Arabian Tank & Vessel



ARABIAN TANK & VESSEL PRE-QUALIFICATION

Year 2012-2013

Submitted to: -

Submittal Date:-____



- **1. COMPANY PROFILE**
- 2. ORGANIZATION CHART
- **3. EQUIPMENT LIST**
- **4. PROJECT REFERENCE**
- **5. PHOTO GALLERY**
- 6. QUALITY MANUAL
- 7. SAFETY PROCEDURE



COMPANY PROFILE







COMPANY PROFILE

Arabian Tank & Vessel is on the right track in expanding its services and technical skills in the design, manufacturing, field erected tanks, shop and field repair or alteration of storage tanks, assembling and testing (construction).

In a short span of time of the company's restructuring, owing mainly to the new style of management, AT&V reputation for high standards of quality has been outstanding. This was realized by redefining our commitment to the Quality Control System and strict adherence to **American Petroleum Institute** (API) standards. In addition to quality, AT&V is also keen on maintaining the safety of its operation, its staff and client people as well.

Our continued improvement in performance is due to the effective management skills combined with full support of our permanent well trained professional staff, both technical and administrative.

Our projects were with **Saudi Electricity Company** (Western Region) in **Shoaiba Steam Power Plant** Project Stage 1 for HFO/LFO/CO tanks (more than 86 m in diameter each), installation works for piping and equipment; **Saudi Electricity Company** (Southern Region) in **Tihama** for tank re-bottoming; **Saudi Aramco Ras Tanura** for building high cone tanks; **Petrokemya's Olefins** III project for cone roof tanks are the only few of our many accomplishments which showcase our expertise.

GENERAL:

Name	:	ARABIAN TANK & VESSEL (AT&V)					
Address	:	P.0. Box 9897, Jeddah 21423 Kingdom of Saudi Arabia					
Telephone No.	:	00966 (2) 682-4743/691-3382/7945/4732					
Fax No.	:	00966 (2) 682-2971/691-7418					
Email Add	:	atv@turkigroup.com					
Year Established : 1995							
Type of company (public, private etc.): Private							
Name of Contact: T.E. Formby Position: General Manager							
Commercial Registration No. in K.S.A.: 4030121902/001							
Owner: Techno Arabia Co. Ltd.							



ARABIAN TANK & VESSEL P.O. BOX 9897, JEDDAH 21423 KINGDOM OF SAUDI ARABIA TEL NO.: +966 (2) 616-3180 FAX NO.: +966 (2) 682-2971/691-7418 E-mail : atv@turkigroup.com

STANDARD PRODUCTS & SERVICES

API-Tanks (All Types)

API-Tanks, Floating Roofs, Internal & External

API-650S Stainless Steel Tanks

API-650/620 Gasholders

API-653 Repair and Alteration of API-650 Tanks

API-620 Low Pressure Tanks and Spheres

API-620R Low Temperature Low Pressure Tanks

API-620Q Cryogenic Low Pressure Tanks

API-510 Repair and Alteration of Pressure Vessels

ASME B96,1 Aluminum Alloy Tanks

ASME STS-1-1992 Steel Stacks (Field Erected)

ASME Trayed Towers, Reactors, Digesters, Coke Drums & other plate fabricated products

ANSI/AWWA D100 Water Tanks, Silos, Bins and Hoppers (Shop or Field Erected)

SPECIAL PRODUCTS & SERVICES

Fabrication, erection and commissioning of steel works for factories, power and desalination plants, storage tanks and vessels, floating cranes, transmission poles, container cranes, gantry etc. Tank Foundations-design and construction management Sphere Foundation – design and construction management CP Systems – tank interiors and exteriors Leak Detection and Leak Containment – design and construction for tanks Insulation systems – design and construction for tanks

Tanks under international codes such as BS5500design and construction (Please inquire about your specific code compliance needs)

Wind Tunnels - fabrication and erection

Vacuum Chambers - design, fabrication and erection

Dolphins – design, fabrication and erection (API-5L / API-2B)

Platform Legs – for offshore jackets – fabrication and erection

Penstocks - design, fabrication and erection

Double deck external flotation roofs – design, fabrication and erection

Double wall tanks - design, fabrication and erection

ORGANIZATION CHART



الرقم: - <u>۲۰۲۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰۰</u>		والجملكين والعربيت في والسيعوديتين والجملكين والعربيت في والسيعوديتين
	م الحربي سلعوا سات و او عيه الضغط م - الحربي سلعوا سات و او عيه الضغط مودة جنسيتها ،	الإسم التجاري للشركة : شيخه المصند نوعها :نا مستوليتم
وتنتهي في : ـــــــــــــــــــــــــــــــــ	ـــــــــــــــــــــــــــــــــــــ	مدة الشركة : ٢٥٠ مدة مركزها الرئيسي تجده مي الزمين ال
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رقم الصادر : ١٩١/١٩/١٩	ترخيص صناعي	المملكة العربية السعودية
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ATZV	INDUSTRIAL LICIENSE Nº 1085/	نوع الترخيص [] جدير 8/25 DATED 25
الكيان القانوني : شركة ذات مسئولية محدودة) رقم (٦٨٥ / ص) وتاريخ ٣ / ٨ / ١٤ ١٥ ـ الموقع : حدة	اسم المنشأة : المصنع العربي للخزانات واوعية الضغط
ص الجنسية الحصة من رأس المال	الحصة من رأس المال اسم صاحب / أصحاب الترخيد	اسم صاحب / أصحاب الترخيص الجنسية
1	······································	محمد بن علي بن أسماعيل تركي سعودي
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تف : ٦٩١٤٧٣٢ فاکس : ٦٩١٤٧٣٢	الرمز البريدي: ٢١٤٢٣ هاتف: ٦٩١٧٩٤٥ ها	عنوان المنشأة : ص.ب : ٩٨٩٧ المدينة : حدة
رمز ۷۳۰۸۳۰۰۰	طن هياكل ومشغولات حديديه	المنتجـــــة : ٣٧٥ (ثلاثماعه وخمسه وسبعون) ٦٠٠٠ (ستــه الاف)
رمز ۲۳۰۹۰۰۹۰ رمز ۲۳۱۱۰۰۹۰	یس مرادی وطیهاریج ومود ومیاه یون) طن أنابیب واوعیه ضغط	۱۸۷۵ (الف وثمانمائه وخمسه وسب
رمز ۲۲۱۱۲۱۰۰	طن مبادلات حرارية	۳۷۵ (ثلاثمائه وخمسه وسبعون).
رمز ۲۳۰۷۹۹۰۰ رمز ۲۳۱۱۰۰۹۰	طن أنابيب حديدية طن أوعية ضغط غاز ومراجل	۱۹۰۰ (الف وحمسمات)) ۳۷۵ (ثلاثمائه وخمسه وسبعون)
عن ٢٠٪ وزير التجارة والصناعة	سته من عشره) مليون زيال والمدفوع منه لايقل	اجمالي التمويل : (١٦٦٦) (سته عشر و
	ن من	القوى العاملة : (٥٦) (سته وخمسو
	6	ملاحظة : التعليمات الموجودة خلف هذا القرار متممة له محمد

ATV Equipment List (Owned)

Item	Equipment Description	Quantity	Description
		6	230kVA (CAT)
1	Diesel Generators	4	167kVA (CAT)
		1	75kVA (CAT)
	Total	11	

Item	Equipment Description	Quantity	Description
	2 Mobile Cranes	1	50 Tons (Grove)
		1	35 Tons (Smith)
2		1	25 Tons (Grove
		1	25 Tons EOT Crane (Demag)
		2	5 Tons EOT Crane (Germany)
	Total	6	

Item	Equipment Description	Quantity	Description
	Compressors	1	750cfm (Atlas Copco)
3		1	450cfm (Atlas Copco)
		1	250cfm Atlas Copco)
		2	185cfm (Sullair)
	Total	5	

ltem	Equipment Description	Quantity	Description
	Electric Welding Machines	4	1000A Automatic (Lincoln)
4	Diesel Welding Machines	4	500 Amp (Lincoln)
	Electric Welding Machines	30	500 Amp (Lincoln)
	Total	38	

ltem	Equipment Description	Quantity	Description
5	Gas Cutting Sheets	8	-
	Total	8	

ltem	Equipment Description	Quantity	Description
6 Plate Shearing Machine	Plate Shearing Machine	1	10mm x 3m (Darley)
	Flate Shearing Machine	1	8mm x 2.5m (Zamech)
	Total	2	

Item	Equipment Description	Quantity	Description
	7 Hydraulic Punching Machine -	1	16mm (RIX Corp)
7		1	16mm (Ficep)
1		1	16mm (Hydraulic Punching&
		I	Shearing)
	Total	3	

Item	Equipment Description	Quantity	Description
	Porta Cabin for Site Office	1	48m²
	Forkift	2	5 ton & 3 ton
8	Scaffolding	1	Lot
	Container	3	container for site store
	Erection Tool Clamp	1	Lot

ATV Equipment List (Owned)

Item	Equipment Description	Quantity	Description
0	Lindraulia Danas Daska	1	600 tons (Greece)
9	Hydraulic Press Brake	1	8mm x 6m (Somo)
	Total	2	
ltem	Equipment Description	Quantity	Description
10	Plasma Cutting Machine	2	Urock & Miller
	Total	2	
ltom	Equipment Description	Quantity	Description
item	Equipment Description		2000m (polond)
11		1	2000m (poland)
	Total		
Item	Equipment Description	Quantity	Description
10	Threading Machine	1	50mm (Rigid)
12	Total	1	
	· · · · · ·		
Item	Equipment Description	Quantity	Description
		1	65mm Radial
		3	40mm Magnetic (Wolf)
13	Drilling Machine	2	40mm Magnetic Broach (Makita)
		1	40mm Rota Broach (Makita)
		2	38mm Pneumatic
	Total	9	
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Item	Equipment Description	Quantity	Description
14	Dar bender	1	Somm (Peddinghaus)
	Total	•	
ltem	Equipment Description	Quantity	Description
	Grit Blasting Machine	1	-
15	Total	1	
	· · · ·		
ltem	Equipment Description	Quantity	Description
16	Plate Bending Machine	1	6mm x 2.5m (HJ Dela)
10	Total	1	
Item	Equipment Description	Quantity	Description
47	Plate Rolling Machine	1	ZUMM X 3M
17	Total	2	50mm x 4m
	I otal	∠	
Item	Equipment Description	Quantity	Description
	Cricular Saw	1	800mm
18	Total		
L			
Item	Equipment Description	Quantity	Description
40	Painting Tools with Airless Machine	1 1	-
19	Total	1	

PROJECT REFERENCE

ARABIAN TANK & VESSEL (AT&V) PROJECT LISTING

S/N	NAME OF CLIENT	PROJECT NAME	PROJECT DESCRIPTION	NO. OF TANKS	COST (SR)	LOCATION
1	Arabian Bemco Contracting Co. (SEC-SOA)	Najran Power Plant Extension Project	1 x 15000m ³ Crude Fuel and 1 x 2000m ³ Raw Water Tank	Two (02) Tanks	5,920,000.00	Najran, (Saudi Arabia)
2	Sete Technical Services (AGOC/AOC Joint Operations)	Expansion of Waste Water Facilities	Waster Water Treatement Tanks Two (2) 22m diameter X 14.25m high dome roof tanks	Two (02) Tanks	3,637,250.00	Al Khafji, Saudi Arabia
3	Alstom Power Italia S.p.A. (SEC - Western Region)	EWR Shoaiba Steam Power Plant Project Stage 1, Phase 2	HFO/CO Storage Tanks 04 & 05 - Two (2) 86m diameter x 21.95m high cone roof tanks 100,000 M ³ capacity each	Two (02) Tanks	27,000,000.00	SEC Shoaiba, Saudi Arabia
4	Alstom Power Italia S.p.A. (SEC - Western Region)	EWR Shoaiba Steam Power Plant Project Stage 1, Phase 1	HFO/CO Storage Tanks 00, 01, 02 & 03 - Four (4) 86m diameter x 21.95m high cone roof tanks 100,000 M ³ capacity each	Four (04) Tanks	56,000,000.00	SEC Shoaiba, Saudi Arabia
5	Alstom Power Italia S.p.A. (SEC - Western Region)	EWR Shoaiba Steam Power Plant Project Stage 1, Phase 1	LFO/Water Storage Tanks Two (2) 10m diameter x 9m high cone roof tanks Two (2) 33m diameter x 12m high cone roof tanks Two (2) 54m diameter x 12m	Ten (10) Tanks	19,000,000.00	SEC Shoaiba, Saudi Arabia
			high cone storage tanks Two (2) 22.5m diameter x 12m high cone roof tanks One (1) 12.5m diameter x 10m high cone roof tank One (1) 25m diameter x 11m high ft k			

ARABIAN TANK & VESSEL (AT&V) PROJECT LISTING

S/N	NAME OF CLIENT	PROJECT NAME	PROJECT DESCRIPTION	NO. OF TANKS	COST (SR)	LOCATION
6	Petrokemya	Petrokemya Olefins III - Project	Eight (8) cone roof tanks	Eight (8) Tanks	3,750,000.00	Al Jubail, Petrokemya Saudi Arabia
7	Saudi Aramco	Ras Tanura Refinery Project	One (1) 14.5m diameter x 12.8m high cone roof tanks One (1) 15.3m diameter x 12.2m high cone roof tanks Misc. piping	Two (2) Tanks/Piping	2,400,000,00	Ras Tanura Refinery, Saudi Arabia
8	Saudi Aramco	Ras Tanura Refinery Project	Two (2) stainless steel vessels	Two (2) Vessels	377,154.00	Ras Tanura, Saudi Arabia
9	Saudi Aramco	Shedgum Khuff Gas Manifold Expansion Project	Three (3) propane & diesel / storage tanks / vessels	Three (3) Tanks/Vessels	536,157.00	Shedgum, Saudi Arabia
10	Saudi Aramco	Safaniya Project	Repair works of Three (3) 28m diameter tanks	Three (3) Tanks	2,800,000.00	Safaniya, Saudi Arabia
11	Saudi Aramco/Bechtel	Uthmaniyah Khuff Gas Manifold Expansion Project	Two (2) diesel / storage tanks	Two (2) Tanks	161,766.00	Uthmaniyah, Saudi Arabia
12	Saudi Aramco	Aramco Safaniya Project	Bottom replacement of One (1) 14m diameter hemispheriod (369- T-1) tank	One (1) Tank	803,484.00	Safaniya, Saudi Arabia
13	Saudi Aramco (Western)	Jeddah Refinery Project	Repair pan of FFC unit spent catalyst stripper J-F-V203	One (1) Vessel	120,000.00	Jeddah, Saudi Arabia

ARABIAN TANK & VESSEL P.O. BOX 9897, JEDDAH 21423 KINGDOM OF SAUDI ARABIA

ARABIAN TANK & VESSEL (AT&V) PROJECT LISTING

S/N	NAME OF CLIENT	PROJECT NAME	PROJECT DESCRIPTION	NO. OF TANKS	COST (SR)	LOCATION
14	Flour Arabia Ltd. (SCECO West - Rabigh)	SCECO West - Rabigh Project	One (1) 17m diameter x 16m dome roof tank One (1) 12m diameter x 11m dome roof tank One (1) 7.5m diameter x 7.5m dome roof tank	Three (3) Tanks	2,650,000.00	Rabigh, Saudi Arabia
15	SAFCO	Jubail Industrial City Project	One (1) 12.8m diameter x 8.42m high cone roof tank	One (1) Tank	605,500.00	Al Khobar, Saudi Arabia
16	Arab Tank Terminals Ltd.	Yanbu Tank Farm Project	Ten (10) 10.5m diameter x 10m high dome roof tanks Two (2) 15.75m diameter x 12m high pressure tanks Two (2) 15.75m diameter internal pan deck floaters	Fourteen (14) Tanks	4,000,000.00	Yanbu, Saudi Arabia
17	Eastern Petrochemical Company/Chiyoda	Sharq II Expansion Project	Twenty Three (23) carbon steel pressure vessels	Twenty Three (23) Vessels	1,164,729.00	Al-Jubail, Saudi Arabia
18	Al-Jubail Petrochemical Company (Kemya)	Al-Jubail Petrochemical Co. Project	Three (3) high pressure holding tanks / air receivers	Three (3) Tanks / Air Receivers	893,764.00	Al-Jubail, Saudi Arabia
19	Al Jubail Petrochemical Company (Kemya)	Al-Jubail Petrochemical Co. Project	Two (2) Amine & SABCAT-1 storage vessels	Two (2) Vessels	160,282.00	Al-Jubail, Saudi Arabia
20	Metito Arabia Industries	Metito Arabia Industries Project	Two (2) 4.3m diameter x 2.8m high cone roof tanks One (1) 6.8m diameter x 4.5m high cone roof tank	Three (3) Tanks	700,000.00	Dammam, Saudi Arabia

S/N	NAME OF CLIENT	PROJECT NAME	PROJECT DESCRIPTION	NO. OF TANKS	COST (SR)	LOCATION
21	Al-Mayssan Development	Bab Makkah Building Project	One (1) 15m x 2m x 2m storage tank Misc. Piping	One (1) Tank/Piping	70,000.00	Jeddah, Saudi Arabia
22	Metito Arabia Industries	Metito Arabia Industries	Ten (10) 750mm diameter x 2m high pressure tanks Ten (10) 900mm diameter x 2m high pressure tanks	Twenty (20) Tanks	720,000.00	Dammam, Saudi Arabia
23	Salem Saleh Al-Hareth Est.	Salem Saleh Al-Hareth Est.	Two (2) 10.5m diameter x 7.6m high cone roof tanks	Two (2) Tanks	735,000.00	Al Khobar, Saudi Arabia
24	Gult Salt Co./Rezayath	Plant Extension Project	Three (3) condensate tank / vessel, vapour scrubber & Nacl storage silo	Three (3) Tanks / Vessels/Silo	663,518.00	Dammam, Saudi Arabia
25	Oasis Production Co.	Oasis Production Co.	One (1) 2m x 6.0m x 4.0m carbon steel tank	One (1) Tank	70,000.00	Dammam, Saudi Arabia
26	CDR (Council for Development and Reconstruction) ANSALDO - Siemens	ZAHRANI and BEDDAWI Combined Cycle Power Plants	Fuel and Water Storage Tanks	Fuel and Water Storage Tanks	30,000,000.00	Lebanon
27	Alstom Gas Turbines	BAALBECK Power Station and TYR Power Station	Fuel and Water Storage Tanks	Four (4) Fuel Storage Tanks Two (2) Water Storage Tanks	10,625,000.00	Lebanon
28	Zahid Tractor-Heavy Machinery Company Ltd.	Riyadh PP-12	Supply, Fabrication & Installation of 20 m ³ x 2 Diesel Tanks 5 m ³ x 2 Lube Oil Tanks 5 m ³ x 1 Coolant Tank	Five (5)	328,125.00	Riyadh, Saudi Arabia

ARABIAN TANK & VESSEL P.O. BOX 9897, JEDDAH 21423 KINGDOM OF SAUDI ARABIA

ARABIAN TANK & VESSEL (AT&V) PROJECT LISTING

TITLE : PIPING, BALANCE OF PLANT EQUIPMENT AND STEEL STRUCTURE INSTALLATION WORKS

S/N	NAME OF CLIENT	PROJECT NAME	PROJECT DESCRIPTION	INSTALLATION	VALUE (USD)	LOCATION
1	Alstom Power Italia S.p.A. (SEC - Western Region)	EWR Shoaiba Steam Power Plant Project Stage 1, Phase 2	Installation of Piping & Equipments for Balance Of Plant for the following Systems:	Piping / Equipments	3,470,000.00	SEC Shoaiba, Saudi Arabia
		1) 2) 3) 4) 5) 6) 7) 8) 9) 10) 11) 12) 13) 14)	Instrument and Service Air Storage system Demi water distribution system LFO supply system Auxilary steam system Chemical feed system HFO/CO storage and fuel forwarding system Desalination Plant (MSF) Cooling and sea water system Chlorination, Hydrogen & Nitrogen System Waster water and oily water treatment sytem Vacuum cleaning system Turbine hall and Boiler			
2	Alstom Power Italia S.p.A (SEC-Western Region)	EWR Shoaiba Steam Power Plant Project Stage 1, Phase 2	Installation of GRP Piping for the following Systems: 1) Desalination Plant 3x5000m ³ 2) Sea water intake system 3) Unit 4 & 5 Turbine hall 4) Chlorination system	Piping	2,100,000.00	SEC Shoaiba, Saudi Arabia

TITLE : DESIGN, REBOTTOMING & REPLACEMENT WORKS OF EXISTING TANKS / VESSELS

S/N	NAME OF CLIENT	PROJECT NAME	PROJECT DESCRIPTION	NO. OF TANKS	COST (SR)	LOCATION
1	Saudi Electric Co. (SEC)	Qunfudah Power Plant Project	Rebottoming of 42m diameter floating roof tank T1	One (1) Tank	961,400.00	Tihama, Saudi Arabia
2	Saudi Arabia Kent Co. Ltd.	Saudi Arabia Kent Co. Ltd.	Rebottoming & Repair Works of One (1) 14.2m diameter x 9.8m high cone roof tank	One (1) Tank	725,000.00	Dammam, Saudi Arabia
3	Saudi Arabian Bechtel Co.	Bechtel Shaybah Project	Rebottoming of Two (2) 13.7m diameter x 10m high dome roof tanks	Two (2) Tanks	1,560,000,00	Dammam, Saudi Arabia
4	Saudi Arabia Bechtel/ARAMCO	Bechtel Shaybah Project	Repair work Eight (8) 4m diameter x 30m length Vessels	One (1) Vessels	11,000,000.00	Al-Jubail, Saudi Arabia
5	RISAL/SCECO, Southern Region	RISAL/SCECO, Southern Region Project	Repair and replacement of Two (2) 37m dia. floating roof tanks of area D1 & U3	Two (2) Tanks	1,450,000.00	Tihama, Saudi Arabia
6	Mobile Oil Co.	Mobile Oil Project	Installation One (1) internal pan deck floater & repair works Misc. piping associated with the tank	One (1) Tank/Piping	250,000.00	Yanbu, Saudi Arabia

ARABIAN TANK & VESSEL (AT&V) PROJECT LISTING

TITLE : DESIGN, REBOTTOMING & REPLACEMENT WORKS OF EXISTING TANKS / VESSELS

S/N	NAME OF CLIENT	PROJECT NAME	PROJECT DESCRIPTION	NO. OF TANKS	COST (SR)	LOCATION
7	Qassim Cement Co.	Qassim Cement Plant Project	Replacement of One (1) kiln shell replacement	One (1) Kiln	571,250.00	Qassim, Saudi Arabia
8	Al-Jomaih & Shell Lube Oil Co.	Al-Jomaih Project	Replacement of bottom plate of tank # 20	One (1) Tank	99,500.00	Riyadh, Saudi Arabia
9	Qassim Cement Co.	Qassim Cement Plant Project	Replacement of One (1) 26m diameter tank cone roof with top shell course and installation of internal floating pan deck	One (1) Tank	560,000.00	Qassim, Saudi Arabia

PHOTO GALLERY

SHOAIBA 3X350MW POWER PLANT 100,000M³ TK#04 ERECTION OF SC8

15000m^o Crude Oil Tank

15000m³ Crude Oil Tank

15000m³ Crude Oil Tank

RIYADH PP-12

WWW WWW

20 M³FUEL- 5M³OIL & 5M³COOLANT TANKS

Laskin

CLIENT-ZAHID TRACTOR

PROJECT STARTED: AUGUST, 2013 FINISHED: JANUARY, 2014

Arabian Tank & Vessel

Quality Management System- Summary

This document is a summary of the complete manual only, where sections and forms used in the manual clearly defines its purpose and functions. AT&V manual is in compliance to ISO 9001:2008 standard. The main purpose of this summary is for the submission of Pre-qualification and Bid Documents. Full access to the manual can be provided upon award of contract.

1.0 Application

Our Quality Management System is applicable to all activities of AT&V that affects the quality of product we provide to our customers. This document is a summary of the complete manual only where sections and forms used in the manual clearly defines its purpose and functions. AT&V manual is in compliance to ISO 9001:2008 standard. The main purpose of this summary is for the submission of Pre-qualification and Bid Documents. Full access to the manual can be provided upon award of contract to serve its purpose.

2. Normative Reference

ISO 9001:2008 Quality Management Systems – Fundamentals and vocabulary

3. Terms and Definitions

The following term and definition given in this manual shall apply:

activity	- something done in pursuit of an objective
adequacy	- sufficiency to satisfy a requirement or meet a need
appropriate	- suitable
applicable	- relevant; appropriate
assess	- evaluate; estimate the value of
assure	- ensure; make certain
authority	- right to command or give final decision; body that has legal powers and rights
available	- able to be used or obtained
awareness	- knowledge or perception of a situation or fact
calibration	- set of operations that establish; under specified conditions; the relationship between values of quantities indicated by a measuring instrument or measuring system, or values represented by a material measure or a reference material, and the corresponding value realized by standards
commitment	- state of being dedicated to a cause or policy
communication	- action of sharing or exchanging information or ideas
complain	- express discontent; displeasure
comply	- (person or organization) meet specified standards
conform	- (item) meet specified requirements
consistent	- (consistent with) conforming to or in agreement with
continual improvement	- the process focused on continually increasing the effectiveness and/or efficiency of the organization to fulfill its policies and objectives
control (noun)	- power to direct or to restrain something; means of restraining or regulating
control (verb)	- direct or restrain something; restrain or regulate
corrective action	- action taken to eliminate the cause of a detected non-conformity or other

Originator	Revision	Pages	Date
NJA	6	2 of 11	22 March 2010

	undesirable situation
customer	- recipient of a product provided by the organization
customer satisfaction	- customer's opinion and perception of the degree to which a transaction has met the customer's needs and expectations
data	- facts and/or statistics, used for reference or analysis; information based on facts
define	- state or describe exactly the nature, scope or meaning of
demonstrate	- show clearly (with objective evidence)
determine	- establish or find out with certainty by research, examination or calculation
design & development	- set of processes that transform requirements into specified characteristics and into the specification of the product realization process
document	- information and its supporting medium
documentation	- a set of documents, for example specifications and records
effectiveness	- measure of the extent to which planned activities are realized and planned results achieved
enhance	- improve the quality, value or extent of
essential	- absolutely necessary, fundamental
establish	- set up
executive management	- person or group of people who direct and control an organization at the highest level
expectation	- belief about (or mental picture of) the future; wishing with confidence of fulfillment
facilitate	- make easy or easier; promote; help forward (an action, result, etc)
feedback	- information given in response to a conduct, a person's performance of a task, etc., used as a basis for improvement
focus	- center of interest or activity
implement	- put into effect
improvement	- action or process of making or becoming better
management review	- part of quality focused on setting quality objectives and specifying necessary operational processes and related resources to fulfill the quality objectives
measurable	- adjectiveable to be measured
methodology	- system of methods used in a particular field
monitor	- observe and check over a period of time; maintain regular close observation over
necessary	- required to be done; achieved or present

Originator	Revision	Pages	Date
NJA	6	3 of 11	22 March 2010

organization	- company, corporation, firm, enterprise or institution or part thereof, whether incorporated or not, public or private, that has its own function and administration
outsource	- obtain goods or services from an outside supplier
perception	- way of regarding, understanding or interpreting something
performance	- the ability to achieve something; the achievement itself
preventive action	- preventive action is ensuring that revealed potential discrepancies will not result as a nonconformance product
procedure	- specified way to carry out an activity or process
process	- a set or system of interrelated or interacting activities which uses resources to transform inputs into outputs
process approach	- systematic identification and management of the processes employed within an organization and particularly the interactions between such processes
product	- result of a process
quality	- ability of a set of inherent characteristics of a product, system or process to fulfill requirements of customers and other interested parties
quality improvement	- part of a quality management focused on increasing effectiveness and efficiency
quality management system	- system to establish a quality policy and quality objectives and to achieve those objectives
quality management system quality manual	 system to establish a quality policy and quality objectives and to achieve those objectives document specifying the quality management system of the organization
quality management system quality manual realization	 system to establish a quality policy and quality objectives and to achieve those objectives document specifying the quality management system of the organization action of achieving something desired or anticipated; fulfillment
quality management system quality manual realization record	 system to establish a quality policy and quality objectives and to achieve those objectives document specifying the quality management system of the organization action of achieving something desired or anticipated; fulfillment document stating results achieved or providing evidence of activities performed
quality management system quality manual realization record responsibility	 - system to establish a quality policy and quality objectives and to achieve those objectives - document specifying the quality management system of the organization - action of achieving something desired or anticipated; fulfillment - document stating results achieved or providing evidence of activities performed - something which a person or organization is required to do or control as part of a job, role or legal obligation
quality management system quality manual realization record responsibility retain	 - system to establish a quality policy and quality objectives and to achieve those objectives - document specifying the quality management system of the organization - action of achieving something desired or anticipated; fulfillment - document stating results achieved or providing evidence of activities performed - something which a person or organization is required to do or control as part of a job, role or legal obligation - keep possession of; not abolish, discard or alter
quality management system quality manual realization record responsibility retain retrievable	 system to establish a quality policy and quality objectives and to achieve those objectives document specifying the quality management system of the organization action of achieving something desired or anticipated; fulfillment document stating results achieved or providing evidence of activities performed something which a person or organization is required to do or control as part of a job, role or legal obligation keep possession of; not abolish, discard or alter capable of being brought back
quality management system quality manual realization record responsibility retain retrievable scope	 system to establish a quality policy and quality objectives and to achieve those objectives document specifying the quality management system of the organization action of achieving something desired or anticipated; fulfillment document stating results achieved or providing evidence of activities performed something which a person or organization is required to do or control as part of a job, role or legal obligation keep possession of; not abolish, discard or alter capable of being brought back extent of the area or subject matter that something deals with or to which it is relevant
quality management system quality manual realization record responsibility retain retrievable scope statutory	 - system to establish a quality policy and quality objectives and to achieve those objectives - document specifying the quality management system of the organization - action of achieving something desired or anticipated; fulfillment - document stating results achieved or providing evidence of activities performed - something which a person or organization is required to do or control as part of a job, role or legal obligation - keep possession of; not abolish, discard or alter - capable of being brought back - extent of the area or subject matter that something deals with or to which it is relevant - required, permitted or enacted by a written law passed by a body having the power to make laws
<pre>quality management system quality manual realization record responsibility retain retrievable scope statutory supplier</pre>	 - system to establish a quality policy and quality objectives and to achieve those objectives - document specifying the quality management system of the organization - action of achieving something desired or anticipated; fulfillment - document stating results achieved or providing evidence of activities performed - something which a person or organization is required to do or control as part of a job, role or legal obligation - keep possession of; not abolish, discard or alter - capable of being brought back - extent of the area or subject matter that something deals with or to which it is relevant - required, permitted or enacted by a written law passed by a body having the power to make laws - product/Service provider
<pre>quality management system quality manual realization record responsibility retain retrievable scope statutory supplier validity</pre>	 system to establish a quality policy and quality objectives and to achieve those objectives document specifying the quality management system of the organization action of achieving something desired or anticipated; fulfillment document stating results achieved or providing evidence of activities performed something which a person or organization is required to do or control as part of a job, role or legal obligation keep possession of; not abolish, discard or alter capable of being brought back extent of the area or subject matter that something deals with or to which it is relevant required, permitted or enacted by a written law passed by a body having the power to make laws product/Service provider conformity to fact; accuracy or precision

Originator	Revision	Pages	Date
NJA	6	4 of 11	22 March 2010

4. Quality Management System

4.1 General Requirements

This manual reflects the 5 main sections of ISO 9001:2008 requirements namely:

- Section 4 Quality Management System
- Section 5 Management Responsibility
- Section 6 Resource Management
- Section 7 Product Realization
- Section 8 Measurement, Analysis and Improvement

When outsourcing is required such as, supply of materials, services or any other products, these should complied with section 7.0 of this manual. Product Realization procedure which include supplier's evaluation (technical & commercial), material submission for approval and monitoring of performance. these procedures and forms are the ways to ensure that the same quality of standard is being maintained to conform with the client's requirements as well as ISO requirements.

4.2 Documentation Requirements

4.2.1 General

Documented procedures, approved manual and records are being implemented in all activities of our organization.

4.2.2 Quality Manual

Our Quality Manual has been developed to meet and satisfy the quality requirements of ISO 9001:2008. Originally, this manual was created in compliance with the requirements of International Standard ISO 9001 – 1994 and replaced by ISO 9001-2000, and now has been refined to implement a Quality Management System based on ISO 9001:2008, the latest version of the world's most widely used standards for quality management system (QMS).

The purpose of this manual is, as a reference document to staff describing the purpose, content, structure and management of the Quality Management System. In addition, this manual is available for issue to clients/customers for information and in support of pre-qualifications or proposals.

Therefore, the titles of each section in this Manual given below and further illustrated in QOP-4.2-02 (Quality Assurance Manual) correspond to those shown in ISO 9001:2008 clearly demonstrate how the requirements of the standards are met by the Organization's Quality Management System.

- Section 1 Scope (identified in 4.1-01 of this manual)
- Section 2 Normative Reference (identified in 4.1-01 of this manual)
- Section 3 Terms and Definition (identified in 4.1-01 of this manual)
- Section 4 Quality Management System
- Section 5 Management Responsibility
- Section 6 Resource Management
- Section 7 Product Realization
- Section 8 Measurement, Analysis & Improvement

The procedures refer to the particular clauses of ISO 9001:2008 to which they are applicable and cover all the activities of our Organization.

Interaction between various processes which is outlined in attachment (1) <u>4.2-02/01 Process Mapping</u> entails functional level within the organization.

Structure Description:

Originator	Revision	Pages	Date
NJA	6	5 of 11	22 March 2010

Project Management

This division of the organization is working under the guidance of Section 7 of this manual to cover all procedures related to product realization.

Quality Management System

This division of the organization is working to adhere the processes under Sections 4 and 8 of this manual to record, analyze and maintain the effectiveness of the Quality System of the organization.

General Management

This division of the organization is working generally to the activities of Sections 5 and 6 of this manual to review, analyze and resolve issues concerning the effectiveness of the Quality System.

These divisions are working conjunctively to strictly adhere to the activities covered under the Quality Manual of the organization which in turn satisfies the quality objectives mandated in the quality policy.

4.2.3 Control of Documents (QOP-4.2-03)

This procedure defines the activities necessary for the control of internally and externally generated documents used at organization's wide level.

Forms: <u>QOF-4.2-03/01</u> Document Transmittal <u>QOF-4.2-03/02</u> Document Distribution Record <u>QOF-4.2-03/03</u> Procedure Change Request

4.2.4 Control of Records (QOP-4.2-04)

The purpose of this procedure is to describe the process for controlling records generated by the Organization's Quality Management System.

5. Management Responsibility

5.1 Management Commitment (QOP-5.1-00)

This procedure describes the organization's activities in committing Executive Management to the development and implementation of Quality Management System and its continual improvement.

5.2 Customer Focus (QOP-5.2-00)

To ensure that management concentrates their effort towards understanding of the continued requirements of the customers and that these are delivered to the customer satisfaction as well as communicated effectively throughout the organization.

5.3 Quality Policy (QOP-5.3-00)

Our organization defines and documents its Policy for Quality, which provides the overall objectives for an effective Quality Management System. The Quality Policy is relevant to the company's goals and the expectation of our customers.

Our employees and management are committed for assuring that this policy is implemented, understood and maintained at all levels of the organization.

AT&V policy is to provide products of the highest quality based on professionalism, skill and diligence.

5.4 Quality Objectives (QOP-5.4-01)

Under the guidance of the Organization's top management, it is included as our top priority to establish workable and measurable Quality Objectives that will be documented, implemented and measured for its effectiveness.

Originator	Revision	Pages	Date
NJA	6	6 of 11	22 March 2010

5.5 Responsibility, Authority and Communication

5.5.1 Responsibility and Authority (QOP-5.5-01)

The purpose is to define the responsibilities, authorities and qualifications of all organization's employees.

5.5.2 Management Representative (QOP-5.5-02)

This procedure describes the organization's appointment and description of a Management Representative

5.5.3 Internal Communication (QOP-5.5-03)

This procedure defines on how top management directives and policies are communicated throughout the organization to the understanding and benefit of management and staff as well. This allows any staff member to present his views, in the area of his responsibility to the management.

5.6 Management Review (QOP-5.6-01)

The purpose is to define the activities which involve the review of organization's quality management system for adequacy and effectiveness.

Forms:	
QOF-5.6-01/01	Minutes of Meeting
QOF-5.6-01/02	Management Review Meeting Program
QOF-5.6-01/03	Quality Management Meeting Agenda

6. Resource Management

6.1 Human Resources (QOP-6.2-01)

This procedure describes the methods for applications and establishing competency levels, trainings and qualified human resources performing the works affecting the quality of product and services.

Forms:	
QOF-6.2-01/01	Resume Format
QOF-6.2-01/02	Applicant Technical Evaluation Report
QOF-6.2-01/03	Staff Performance Appraisal-Probationary Employee
QOF-6.2-01/04	Applicant Pre-Screening Format

6.2 Competence, Awareness and Training (QOP-6.2-02)

This procedure describes the process for ensuring that each employee is competent for the job they are performing and to identify required training, providing training, seminars, follow-up on the effectiveness of the training and maintaining training records.

Forms:	
QOF-6.2-02/01	Staff Performance Appraisal
QOF-6.2-02/02	Training Attendance Request
QOF-6.2-02/03	Training Course Report
QOF-6.2-02/04	Staff Training Record

6.3 Infrastructure and Work Environment (QOP-6.3-00)

Top Management assess and maintain the infrastructure and work environment necessary for the effective and safe operation of its operating process that satisfies the quality management system, regulatory authorities and client requirements.

7. Product Realization

7.0 Product Realization (QOP-7.0-00)

7.1 Planning of Product Realization

Originator	Revision	Pages	Date
NJA	6	7 of 11	22 March 2010

This procedure establishes the organization's process needed for product realization. This procedure shall apply to all projects of the Organization.

The planned guidelines are sequential requirements and may vary depending on the project requirements and/or as per contract requirements.

Form: QOF-7.0-00/01 Monthly Progress Report

7.2 Customer Related Process

7.2.1 Determination of Product Requirements (QOP-7.2-01)

This procedure defines the action required at a project start-up and to ensure that the organization and the customer have the same understanding as to the contractual and technical requirements and obligation to the product involved.

Form: <u>QOF-7.2-01/01</u> En

Enquiry Sheet

7.2.2 Product Requirement Review (QOP-7.2-02)

This procedure describes the action required prior to the organization's commitment to supply a product to the customer.

Checking and assessing of Tender documents, Contract Cost, Terms & Condition and QA/QC requirements are being done at this stage for accuracy and quality prior to submission of products or commitments to customer.

Form: QOF-7.2-02/01 QOF-7.2-02/02 QOF-7.2-02/03 QOF-7.2-02/04

Product Requirement Review Order Sheet Technical Document Submittal Material Submittal

7.2.2.1 Bidders Selection (QOP-7.2.02.01)

This procedure defines the system of selecting/auditing bidders to establish conformity to technical specification and recognized standard or client requirements.

Form: <u>QOF-7.2.02.01/01</u> Bidders Evaluation Questionnaire

7.2.2.2 Bid Evaluation (QOP-7.2.02.02)

This procedure describes the sequence and content of the tasks in the preparation and submittal of recommendation to client for award of contract based on technical & commercial evaluation.

Form:

QOF-7.2.02.02/01 Technical Bid Evaluation Form

7.2.3 Customer Communication (QOP-7.2-03)

This procedure defines the effective arrangement and implementation for communication with customers in relation to product information, enquiries, amendments, customer feedback and obtaining customer complaint issues.

7.3 Design Execution and Control (QOP-7.3-00)

This procedure describes the design development and control in relation to design planning, technical interfaces, design input and outputs. Procedure also defines the activities on how design is to be reviewed, verified and

Originator	Revision	Pages	Date
NJA	6	8 of 11	22 March 2010

validated.

Responsible for the design execution and control are also written in this procedure.

Sample of stamps to be used throughout this process are clearly illustrated in this procedure and to be implemented accordingly.

ISO clauses 7.3.1 Design and Development Planning, 7.3.2 Design and Development Inputs, 7.3.3 Design and Development Outputs, 7.3.4 Design and Development Review, 7.3.5 Design and Development Verification and 7.3.6 Design and Development are all complied and documented in this procedure.

Forms: <u>QOF-7.3-00/01</u> <u>QOF-7.3-00/02</u> Final Design Check

7.3.7 Control of Design and Development Changes (QOP-7.3-07)

This procedure defines the requirements for the identification, approval, implementation and the provision of records of changes occurring in the design or execution stage of the project.

Forms:	
QOF-7.3-07/01	Project Change Control
QOF-7.3-07/02	Project Change Action Sheet
QOF-7.3-07/03	Technical Document Revision Record

7.4 Purchasing

7.4.1 Purchasing Process (QOP-7.4-01)

As a consultant, this procedure defines the procedural requirements to evaluate products, services and procurement in behalf of the customer.

Detailed activities such as, responsibilities, supplier's evaluation, purchasing information, purchase requisition and order are documented in this procedure.

Forms:QOF-7.4-01/01Supplier's Evaluation QuestionnaireQOF-7.4-01/02Supplier's Performance ReviewQOF-7.4-01/03Supplier's Assessment RecordQOF-7.4-01/04Supply RequisitionQOF-7.4-01/05Purchase OrderQOF-7.4-01/06Outsourcing Assessment ReportQOF-7.4-01/07Suppliers' Summary Format

7.4-01-01 Office Supply Requisition-Internal Use (QOP-7.4-01-01)

This procedure defines the control for the issuance of office supplies within the organization.

Forms:QOF-7.4-01-01/01Office Supply Requisition-Internal UseQOF-7.4-01-01/02Office Supply Control Log

7.4.2 Purchasing Information (QOP-7.4-02)

This procedure defines the procedural requirements in describing the required product to be purchase prior to communication to the suppliers.

Forms:

QOF-7.4-02/01 Purchasing Requirements

7.4.3 Verification of Purchased Product (QOP-7.4-03)

Originator	Revision	Pages	Date
NJA	6	9 of 11	22 March 2010

This procedure defines the procedural requirements in verification and inspection of purchased products.

Forms:

<u>QOF-7.4-03/01</u> Request for Inspection

7.5 Production and Service Provision

7.5.1 Control of Production and Service Provision (QOP-7.5-01)

This procedure describes the plans and implementing production and service provision in a controlled manner.

7.5.2 Validation of Process (QOP-7.5-02)

This procedure describes the process to validate deficiencies after the product or services has been in use or delivered.

7.5.3 Identification & Traceability (QOP-7.5-03)

This procedure describes the process to assign unique identification to a product for easy traceability.

7.5.4 Customer Property (QOP-7.5-04)

This procedure describes the safeguard and reporting of customer property while under the custody or use of the organization.

Forms:QOF-7.5-04/01Customer Property Inspection ReportQOF-7.5-04/02Damage to Property Report

7.5.5 Preservation of Product (QOP-7.5-05)

This procedure describes the preservation and protection of product conformity during process and delivery to its intended destination.

7.6. Control of Monitoring & Measuring Devices (QOP-7.6-00)

This procedure describes processes to ensure that monitoring and measurement can be carried out and are carried out in a manner that is consistent with the monitoring and measurement requirements

Forms:Equipment Issuance FormQOF-7.6-00/01Calibration Status Record

8.0 Measurement, Analysis and Improvement

8.1 Measurement, Analysis and Improvement (QOP-8.1-00)

This procedure describes the organization's activities in determining the monitoring, measuring, analyzing and improvement process needed to comply and show the effectiveness of the quality management system.

8.2 Monitoring and Measurement

8.2.1 Customer Satisfaction (QOP-8.2-01)

The purpose is to define the method for obtaining and reviewing informations relating to customer's perception on products and services provided by the organization.

Forms:	
QOF-8.2-01/01	Customer Feedback Questionnaire
QOF-8.2-01/02	Completion Certificate

Originator	Revision	Pages	Date
NJA	6	10 of 11	22 March 2010

QOF-8.2-01/03	Preliminary Handover Certificate
QOF-8.2-01/04	Final Handover Certificate

8.2.2 Internal Quality Audit (QOP-8.2-02)

This procedure describes the scheduling, notification, proceeding, reporting and follow-up of quality internal audits within the quality management system of the organization.

Internal Audit Program
Quality audit Notification
Quality Audit Checklist
Internal Audit Flowchart
Quality Audit Report

8.2-03 and 04 Monitoring and Measurement of Product and Processes (QOP-8.2-03 & 04)

8.2-03 Monitoring and Measurement of Processes

This clause is carried out through procedures QOP-8.2-02 Internal Quality Audit and QOP-5.6-01 Management Review.

8.2-04 Monitoring and Measurement of Product

This clause is carried out through procedure "QOP-7.0-00 Product Realization", Item A of "7.1-00 Planning of Product Realization Outline" which determines the Product Requirements in compliance with QOP 7.2-01.

8.3 Control of Nonconforming Product (QOP-8.3-00)

This procedure describes the organization's process in identifying, controlling of nonconforming product to prevent its unintended use or delivery.

Forms: <u>QOF-8.3-00/01</u> Nonconformance Report

8.4 Analysis of Data (QOP-8.4-00)

This procedure describes the organization's activities in determining, collecting and analyzing of data to better demonstrate the suitability and effectiveness of the quality management system and to further determine if improvement is required.

8.5 Improvement

8.5.1 Continual Improvement (QOP-8.5-01)

This procedure describes the desire of the organization to continually improve the effectiveness of the quality management system.

8.5.2 Corrective and Preventive Action (QOP-8.5-02)

This procedure describes the activities concerning issues, control and disposition of Corrective and Preventive Actions necessary to prevent the occurrence or recurrence of non-conformities in the quality system, received and deliverable products.

Forms:QOF-8.5-02/01QOF-8.5-02/02Corrective Action Request Form

Originator	Revision	Pages	Date
NJA	6	11 of 11	22 March 2010

Arabian Tank & Vessel		
SAF	ETY PR	OCEDURE
Contract Name Unit Name Purchaser's P.O. No.	:	
Prepared By:		Reviewed & Approved By:
Date:		Date:

LOG OF REVISIONS

Rev. #	Date	Details of Revision	Approved By
А	May 31, 2001	Issued for Review & Comments	
0	Oct. 01, 2001	Issued for Approval	
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CONTENTS

SL. NO.	TITLE	PAGE NO.
1.0	Introduction	5
2.0	General Work Rules	5
3.0	Personal Protective Equipment	6 – 7
4.0	Housekeeping	7
5.0	Lifting	7
6.0	"Right to Know" (Hazard Communication)	8
7.0	Confined Spaces	8
8.0	Scaffolding	8 – 9
9.0	Ladders	9
10.0	Tools	9
11.0	Mobile Equipment	10
12.0	Overhead Cranes	10
13.0	Rigging	10
14.0	Welding and Burning	10 – 11
15.0	Compressed Air	11
16.0	Motor Vehicles	11
17.0	Leading/ Unloading Material and Equipment	11
18.0	Fire Protection	12
19.0	Signs and Posted Rules	12
20.0	Mental Distractions	12
21.0	Safety Meetings	12

1.0 INTRODUCTION

The standards set forth in this procedure are to be considered minimum requirements and are not provided to cover all situations. The omission of any safety practice from these rules does not alter the individuals' responsibility to use good judgment and common sense.

This employee guide to Safety is vital to you and your fellow worker. The following rules and regulations have been established for your protection. Your complete support and dedication in following these guidelines is a requirement.

Work safely, use the correct equipment provided, exercise care and judgment and cooperate fully with those carrying out the intent of this safety program.

It is policy that every employee is entitled to a safe and healthy place in which to work. To this end, every reasonable effort will be made in the interest of Accident Prevention, Fire Protection, Health Preservation and all phases of Loss Control.

2.0 GENERAL WORK RULES

- 2.1 Report all injuries to your supervisor and get treatment. All injuries must be reported immediately.
- 2.2 Report/ correct unsafe conditions.
- 2.3 Do not wear clothing which could get caught in machinery or otherwise cause an accident (such as dragging pant cuffs, torn or loose long sleeves, neckties, torn clothing, or long necklaces).
- 2.4 Smoke only in approved and posted areas. Know where these areas are.
- 2.5 HORSEPLAY, FIGHTING, GAMBLING, POSSESSION OF FIREARMS, POSSESSION OR USE OF ALCOHOL OR UNAUTHORIZED DRUGS IS PROHIBITED. IMMEDIATE TERMINATION FOR VIOLATION OF ANY OF THE ABOVE MAY RESULT.
- 2.6 Whenever you or the equipment you operate is involved in any accident that results in personal injury or damage to property, regardless of how minor, you must report it to your foreman or supervisor.
- 2.7 On job sites where respiratory protective equipment is required, no facial hair is permitted that would prevent the proper sealing of the respirator.
- 2.8 Long or bushy hair must be contained under your hard hat. This hair must not interfere with the proper fitting of the hard hat.
- 2.9 DO NOT use, adjust, alter or repair <u>any equipment</u> without authorization from your supervisor.
- 2.10 When in doubt about any job assignment, ask you foreman and/or supervisor for a clear explanation before you start work.
- 2.11 Do not use motor vehicles unless you have a valid driver's license and you are assigned by your supervisor and have received safety instructions.
- 2.12 In some states, Workmen's Compensation Laws reduce and/ or deny payments to injured employees because of failure to use necessary and proper personal protective equipment. Don't let this happen to you!

3.0 PERSONAL PROTECTIVE EQUIPMENT

All employees will receive instructions on the proper use and care of all personal protective equipment.

3.1 SHOES

<u>Sturdy leather</u> shoes or boots are to be worn on the job. Safety "hard toe" shoes are recommended and all employees are encouraged to wear them. Please note however that many of our Clients require safety-toed footwear on their job sites. Sandals, sneakers, or tennis shoes are not allowed.

3.2 HARD HATS

Hard hats are issued to each employee and must be worn at all times. The wearing of bump-type safety caps, metal hard hats, and the drilling or perforating of any part of the hat, or painting its surface is prohibited. Welders must wear approved type welding hood-hard hat combination.

3.3 EYE PROTECTION

Eye protection is required at all times by all employees. Face shields with safety glasses are required for dust, chemical splash, and debris producing work. Face shields of the proper shade or cutting goggles will be worn when using oxygen/ acetylene cutting. Street and sunglasses are not permitted. ALL SAFETY GLASSES MUST MEET OSHA STANDARDS AND HAVE SIDESHIELDS.

3.4 SPECIAL JOB ASSIGNMENTS

Special assignments may require the use of respirators, and self-contained breathing equipment. Proper instructions on use and care of special equipment will be provided.

3.5 FALL PROTECTION

(Harness and lanyards)

The company has a policy requiring fall protection when working 6 feet above ground levels where protection is not provided. This will apply on sloping roofs, on flat roofs or decking within 6 feet of the edge or any opening when handrails are not provided, and also on any suspended scaffold, or on any scaffold with incomplete decking or handrails. Additionally, fall protection is required on ladders when the work area is above installed handrails.

When using harnesses, attach the lanyard to the "D" ring in the center of your back. Secure the lanyard to an overhead rigid support. The lanyard should be tied of above waist high to that the fall will be tucked in so they don't create a trip hazard. Shortening a lanyard with knots is not allowed.

3.6 HEARING PROTECTION

Hearing protection may be required in some work areas. You can determine the need for hearing protection if the area is marked and posted or if someone else must shout for you to hear them clearly. Hearing protection is always required while grinding or arc gouging.

3.7 RESPIRATORY PROTECTION

Wear proper respiratory equipment when spray painting, sandblasting, or exposed to dust or other toxic sprays, mists, gases or vapors.

PROCEDURE # : 00-EM-41393	Rev. # 3	Date : OCT. 12, 2011	Page 5 of 11
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3.8 WORK GLOVES

Work gloves in good condition suitable to the type of work being performed are required.

4.0 HOUSEKEEPING

This is perhaps the most important single item influencing the safety of any job.

The overall safety of the job is indicated by the degree of orderliness maintained during the performance of work.

Good housekeeping should be practiced from the beginning of the job through the final cleanup. Good housekeeping rewards each employee in safety, pride in this work, and enables him to do a better job.

Keep ladder access, stairways, passageways, platforms and work areas free of any equipment that may cause unnecessary work, obstructions and/ or tripping hazards.

Tools shall not be strewn about where they may cause tripping and falling hazards and at the end of the day they shall be collected and stored.

Debris and waste material should not be permitted to accumulate in the work area.

Keep in mind that orderliness is as much a part of your job as performing the assigned work.

If you keep your area neat, it encourages safe work habits. Major orderliness considerations are:

- 1. Tools and working materials in proper storage.
- 2. Trash and scrap in correct containers.
- 3. Materials stored safely.
- 4. Floor clear of tools, rod ends and metal shaving.
- 5. Keep stairways clear.
- 6. Worktables shall be occupied only by work at hand and tools required for work being done.
- 7. Materials stored or contained so that fire has no place to start.
- 8. Clean up tools and work area as your job progresses. Do not wait for the end of the day.
- 9. Arrange cords and welding leads away from walkways, lying flat and not run through doorways.

5.0 LIFTING

Each employees should know and follow the proper procedure for manual lifting.

- 5.1 Inspect the load first weight, handholds, and size (ask for help when needed).
- 5.2 Bend the knees get down close to the load and keep the load close to your body.
- 5.3 Keep your back as straight as possible.
- 5.4 Lift gradually, using the leg muscles.
- 5.5 Do not jerk, twist, or turn your back. Turn you feet the direction you are moving toward.
- 5.6 Get help with heavy or bulky materials to avoid dropping or getting thrown off balance.

6.0 "RIGHT TO KNOW" (HAZARD COMMUNICATION)

- 6.1 Upon arrival on your job site, you will detailed "Right to Know" training.
- 6.2 You will be told the OSHA requirements of:
 - a. What you could be exposed to.
 - b. The location and how to use the MSDS sheets.
 - c. Who to see for further information.
 - Material Safety Date Sheets (MSDS) contain:
 - a. Physical properties.
 - b. Health, fire and other hazards.
 - c. Warning properties.
 - d. Handling and precautionary procedures.
- 6.4 Read and obey hazard-warning labels on containers.

7.0 CONFINED SPACES

6.3

Confined spaces are generally described as an enclosed space which:

- a. Is large that an employee can enter and perform work.
- b. Has limited or restricted means for entry or exit.
- c. Is not designated for continuous employee occupancy.
- d. Contains or has a potential to contain a hazardous atmosphere.

Workspaces meeting all of the above criteria require certain safety precautions and controls. Your supervisor will guide you in the proper safety procedures.

Hazards may exist in confined spaces such as oxygen deficiency, toxic and/ or combustible atmosphere and explosive dust. Before entering any confined space, air sampling must be performed by a designated individual to assure a safe atmosphere and a permit issued to perform the work. This is particularly important during welding and burning operations because a source of ignition is provided and oxygen is consumed by both the welding and burning operations and the workers.

Special precautions are required when working in confined areas inside a tank or vessel that has been in previous service.

- 1. First, assure the tank or vessel is disconnected and blinded or blanked at the closest flange(s) from any possible hazardous source.
- 2. Before entering any confined space, air sampling must be performed by a trained individual to assure a safe atmosphere.
- 3. Adequate ventilation must be provided whenever any work is done in a confined space where little or no natural ventilation is available.
- 4. Whenever hot work is done in a confined space, all gas cylinders shall be set up outside the vessel.
- 5. Whenever work is stopped for any length of time, hoses and torches should be removed from the confined work area.
- 6. Any work area suspected of being unsafe because of toxic fumes/ vapors/ dusts or oxygen deficiency should be reported immediately to your supervisor.

8.0 SCAFFOLDING

Much of our work is done at heights and adequate protection is a must if we are to work safely.

The following rules are procedures to follow whenever you work above ground level. Know them and heed them.

- 1. The scaffold must be inspected and tagged by a competent person before access is granted.
- 2. There must be a top rail and midrail on all scaffolds unless other satisfactory protection is provided.
- 3. Safety lines are required at scaffold level where the gap between the intermost scaffold board and the tank shell exceeds 12 inches.
- 4. Only qualified welders shall attach scaffold bracket lugs.
- 5. All scaffold lugs be inspected and initialed by one of the job supervisors.
- 6. Bracket spacing must not exceed 9 feet on tank builder's scaffold. Other type scaffolds not to exceed 8 feet spacing between supports.
- 7. Never leave an opening unprotected. Provide a guardrail, handline or similar protection.
- 8. All loose materials on scaffolds must be secured to prevent falling to lower levels. Keep loose materials in shallow containers or barricade the area below the scaffold.
- 9. Don't lean against top rail. Don't hang hoses, cables, etc. from the top rail. They should be hung from the guardrail post.
- 10. Never jump on scaffold boards because jumping from one level to another may cause board breakage.
- 11. Harnesses are required on all scaffolds and shall be tied of whenever outside of or above installed handrails.
- 12. Whenever suspended scaffold (skyclimber, spider baskets, etc.) are used, the user shall be protected by a safety harness attached to an independent lifeline.

9.0 LADDERS

Ladders can be one of our most hazardous pieces of equipment if they are used improperly. Carelessness, misuse or defects in ladder structure cause ladder accidents.

Follow these rules to assure your safety when using ladders:

- 1. Before you use a ladder, ensure it is in good condition. Inspect all rungs, fittings, braces, cleats, feet and rails for possible defects. Report defective ladders to your supervisor and don't use the ladder until repairs have been made.
- 2. Select the right ladder for the job. Ladders shall be used where there is an elevation change of 19 inches.
- 3. Tie or otherwise attach the ladder attach the ladder securely at the top.
- 4. When climbing up or down, face the ladder and use both hands.
- 5. The feet of the ladder should be on a non-slip surface or secured against slipping and placed 1 foot from the base of the vertical support to every 4 feet of ladder length between supports.
- 6. Ladders must extent 36 inches above the work level so personnel can safely transfer from ladder to work level.

10.0 TOOLS

- 10.1 Power tools should only be operated by qualified and designated personnel.
- 10.2 Inspect tools daily before use.
- 10.3 Report all unsafe conditions and equipment to your supervisor.

PROCEDURE # : 00-EM-41393	Rev. # 3	Date : OCT. 12, 2011	Page 8 of 11
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- 10.4 Portable electric equipment and tools must be maintained in good condition. Electrical hand tools on field projects must be protected by a ground fault circuit interrupter.
- 10.5 The electric cord must be unplugged before adjusting electric tools.
- 10.6 Air supply to pneumatic tools must be shut off and "bled down" before disconnecting or when servicing.
- 10.7 Proper guards or shields must be installed on all power tools.
- 10.8 Tools guards and shields must always be used as specified by original design and as required by law.
- 10.9 Any person using a grinder must use safety glasses and a face shield, and all other personnel within the immediate vicinity of the operation must have approved eye protection.
- 10.10 Shutdown and unplug machines before adjusting, servicing, or repairing to prevent accidental starting. This may require the complete "Lock and Tag" procedure, or simply unplugging the power supply or disconnecting the air supply.

11.0 MOBILE EQUIPMENT

- 11.1 Only authorized personnel may operate mobile equipment.
- 11.2 Stay clear of moving equipment whenever there is danger from swing booms, crane cabs, counter weights, suspended loads, etc.
- 11.3 No person should be permitted to stand or pass under a suspended load.
- 11.4 A tag line should be used on all suspended loads.
- 11.5 Only approved suspended personnel work platforms are to be used to lift personnel. Use of platforms includes restrictions on the crane, the loadline, the platform and the personnel in the platform.
- 11.6 Cranes must be operated with extreme caution when near power lines. Lines, which can be reached accidentally, must be de-energized or otherwise made safe before work is done.

12.0 OVERHEAD CRANES

- 12.1 Visually inspect cable and test all hoist controls, brakes, and limit switch at the beginning of shift.
- 12.2 Notify your supervisor of any crane or hoist that is in unsafe working condition.
- 12.3 Observe crane and sling load capacities. Pre-lift planning is required when approaching 70% of crane capacity.
- 12.4 Before repairing, adjusting or oiling the crane, lock the Master Switch in the OFF position.
- 12.5

13.0 RIGGING and RIGGING EQUIPMENT

- 13.1 Know proper use of chainfalls, come-a-longs, chokers, shackles and clamps.
- 13.2 Never raise a load over people.
- 13.3 Use tag lines to control all loads.
- 13.4 Know capacities of rigging equipment and weight of loads.
- 13.5 Rigging must be inspected before use and removed from service if defective.
- 13.6 Remove rigging from the work area after use.
- 13.7 Apply loads to slings gradually.
- 13.8 RIDING LOADS OR HOOKS OF CRANES IS STRICKLY PROHIBITED.
- 13.9 Use a shackle to hold more than two (2) eyes on a hook.
- 13.10 All hooks should have safety latches.
- 13.11 Always place a load in the center of a hook never on the point.
- 13.12 Do not wrap the load chain around the load to be lifted, use a choker.
- 13.13 Every come-a-long should be inspected visually before use. Visually inspect for (1) hooks for any irregularities, (2) chain for wear or damage, and (3) housing and sheaves for any signs of damage from abusive treatment.

PROCEDURE # : 00-EM-41393	Rev. # 3	Date : OCT. 12, 2011
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- 13.14 Use softeners, where possible, to obtain a "bite" on material being rigged.
- 13.15 Do not weld or apply heat to hook or any other part of a hoist.
- 13.16 When using clamps, determine if is locks/unlocks easily. If clamps are worn or do not work properly, do not use until repaired.

14.0 WELDING AND BURNING

- 14.1 Cylinders must be upright and secure at all times.
- 14.2 Valve protection caps must be in place and hand tight when cylinders are not in use or when they are being transported.
- 14.3 Cylinders must be rigged in a cradle or cart when lifted.
- 14.4 Do not place cylinders below work where sparks or hot slag could fall on top of them.
- 14.5 Use only hose and connections made specially for oxyacetylene cutting.
- 14.6 Should a flashback occur and burn the hose, discard that length of hose. Never repair with tape.
- 14.7 Prior to attaching regulators to valves, <u>stand to one side</u> and open valve slightly and then close immediately to clear dust and debris from valves.
- 14.8 Fuel gas should be opened ³/₄ to 1 ¹/₂ turns to facilitate quick closing in emergencies.
- 14.9 Acetylene regulators shall be set at 15psig since acetylene gas is unstable at higher delivery pressures.
- 14.10 Oxygen cylinders and fittings shall be kept free of oil and grease nor handled with oily hands or gloves.
- 14.11 Cylinders are not allowed within confined spaces. Cylinder valves must be closed and torches removed from vessels and tanks at the end of the day, or when left unattended for longer than 30 minutes.
- 14.12 Torches will be inspected daily and lit with a friction lighter and not matches or cigarette lighters.
- 14.13 All combustible materials are to be kept a minimum of 35 feet from welding and burning operations.
- 14.14 Do not stand in water when using an arc-welder. Keep your body insulated.
- 14.15 Wear proper clothing and eye and face protection to protect against flashburn and flying objects. Filtered lens of Number 10 shade or darker shall be used in welding hoods.
- 14.16 Always wear face shield with safety glasses when shipping or grinding. Welding hood with secondary clear lens is considered adequate protection when grinding.
- 14.17 Helpers must wear the same protection in the immediate work area.
- 14.18 Hard hats are required under welding hoods
- 14.19 Safety glasses are required when welding hoods are raised.

15.0 COMPRESSED AIR

- 15.1 Check hoses, coupling and safety pins before use. Use only hoses designed for compressed air.
- 15.2 Never crimp, couple and uncouple a pressurized hose.
- 15.3 "Bled-down" hoses and close valves on air receivers prior to disconnection.
- 15.4 Do not use compressed air for cleaning your clothes it can cause serious damage to bloodstream and heart.
- 15.5 Use eye and hearing protection when using air tools.

16.0 MOTOR VEHICLES

Vehicles and mobile equipment are to be operated by authorized personnel only according to these and client project rules.

Operators are responsible for:

- 16.1 The safety of all passengers and the stability of materials being hauled.
- 16.2 Obeying all speed limits and other regulatory signs.
- 16.3 Promptly reporting all accidents.
- 16.4 Seat belts for all passengers.

17.0 LOADING/UNLOADING MATERIAL AND EQUIPMENT

- 17.1 When loading/ unloading material, use a sequence to assure remaining pieces will not shift or fall off the truck.
- 17.2 Before the load is lifted, make sure you are in the clear. Get to the end of the trailer or completely off the trailer.
- 17.3 A ladder should be used when ascending or descending the bed of the trailer.
- 17.4 Know the weight of the material being lifted. Know the capacity of the slings being used. Remember the capacity of a twin sling decreases as the angle between the slings increases.

18.0 FIRE PROTECTION

- 18.1 Alarms Know where and how to turn in a fire alarm.
- 18.2 Know where the nearest fire extinguisher is located. Know how to operate it. Know the type of fire on which is should be used.
- 18.3 Fire extinguishers will be located near all hot works, refueling areas, and compressed gas storage areas.
- 18.4 Return extinguisher for servicing promptly after use.
- 18.5 Maintain clear access to fire extinguishers at all times.
- 18.6 Combustible material must be kept away from welding and burning operations or covered with fire retardant material.
- 18.7 Equipment must not be refueled while running or when hot.

19.0 SIGNS AND POSTED RULES

You will find signs and posted safety rules and regulations on various jobsites. You will obey these along with the guidelines of this manual.

20.0 MENTAL DISTRACTIONS

Mind in one place and body in another spells danger. If you have a personal situation persistently bothering you, tell you supervisor.

21.0 SAFETY MEETINGS

Your supervisor will hold weekly (or more often) safety meeting for his entire crew. Their purpose is to place accident prevention foremost in your mind, and to equip you with the overall preventive action that will be necessary. Participate in the meeting, contribute your know-how for the less experienced, and ASK if you don't understand.

Your supervisor is responsible for you and your activities as well as the safety of all your crewmembers. You are responsible for abiding by these and all other rules and regulations on the job site. YOUR JOB DEPENDS ON IT SO...if you should have a problem or questions concerning any job assignment, contact your supervisor.