provide badges, color codes, or other symbols or identification for its employees, tools and equipment, in accordance with the system specified by General Contractor. Subcontractor shall cooperate in security measures for the prevention of theft, pilferage, and waste. Subcontractor shall not discriminate against any employee or applicant for employment because of race, color, national origin, religion, sex, age, or for any reason prohibited by law. Subcontractor agrees to participate and cooperate in the implementation of any Affirmative Action Plan for equal employment opportunity adopted for the Project as a whole. To the extent applicable to the Sublet Work on this Project, Subcontractor shall comply with Executive Order 11246, or any amendment, replacement or counterpart thereof, and the parties mutually represent that they are familiar with such provisions and agree that a full copy thereof may be incorporated herein by either party by attachment at any time.

14. LABOR RELATIONS

Subcontractor shall comply with the National Labor Relations Act, any applicable Right to Work law, and any other applicable law related to labor relations. Subcontractor shall give General Contractor notice and full information regarding any existing or impending labor dispute affecting the Sublet Work or any part of the work on the Project as a whole. Subcontractor shall cooperate in any effort by General Contractor to mediate or otherwise attempt to resolve work stoppages, slowdowns, boycotts, disturbances, strikes, picketing or labor disputes affecting any participant in the Project or affecting any part of the Project as a whole, but Subcontractor shall have exclusive control and responsibility for its own labor relations. No such condition shall excuse Subcontractor from the obligation to diligently prosecute the work, unless, in the opinion of General Contractor, or if so determined by the chief local law enforcement officer, there is clear and substantial danger of bodily harm or property damage to Subcontractor's employees if they should undertake to enter the project site and perform their work.

15. LIENS

To the extent permitted by law, Subcontractor, for itself and all of its lower tier subcontractors and all laborers, mechanics and materialmen hereby waive and agree not to claim any lien against the Sublet Work, but shall rely solely upon the general credit of General Contractor. Subcontractor shall pay or cause to be paid all bills for labor, materials, equipment or services connected with the Sublet Work, and shall not itself assert any lien or permit any lien to be asserted or maintained against the Project or any funds or land involved in the Project or the Owner or General Contractor. General Contractor may pay directly any such obligation of Subcontractor, and Subcontractor shall indemnify General Contractor against any such obligation.

16. TITLE TO AND RESPONSIBILITY FOR SUBLET WORK AND MATERIALS

The Sublet Work in progress and all of the Owner and General Contractor-furnished items and all of Subcontractor-furnished material, equipment, plant, facilities, fabricated items, supplies, drawings, data, and contract rights intended for the Sublet Work shall be the property of General Contractor from the earliest moment of identification to the Sublet Work, subject to General Contractor's obligation to pay the price in accordance with the Subcontract. Notwithstanding General Contractor's or Owner's title thereto, Subcontractor shall be responsible for the care, custody, control and safekeeping and preservation of all Owner-furnished, General Contractor-furnished, or Subcontractor-furnished labor, materials, plant equipment, supplies and other things to promptly repair or replace any such which is damaged or lost, and to complete the Sublet Work and to deliver the Sublet Work complete and in accordance with all provisions and requirements hereof at the time specified. Except as otherwise provided in the Subcontract Terms or the Special Conditions, Subcontractor shall bear, without right of reimbursement, the full risk of loss or damage to the Sublet Work and all materials, equipment and other things.

17. SUBCONTRACTING OR ASSIGNMENT

Subcontractor shall not assign this subcontract or any funds due hereunder. Subcontractor shall not subcontract any portion of the Sublet Work without the prior written approval by General Contractor of the lower tier subcontractor and of the form, terms and conditions of the lower tier subcontract. No assignment or subcontracting, even with General Contractor's approval, shall relieve Subcontractor of any obligations hereunder, or create any contractual relationship between such sub-subcontractor and General Contractor or Owner. Any lower tier subcontractor shall assume unto General Contractor all of the obligations of Subcontractor as they relate to such portion of the Sublet Work.

18. RECORDS AND ACCOUNTS

Subcontractor shall maintain good accounting and personnel records reflecting performance of the Sublet Work and shall preserve such records for a period of two years after completion and acceptance of the Project as a whole. General Contractor shall have the right to inspect and audit such part of the records as relate to cost reimbursement or performance of labor related provisions. Copies of documents and records supporting requests for payment or compliance with labor related provisions shall be furnished General Contractor with such request or at such other times as General Contractor directs.

19. BONDS

If instructed by General Contractor in writing, Subcontractor shall provide a Performance Bond and a Payment Bond in form and with corporate surety satisfactory to General Contractor, at any time required by General Contractor, whether before commencement of the Sublet Work or at any time prior to completion and acceptance of the Sublet Work. General Contractor will separately reimburse Subcontractor the premium cost thereof set forth in the Subcontract Terms unless otherwise expressly provided. General Contractor may terminate this Subcontract for default or exercise the rights provided in Paragraph 10 of these General Conditions if Subcontractor should fail to provide such bond when requested.

20. INDEMNITY

Subcontractor agrees to and hereby indemnifies and holds harmless General Contractor and Owner from any loss, cost, damage or liability from injury or death of any person, including Subcontractor or its employees, or damage or destruction of any property, arising from or in connection with the Sublet Work even though there be concurring negligence by General Contractor or Owner, but Subcontractor does not hereby assume responsibility for the sole negligence of General Contractor or Owner.

21. INSURANCE

Subcontractor shall provide insurance, with provisions against cancellation without thirty (30) days prior written notice, for the benefit of Subcontractor, General Contractor and Owner and with waiver of subrogation against all participants in the Project, in form and with underwriters satisfactory to General Contractor, with minimum coverages and limits as follows:

- | | |
|---|---|
| (a) Workmen's Compensation | Statutory |
| (b) Employer's Liability | \$ 100,000 |
| (If marine operations are involved, the limits shall be \$250,000 per person and \$500,000 per accident) | |
| (c) Comprehensive General and Automobile Liability | |
| Bodily Injury - per person | \$ 100,000 |
| - per accident | \$ 300,000 |
| Property Damage | \$ 100,000 |
| with blanket contractual, products and completed operations liability endorsements, and with xcu exclusion deleted. | |
| (d) Hull and protection and indemnity for any marine vessels, with General Contractor, Owner and their affiliates | Full Value, but not less than \$1,000,000 |
| (e) Such other available insurance or increased limits as General Contractor may request, the premium cost of which shall be directly reimbursable unless otherwise specified in the Subcontract Terms. | |

22. INSURANCE ON CONSTRUCTION EQUIPMENT

Subcontractor shall fully insure, or self-insure and assumes all risk of loss of, or damage to, Subcontractor's construction equipment and tools, facilities and structures, however caused, including losses caused by vandals or theft, or by the negligence of others, including General Contractor or Owner. Subcontractor agrees to indemnify and hold harmless Owner and General Contractor from any such loss or liability regardless of any provision for reimbursement of uninsured losses.

23. USE OF GENERAL CONTRACTOR'S OR OWNER'S EQUIPMENT

If any construction equipment, tools, marine vessels, facilities, or services of General Contractor or Owner be furnished to Subcontractor or used by Subcontractor, on an exclusive or joint use basis, Subcontractor shall inspect and satisfy itself as to the safety and condition thereof and shall return same to General Contractor or Owner after such use in good order and condition and in at least as good condition as that in which received, fair wear and use excepted. Subcontractor shall at its own cost and without right of reimbursement, insure or self-insure all risks associated with such use and shall indemnify General Contractor and Owner against any liability or cost for injury to, or death of, persons or damage or destruction of property connected with such use even if General Contractor or Owner should be negligent in relation to such equipment or items used.

24. PERMITS, LICENSES, LAND RIGHTS

General Contractor will provide all licenses and permits required for the Project as a whole to be constructed. Subcontractor shall provide all licenses and permits required for Subcontractor to perform the Sublet Work, including [without limitation], contractors' licenses, specialty permits required by law to be issued to Subcontractor, and transportation permits. General Contractor will provide access to the work site and easements or land rights in the work site, but Subcontractor shall comply with all restrictions, limitations, terms and conditions relative thereto and Subcontractor shall obtain such ad-

ditional easements and land rights as Subcontractor may require.

25. PATENTS AND PROPRIETARY RIGHTS

Subcontractor shall pay all royalties and obtain all licenses required for items specified to be furnished by Subcontractor, and for all items and methods selected by Subcontractor for the Sublet Work. General Contractor shall pay all royalties and obtain all licenses required for the Project as a whole or for Owner-furnished or General Contractor-furnished items. Subcontractor shall give prompt notice to General Contractor of any claim of infringement of any patent or proprietary right, and Subcontractor and General Contractor shall cooperate in the defense and disposition of any such claim or suit. The party obligated to furnish the license shall defend and indemnify the other party.

26. WARRANTY

Subcontractor guarantees and warrants that all materials furnished by Subcontractor and workmanship furnished by Subcontractor shall comply with the specifications and other requirements of the contract and shall be free of defects for a period of one year after completion and acceptance of the Project as a whole by the Owner. With respect to items of manufactured equipment specified by General Contractor and purchased by Subcontractor from others, Subcontractor warrants that the equipment is as specified, and agrees to pass on and assign to General Contractor (or to Owner if directed by General Contractor) the manufacturer's warranty and Subcontractor shall prosecute the enforcement thereof in cooperation with General Contractor, but Subcontractor shall have no further quality or performance warranty responsibility with respect to such items of manufactured equipment.

27. PARTIAL OCCUPANCY AND USE

General Contractor and Owner shall have access to the Sublet Work at all times. General Contractor and Owner may occupy and use any portion of the Sublet Work which is sufficiently completed to permit such occupancy and use, provided there is no substantial interference with performance of the balance of the Sublet Work. Such partial occupancy and use shall not relieve Subcontractor of the obligation to complete all of the Sublet Work strictly in accordance with the requirements of this Subcontract.

28. CONFIDENTIALITY

Subcontractor shall not publicize, publish, or photograph the Project, the Sublet Work, or this Subcontract, except by consent of General Contractor and in compliance with General Contractor's regulations for the Project. Subcontractor will maintain in confidence and not use or disclose any confidential proprietary information of General Contractor or Owner. Subcontractor will execute, and if requested will cause its employees or agents to execute, such form of written secrecy agreement, further defining this confidentiality agreement, as is required of other participants in the Project. All plans, specifications, data and other material relating to the Project shall be delivered to General Contractor, on request, when no longer required by Subcontractor for performance of the Sublet Work.

29. INDEPENDENT CONTRACTOR

Subcontractor shall perform the Sublet Work as an independent contractor with exclusive control of the manner and means of performing the Sublet Work in accordance with the requirements of the Contract, unless an agency or other relationship is specified in the Subcontract Terms. Subcontractor has no authority to act or make any agreements or representation on behalf of General Contractor or Owner, and no contractual relationship exists between Subcontractor and Owner. No employee or agent engaged by Subcontractor shall be, or shall be deemed to be, an employee or agent of General Contractor or Owner. In the event General Contractor should, at the request of Subcontractor, furnish workmen to Subcontract-

an agency or other relationship is specified in the Subcontract Terms. Subcontractor has no authority to act or make any agreements or representation on behalf of General Contractor or Owner, and no contractual relationship exists between Subcontractor and Owner. No employee or agent engaged by Subcontractor shall be, or shall be deemed to be, an employee or agent of General Contractor or Owner. In the event General Contractor should, at the request of Subcontractor, furnish workmen to Subcontractor for any purpose to work under the direction and supervision of Subcontractor, such employees of General Contractor shall be deemed to be the borrowed servants of Subcontractor and Subcontractor shall be responsible for their actions while so engaged.

30. LAWS

This Subcontract is entered into in Houston, Texas, and shall be construed and governed by the laws of the State of Texas. Subcontractor shall comply with all laws, statutes, ordinances, rules and regulations of any governmental entity, having jurisdiction, and Subcontractor shall indemnify and hold harmless the Owner and General Contractor from any fines, penalties, costs or liability arising from Subcontractor's failure to comply therewith.

31. DISPUTES

All questions arising under this Subcontract shall be resolved in the first instance by General Contractor's project manager. No claim for additional compensation or extension of time shall be considered unless presented to General Contractor's project manager in writing within ten (10) days after the occurrence giving rise to the dispute. Any claim not satisfactorily resolved by General Contractor's project manager in the first instance, and which is presented in writing within the time provided, may be appealed by notice in writing to the project manager within ten (10) days after the project manager's initial decision, (a) to the engineer for the Project if the issue is interpretation of the drawings or specifications, or compliance of the Sublet Work therewith, in which event the engineer's decision shall be final, (b) to an Executive Officer of General Contractor as provided under Article 10 if the claim arises under Article 10, or (c) to an Executive Officer of General Contractor if any other question under the Subcontract is involved. Such review shall be a prerequisite to any further relief.

32. PROGRESS PAYMENTS AND FINAL PAYMENT

Progress payments will be made by General Contractor to Subcontractor monthly or at other intervals specified, in accordance with the Subcontract Terms. All progress payments are Trust Funds to be applied by Subcontractor to payment for labor, materials, equipment, services and supplies for the Sublet Work. With each request for progress payment, Subcontractor shall submit proper evidence, including affidavits and certificates, as may be requested by General Contractor showing: (a) the portion of the Sublet Work completed, (b) compliance with all requirements of this Subcontract, (c) payment of all bills, and (d) that no lien exists or could be claimed arising from the Sublet Work. General Contractor may withhold from progress payments ten percent (10%) of the amount earned, as retainage until final completion and acceptance (unless otherwise provided in the Subcontract terms), and in addition may withhold such amount as may be reasonably required to assure compliance by Subcontractor with the terms of this Subcontract. General Contractor may pay directly any obligation of Subcontractor arising under this Subcontract and withhold such payment from amounts otherwise due Subcontractor. Subcontractor shall submit with his request for final payment similar evidence and such expressions of warranty and indemnity as are required herein and a release of further claims against Owner or General Contractor. Subcontractor indemnifies General Contractor and Owner against any cost or liability, including attorney's fees, for failure of Subcontractor to perform all its obligations and pay all of its bills as required by this Subcontract.

33. APPLICATION TO COST REIMBURSEMENT TERMS

These General Conditions define the obligations, responsibilities and relationships of Subcontractor and General Contractor, and apply without change whether the terms for payment are fixed price or cost reimbursable or a combination thereof. The price and other payments to be made to Subcontractor for performance of the obligations of these General Conditions are provided for in the Subcontract Terms or other portions of this Subcontract.

34. NOTICES

Notices of changes, deficiencies, delays, claims or disputes shall be in writing, and shall furnish full information to the extent available. The party notified will acknowledge receipt by endorsement of a copy if requested, or will otherwise confirm receipt in writing. Ordinarily, notice will be given by delivery to the General Contractor's project manager, or Subcontractor's designated representative at the site, respectively, and mailing a copy to the address shown in the Subcontract Terms. To avoid difficulty in delivery of Notice, sufficient Notice shall be deemed to have been given by mailing by Registered or Certified Mail or equivalent, to the address shown in the Subcontract Terms.

35. INTEGRATION

The entire agreement between General Contractor and Subcontractor and all negotiations, proposals, representations and interpretations have been integrated into and superseded by the written provisions of this Subcontract. This Subcontract shall be valid and in force when signed by both parties and delivered and the parties understand that thereafter no person is authorized to amend this Subcontract except by agreement in writing and signed with equal formality. These General Conditions may be modified by the Special Conditions for the Project or by the Subcontract terms; and the Special Conditions for the Project may be modified by the Subcontract Terms, and as so modified it is intended that all terms and provisions of this Subcontract shall be construed in harmony and with equal dignity and effect.