

	Really Refining Inc	Rev	R0
	Project – Rocking Chair	Date	Dec 2020
	PC Package		

TABLE OF CONTENTS

A.	PROJECT OVERVIEW	
1.1	GENERAL INFORMATION	2
1.2	CUSTOMER RESPONSIBILITIES	2
1.3	PC CONTRACTOR RESPONSIBILITIES	3
1.4	SCHEDULE REQUIREMENTS	5
B.	PROJECT GENERAL SCOPE	
2.1	EQUIPMENT	7
2.2	PIPING	8
2.3	INSTRUMENTATION	11
2.4	CIVIL / STRUCTURAL	11
C.	DETAILED PROJECT INFORMATION	
	Project Rocking Chair	
1.1	PROJECT OVERVIEW	2
1.2	PROCESS & FLOW DIAGRAM	3
1.3	PIPING & INSTRUMENTATION DIAGRAMS	4
1.4	EQUIPMENT LIST	6
1.5	EQUIPMENT DATASHEETS	7
1.6	EQUIPMENT LAYOUT AND PIPING	8
1.6.1	PIPING LAYOUT	10
1.6.2	PIPING ISOMETRIC	11
1.7	PIPING DESIGN BASIS – LINE LIST	13
1.8	TIE-POINT LIST	14
1.9	SAFETY DEVICE LIST	15
1.10	CIVIL & STRUCTURAL	16
1.11	INSTRUMENTATION	19

	Really Refining Inc	Rev	R0
	Project – Rocking Chair	Date	Dec 2020
	PC Package		

A. PROJECT OVERVIEW

1.1. General Information

R.R.I. intends to complete Project Rocking Chair at their Sacramento Plant. This document is a comprehensive package which will enable a Contractor to bid for Procurement and Construction (PC) of the remaining scope of this Project.

Project Rocking Chair involves installation of a new Cetyl Alcohol distillation column along with auxiliary equipment, piping, etc...

Detailed information for each remaining section of the project can be found in section C of this package for the scope of work.

1.2. Customer Responsibilities

- 1.2.1. Design and procurement of all the Equipment listed in the Equipment Lists (Section C) which will be issued free to the Contractor.
- 1.2.2. Start-up and commissioning of new system after mechanical completion.
- 1.2.3. Perform green tagging of all Safety devices.
- 1.2.4. All required pertinent permits (Building Permit and Environment permit) will be handled by R.R.I..
- 1.2.5. Contractor shall provide a daily work permit by 7AM.
- 1.2.6. Project engineer will be supplied to PC contractor all the time for any consultation and design questions.
- 1.2.7. Supply all scaffolding necessary to complete Contractor's scope of work.

	Really Refining Inc	Rev	R0
	Project – Rocking Chair	Date	Dec 2020
	PC Package		

1.3. PC Contractor Scope of Supply

The PC Contractor referred to as the “Contractor,” will supply all construction services to fabricate (where applicable) and install the following:

1.3.1. Procurement of all services including, but are not limited to:

- construction labor
- welding supplies and machines
- cranes
- compressed air

1.3.2. Installation of all free-issue Equipment per the Customer supplied P&ID in Section C and manufacturer’s instructions.

1.3.3. The lifting and placement of the Equipment will require a lifting plan supplied by a licensed engineer.

1.3.4. Installation of above-ground piping, including process, steam, steam condensate, water, and nitrogen, as required, per Customer-supplied flow sheets.

1.3.5. Installation of steam tracing for piping, where required by line list.

1.3.5.1. R.R.I. must approve tracing layout prior to installation.

1.3.6. All 1” and below line sizes shall be field routed with approval from R.R.I. construction manager when isometrics are not included

1.3.7. All pipe routing and dimensional details shall be field verified by the PC contractor.

1.3.8. Static mechanical completion tests and NDE (X-rays, etc) of piping per applicable DCS and line list.

1.3.9. Vendor to submit WPS for approval prior to beginning welding.

1.3.10. Tie-ins to existing underground drain lines, and surface trench drains, for process and storm water discharges, as required.

1.3.11. Provision of on-site office trailers and all personnel comfort facilities for construction personnel.

1.3.12. Provision of project-specific, written contractor safety standards, site safety training, and registration of all field personnel with Customer’s security staff.

1.3.13. Provide an organizational chart identifying project personnel.

1.3.14. Obtaining daily Work Permits from Customer’s representative(s), daily safety meetings, and full compliance with Plant’s Contractor Safety Program.

	Really Refining Inc	Rev	R0
	Project – Rocking Chair	Date	Dec 2020
	PC Package		

1.3.15. Provide all required Personal Protective Equipment (PPE) and required safety equipment to meet the project needs

1.3.15.1. FR clothing is required to be worn at all times within the Plant

1.3.16. Conduct a construction completion walk with R.R.I. construction manager to turn over systems to R.R.I..

1.4. Changes

1.4.1 R.R.I. must be notified within 30 minutes and in writing within 24 hours of any circumstances that cause or could cause a change in schedule, cost or scope.

1.4.2 Contractor shall use R.R.I. FI form to submit Requests for Information or to notify R.R.I. of impending changes.

1.4.3 The contractor shall not perform any change of scope work without a signed change order from the R.R.I. Project Manager, Construction Manager, or back-up.

1.4.4 A written change order must be submitted within 24 hours following a verbal agreement.

1.4.5 R.R.I. shall respond to RFIs within 48 hours.

1.4.6 R.R.I. will maintain a log of all RFI/FI/Change Orders

	Really Refining Inc	Rev	R0
	Project – Rocking Chair	Date	Dec 2020
	PC Package		

Schedule Requirements

1.5.1 The Contractor will be expected to align construction schedule with R.R.I. scheduler prior to mobilization.

- Provide a detailed schedule that illustrates a complete understanding of the scope and sequence.
- Must be logic based and tied.
- Incorporate all milestone dates.
- Remember the previous contractor was dismissed over scheduling short falls. The client will be particularly concerned in this area.
- Pipe insulator will need 3 days to complete piping insulation after pressure testing of pipe systems.

1.5.2 Construction can begin on the fly in coordination with R.R.I. as it can be done outside of plant turnaround and all tie-ins have been completed previously.

1.5.3 R.R.I. shall provide a work permit by 7AM.

1.5.4 Construction must be completed by 3/11/19 dependent on when contract is issued.

	Really Refining Inc	Rev	R0
	Project – Rocking Chair	Date	Dec 2020
	PC Package		

B. PROJECT GENERAL SCOPE

1.1. EQUIPMENT

1.1.1. Applicable Codes

Contractor shall adhere to the latest version of applicable standards, listed by the following organizations, whether specifically mentioned or not

#	Standard	
1	ASME	American Society of Mechanical engineers
2	ASME B31.3	Process Piping (Chemical Plant and Petroleum Refinery Code)
3	ASTM	American Society of Testing and Materials
5	NEMA	National Electrical Manufacturers Association
6	OSHA	Occupational Safety and Health Act
7	UL	Underwriters Laboratories
8	IRI	Industrial Risk Insurers
9	FM	Factory Mutual

In addition the Contractor will incorporate the following R.R.I. IWS standards into layout of equipment. These standards are in Section 4 of the “Plant Standards and Requirements” Book.

1.1.2. Equipment Installation

Contractor shall furnish all supervision, labor, tools, services, materials and equipment to install all equipment as listed in the Equipment Lists in Section C. The Contractor shall perform all work necessary to receive equipment at site including temporary storage prior to installation.

Equipment will be installed on foundations on the ground level or on the steel structure. The detailed installation drawings are located in section C. Anchor bolts will be located according to templates or anchor bolt location drawings supplied by the equipment vendor.

All field erected equipment shall be installed as per the manufacturer’s installation instructions.

Contractor shall provide all shims required for levelling as indicated in the IWS standard

1.2. PIPING

	Really Refining Inc	Rev	R0
	Project – Rocking Chair	Date	Dec 2020
	PC Package		

1.2.1. Applicable Codes

Contractor shall adhere to the latest version of applicable standards, listed by the following organizations, whether specifically mentioned or not

#	Standard	
1	ANSI	American National Standards Institute
2	ASME B31.3	Process Piping
3	ASTM	American Society of Testing and Materials
4	HI	Hydraulic institute
6	OSHA	Occupational Safety and Health Act
7	UL	Underwriters Laboratories
8	IRI	Industrial Risk Insurers
9	FM	Factory Mutual

In addition the Contractor will incorporate the following requirements as contained in the “Plant Standards and Requirements” Book.

#	Plant Requirements & Standard	Title
1	Section 5 Subsection3	Paint Specifications
2	Section 6, Section 5 Subsection 10	Insulation & Steam tracing standards
3	Section 10	Welding specifications
4	Section 12	Design & Construction specifications

1.2.2. Piping Installation

Contractor shall install all process and utility piping, including “Field Routed Piping”, in accordance with R.R.I. Design & Construction Specifications (Section 12 of Plant Requirements and Standards) and line list

All tubing, 3/4” and under shall be field routed, generally in accordance with Piping Layout drawing. Major changes to routing shall be approved by R.R.I.. Field routed piping shall be installed in such a manner that tubing can be readily accessed for maintenance purposes.

Contractor shall install all process and utility piping as indicated in the Line list and as shown on the Piping and Instrument Diagrams, Piping Plan and Isometrics.

Contractor shall install all piping and related material including all valves, specialty item, fittings, flanges, slip blanks, bolting, gasket sets, etc.

	Really Refining Inc	Rev	R0
	Project – Rocking Chair	Date	Dec 2020
	PC Package		

All pipe welding shall be butt welded. If a need develops for an alternative, contractor shall have the written approval from the construction manager before starting the work.

The Line List contains all relevant information for the installation of the pipe including:

- Nominal Size
- Line #
- Design & Construction Spec
- Start Point
- Terminal Point
- Approximate Length
- Design Pressure
- Gasket Specification & Thickness
- Design Temperature
- Hydrostatic Test Pressure
- Insulation Type and Thickness
- Steam Tracer Number and Size
- P&ID
- Required piping connections by size and DCS, pipe testing

All purchased hangers shall be hot dip galvanized and painted to match the shade of the existing structure.

Contractor shall check the pipe support locations for interferences. All interferences shall be brought to the attention of the Construction Manager for resolution.

Contractor shall install all piping and related material including all valves, specialty item, fittings, flanges, slip blanks, bolting, gasket sets, etc.

Contractor shall design, furnish and install all required pipe supports, hangers and guides. The standard pipe support detail document shall be followed.

Contractor shall be responsible for field fit-up of piping. 'Field fit-up' includes measuring, cutting, threading, bevelling and welding of applicable piping and related pipe supports.

Contractor to verify in-line instrument flange face-to-face dimensions and bolt hole pattern in developing spool fabrication drawings.

All tracers shall be of stainless steel minimum 0.035 wall thickness with Parker CPI fittings, irrespective of DCS provided.

1.2.3. Insulation

	Really Refining Inc	Rev	R0
	Project – Rocking Chair	Date	Dec 2020
	PC Package		

INSULATION IS PROVIDED BY INSULATION CONTRACTOR. CONSTRUCTION CONTRACTOR SHALL CO-ORDINATE WITH INSULATION CONTRACTOR.

Contractor to provide Thickness measurement inspection ports at locations indicated as per Ultrasonic thickness measurement practice.

Contractor shall supply and install insulation where ever applicable as per Section 6 in the Plant Requirements and Standards. Thickness shall be as per line list.

All insulation for systems having condensation shall have a vapor barrier.

1.2.4. Painting

Not applicable.

1.2.5. Inspection & Testing

The Contractor is responsible for all testing described in the corresponding DCS's which is located in Plant Standard book section 12 and as called out specifically in the line list.

	Really Refining Inc	Rev	R0
	Project – Rocking Chair	Date	Dec 2020
	PC Package		

1.3. INSTRUMENTATION

Applicable Codes

The following codes & guidelines and the Plant Requirements & Standards will be followed for Installation of all field Instruments listed in Section C 1.11 – Instrumentation List.

#	Standard	
1	ANSI	American National Standards Institute
2	IEEE	Institute of Electrical and Electronic Engineers
3	NEC	National Electric Code (NFPA 70)
4	NEMA	National Electrical Manufacturers Association
5	OSHA	Occupational Safety and Health Act
6	UL	Underwriters Laboratories

1.4. CIVIL & STRUCTURAL- AS NEEDED

Foundations and structural steel, as described in Section C, shall be procured and built in accordance with the following Industry codes, specifications and drawings.

1.4.1. Codes

#	Code	Title
1		2016 California Building Code
2		Local Building Code
3	ACI 318	American Concrete Institute
4	ACI 301	Specifications for Structural Concrete for Buildings
5	AISC	Code of Standard Practice for Steel Buildings and Bridges
6	OSHA	Occupational Health and safety Association
7	AWS D1.1	Structural Steel Welding Code

	Really Refining Inc	Rev	R0
	Project – Rocking Chair	Date	Dec 2020
	PC Package		

1.4.2. Specifications

In addition the Contractor will follow the following specifications in Section 11 of the Plant Requirements and Standards.

#	Title
1	Excavation and Fill – General
2	Excavation and Fill – Foundations
3	Concrete Formwork
4	Concrete Reinforcement
5	Cast-In-Place Concrete
6	Grouting
7	Sealants
8	Structural and Miscellaneous Steel
9	Hot-Dip Galvanizing
10	Geotechnical Report by Terracon, Sacramento, California.

1.4.3. Drawings

R.R.I. No	Drg.	Title
ES – 2066		Structural Steel – General Notes and Typical Details
ES – 2067		Structural Steel – General Notes and Typical Details
ES – 2068		Structural Concrete – General Notes and Typical Details
ES – 2069		Structural Concrete – General Notes and Typical Details

1.4.4. Civil / Structural Drawings

Structural drawings for structural steel are attached in Section C.

1.4.5. Foundations

The Contractor will be responsible for furnishing all the materials and equipment as necessary to complete the work. Coordinate with all underground piping and electrical work. The support lugs have fire proofing.

1.4.6. Structural Steel

Contractor shall be responsible for Installation of all Structural Steel in accordance with the applicable codes, specifications and the Civil / Structural drawings in Section C.

Wind, earthquake and snow loads will be in accordance with California Building Code. Wind occurrence 1/30.

Maximum allowable deflection of the structure in accordance with California Building code.