### **Company Profile**



### **Team Industrial Services Est**

مؤسسة خدمات الفريق الصناعية للمقاولات

### Tomorrow's Technology By Today



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### **GENERAL INFORMATION**

### TEAM INDUSTRIAL SERVICES ESTABLISHMENT (TEAMISECO)

Is a Saudi Owned Company based in the Eastern Region, Kingdom of Saudi Arabia? It has multinational personnel and experienced management personnel that has been readily available in Saudi Arabia.

Established in 2010 in high quality for Building Construction, Trading & Manpower supply (Structural Steel and Pre-Engineered Building, Reinforced Concrete and Pre-Cast Concrete Building, Mosques, Maintenance Building, Schools, Communication Building, Offices, Guardhouses, Architectural works including building finishes, furniture's and furnishings. All civil work (site preparation & development, landscaping, asphalt paving, road signs and markings, fencing & gates, SSD fencing, parking lots, sidewalks and walkways, curbs and gutters, and drainage system).

Supply, installation and commissioning of electrical facilities and equipment's (substation, overhead power distribution, underground power distribution, cables termination & splicing, Cathode protections, transformers switchgears, MCC's switchboards, MDP's and panel boards, fire protection and fire detection system, security system, power generation system, grounding and lighting protection, cables and instrumentations). Supply and installation of mechanical facilities and equipment's (cooling towers, scrapper traps including piping fabrication and welding, steel, RTR, FRP, HDPE and PVC piping, HVAC system, fire protection and sprinkler system, pipeline and utility construction including tie-ins). Supply installation and commissioning of utility system (sewer and drainage system, water distribution system, irrigation chilled water system and fire protection system.

They also engaged now in (NDT) Non Destructive Test services, lifting Equipment Inspection, Drill pipe services Inspection, calibration of Testing equipment, Fabrication of lifting equipment & machined parts services, including various Import & Export for the supply of any kind of Diesel Engines and Diesel driven machineries, Pumps & motors, modular housing, accessories and industrial materials & spare parts.

**TEAMISECO** Have the capability of providing of all type of transportation services; we are also have the capability in the fabrication of air conditioning, ducting of any shapes and dimensions as per ASHRAE and SMACNA standards. A progressive company utilizing modern techniques and technology, we have to move computer aided engineering, design estimating, material procurement.

We hope that you find the enclosed information of benefit in assessing our organization and we look forward to having the opportunity of putting our Management, Engineering, Construction and Maintenance skills to work for you.

### **MESSAGE FROM THE PRESIDENT**



I take this opportunity to thank all the prominent clients on behalf of "TEAMISECO" a company engaged in Multi varied business activities enlisted in the preface to provide quality service and support to the Industries and forth coming projects in the Kingdom of Saudi Arabia. We have been backed up with professionals and Industrial giants associated for executing major projects around.

With world-class employees, legacy assets and a strong balance sheet, **TEAMISECO** established itself as one of the best private E&P companies in this country. I am proud of what we have created and believe there is no limit to what we can achieve as a company.

We focus on what we do well, our core competencies, engineering expertise and Operational excellence. Our goal is to build a long-term partnership with you. All of us, at services to clients, partnership and professional workmanship,

We assure your confidence with proven results. To build this business relationship, we are committed to your satisfaction and your success. We ensure this with Customer Services, Reliability, Quality and Performance which have no room for any kind of compromise in the policy of "TEAMISECO".

WE HAVE A VISION: To be the premier private company in the Kingdom of Saudi Arabia, and support our Mission; Entrepreneurs for the betterment of our employees and our Communities.

We maintain a unique culture because we have: Leaders who set a clear, compelling direction Engaged employees who work like owners Open and honest communication Programs that recognize high performance One-of-a-kind employee benefits am proud of our Company and the people that have brought us to where we are today, and I am excited about where we are going tomorrow.

TURKI AL-QAHTANI Founder, President & CEO



### **ORGANIZATION INFORMATION**

Company Name TEAM Industrial Services Establishment

Address P. O. Box 66133 Dammam 31576 KSA

Ownership 100% Saudi Ownership

Commercial Registration 2051029004

Chamber Commerce 79284

ZAKAT Certificate 100158342

Contact Information Tel/Fax: +966-13-8488858

Contact Persons MR. MOHAMMED ISMAIL

Business Development Director Mobile: +966 53 409 4082 moh.ismail@teamiseco.com

ENGR. ALAA EL-DIN ALY OSMAN

Engineering & Projects Manager Mobile: +966 54 860 3030

alaaeldin.osman@teamiseco.com

شربادة تعبرته مؤرت ونرية التاريخ: 424/12/27 الرقم: 2051029004

وزارة التجارة و الاستثمار Ministry of Commerce and Investment

الإسم التجاري للمؤسسة : مؤسسة خدمك الفريق الصناعية للمقاولات

مركزها الرئيسي: الغير الجنوبية / شارع الراعة - تقاطع 14 رقم السجل المدني - الإقامة : 4058292614 أسم التاجر: تركي بن عوض بن علي الجايري القحطاتي الرمز البريدي : 31424 बाव्यः : 899988 تاريخه : 1418/04/02 الجنسية بمعوديه فاكس: 8999884

النشاط: مقولات علمة للمبقم ( إنشاء هدمتر ميم إصلاح) والأعمل الكهربائي أوالميكاتيكية وأعمل الحدادة والأستوم وصيوة وتشغيل المجمعات المكترتو الصناعية وتنفيذ أعمل الجبس والديكر و والكييف والمشاعيات الاتصالات

تاريخه: 1418/04/02

مصدره : ظهران الجنوب

تاريخ الميلاد : 1398 مصدره : ظهران الجنوب

رقم الحفيظة - الجواز: 15264

خمسة و عشرون ألف ريال فقط لا غير

رأس المال : 25000 اسم المدير أو الوكيل المقوض : تركي بن عرض بن علي الجايري القطائي

ت: سودی

رقم السجل المدني - الإقامة : 1058292614

يشهد مكتب السجل التجاري بمدينة الخير سلطات المدير

وتنتهي صلاحية الشهادة في 1444/03/12 بعوجب الإيصال رقم: 2937786

بأنه تم تسجيل هذه المؤسسة بسجل مدينة الغير

و تاريخ : 1438/10/17

تاريخه: 1418/04/02

تاريخ الميلاد: 1398

مصدره : ظهران الجنوب

مدير السجل التجاري: نايف صلح الطاسان

التوقيع:

الختم

يمكنك التحقق من صحة هذه الشهادة بالدخول على http://w.mci.gov.sa من صحة هذه الشهادة بالدخول على http://w.mci.gov.sa في صحة هذه الشهادة بالدخول على



### شهادة اشتر اك

رقم العضوية:

79284

الدرجة : الثالثة

تاريخ الاصدار :1437/03/13

تشهد الغرفة التجارية الصناعية بالمنطقة الشرقية بأن:

مؤسسة خدمات الغريق الصناعية للمقاولات

المقيدة بالسجل التجاري / الترخيص رفم (2051029004)

مشتركة لدينا لهذا العام

## Membership No:79284

Classification: Third

Date of Issue: 24/12/2015

Asharqia Chamber Certifies that:

# **Team Industrial Services Est**

Commercial Register No (2051029004) The certificate expires on 25/2/2018 Registered for this year

# P.O.Box 66133 DAMMAM 31576

صندوق البريد 66133 الدمام 31576

عدرن 60 12/13/13/18 أموانية 2015/11/20 م

13316 ع 1428/10/23 كالية الأشارات 191322973-1: المالية: 13316 ع 13130

وبنتهي سريان هذه الشهادة في60/06/14

التوفيع

نعمل معا... لغد أفضل

الرقم الموجد السلل ١٠٠٠ PP élèmu V·T·VO∧щ1.

Unified number 92000 1361 Fax 013 8570607 أي كشط أو تعديل في مذه الشمادة بلفيها

AB-02/REY,0 / 01/ 11/ 2011/2009

Email: info@chamber.org.sa



رقم الشهادة : ۱۰٤۰۱۱۳۱۹۳ التاريخ : ۱۲۸/۰۸/۱۶ هـ الرقم المميز : ۳۰۰٤۷۰۵۲۵ الطبيئة العامة للركاة والدخل GENERAL AUTHORITY OF ZAKAT & TAX





تشهد الهيئة العامة للزكاة والدخل بأن المكلف / مؤسسة خدمات الفريق الصناعية للمقاولات سجل مدني رقم ١٠٥٨٢٩٢٦١٤ قسجل مدني رقم ١٠٥٨٢٩٢٦١٤ هـ قدم إقراره عن الفترة المنتهيه في ١٤٣٨/٠٦/٢٩ هـ

وقد منح هذه الشهاده لتمكينه من إنهاء جميع معاملاته بما في ذلك صرف مستحقاته النهائية عن العقود. يسري مفعول هذه الشهادة حتى تاريخ ١٤٣٩/١٠/٢٩ هـ الموافق ٢٠١٨/٠٧/١٣م. (التاسع و العشرون من شوال ألف و أربعمائة و تسعة و ثلاثون هجري)

الفروع ( ٥ ) في النموذج المرفق

الهيئة العامة للزكاة والدخل GENERAL AUTHORITY OF ZAKAT & TAX

الشهادات

الختم الرسمي

هذه الوثيقة مستخرجة من النظام الآلي ولا تحتاج إلى توقيع لا يعتد بهذه الشهادة إلا بعد التحقق من موقع الهيئة www.dzit.gov.sa



رقم الشهادة : ١٠٤٠١١٣١٩٣ - 1ETA/-N/1E :

الرقم المميز : ٣٠٠٤٧٠٥٨٢٥



الضيئة العامة للزكاة والدخل GENERAL AUTHORITY OF ZAKAT &TAX





(IAO)

صفحة رقم : ١

قائمة فروع المكلف مؤسسة خدمات الفريق الصناعية للمقاولات وسجل تجاري رقم ۲۰۵۱۰۲۹۰۰۶

قم السجل	الرخصة	إسم الفرع	المدينة
	7-9	تابع السجل الرئيسي	الدمام
T-0ATAO	TI II II II	مؤسسة خدماتالفريق الصناعية للمقاولات العامة	الخبر
	1800/709	ترخيص تابع للسجل ٨٣٨٥٧٠	الدمام
Y-01-0V0A	X-13	محل ركن الجميلة للخياطة الرجالية	الخبر
	E79 / TV9	ترخيص تابع للسجل ٥٧٥٨٣٠	الخبر

هذه الوثيقة مستخرجة من النظام الآلي ولا تحتاج إلى توقيع www.dzit.gov.sa لا يعتد بهذه الشهادة إلا بعد التحقق من موقع الهيئة



1549/. 5/14 التاريخ 7.14/17/71 الموافق رمز الشهادة ١٤١٨٧٩٤٨

### شهادة

إسم المنشأة : مؤسسة خدمات الفريق الصناعية للمقاولات/انشطة إسم صاحب العمل: تركي بن عوض بن علي الجابري القعطائي

ص.ب : ٦٦١٣٣ الدمام ٢١٥٧٦

السعودية

PAF. 77.00 رقم الإشتراك: رقم السجل التجاري: ٢٠٥١٠٢٩٠٠٤

مصدره: الدمام

رقما ستة عشره مشتركا 17 عدد المشتركين السعوديين مانة و واحد و ثلاثون مشتركا 171 عدد المشتركين غير السعوديين 114 مائة و سبعة و اربعون مشتركا المجموع

تشهد المؤسسة العامة للتأمينات الاجتماعية بأن المنشأة المذكورة أعلاه قد أوفت بالتزاماتها تجاه المؤسسة وفق البيانات المقدمة منها حتى تاريخ إصدار هذه الشهادة ، والتي تم منحها لتقديمها لأية جهة تطلبها ، وهي صالحة لجميع الأغراض التي نص عليها نظام التأمينات الإجتماعية في المادة (٦/١٩) منه.

هذه الشهادة سارية المفعول حتى ١٤٣٩/٠٥/١٣ هـ.

يلزم التحقق من صحة وصلاحية الشهادة عبر زيارة الرابط أدناه في الموقع الإلكتروني للمؤسسة العامة للتأمينات الإجتماعية

أو عن طريق استخدام الرمز المعرف التالى:



اننهادت

### www.gosi.gov.sa/vc

( الشهادة معتمدة من صاحب الصلاحية ولا تحتاج إلى توقيع أو ختم )







تعد هذه الشهادة من الوثائق الالكترونية الحكومية الرسمية ، ويحظر قطعيا تقيدها أو إدخال أي تحديلات عليها سواء بالإضافة أو الحذف أو التغير في بياناتها أو غير ذلك من انواع التحديل ، وتحد الشهادة لاغية إذا شابها شيء من ذلك ، كما تعرض صاحبها للملاحقة النظامية أمام الجهات المختصة بالإضافة إلى مايفرضه نظام التأمينات الاجتماعية من عقوبات ، ولايجوز تداول الشهادة إلا في الأغراض التي أصدرت لأجلها وققا لأحكام نظام التأمينات الاجتماعية ، والمؤسسة العامة للتأمينات الاجتماعية غير مسؤوله عن أي أثار أخرى مترتبة قبل الغير عن الشهادة وغير مسؤولة عن أي عملية تزوير أو تحيل تتم على البياتات الواردة فيها .



### Certificate

SWISS CERT Pvt. Ltd. hereby Certify that the Quality Management System of

### TEAM INDUSTRIAL SERVICES EST FOR CONTRACTING

Al-faisaliyah District, Dammam 32272, KSA

has been assessed and found to be in accordance with the requirements of

**Quality Management System ISO 9001:2015** 

and scope of activities are detailed below

### PROVISION FOR GENERAL CONTRACTING SERVICES.

This Certificate is valid for a period of Three years from: 11.01.2018 until: 10.01.2021

And remains valid Subject to satisfactory completion of surveillance audits

Certificate Number: 211034 Rev. No: 00







### SWISS CERT PVT. LTD.

This certificate is the property of SWISS CERT PRIVATE LIMITED and shall be returned upon request.

All Interested parties are advised to verify the validity of the certificate from SWISSCERT (info@swisoindia.com)

endebbeekentakersenener



### Certificate

SWISS CERT Pvt. Ltd. hereby Certify that the Quality Management System of

### TEAM INDUSTRIAL SERVICES EST FOR INSPECTION & CALIBRATION

Riyadh Road from Abo Hadaryih road, Al Amal, Dammam 32311 2891, SAUDI ARABIA

has been assessed and found to be in accordance with the requirements of

### **Quality Management System ISO 9001:2015**

and scope of activities are detailed below

### PROVISION THE FOLLOWING SERVICES:

- TESTING & INSPECTION OF LIFTING & TUBULAR EQUIPMENT
- NDT & PRESSURE TEST
- MEASURING EQUIPMENT CALIBRATION SERVICES
- EQUIPMENT & SPARE PARTS SUPPLIES
- STEEL STRUCTURE FABRICATION AND WELDING
- EXECUTION OF ELECTRICAL & MECHANICAL PROJECTS INCLUDING INSTALLATION & MAINTENANCE

This Certificate is valid for a period of Three years from: 02.02.2018 until: 01.02.2021

And remains valid Subject to satisfactory completion of surveillance audits

Certificate Number: 211036 Rev. No: 00





Director

### SWISS CERT PVT. LTD.

HE SEST STAY TOWER THETAIN SHEWAYS PLACE. PRIMITING DEATH - NO COM. THEOLA.

This certificate is the property of SWISS CERT PRIVATE LIMITED and shall be returned upon request.

All Interested parties are advised to verify the validity of the certificate from SWISSCERT (info@swisoindia.com)



### **Lifting Equipment Engineers Association**

### Certificate of Membership 2018

We hereby certify that

Teamiseco Saudi Arabia

having been audited in accordance with the Association's technical audit procedure specified in document reference LEEA 042 has been admitted as a

**Development Member** 

Certificate Number 6415

For and on behalf of LEEA

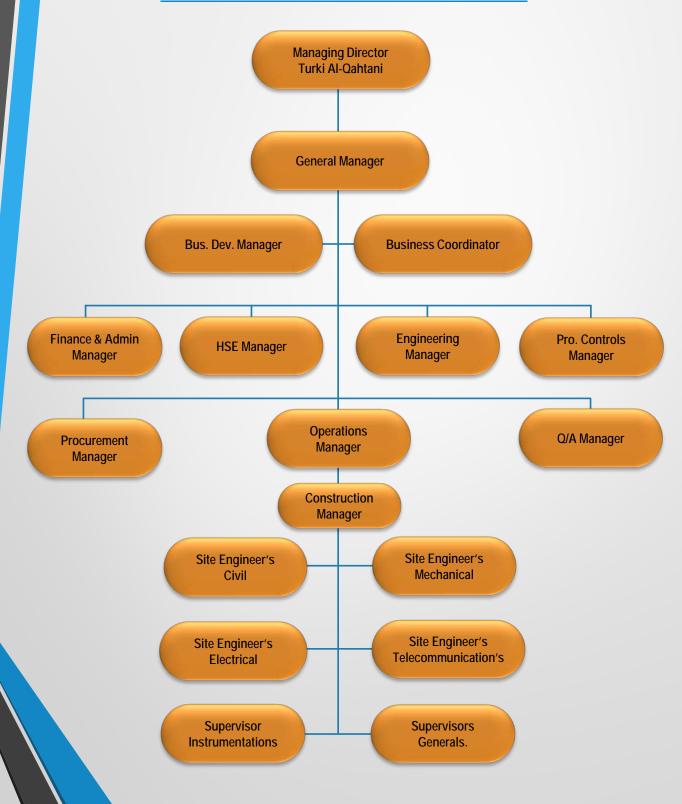
Chairman

Date of Certificate - 12th March 2018

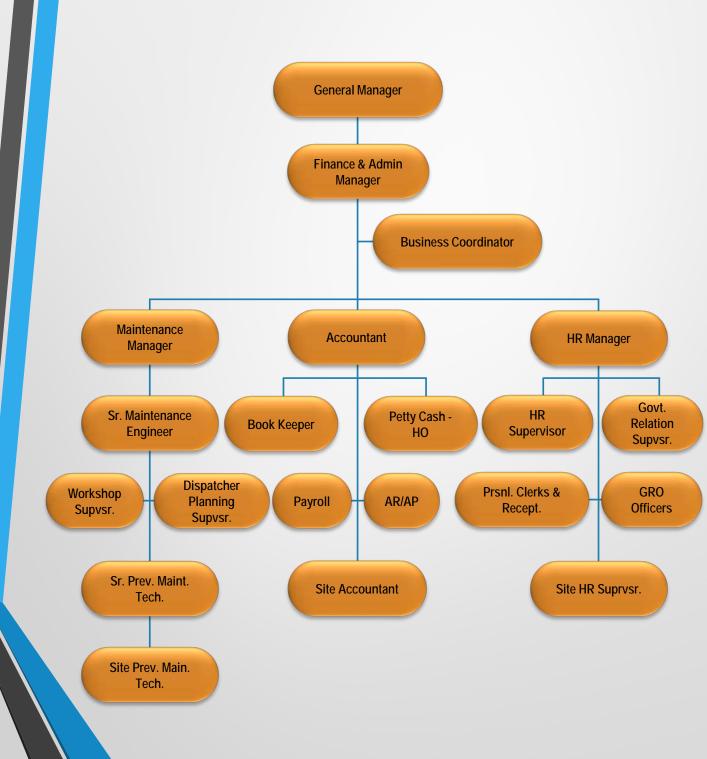
Date of expiry of Certificate - IIth March 2019

This certificate is the property of the Association and shall be returned on demand. It is not issued under, in pursuance or by virtue of any statutory or Government sanction but by the authority of the Association only. It is valid only in the country listed

### **MANAGEMENT STRUCTURE**



### **FINANCE & ADMINISTRATION DEPARTMENT**





### **BANK DETAILS**

Name: Team Industrial Services EST. for Contracting

A/C No: 08 3540 0500 0100

IBAN No: SA381000 0008 3540 05000 100



### **RESOURCES**

### TEAM INDUSTRIAL SERVICES ESTABLISHMENT (TEAMISECO)

Had at its core, a team of competent, dedicated and motivated manages who straddle most industrial sectors providing a multi-discipline management capability to the project. It is the policy of "TEAMISECO" to emphasize on constant training of its personnel through appraisal, coaching and training at all levels. Our future lies with the development of our people, particularly our younger employees. Our graduates rotate through within the company various positions as to make their role and position more pivotal exposing them to as many areas of operation as possible in the first two years into the company. All graduate's engineers are assigned to a mentor, who guide them through their first year in the company and helps them with professional development.

Our office its subsidiary offices and its appointed international recruitment agencies can mobilize rapidly large number of highly skilled tradesmen and engineers as required. With a policy of investigating in its people, "TEAMISECO" support managers and workforce a like through constant appraisal, coaching, training and by encouraging personal initiative.

### **RANGE OF PRODUCTS & SPECIALIZATION**



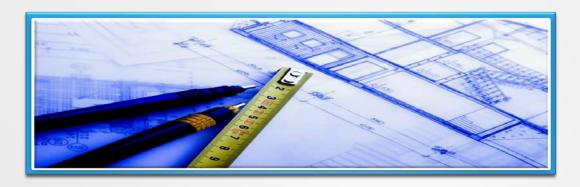




### TEAM INDUSTRIAL SERFVICE ESTABLISHMENT.

Is capable of any Design, Construction and Procurement of all projects and activities within the following services.:

- General Contracting, Maintenance works, Civil & MEP works, Electrical & Telecommunication (OSP), Diesel Equipment maintenance & Services, Rental of Diesel Generators.
- NDT Services, Lifting Equipment Inspection, Drill pipe services & Inspection, Calibration of Testing Equipment, Fabrication of lifting Equipment & Machined parts services.
- Import-Export, Supply of Diesel Engines, Diesel Driven Machineries, Import-Export of pumps & motors, Import Export of modular housing, Accessories, & materials, Import-Export & supplies of Industrial materials & spare parts.



### **OUR SPECIALIZATION**

### **MEP Services:**

### **Mechanical Services:**

- Installation of complete air conditioning systems including AHUs, FCUs, kitchen hoods and fresh air ducts.
- All kinds of split and package units.
- Building Automation and controls.
- Central Heating and hot water.
- Refrigeration.
- Ventilation.
- Air Treatment.

### **Electrical Services:**

- Installation of complete electrical systems for commercial. industrial and residential complexes.
- Power distribution systems.
- Street Lighting and decorative lighting.
- Fire detection and Alarms.
- Power and control systems.
- Data and structured cabling.
- Communication systems & industrial process services.
- Medium to high voltage power networks.
- Installation of switchgear, pocket stations, RMUs, QRMs and TRMs.
- Earth Networks and lightning protection.

### **Plumbing Services:**

- Experts in all types of plumbing, drainage and sanitary fixing works.
- PVC, PPR, COPPER and high-pressure line pipe works.
- Recycling systems.
- All types of sauna, Jacuzzi, and swimming pool systems.
- Irrigation line works.

### **POWER:**

### General:

Electrification of Industrial and Commercial Complexes, Supply and Installation of Security Lighting Systems, Street/Road Lighting, buried and Aerial Cabling.

### Technical:

The Technical Services team develops and provides technically advanced services to owners and operators of electrical distribution networks worldwide.

### Switchgear:

Provide accurate assessment provide accurate assessment of switchgear condition using expert knowledge.

### **Transformers:**

Provide accurate assessment on transformer's condition using expert knowledge such as:

- Condition assessment of transformers.
- Condition monitoring of transformers.
- Thermal assessment of transformers.

### **SUBSTATION MAINTENANCE:**

- Protective Relays
- CT/PT Power transformer
- ISO
- Lightning arrestor
- Relay sand
- Control panel of all makes

### **TELECOMMUNICATION:**

### **Design & Build Services:**

- Macro site solutions.
- Main Switching Centers (MSCs).
- Data Centers.
- In Building coverage solutions.
- Optical Networks.

### **Technical Services:**

- Technical Implementation.
- Field Maintenance.
- Network Upgrades.

### **Network Planning:**

- RF (Radio Frequency) Planning.
- TX (Transmission) Planning

### **HVAC:**

**TEAMISECO** is a preeminent provider of high-technology, design, management, installation, testing, commissioning, operations and maintenance in this field.

### **Technical Services:**

- Design and install air conditioners.
- Heat pumps.
- Furnaces.
- Humidifiers.
- Air cleaners.
- Heat recovery ventilators.
- Zone systems and programmable thermostats.

We represent high quality heating and cooling equipment. Nationwide, we offer the **Carrier**, **Trane** and **Zamil** brands along with many others.

### **INSTRUMENTATION:**

### **Testing & Commissioning:**

Testing & pre-commissioning checks of outdoors witch yard equipment i.e., Isolators, Current Transformers, Potential Transformers, Breakers, Power & Distribution Transformers, Relay Control Panels, Earthing installations, etc. Indoor equipment i.e., HT & LT switchgears, CT, PT, Relay Control Panels, PCC, MCC, Cables, Bus ducts, etc. all shall be tested as per latest standards.

- Testing of transformers, switch gears & relays.
- Testing Equipment's.

### **Protective Relay Testing:**

Servicing, Testing & Calibration of Protective Relays i.e., current relays, voltage relays, power relays, generator relays, etc. (All of various makes – Areva, ABB, Siemens, Easun Rerolled, GE-Multilink, SEGC, etc.) by Secondary injection method. They shall be checked for their various characteristics as per manufacturer recommendation. Repairing of relays shall also be done.

We are specialized in testing of Protective Relays of various makes i.e., ABB, Siemens, Areva, Rerolled, GE-Multilink, SEGC, etc. These relays shall be electromagnetic, Numerical or Microprocessor based. Various Protection schemes shall be checked for their sensitivity and stability.

### System Study & Relay Co-ordination:

We shall carry out total System study with calculation of fault level, preparation of SLD, short circuit calculation & relay setting as per system requirement. We shall be using ETAP software for the complete study.

### Cable Laying:

Cable drum should be visually inspected for damage, which may have occurred during transport. The manufacturer's seal on the inner and outer cable ends should be examined and the condition of armoring, serving and sheath inspected for mechanical damage, corrosion and leakage of impregnating oil. If the cable is found defective it shall not be installed and the cable shall be returned to the supplier for replacement.

### Protection of Cables from Damage:

Cables being drawn into place shall be kept clear of abrasive surfaces by suitable means, e.g. rollers, cable tiles, etc., to prevent any damage to the cable sheath. The cable must be placed in the trench without sustaining abrasion damage, and without allowing rocks etc., to fall into the trench.

- Cable Pulling Tensions.
- Cable Bending Radius.

### **CABLE TERMINATION:**

Cables with braid armor shall have outer heat shrink sleeve which is fitted over the complete cable makeoff. Instrument and telecommunication cables with both braid armor and screen shall have inner and outer heat shrink sleeves.

### □ SECTION 2

CLIENT REGISTRATION

### **Company's Vendor Registration**









### **Our Main Client**



### □ SECTION 3

LIST OF ON-GOING & COMPLETED PROJECTS

# LIST OF RELATED WORK EXPERIENCES ON INFRASTRUCTURE PROJECT

# LIST OF RELATED WORK EXPERIENCES ON INFRASTRUCTURE PROJECT

		:	Period	poi	Estimated Contract		
Contract Number(s)	Description of Works Performed	Ulent(s)	Start	Completion	Value in SAR	Status	Work Classification
HHR 2 Sub-Phases	CIVIL WORKSIMECHANICALIELECTRICAL WORKS- for the Construction Haramain High speed Railways Phase 2 (Makkah-Jeddah-Madinnah) Railway Networks	SAUDI RAILWAYS ORGIGRUPO COBRA/ABB Contracting Co.	June 2015	March 2018	75,000,000,00	On-going and	Civil, Mechanical, Electrical
	Various Infrastructure Works for highspeed and conventional railway lines, Overhead lines, underground power lines , laying of communications cables, and signalling system	. Ltd				Active	Works mostly infrais)
HHR6	Construction of 3 Nos Networks Substation and its Associated Saudi Electricity Company/ABB Works	Saudi Electricity Company/ABB Contracting Co. Ltd	March 2015	March 2017	28,000,000.00	Completed	Civil Works and Minor Mechanical Works
Contract No: 19/01/001/512/04/00Sewer age Works at Uyon Villages	4 KM- Sewerage Works, includes but not limited to installation of New Sewerage infrastructure System for the Uyon Municipalities Villages. Including all related works on electrical system on pumping station and water and sewerage treatment plant.	Ministry of Municipalities and Rural Affairs and Lanes Accomplishment Est.	September 2013	June 2014	27,854,688.00	Completed	Sewarage Works
Subcontract Agreement: Maaden-Al Bainta Mine Infrastructure Special MEP Works and MMH E&I Works	Trenching, Cable Laying and termination. Fabrication, installation of Cable Trays, lightings, and Cable on electrical culverts. Supply and installations of MV and High Volitage Electrical equipment, transformers and substation components including testing and commissioning.	MAADEN Dragados Gulf- Habtoor LeightonMaamer Gen. Contracting	February 2012	July 2013	22,878,582.00	Completed	Electrical Works on Cables and other related Electrical Infrastructure Works for the Aluminum Bauxite Mine Plant Facilities
Contract No.: 28-0284-000- 52, Title: Phase II. Sewerage Works of King Faisal University Campus Infrastructure Projects-AI Ahsa Saudi Arabia	Linking of New Sewerage Works, includes but not limited to installation of New Sewerage infrastructure System for the Phase II of King Faisal University Campus, including all related works in the adaptation with pumping station and sewerage treatment plant.	King Faisal University-Al Ahsa Campus and Al Bushaler Contracting and Trading Co.	December 2019 January 2012	January 2012	26,578,200.80	Completed	Sewarage Works

TEAM Industrial Services Est. has also been engaged in some of the projects in MEP. Please see Next page for information and references

# LIST OF SI, ILAR WORKS COMPLETED-MEP

		LIST OF SIMILAR WORKS COMPLETED-MEP			
	Client Name, Client's			Contract	
Contract No. & Signing Date	Representative Name and Telephone Number	Project/Contract Title and Brief Description of Work	Contract Start Date	Completion Date	Value (Saudi Riyals)
POM 0097824- October 10, 2016	Bezel Arabia Ltd- Rep: Abdullateef P.Tel: 013 3611280	Fabrication, Installation, and Piping Works for Chilled Water Piping-RCJY- Jubail Technical Institute	10-Nov-16	12-May-17	2.875Million
28-0204-000-52, Feb. 26, 2016	Ahsa), Al Bushaeir Trading and Cont. CoRauf Al Bushaier-013	Various HVAC Ducting Supply and Installation Works	Feb. 26, 2016	29-Mar-17	3.12 Million
AHG/PUR/031/2016	Abdullan Hasnim Industrial Gases & Equipment Co. Ltd-Ahmed Saves	HVAC Works and Plumbing of the New Main Building	4-Jan-15	4-Feb-16	2.345 Million
785600078-TIS, Nov. 15, 2013	Saudi Aramco-Khursaniyah Gas Plant, Consolidated Contractors Company WLL- Jamil Nakleh	Upgrading of HVAC Syustem for Administration Building	1-May-14	20-Dec-14	2.65 Million
0844255-December 2013	Eastern Trading and Contracting EstEngr. Ather Ahmed 013 857 6462	Uprading of HVAC System for Saudi Aramco UthmaniyahWater Injection Plant and Haradh Gas and Oil Separting Plant	Dec-13	14-Mar-14	1.23 Million
N/A- June 2015	MADA Company for Industrial and Commercial Investment	Electro-Mechanial Works for Mada Prayer Carpet Factory-Yanbu. Work includes HVAC and Plumbingand Electrical Installation	6/1/2015	Aug-16	3.31 Million
	ADDITION	ADDITIONAL INFORMATION-LIST OF ON-GOING WORKS CIVIL WORKS	L WORKS		
November 2015	Rallways infrastructures installaciones Y Servicios LLc/AL SHOULA CONSORTIUM- Reprsented by: Ruben Sagasta	Civil Works for High Voltage Power Station(HVPS) for Haramain High Speed Railways Project-Madinah to Jeddah	November 2015	On going up to Present	18.00 Million
June 2013	ABB FACTS-Riyadh Saudi Arabia	CIVIL WORKS-Substation Works	June 2013	85% Completed and Ongoing	28.00 Million
		LIST OF FORECASTED WORKS, 2018			
November 2017	NATIONAL GRID SA-MUSEER S. AL ABEEDI EST-Abha Ksa	HVAC Infrastructure Project for National Grid SA-Southern Regional Command Center, Abha, KSA	To Commence on June 2018. Ground breaking and Site Development Works on Goin	n June 2018. Ing and Site orks on Going	6.89 Million
Nc	Note: TEAMISECO has also provided minor e	also provided minor electromechamical works for some companies engaged in construction, and small size industrial project	construction, and sn	nali size industrial pro	yect

### □ SECTION 4

QUALITY PROGRAM & CONCEPTS



### PROJECT QUALITY PLAN

### Preparatory Phase:

This phase begins with actions in advance of construction. A few examples are reviews of designs, details, specifications, test reports, and mix designs; a physical check of material onsite against approvals and customer requirements; safety checks of equipment; and other preparatory steps that depend on the particular operation. This phase is active from the start of planning to the initiation of construction.

### Initial Phase:

This is the time for the unit, customer, and any third party to ensure or reestablish standards of workmanship. If there are differences of opinion on the interpretation of construction requirements, the issue can be discussed and settled at the outset of work rather than after the work is in place. The initial inspection phase is a practical method of performing preventive inspection and reaching agreements (in writing) in advance. Proper coordination from the unit must be made before construction starts and during the initial

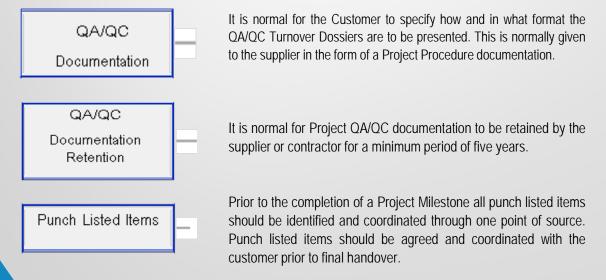
Issued nonconformance reports can be generated from the customer Closure of or to the supplier or vendor. It is important the control and action for nonconformance closure purposes is coordinated through a sole point of contact. Reports Ensuring that delays in the construction schedule are kept to an absolute minimum It must be agreed with the customer if they are going to sign off the Client Sign off of inspection check sheets during their attendance at the place of Inspection Test inspection or whether the customer will verify conformance by Dossiers reviewing the As-Built Turn over Dossiers. If this is not agreed at the early stage of the project this could cause considerable delays later on. Punch-snag List Prior to the completion of a Project Milestone all outstanding items should be identified through one point of source. Punch listed items Items should be agreed and coordinated with the customer prior to final handover.

Outstanding work lists that are identified in the Punch list that Outstanding Work list cannot be completed must be identified in a Project Exception List, Defined rework to be completed at a later time. All rework must be agreed with the customer. Copies of Project Quality Control and Quality Assurance QA/QC documentation are normally required by contract to be held for retention for a period of five years by the suppliers or Prime Documentation | Contractor. Where a component or section of the Project fails a Reconciliation later stage a warranty claim will be initiated by the customer. The Customer and the Prime Contractors must ensure there is QC Manpower sufficient Quality Control manpower on resources for the scope of Defined the customer's Technical Specifications.

### Follow-Up Phase:

### In Process Inspection:

This phase includes inspections and testing to determine continuation of compliance and workmanship established during the preparatory and initial phases. Follow-up inspections may occur on a daily, routine, or predetermined basis as required to ensure strict construction compliance (see Figure 2). This happens throughout the project. For example, units can construct "mock-ups"--such as sample footings, walls (masonry or lumber), and trusses--to establish standards or have inspectors approve the mock-ups before constructing the proportionate load of the project. Figure 3, page 18, shows a county inspector conducting a slump test on a grout fill for a concrete masonry unit (CMU) wall.



Customers Warranty Claims In such cases where there is a failure of the product, the QA/QC Turnover Dossiers will be able to identify whether there is a product manufacturing defect or if it was an installation construction failure.

### 1. QUALITY CONTROL INSPECTION PROGRAM

- 1.1. The Quality Control Officer shall be supported by testing laboratories and special consultants as required to meet the requirements of the specifications, and to ensure qualified inspection of the work. The Quality Control Office should be responsible for scheduling and coordinating all inspection and testing of work as further described under Testing Program.
- 1.2. The Quality Control Officer shall use the expertise of the testing laboratories and specialist consultants as required, and should be responsible for issuing the final recommendations. The Quality Control Office should coordinate and supervise the performance of all required inspections, testing, checking of documents and submissions performance of all required inspections, testing, checking of documents and submissions for approval. In addition, the Quality Control Officer should be responsible for monitoring complete up-to-date records on submittals of documents and should be responsible for submitting quality control reports as required to the senior management of the contractor on- and-offset.
- 1.3. The Quality Control Office shall visually inspect material delivered to the site, the pertinent superintendent and/or subcontractor should be asked to be more from the same site. The Quality Control Office shall notify his Project Manager of any unresolved problems in this regard. Should the problem persist, the status should be incorporated in the daily report and corrective action and remedial measures be taken.
- **1.4.** As soon as a representative segment of an item of work is completed, the Quality Control Officer should inspect workmanship, dimensional accuracy, and ensure the proper use of approved materials. In addition, he should review the testing and inspection operation to ensure compliance with the specifications.
- 1.5. The Quality Control Office should continue inspecting the work as required to assured continuing compliance with the plans and specifications until the work is completed. Upon completion of an item of work, the necessary operational or performance testing should be conducted and required certifications submitted.

**1.6. TEAM INDUSTRIAL SERVICES EST.** shall name an approved quality control representative to be on the job site at all times, and continuous inspection should be maintained during critical phases of the work. The Quality Control Plan should remain in effect until construction work has been substantially completed. Phase inspections should function as follows:

### 1.6.1. Preparation Inspection:

Prior to commencement of any work segments check plans, specifications, submittals, materials, existing conditions and controls. Advise superintendents and/or suppliers of packing requirements for shipment by land, sea, or airfreight

### 1.6.2. Initial Inspection:

Final inspection should be carried out and deficiencies rectified prior to requesting formal inspection from the client's consultant supervision team

### 2.0. TESTING PROGRAM:

- 2.1. An independent on-and-off site testing laboratory shall be used to perform the required on-and off site testing, and in addition, should assist in the specified inspection of work items such as earthwork, concrete and bituminous paving. Test reports will include specification requirements, test, data, and a statement of recommended corrective actions should a test fail to meet specifications criteria. Inspection reports should include a description of the items or activities inspected of a statement of compliance or a statement of recommended corrective action if tests do not indicate compliance.
- 2.2. Test and inspection reports should include the date and time of the test or inspection, the exact location and other pertinent information. All tests and inspection reports prepared by the testing laboratory should be submitted along with the daily reports. Recording of these tests shall on appropriate forms as approved by the client's consultant supervision team. The test report forms should be amended as necessary to include the entire test data required to provide a comprehensive report.
- 2.3. Designation of standard tests proposed per specifications may be as per the following examples:
  - 2.2.1 Grading:
  - 2.2.2. Excavation and Backfilling:
  - 2.2.3. Sub-surface Drilling &Testing:
  - 2.2.4. Concrete Sidewalks, Curbs, Exterior Items & Buildings
  - 2.2.5. Bituminous Course for Roads & Parking Areas:
  - 2.2.6. Sampling and Testing
  - 2.2.7. Irrigation System:

- 2.2.8. Turf, Tress &Parking:
- 2.2.9. Reinforced Masonry:
- 2.2.10. Miscellaneous Metals:
- 2.2.11. Caulking Sealant:
- 2.2.12. Aluminum Windows and Screen:
- 2.2.13. False Ceiling:
- 2.2.16. Gypsum Board Ceiling:
- 2.2.17. Furring, Lathing & Plastering:
- 2.2.18. Ceramics, Quarry & Terrazzo Tiles:
- 2.2.19. Acoustic Treatment:
- 2.2.20. Painting:
- 2.2.21. Extinguisher:
- 2.2.22. Water Lines:
- 2.2.23. Sewers:
- 2.2.24. Impressed Air System:
- 2.2.25. Plumbing:
- 2.2.26. Air Condition & Distribution System:
- 2.2.27. Electrical:

### 2.2.30. For any project, the QA QC program and activities are divided into four parts:

- Preconstruction
- The Tender & Contract Period
- Construction
- User Operations Review

Each of the above phases will require different concerns, personnel, and management levels of attention.

### 3.0 PRECONSTRUCTION:

- 3.1. A provision to ensure quality on a project begins at inception and should be stressed even during pre-design presentation and discussions.
- 3.2 The following are examples of major building components to be thoroughly checked regarding design details, type of materials, construction and labor skill level:
- 3.3 Subsoil conditions affecting foundation systems, ground water and the required waterproofing ad required underpinning and shoring
- 3.4 Building Frame Design:

The lightness of framing, chambers concrete frame and compensation for creep in pre-cast or structural steel application, field welding requirements, fireproofing, corrosion inheritor, etc.

- 3.5 Exterior Wall:
- 3.6 Curtain Walling and Metal Framing.
- 3.7 Roofing.
- 3.8 Plaza.

Check type of system proposed, type of water proofing, type of finishes materials, method of easy replacement, drainage, etc.

### 4.0 THE TENDER & CONTRACT PERIOD:

To prepare a quality product, we must secure commitment from contractors, subcontractors, and vendors both in contract and attitude.

- 4.1 The design consultants, when preparing the particular specification, should include a special section called "Quality Requirements and Control". The other project team members, consisting of the Project Manager and Construction Manager, should assist the design consultant in the preparation of these specifications.
- 4.2 The design consultants, when preparing the specifications, should be very precise when writing up the "Quality Requirements and Control" section and avoid just a "boilerplate" type description. The team should foresee potential problems, which may arise, and work out the controls specifically related to what is expected from the contractor and/or supplier.
- 4.3 The project management team should review and rationalize the testing and inspection requirements, which will be performed by and independent testing agency appointed by the Owner or his designated representative.
- 4.4 Exterior walls at least one story high, one bay wide with\ a width \of 2 meters on the interior side. In major buildings, laboratory testing is not a substitute for this mock-up.
- 4.5 Typical office, or in the case of building a hospital or hotel, typical patient or hotel room, complete in all discipline.
- 4.6 Typical suspended ceiling including lights, air condition fixtures and diffusers.
- 4.7 Typical types of partitions and associated finishes including door frames.
- 4.8 Typical washrooms in high-rise buildings.
- 4.9 During the pre-awarded conference, for any of our major trades, we will review all the described quality requirements, and will ascertain the trade contractor's policy regarding quality. It is important to apply similar considerations 0 the preparation of schedules or other comparable issues. Frequently, the lowest dollar value will not produce the best quality and ultimately might be costlier to the client or end-user.

#### 5.0 CONSTRUCTION:

5.1 This is the phase of the project where the tangible results of the QC/QA programs become evident. Careful attention must be exercised by our team, and their attitude regarding quality will be reflected in the finished product. A consistent approach on QC/QA objectives will facilitate proper understanding. The senior members of our team must initiate the education process which, in turn, will direct everyone's attitude towards quality, and in turn promote an appropriate effort by the contractor, subcontractor, and/or supplier.

- 5.2 Construct regular scheduled (once a month) quality requirements and control meetings with all relevant project management. Minutes of the meetings will be kept, published and distributed to the attendees and management.
- 5.3 These meetings should include a review of the current issues and deficiencies in accordance with the directives issued to contractors, potential problems with upcoming trades, action plans to handle problems (contractor and/or subcontractors), and inspection reports where deficiencies are reported. Appropriate directives should be issued to contractors and/or subcontractors as agreed upon.
- **5.4** The Construction Managers and supervision consultants should discuss major quality issues during the contractor's regular forthrightly meetings.
- 5.5 The superintendents will identify major and/or repeated quality deficiencies by
- J.S.I (Job Site Instruction) to the trade contractors and initiate corrective actions.
- 5.6 The QC Officer will establish and update a quality control checklist for each trade depending on how intense the trade activity. Every field supervisor should regularly fill out the present format
- 5.7 The QC Officer will check and collect all welding certificates and insure that the correct reports are issued for every on-site test, particularly for electrical & mechanical work.
- 5.8 The QC Officer, working with the superintendents will prepare and correct punch list (snag tests) before requesting final inspection by the client. Any agreements with the client or deficiencies should precede occupancy.

#### 6.0 QUALITY CONTROL ORGANIZATION:

- 6.1 The Quality Control Organization shall be headed by the trade contractor's project manager, and should direct the on-site Quality Control Program. The day-to-day implementation of the Quality Control Program. The day-to-day implementation of the Quality Control plan should be the responsibility of the Quality Control Engineer. Assigned to the Quality Control Engineer will be a Laboratory Technician and/or Site Engineer. The superintendents and other staff should assist the Quality Control Engineer as required.
- The Quality Control Engineer's function shall ensure that the requirements of the applicable specifications and drawings are compiled with and that all work is performed in accordance with established norms and standards, and consistent with job safety requirements.

- **6.3** The Quality Control Organization should be responsible in performing the following tasks:
  - 6.3.1 Continuous and rigorous inspection
  - 6.3.2 Conduct phased inspection on a regular basis
  - **6.3.3** Per formal testing required under the technical provisions of the specifications.
  - **6.3.4** Prepare daily QA/QC reports as and when required per contract.
  - **6.3.5** Review, approve and submittals shop drawings, brochures and samples as required for approval by the design consultants.
  - **6.3.6** Inspect material as they are delivered to site to ensure compliance with approved shop drawings and requirements.
  - **6.3.7** Conduct off-site inspection of supplies and materials to be incorporated into work. Provide monthly reports of off-site QC activities.
  - **6.3.8** Main records of all QC activities and submit to the construction manager regularly on established intervals.

#### 7.0 USER OPERATION REVIEW:

- 7.1 The Quality Control Officer shall participate in the review and action on all submittals from subcontractors and suppliers. A submittal may take place in the form of shop drawings, certificate of compliance from a manufacturer/supplier or subcontractor, a sample, catalogues cut or brochure, and/or the drawings, schedules or materials.
- 7.2 A submittal log should be prepared from the final approved plans specifications that summarize all the required submittals in accordance with the contract requirements. This log should be grouped by particular requirements and specification divisions. The particulars trade representatives should be notified of the submittal requirements and due date at the start of the project.

- **7.3** AuthorityfortheadministrationofthisplanisretainedbytheProjectManagerand thecontroloftheprogramsisdelegatedtotheprojectQualityControlOfficer.
- 7.4 Implementation of this program is the responsibility of the Quality Control Officer who has the authority to identify QC problems and initiate, recommend or provide corrective solution to the problems, including removal and replacement of defective works. A separate listing is included, designated to the Quality Control Officer, the staff and the responsibilities assigned.
- 7.5 Quality assurance is the application of standards and procedures to ensure that the facilities meet the designated performance criteria through quality engineering and quality control.
- **7.6** Quality assurance begins with the engineering in the design phase where the design documentation is checked for completeness and constructively, and where specifications are detailed in terms of the required standards.
- 7.7 On site, under the direction of our QC Officer, all schedules for the submission, review and approval of all submittals required by the specifications are established and enforced. These include shop drawings, material samples, mock-ups, manufacturing certificates, etc.
- **7.8** Our QC Officers establish a schedule of inspection including those of the means and methods of construction, off-site operations and of construction put-in-place.
- **7.9** Quality control should be embodied in a clearly defined program, organized, so that the responsibility and accountability is established from the senior levels of management to the tradesmen on site. Quality assurance on the other hand is, an all-inclusive term that embraces all the methods used to guarantee quality and thus includes the quality control and acceptance.
- **7.10** Acceptance quality is a function of the responsible party's ability to meet quality standards established by the clients. Within this framework, quality assurance becomes a matter of setting standards, appraising conformance to these standards. Consequently, quality must be planned and intentionally focused upon, from project conception through warranty period.

#### 8.0 GENERAL DESCRIPTION:

Quality Control/Assurance Program is a recognized document, and meets the following standards:

AISC PCA : Design Control of Concrete Mixture

US Gypsum : Drywall Construction

SMACNA NAP: Sheet Melt

NFPA: National Standard Plumbing
ANSI: National Electrical Codes

Manual of Structural Steel : Article 17.1; Elevators & Escalators

- **8.1.** Special forms should be developed to record results of inspection and tests conducted on the job site. These forms should be completed by the quality control staff or testing laboratory technicians, and approved under the client's consultant supervision. Sample forms for recording concrete cube strength, soil date, mechanical system tests results and quality control deficiency are contained in the appendix.
- 8.2. Accomplished of Quality Control Task
- **8.3.** Materials delivered on site should be inspected, properly stored and shelf life should be checked. Check list should be used to monitor construction progress and quality non-conforming work should promptly be rejected.
- 8.4 Integration of Quality into the Contractor Organization
- 8.5 The Quality Control department is an integral part of the contractors over all organization, and the contractor's organizational chart should clearly define its place within.
- 8.6 he Quality Control Officer reports directly to the project manager, and coordinated the Quality Control function with the Project Superintendent on site. The Quality Control Officer will coordinate technicians and site engineers as required to assist in managing and administering the contractor's quality control program set forth in this document.
- 8.7 Area of Responsibility and Authority of Staff.
- 8.8 Project Manager

The project manager has the overall responsibility for the effective implementation and execution of the on-site quality control program. Given this responsibility, the project manager has the complete authority to carry out the program.

# 8.8.1 Quality Control Officer

The Quality Control Officer has the responsibility to conduct the tests on site, and when required at the testing laboratory.

# 8.8.2 Laboratories Technician

The laboratory technician as and when required at the testing laboratory is responsible for conducting the tests in accordance with the technical provisions of the specifications.

8.8.3 Construction Superintendent / Site Engineer

The superintendents and site engineers shall assist the quality control officer with the gathering of samples. An inspection team should be made Avail testing or testing

# **QUALITY PLAN**

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- 15. Procurement Procedure
- 16. QA / QC Construction Plan
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- 20. Excavation & Backfilling
- 21. Casting in place concrete
- 22. Membrane Roofing system
- 23. Electrical
- 24. Mechanical

#### 1.0 QUALITY OBJECTIVES:

**TEAM INDUSTRIAL SERVICES ESTABLISHMENT.**, will ensure that the Procurement and construction activities of the project in all phases are in fulfillment with the standards and specifications set forth in the drawings, specifications and terms of the particular contract.

#### 2.0 EXECUTION

The Quality Control Supervisor assigned to the project will monitor implementation of QA / QC plan throughout the duration of the project and report to the Project Manager on any matters related to the Quality Assurance / Quality Control requirements of this Project. The Project Manager, Procurement Manager and Quality Control Supervisor will ensure that the Procurement of materials and equipment's for the project and the construction activities are all in full compliance of the contract, drawings, specifications and various standards referred in these documents.

The Project Manager will be responsible for the timely completion of the project and will be in overall control of the project as per the specifications and drawings and applicable standards and code requirements. Contractor Quality Control requirement will cover design phase (if any); procurement Phase, construction Phase & pre-commissioning phase. The Procurement Manager is responsible for the procurement of the Project requirements based on the requirements initiated by the Project Manager.

#### 3.0 QUALITY CHART

The Project Manager will ensure that the material & equipment's being purchased and the deliveries of the items are as per the project requirements. The procurement process will be followed on the basis of the terms and conditions set forth in the contract. The Quality Control Supervisor will monitor the observation of Quality requirements at various stages and will report any variations or deficiency on quality requirements to the Project Manager. The Quality Control Supervisor will be assigned to this project as a full time QA / QC Supervisor and his duties will not be combined with that of a site Foreman/Supervisor.

### 4.0 GENERALMANAGER

- **4.1** The General Manager is directly responsible for the management and control of all activities carried out by TEAM INDUSTRIAL SERVICES ESTABLISHMENT. His responsibilities include but are not limited to
- **4.1.2** The implementation of all measures necessary to ensure that all projects are completed on time and within budget and in accordance with all requirement.
- **4.1.3** Ensuring that all projects and supporting departments are staffed by appropriately skilled, qualified, trained and experienced men.

#### **5.0 PROJECTMANAGER:**

- 5.0 The Project Manager is responsible for managing all project activities. His responsibilities include but are not limited to
- 5.0.1 Representing **TEAM INDUSTRIAL SERVICES EST**. All project meetings and other contractual matters.
- 5.0.2 The management of all project activities and the control of all project personnel.
- 5.0.3 Ensuring that project activities are performed in the sequence shown on the Project Schedule and taking whatever action is needed to ensure the work is completed on time.
- 5.0.4 To maintain liaison and close co-operation with Client Personnel
- 5.0.5 Mobilization of manpower and equipment, and provision of materials required for the timely completion of the work.
- 5.0.6 Ensuring that the requirements of this Project Quality Plan are integrated into the working methods of project personnel.
- 5.0.7 Ensuring that objective evidence of conformity to project requirements is generated. The Project Manager report to General Manager

#### 6.0 CONSTRUCTION MANAGER:

The Construction Manager has the responsibility for meeting the production schedule and ensuring that all works is performed in accordance with the requirements standards and specifications. His responsibilities include but not limited to:

- **6.1.1** Planning and co-coordinating the day to day activities in the workshop and on the project Site.
- **6.1.2** Monitoring daily progress and taking appropriate actions whenever there are production delays.
- 6.1.3 Ensuring that tale work is performed with due consideration for the safety of the workforce, equipment and existing plant facilities.
- **6.1.4** Co-coordinating there-scheduling of activities whenever there are any delays or changes to any of the planned activities.

# The Construction Manager reports to Project Manager.

#### 7.0 PROJECT SUPERINTENDENT:

The Project Superintendent is responsible for supervising and co-coordinating all work on the project site. His responsibilities include but not limited to

- 7.1 Monitoring the work in accordance with the project schedules
- 7.2 Ensuring that the work of each discipline on the site (Civil, Structural, Mechanical, Electrical, etc.) is property planned and co-coordinated.
- 7.3 Supervision of fabrication activities in workshop
- 7.4 Recording changes in the Scope of Work and highlighting any delays that may occur due to non-availability of manpower, materials, drawings or other technical documents.
- 7.5 Maintaining good working practices and housekeeping on the site
- 7.6 Co-ordinate the work with the proponent representatives and discipline Engineers.
- 7.7 Ensuring that Work Permits are available as required, and all work is carried out in a manner that ensures the safety of the workforce, the equipment and the existing plant facilities. The Project Superintendent reports to the Construction Manager.

# 8.0 QA /QC Manager:

The major responsibilities of QA / QC Manager include but not limited to

- 8.1 Managing the performance of all QA / QC activities in accordance with the Project Quality Plan and the project schedule.
- The issue, revision (subject to PROPONENT approval) and control of the Project Quality Plan.
- 8.3 Monitoring the implementation of the Project Quality Plan and its operation by constant surveillance and review.
- 8.4 Developing project specific Inspection and Test Plans for each section / discipline of the work.

- 8.5 To establish and maintain liaison with PROPONENT on all matters relating to OA/ OC.
- 8.6 Reviewing the WNAPS scope of work and responsibilities with regard to QA/QC Related activities throughout all phases of the project.
- 8.7 To convene, attend and minute QA/QC related meetings with PROPONENT, as necessary.

The QA / QC manager reports to the Project Manager concerning the day-to-day project execution matters with reference to QA/QC related problems that require TEAM INDUSTRIAL SERVICES ESTABLISHMENT"s attention.

#### 9.0 OC INSPECTOR:

The QA/QC Inspector (for each discipline) is responsible for all inspection and testing activities. His responsibilities include but not limited to;

- 9.1 Performing/witnessing the required inspection and testing, as per the approved Inspection and Test Plans, the project schedule and all applicable Standards and Specifications.
- 9.2 Monitoring the revision status of all documents issued for used for the projects.
- 9.3 Materials receipt inspection and verification of materials certificates.
- 9.4 Monitoring the status of quarantined materials and ensuring the timely removal of rejected items.
- 9.5 Inspection of materials used for fabrication and erection, and ensuring their traceability is maintained.
- 9.6 Monitoring the Hold Points / Witness points of the Proponent inspection personnel and issuing Request for Inspection at the appropriate times.
- 9.7 Obtaining the appropriate Proponent signatures on the inspection and testing records.
- 9.8 Ensuring that only calibrated equipment/instruments are used on the project and proper calibration records are maintained.
- 9.9 Progressively and systematically compiling all inspection and testing records for handover to the Proponent.

The QC inspector reports QA/QC Manager

#### 10.0 VENDOR INSPECTOR:

The vendor Inspector is responsible for all QA / OC activities associated with materials that are in KMPC, scope of supply and have been assigned an Inspection Level 2, 3 or 4. His responsibilities include but are not limited to;

- 10.1 Reviewing the Inspection Assignment Package to ensure that all requirements have been correctly identified.
- 10.2 Conducting the pre-inspection meeting with the Vendor before the start of the manufacturing.
- 10.3 Performing all inspection activities as identified on the appropriate Inspection covering the manufacture of the Vendor supplied materials.
- 10.4 Preparation and submission of the two-weeks look-ahead schedule of planned QA and co-coordinating with the SAUDI ARAMCO Vendor Inspection representative.
- 10.5 Preparation and submission of the weekly inspection status reports
- 10.6 Reviewing and countersigning all Vendor QA inspection reports
- 10.7 Prepare and issue final disposition reports The Vendor Inspector reports QA /QC Manager

#### 11.0 PROJECT PROCUREMENTMANAGER:

The Project Procurement Manager is responsible for providing the necessary materials for the timely completion of the work. His responsibilities include but are not limited to:

- 11.1 Issuing request for Quotation to the approve suppliers.
- Performing, the commercial evaluation of quotations, negotiating prices and placing Purchase Orders.
- 11.3 Expediting suppliers for the timely supply of materials and subcontractors for the provision of services.
- Organizing shipping, custom clearance and transportation of in materials procured from overseas suppliers, as appropriate.
- 11.5 Co-ordination with the QA/QC Manager on matters related to subcontract inspection requirements.
- 11.6 Supervision of material control activities

#### 12.0 QC DOCUMENTCONTROL:

The Document Controller is responsible for the control and distribution of all drawings and other documents needed for the project. The QC Document Controller reports to the QA / OC Manager

# 13.0 Management Review:

- 13.1 The Management Review of the Quality System operating within the TEAM INDUSTRIAL SERVICES EST. shall be carried out at 6-monthly intervals as described in Management Review and in accordance with the contract requirements and Schedule "Q". The Management Review shall include a review of the project specific Quality System.
- A monthly Quality Management Report shall be prepared and submitted to Proponent accordance with the contract requirements & Schedule "Q".

# 13.0 QA/QC PROCUREMENT PLAN:

- 14.1 TEAM INDUSTRIAL SERVICES EST. shall, from the Project Manager, Quality Control Supervisor including the support staff shall ensure that all procurement shall comply with the requirements as specified to the contract drawings and specifications of this project. In addition to the quality assurance activities, inspection, testing & examination shall be followed for the procurement of materials for the project to ensure that all materials & equipment's being purchased are in accordance with the required standards specified for its manufacture & fabrication.
- 14.2 The required quality control activities shall be provided and documented, for the procurement of all equipment's and materials being utilized or installed during the construction / installation shall meet the requirement in accordance with the contractor schedule.
- 14.3 The names, locations and qualifications of the proposed quality control personnel / agencies to be used in procurement inspections will be forwarded to Proponent Representative. We will ensure that the source inspection is performed only by personnel qualified for the particular equipment being inspected. The manufacturers and vendors will be clearly instructed that any inspection by us or monitoring by Proponent will not relieve them of
- (1) their obligation to provide their own quality assurance / quality control and
- (2) Their quarantees as to materials, workmanship and performance.

During the procurement phase we will begin to compile all necessary documentation required for Project Inspection Record Books as stated in ISO 10005. The quality control activity in the procurement phase will ensure that the materials and equipment's ordered for this project specifies the standards referred in the execution specifications. They are inspected and tested as per the specifications and reaching the warehouse, meeting all the requirements of the job specifications and various standards and codes referred in the job specifications.

### 15.0 PROCUREMENT PROCEDURE:

The material takeoff is prepared by the Materials Engineer. Material take off determines the applicable specification section. Material Request is initiated from the project site providing with the material request form Quotation Requests are prepared from the Procurement section in the Head Office. The specifications and inspection requirements are included as part of the quotation request. Purchase Order is also issued incorporating the specifications and inspection requirements. Copy of the Purchase Order will be given to Proponent. The Quality Control Supervisor shall ensure that all standards and test requirements are made part of the above-mentioned documents.

AA	Aluminum Association
AAMA	Architectural Aluminum Manufacturers Association
AASHTO	American Association of State Highway & Transportation Officials
ACI	American Concrete Institute
ALSC	American Lumber Standards institute
ANSI	American Institute of Steel Construction
APA	American Plywood Association
ASHAE	American Society of Heating, Refrigeration & Air Conditioning Engineers
ASTM	American Society for Testing and Materials
AWPI	American Wood Preservative Institute
AWS	American Welding Society
BHUMA	Builders hardware Manufacturers Association
CRSI	Concrete Reinforcing Steel Institute
EIMA	Exterior Insulation Manufacturers Association
FM	Factory Mutual
IES	Illumination Engineers Society Lighting Handbook
MOPTT	Kingdom of Saudi Arabia Ministry of Post Telegraph &Telephone Standards
NAAM	National Association Architectural Metal Manufacturers National
NEMA	Electrical Manufacturer's Association
	National Electric Code
NEC	National Electric Gode

The Quality Control Supervisor will thoroughly check all the purchase order to ensure that specs. And inspection requirements are being properly transmitted to vendors at all

Times of order placement. The manufacturers, vendors, sub vendors and sub-contractors will be required to meet all applicable standards and specifications, and they will be specifically instructed that inspection from our part will not relieve them of their obligation to provide their own quality control and their guarantees as to the materials, workmanship or performance. The Procurement Manager and Quality Control Supervisor are qualified to identify any quality problem in the procurement process and also to initiate, recommend and provide solution to these quality problem in consultation and with approval of QA coordinator.

When any QC matter requires co- ordination or requires any instruction before manufacturing begins, we will initiate meetings with sub-contractors or vendors and we will request meeting with Proponent Project Engineer for establishing the QA / QC plan for any individual procurement order. Our Quality Control supervisor will request assistance from Proponent QA coordinator—for interpreting codes and standards and construction specs.

The Quality Control Supervisor in procurement section shall ensure that the Quality assurance requirements on the materials are met by the manufacturers and suppliers. The inspection and test reports related to any material or equipment arriving at the warehouse will be verified by the Quality Control Supervisor to confirm compliance with the applicable codes and standards and all other requirements. Any material arriving at the warehouse not conforming to the requirements of the job specification and standards will be rejected immediately. The materials shall be received by the warehouse-keeper and properly accounted at the warehouse. The stock sheet identifies the point of use of the particular material will reference to the related drawings etc. The material is released when required provided with the request by the construction engineer

The specifications and inspection requirements are included as part of the quotation request. Purchase Order is also issued incorporating the specifications and inspection requirements. Copy of the Purchase Order will be given to Proponent. The Quality Control Supervisor shall ensure that all standards and test requirements are made part of the abovementioned documents. The Quality Control Supervisor will thoroughly check all the purchase order to ensure that specs. And inspection requirements are being properly transmitted to vendors at all times of order placement. The manufacturers, vendors, sub vendors and sub-contractors will be required to meet all applicable standards and specifications, and they will be specifically instructed that inspection from our part will not relieve them of their obligation to provide their own quality control and their guarantees as to the materials, workmanship or performance.

#### 16.0 QA/QC CONSTRUCTIONPLAN:

- 16.1 The QA/QC activities at the work site will be carried out in accordance with the QA/QC plan approved for construction. Construction practices followed in this work as per applicable standards and specifications provided with the contract. We will ensure that the sub-contractor confirms to applicable standards. Construction documents will be in English and micro filmable Quality. We will provide and document all Quality Activities in the fabrication/construction and pre-commissioning of facilities.
- We will perform and document all quality function to ascertain that all fabrication / construction and pre-commissioning activities are performed in accordance with the requirements of:
- **16.2.1** Applicable standards and specifications.
- 16.2.2 All applicable Procedures.
- **16.2.3** Approved fabrication & construction drawings.
- **16.2.4** Approved fabrication/construction procedures &specifications.
- 16.2.5 Contractor's Quality Manual, Quality Plan, Inspection & Test Plan & supporting procedures
- 16.3 The resumes of all QA / QC personnel will be submitted to Proponent Project Inspection. We will ensure that, all inspection is performed only by personnel with suitable experience and qualifications. The inspection personnel will be able to read, interpret and apply applicable standards and specifications. We will ensure that sub- contractors conform to this procedure.

We will reject any work, which does not comply with or which was not inspected, tested or examined in full compliance with, the project requirements, Standards and specifications listed in ISO 10005 and our Quality Plan and Procedures. We will be responsible for all required inspections, tests and examinations at the fabrication yard and work sites. This will include repair of defects discovered by non-destructive examination or destructive testing or inspection performed by or on behalf of us. Repair and rework items shall be reinspected in accordance with applicable procedures.

Our Quality Plan for fabrication/construction and pre-commissioning will be prepared to a level of details appropriate for the work to be performed and will cover all fabrication, construction and pre-commissioning activities through final construction and mechanical completion. Immediately upon concurrence of our Quality Plan, we will instruct all members of our project team in the implementation of the Quality Plan. All personnel subsequently assigned to the team will undergo the same instruction prior to commencement of work on the project. The following standards or specification will be applied for the construction wherever applicable:

ACI	American ConcreteInstitute
AISC	American Institute of Steel Construction
AISI	American Iron & Steel Institute
AMCA	Air Moving & Conditioning Association
ANSI	American National Standards Institute
ACRI	Air Conditioning Refrigeration Institute
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASHR	American Society of Heating, Refrigeration & Air Conditioning
	Engineers
ASTM	American Society for Testing &Materials
AWS	American Welding Society
CRSI	Concrete Reinforcing Steel Institute
IEEE	Institute of Electrical & Electronic Engineers
NESC	National Electrical Safety Code
NBFU	National Board of Fire Underwriters
NBS	National Bureau of Standards
NEC	National Electric Code
NEMA	National Electric Manufacturers Association
NFPA	National Fire Protection Association
SMACNA	Sheet Metal & Air Conditioning Contractors National Association
PDI	Plumbing & Drainage Institute
PCI	Pre-Cast Concrete Institute

Proponent will be provided with construction QA/QC data as may be required for Proponent records. All sub-contractor's activities will conform to the requirements in the approved QA / QC plan and specifications. Our Quality Control Supervisor will control QA / QC activities on sub-contractors works at the site. Construction activities of all sub-contractors have properly conveyed construction standards requirements to al tiers of activity. A copy of the construction specification drawings and other relevant documents will be maintained at the site office for ready reference. Two copies of each report will be furnished to Proponent summarizing the result of each test and inspection. Each report will clearly distinguish the type of test, location and other related information. Inspection will be informed a minimum of 24 hours in advance of such test or inspection.

### 17.0 INDEPENDENT TESTING LABORATORY:

- 17.1 An Independent qualified inspection and testing agency will be engaged for inspection of concrete, asphalt and soil testing. Such agency must meet the requirement of ASTM-E-329. The approval will be obtained from SAPMT prior to engage the services of the agency.
- 17.2 The following procedure will be applied by the approved "Independent Testing Agencies" in the procurement of materials. Borrow pit requirement Building Code Criteria for design and construction of concrete structure ACI-305R-Recommendation practice for hot weather concrete 09-sams-97-Ready mixed cement concrete
- 17.3 All applicable standards and specifications will be followed. In the event that the codes and standards approved already cannot be applied, our Quality Control Supervisor will propose in writing QC procedure for review and approval of the proponent.
- 17.4 Contractor shall develop and implement procedure for the control of inspection, measuring and testing equipment. Specific tools and equipment shall be identified to make and perform tests in the field with instructions for their use, calibration and storage.
- The contractor shall identify, maintain, control, adjust and calibrate tools, gauges, instruments and other measuring and testing devices used for activities controlling quality. Calibration shall be performed at established periods, not to exceed six (6) months against certified equipment or references or valid national standards where they exist. Reference ISO 10005. The calibration records shall be easily traceable to the measuring and test instrument and shall be maintained at the work site. Contractor shall periodically verify the serial numbers on the records against those on the equipment. Devices should be tagged indicating the date of last calibration. Provisions for correcting measurements and test equipment found out of calibration shall be identified. Specified attention shall be given to NDT equipment; the dolomite (transits) and lasers weld rod and flux ovens and pressure gauges.
- 17.6 Measures shall be established by Contractor to identify inspection and test progress. Such measures shall provide means for ensuring that required inspection and tests are performed and the required resources are available to meet the work schedule and that the status of the inspection and test work is known throughout execution of the work.

### 18.0 EXCAVATION & BACKFILLING:

After examining the areas and condition under which excavation and backfill area to be performed, all excavation of every description to the depths indicated in the drawing will be performed. Before commencing excavation, the existing underground utilities will be located and work permit, if required, will be obtained. Sheeting and shoring will be provided, as required in conformance with standards. The bottom of trench will be free of rock, and will be covered with 150 mm layers of compacted sand as per ASTM D 698. Backfilling will not commence until necessary tests have been performed to the satisfaction of proponent. Back filling will be done with sand above utilities to a minimum depth of 300 mm and the rest will be by fill material in site, which will be tested by an independent Agency for compaction. The result will be submitted to Proponent.

#### 20.1 Check List:

For excavation over 1.20m deep, the sides of pits and trenches will be sloped back to the natural repose of the soil to avoid caving. When the excavation is close to an existing structure, enough bracing and supports will be provided. All back filling will be in layers not exceeding 200 mm thickness and each layers compacted to 95% of maximum density as per ASTMD 698 or 70% of relative density as per ASTMD 4253/4254.

#### 20.2 Steel Bar & Wire fabric Reinforcement:

Reinforcing bars shall be grade 50 deformed billet steel bars in conformance with SASO 2/1399 H (1979). All reinforcing bars shall be epoxy coated and Welded wire fabric will be electrically welded cold drawn wire in conformance with ASTM-A-185 and to be galvanized in accordance with ASTMA-525. The tie wire and supports for reinforcement will be in accordance with CSRI-3. The bending, placing, spacing and splicing steel will comply in all case with applicable standard and practices. The tie wire shall be plastic or nylon coated conforming to ASTM-A-82. The epoxy coating may be damaged due to handling and it will be prepared according to Criteria for Design and Construction of Concrete Structures.

#### 20.3 Check Lists:

All re-bar should be epoxy coated as per Criteria for Design and Construction of Concrete Structures and any damage on the coating due to cutting and bending of re-bars should with the same epoxy coating material. All re-bars should be tied with plastic coated tie wires. All spacers used should be plastic spacers. Welded wire fabric should be electrically welded cold drawn as per ASTM A-185. Welded wire fabric should not have any rust prior to using at site

#### 21.0 CASTS IN PLACE CONCRETE

21.1 The Quality Control Supervisor will check the concrete form for the thickness and quality of plywood used, chamfer strips on all edges and covers of beams and pedestals exposed, the spacing supports considering the anticipated form deflection due to weight of fresh concrete, form ties and anchors metal chains and space to the required covering and rebar size and spacing to conform drawings. The removal of forms will be after the time specified for each work. Job site sampling and testing of the concrete will be done by a minimum of 1 set of 4 cylinders per 40m3 per day of fraction thereof and the cylinders will be tested by an approved independent laboratory as per ASTM C-31 and C-39. Cylinders will be tested at 3 days (1 cylinders), 7 days (1 cylinders) and 28 days (2 cylinders) and the compressive strength will be evaluated. The concrete sampling test cylinders curing and the compressive strength analysis will be carried out by an independent testing laboratory. Periodical sampling of the aggregate and water will be carried out by the same agency and reports furnished to Proponent. Mix design and strength test reports will be submitted for approval. Cement used will conform to ASTM C-150 type V cement. Fine aggregate will conform to ASTMC-33 and water will not contain more than 500ppm of total dissolved solids. Concrete finishing and curing will conform to ACI-305-R77.

#### 21.2 Check Lists:

- 21.2.1 Before starting the formwork, the sub grade should be compacted to 95% of maximum density as per ASTM0698.
- 21.2.2 All formwork should be level and supported well
- 21.2.3 All rebar should be epoxy coated and if there is any damage on the coating, it should be repaired with the same epoxy coating material.
- **21.2.4** All vapor barriers should be fixed properly. Prior to concreting clean all the formwork and re-bar. Concrete should not be dropped from a level of more than one meter.
- 21.2.5 The temperature of concrete at the time of pouring should be less than 320C. The concrete slump should be between 3" to 4" maximum.

### 22.0 Membrane Roofing System

22.1 A single complete sample roofing section will be submitted to Proponent along with all required technical information of all components. The roof deck insulation shall meet the required K value and the density as per the specification. Only manufacturer authorized roofing membrane application will be used to install the system. The system will conform to UBC fire retardant roofing system requirements. A flood test will be performed on the finished surface. The applicator will guarantee the material and installation for 10 years.

#### 23.0 ELECTRICAL

All insulation should be new and not damaged. All insulation should be stored in a closed container. All the electrical installation works will be performed in accordance with applicable codes and standards. National Electric Code (NEC) will be applicable. All the equipment's will be examined by the contractors QA/QC team prior to installation. Covering or shielding will be provided to the equipment's to protect from damage. Maximum care will be taken to avoid cutting and repairs, to permit installation of electrical works. If it is unavoidable it will be done after obtaining approval from Proponent Representative. Any damages caused to the fire proofing system will be repaired to the satisfaction of Proponent Representative. All the equipment's will be installed in accordance with manufacturer's recommendations and standards. Conduits and fittings will be installed in accordance with NEC. The watertight flexible conduits shall conform to NEC 350 and 351

23.1.1 Box installations will comply with NEC 300. The panel boards will conform to Federal specifications WP 115a and will be UL listed. Grounding system will be in accordance With NEC 250

#### 23.2 Check List:

- 23.2.1 Do not heat conduits to bends and do not bend through more than 90 degrees of arc. Vertical runs should be plumb and horizontal runs parallel or perpendicular or principal structural features. There shall not be more than the equivalent of four quarter (90 degree) bends (360 degree total) between pull points e.g. conduit bodies and boxes. Do not use running threads or supports for conduits above ceiling should be independent of the ceiling suspension system. Above grade conduit should be minimum 19mm.
- 23.2.2 Interior below grade conduit should be minimum 19 mm and exterior below grade conduit should be 25 mm. Electrical metallic tubing should be maximum 50 mm. below grade conduit should rigid. PVC conduit, NEMA TC-8 UL approved or equivalent. Separate conduits should be used for wiring and cabling of lighting, power, fire alarm system, and intercom/public address/telephone/clock. PVC conduit should not be installed above grade except up to the first termination in electric rooms. Boxes should be installed in accessible locations and provided with removable covers. Exterior mounted boxes should be NEMA 4X gasket rain tight and provided with weatherproof hubs on all raceway entries. Outlets boxes should be minimum 4" x 4" for wiring devices and 4" octagonal or square for lighting fixture wiring and junction points. Flush mounted floor junction and wiring device boxes should be threaded, cast iron, water tight adjustable type with all necessary gaskets, plugs, covers and carpet flanges.

- 23.2.3 Contractors in wire ways should be in place only after the wire way has been installed as a complete system. Wire ways should be provided with removable covers. Wire ways should be supported at intervals not exceeding 5 feet with a minimum of 2 supports per wire way. Cabinets, outlets and conduit penetrating into or through the face of fire rated walls should be installed in accordance with UBC 4304.
- 23.2.4 On all combustible construction, an adequate wall fire stopping should be used as per UBC 2516 (t). After all equipment's and materials are installed and before connections and terminations insulation test of all cabling and wiring should be performed for their rated service. Low voltage bus duct should be tested as per ANSI- C37-23-1987. Mounting heights of receptacles and switches should be as specified and shown on drawings. Receptacles and switches located back to back on fire rated walls should maintain a minimum horizontal separation of 600mm.
- 23.1.1 All switches and circuit breakers used as switches shall be so located that they may be operated from a readily accessible place. They shall be so installed that the center of the grip of the operating handle of the switch or circuit breaker, when in its highest position, will not be more than 6 feet 7 inches (2.0 m) above the floor or working flat Panel board identification should be provided as per the specification.

Panel board directory cards should be filled in with a typewriter in Arabic & English identifying all branch circuit loads. Supports and fasteners for properly mounting and anchoring all raceways, equipment's and fixtures should be as per the specifications. Individually enclosed circuit breakers should be mounted 25 mm off the wall with top of enclosure not exceeding 6 feet above finished floor.

**23.1.2** Each individually enclosed circuit breaker should be equipped with black laminated phenol name plate etched in 13 mm white letters in Arabic & English, the name of the equipment served, equipment number & opening voltage. Safety/disconnect switches should have a data label on the inside of the switches enclosure indicating the duty ratings, catalog number, short circuit interrupting rating and horse power rating. The switch should be provided with a cover-mounted nameplate in Arabic & English identifying the unit being served.

#### 24 MECHANICAL

#### 24.1 PIPING

**24.1.1** All the domestic, raw and potable water, drain, waste and vent will be installed in accordance with Sanitary Sewer code, Plumbing Code and Utility Piping System. The pipe support will conform to Uniform Plumbing Code, NFPA 13, 14, 54& 58. The above ground steel pipe will meet ASTM A 53 and AWWA C 205 and C 602 and the copper pipe shall meet ASTM B 88-92. The sanitary waste and vent will meet ASTM D 2665. The Quality Control Supervisor will check the pipe trench for proper sand bed as mentioned in site work, ensure the pipes and equipment's are properly cleaned before installation. The piping shall be hydrostatically tested in accordance with Sanitary Sewer code, Plumbing Code and Utility Piping system.

24.1.2 The pressure is built slowly in the lines and examines the system for leak, distortion or other indication of inadequacy. The Proponent inspection will be requested for sign off after the work is acceptable by the Quality Control inspection.

#### 24.2 Check List:

- **24.2.1** Sand bed of 15 cm is laid and compacted prior to installing any pipes in the trenches. All pipes should be new and of one manufacture if possible. All pipes should be cleared with water (inside and outside) prior to install at the site. All drainage pipes should be installed as per UPC requirements and will have minimum 2% slope. All water pipes should be tested to 150-psi pressure for a period of 4hours.
- 24.2.2 All drainage pipes should be tested to 10 head at the higher level for a period of 4 hours. CHLORINATION & DIS-INFECTION TESTS (AS PER AWWA C601)
- 24.2.3 All water pipes are cleaned well by flushing water for a period of 2 hours. Then add chlorine according to the requirements, usually about 50-PPM. Then leave the pipe with chlorine about 24 hours. Flush the chlorine again after 24 hours. Flush very well and take sample from different points (branches with valves) by the preventive medicine department and only after getting good results, the lines should be tied into existing lines.

#### 24.3 HVAC INSTALLATION

The Quality Control Supervisor will check the ductwork, dampers, heaters, grills, diffusers for their conformance with the approved drawings and specifications. The HVAC units shall be installed in strict accordance with the manufacturer's recommendation and in accordance with the applicable codes and standards. Saudi Aramco inspection will be requested prior to closing the ceiling in each area.

#### 24.4 DUCT BANK

- **24.4.1** The Q.C. Supervisor will check the fabrication and installation of ducts for their conformance with the approved drawings and specifications. The materials and accessories also will be checked for their conformance with all standards. All duct works will be inspected and certified by Q.C. Supervisor prior to installation. Installation of ducts will be in a neat and workmanlike manner at locations shown on approved drawings. Ducts will be independently supported from building structure only by using the approved fixing and hanger materials.
- **24.4.2** Installation of fiberglass insulation will be checked for their conformance with thickness, density, thermal conductivity as per related specifications and standards.

24.4.3 Any materials found, which is not acceptable will be rejected by Q.C. Supervisor and that will be removed from site immediately

#### 24.5 A.C. UNITS

- 24.5.1 Q.C. Supervisor will check chillers and fan coil units for their conformance with the approved type, model, capacity and other standards comply in manufacturing. Installation accessories also will be checked (i.e. hangers, anchors, fixing materials) for their conformance with manufacturer's recommendation. Vibration isolators will be checked for their size and type according to manufacturer's recommendation.
- 24.5.2 Testing and balancing of the system shall conform to Heating, Ventilating and Air Conditioning (HVAC), AABC, NEBB, SMACNA, AMCA & NFPA 72E, 90 A & B, ASHARE. Only qualified personnel regularly employed by an independent testing and balancing agencies shall be used. The Quality Control Supervisor will report to client/proponent for necessary inspection.

#### 24.6.2 CHECKLIST

- 24.6.1 Before closing ceiling, inspection should be made for the above ceiling works
- 24.6.2 All the installation should be checked against manufacturer recommendation and applicable codes and standard.

# **QUALITY PROCEDURES**

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# A. CONTROL OF MONITORING AND MEASURING DEVICES:

#### 1.0 SCOPE

Thisproceduredefineshowthecontrolandmonitoringofmeasuringdevicesis carried out to ensure that valid results are obtained and provide evidence of conformity of products.

#### 2 .0 RESPONSIBLITIES

Responsible to ensure that all measuring devices are maintained in good working order and calibrated when required.

#### 2.1 DEPARTMENT PROJECTMANAGER

Upon receipt of the measuring device, ensure that the handling and storage is in accordance with the manufacturer's recommendations and only measuring devices with a valid certificate are used in their department or on their project.

#### 3. 0 PROCEDURE:

#### 3.1 CALIBRATION

- 3.1.1 In no case shall the frequency of calibration exceed 6 months and all instruments shall be calibrated prior to initial use.
- 3.1.2 Whenever it is a client/proponent requirement, copies of the calibration certificates for instruments used for the work, shall be included in the appropriate documentation packages.
- 3.1.3 All measuring devices shall be calibrated or verified at specified intervals in accordance with the manufacturer's recommendations or where applicable, the Client's requirements when in use.
- 3.1.4 When the measuring device is not in use calibration or validation is not required the calibration or verification status shall be dearly—shown.
- 3.1.6 Calibration or verification shall be carried out against measurement standards traceable to international standards. Where no such standards exist, the basis used for calibration or verification shall be recorded.
- 3.1.7 Where calibration or verification is carried out by the Company this shall be recorded on a Certificate of Calibration.

- 3.1.8 Where required, calibration or verification shall be carried out by an approved 3r'd party inspection company or the manufacturer.
- 3.1.9 Calibration or validation will only be carried out when the measuring device is required to be used

#### 3.2 IDENTIFICATION

- 3.2.1 All measuring devices shall be dearly and uniquely identified. The identification number maybe the manufacturer's serial number.
- 3.2.2 Each measuring device shall clearly the calibration or verification status
- 3.2.3 Each measuring device shall be safeguarded by a suitable means to ensure that no unauthorized adjustments are made that would invalidate the measurement results.

#### 3. 3 HANDLING, M AINTENANCE AND STORAGE

- 3.3.1 Handling, maintenance and storage of all measuring devices will be in accordance with the manufacturer's recommendations.
- 3.3.2 Where possible, all measuring devices requiring maintenance shall be segregated or placed in the designated Quarantine Area or clearly identified.
- 3.3.3 All measuring device that are in good condition and good working order shall be located in a suitable storage area.

#### 3.4 DOCUMENTATION

- 3.4.1 All original documentation relating to the measuring device shall be filled by The QC Inspector in the Calibration Office. This may include:
- 3.4.1.1 User Guide/Operating Manual
- 3.4.1.2 Verification and or calibration Certificates
- 3.4.1.3 Material Requisitions
- 3.4.1.4 Purchase Orders
- 3.4.1.5 Delivery Reports
- 3.4.1.6 Receiving Reports
- 3.4.1.7 The Measuring and Test Instruments Calibration Log Sheet shall maintain and updated by the QC Inspector.

#### 3. 5 I SSUE CONTROL

- 3.5.1 Requirement of measuring devices or any calibration required shall be carried out
- 3.5.2 Documents (certificates, user guides, etc.) issued along with the measuring device shall be stamped with 'VERIFIED TRUE COPY OF ORIGINAL".
- 3.5.3 Issue of measuring devices and any associated documentation shall be carried out.

#### **B. INTERNAL AUDIT**

#### 1.0 SCOPE

This document describes the procedure required to schedule and carry out Internal Audits at planned intervals to determine whether the company's Quality Management System conforms to the requirements to ISO9001: 2000 and is effectively implemented and maintained.

#### 2. 0 RESPONSIBILITIES

#### 2. 1 Q A/ QC MANAGER

Preparation of the Audit Schedule Conducting Internal Audits in accordance (auditor) with this procedure on designated Quality Management System activities, except are as for which he is personally responsible. Review of Internal Audits carried out by the Auditors.

#### 2.2 AUDITORS

Conducting Internal Audits in accordance with this procedure on designated Quality Management System activities, except areas for which they are personally responsible.

#### 3.0 PROCEDURE

#### 3.1 AUDIT SCHEDULE

- 3.1.1 The QA / QC Manager shall prepare an Audit Schedule. The schedule shall be for a 12-month period.
- 3.1.1 Each activity shall be subject to an annual Internal Audit, as a minimum. Activities shall be audited more frequently, if they produce repetitive on conformities.
- 3.1.2 The Quality Audit program shall also include scheduled Quality System audits for all subcontractors.
- 3.1.3 Internal Audits shall be scheduled with consideration of the status and importance of the processes and areas being audited, as well as results from previous Internal Audits.
- 3.1.4 As a minimum, audit schedule shall be carried out at fifteen (15%)and sixty (60%) of completion stage for the Procurement and Construction work phase.
- 3.1.5 Unscheduled Internal Audits may be conducted any time i.e. a follow-up audit, based on previous audits or any obviously non-conforming activities.
- 3.1.6 Internal Audits may be required to be carried out in accordance with Client specification/contract requirements on current projects. There will be a separate Audit Schedule prepared for these.

3.1.7 All audits shall be executed by Quality Auditors. They shall not be directly responsible for the area being audited or by an approved third party agency.

Where possible, activities on a project maybe audited during the Company Internal Audits. This will be shown on the appropriate Audit Schedule.

3.1.8 It shall include the activities of subcontractor in the internal audit. As a minimum, the audit will be done every six months.

#### 3.2 NOTIFICATION

The Audit shall be issued with a Quality Audit Notification. And a Quality Audit Plan in advance of the impending Internal Audit. This notification shall be issued a minimum of 12 working days prior to the audit.

#### 3.3 AUDIT CHECKLIST

The Auditor shall prepare a Quality Audit Checklist prior to conducting the Internal Audit. The checklist shall be based on the documents relevant to the activity being audited.

#### 3.4 OPENING MEETING

- 3.4.1 The Auditor shall hold an Opening Meeting with the Audit and any other personnel required by the auditor. This is to establish and agree the scope of the Internal Audit, administrative arrangements and personnel interface. The QA/QC Manager shall always be requested to attend the Opening Meeting.
- 3.4.2 An Attendance Sheet shall be completed and signed by all attendees of the Opening Meeting.
- 3.4.3 The details of the Opening Meeting will be recorded and included in the Audit Report.

#### 3.5 AUDIT REQUIREMENTS

- 3.5.1 The Auditor, using the prepared checklist, shall conduct the Internal Audit. Any findings should be noted on the checklist during the course of the audit.
- 3.5.2 Each audit element shall be evaluated to the extent necessary to determine the effectiveness of, and conformance to, the specified requirements.

#### 3.6 OBSERVATION

3.6.1 If during the Internal Audit a potential nonconformance is found it shall be noted on the checklist as an Observation (085) and discussed at the Close out Meeting.

#### 3.7 QUALITY AUDITS FINDING

- 3.7.1 If a Quality Audit Finding is raised then it shall be detailed on a Quality Audit. This is to be part completed by the Auditor and signed in the relevant section and acknowledged by the Audit and signed in the relevant sections.
- 3.7.2 Details of any Quality Audit Findings raised during the audit shall be transferred into to the Quality Audit.

#### 3.8 CLOSEOUT MEETING

- 3.8.1 The Auditor shall conduct a Close out Meeting with the Audit and any other personnel required by the Auditor. The QA/QC Manager shall always be requested to attend the Close out Meeting.
- 3.8.2 During the meeting the Auditor shall discuss all findings and objective evidence found during the Internal Audit.
- 3.8.3 If Quality Audit Findings are raised the Corrective Actions shall be agreed upon and the relevant section shall be completed and signatures obtained on the Quality Audit finding.
- 3.8.4 If potential non-conformances are found a Recommendation for Improvement shall be completed by the auditor.
- 3.8.5 If required, a date for the follow-up Internal Audit shall be set to close out any outstanding nonconformance /deficiencies.
- 3.8.6 Copies of the quality audit report shall be given to both company management and client/proponent two weeks after completion of audit.

#### C. INSPECTION AND TEST STATUS

#### 1.0 SCOPE

1.1 This Procedure shall apply to TEAM INDUSTRIAL SERVICES Construction Sites only. It details the monitoring and reporting of the inspection status of a product, item or equipment during fabrication, installation and testing activities performed on Mechanical, Civil, Electrical and Instrumentation personnel.

#### 1.0 SCOPE

- 1.1 This Procedure shall apply to TEAM INDUSTRIAL SERVICES Construction Sites only. It details the monitoring and reporting of the inspection status of a product, item or equipment during fabrication, installation and testing activities performed on Mechanical, Civil, Electrical and Instrumentation personnel.
- 1.2 This procedure does not cover vendor/Manufacturers responsibilities of inspection status. In cases where Client Approved Site-Specific Quality Control Procedures are in place, the Site-Specific Procedures shall take priority over this Procedure.
- 1.3 Where applicable Specific Project and Site Quality Procedures will be established in line with Client Standards and Procedures and shall not conflict with the requirements of this document

#### REFERENCES

WNAPS, Quality Manual, Contract Codes, Standards, Specifications and Drawings

#### 3.0 PROCEDURE

ME &I : Mechanical, Electrical and Instrumentation

NDT : Non-Destructive Testing

**Accepted**: Work activities completed in compliance with industry codes, standards and customers specifications.

**Rejected**: Items identified as not meeting the acceptable standards, for the Project as detailed in the industry, codes, standards and customer specifications

**Hold:** Items retrained from progression to the next stage of the construction phase until release by the appropriate authority who generally that person is issuing the original HOLD notification.

**Condition Release**: Release status given to a particular item when inspection / test has not been completed or reported and where impact to construction schedules may occur. Release of this nature will only be granted. when inspection and test can be completed at any stage of the subsequent construction activities.

**Released:** Status given to a particular item which was previously on HOLD but is now unrestricted for further use.

#### **4 RESPONSIBILITY**

# 4.1 Project Manager

Ensures that site Quality Control Department is provided with the necessary facilities and cooperation from alt Superintendents, Foreman and Labor to enable Inspection activities to be carried out.

# 4.2 Discipline Superintendents

Verify compliance by all Supervisors/Foremen to the customer specifications, QA Manual and Quality Control Inspection Plan. Ensure that inspection requests are initiated to the Quality Control Department as indicated on the inspection plan in a timely manner.

# 4.3 Discipline Supervisors / Foreman

Responsible for compliance to the customer specifications, QA Manual & Quality Control plan. Implements corrective / remedial actions as required, directs progress to the next stage upon receipt of action" request for inspection".

# 4.4 Discipline Quality Control Manager /Supervisor

Provide the relevant statistical reports on progress and quality-to the QA1QC Head Office. Ensures compliance by the Site Inspectors to the Customer Specifications, Manual and Quality' Control inspection Plan. Monitors the QC Personnel in their daily functions and conducts audits of documentation and inspection Verification activities.

# 4.5 Quality Control Inspector

Monitors daily discipline activities and verify compliance to Customer Specifications. Conducts activities and inspection in accordance with the Project QA Manual and Quality Control Inspection Plan ensuring that inspection I test status is identifiable on components where applicable.

Prepares daily documentation and final acceptance documentation where required. Maintains close working relationship with the Customer Representative.

#### 4.6 PROCEDURES General

4.6.1 Only items released from Site Stores under cover of a Stores Requisition shall be used for construction.

- 4.6.2 Items released for construction shall be identified by tag, part, heat number or other traceable identification.
- 4.6.3 HOLD stickers shall be applied (whenever practical) to items which have not passed an inspection stated in the Inspection and Test Plan.
- 4.6.4 Items bearing a HOLD or REJECT sticker are not released from the Site Stores, unless authorized by the QA / QC Manager or Project Manager for urgent production purposes.
- 4.6.5 Mandatory inspections and tests as defined in the Inspection and Test Plan shall be recorded by completing the applicable Quality Inspection Report as defined in the Inspection & Test Plan.

#### D. CONTROL OF NON-CONFORMING PRODUCT:

1.1 This procedure defines the controls required to ensure products and/or services that do not conform to pre-determined requirements are identified and controlled to prevent their unintended use. Suspends, where necessary, non-compliant services, ensures nonconforming materials, plant or equipment are segregated, decides on disposition actions. Ensures that in-process non-conformances are documented.

#### 1.2. RESPONSILIBITIES

# 1.3. QA/QC Manager

Reviews all reported non-conformances and ensure that appropriate action is to taken eliminate any re-occurrence.

# 2.1. Project Manager

Suspends, where necessary, non-compliant services, ensures nonconforming materials, plant or equipment are segregated, decide on disposition actions. Ensure that in-process non-conformances are documented.

# 2.2. Procurement Manager

Reviews all the nonconformance / corrective actions reports or over, short and damage reports received from the project Manager and takes necessary action, this will include issue of the projects to the supplier (where required)

#### 2.3. Material Control

Responsible to raise and issue any nonconformance/corrective action

# 2.4. QC Supervisor/Inspector

Reviews all the nonconformance / corrective action reports or over, short and damage reports and co-ordinates with the appropriate personnel to ensure that the prescribeactions are carried out in a time that the prescribeactions are carried out in a time to the time to

#### 2.5. All Staff

Reports all suspected non-conformances to the Project Manager immediately. Where applicable, responding to and implementing agreed corrective and/ or preventive actions methods to correct the nonconformance and prevent further occurrence of a similar nonconformance.

#### 3.0. PROCEDURE

### 3.1. Non-conformance

**3.1.1.** A nonconformance is defined as a failure to comply with specified requirements given by the Client or the Company.

On establishing that a product or service does not meet specified requirements, either through an Internal Audit, process monitoring, planned inspections/tests or a Client complaint, the product shall be segregated or process suspended (if necessary) until a suitable corrective action can be decided.

# 3.2.1 Types of Nonconformance

- 3.2.1.1. Supplier nonconformance's can include but not limited to:
- 3.2.1.2. The wrong items received
- 3.2.1.3. And overage/shortage/damage of items
- 3.2.1.4. Incomplete or no certification/documentation received
- 3.2.2. Products of Nonconformance can include but not limited to the product:
- 3.2.2.1. Not meeting the specified requirements
- 3.2.2.2. Being damaged
- 3.2.2.3. Having lack of inspection

#### 3.3. Classification of Non-conformance

- **3.3.1.1.** The Material Control Supervisor shall decide whether the product or service requires either a Nonconformance/Corrective Action Report or an Over, Short and Damage Report is to be raised.
- **3.3.1.2.** Nonconformance: A departure from the specified requirements or major damage which renders the product / service, unfit for use.

# 3.3.1.3. Over, Short and Damage:

An overage or shortage on the quantity of items received or damage to the product upon receipt which does not render the product unfit for use. Where delivery of product is received without the required certification, inspection reports, documentation, etc. shall be considered as a shortage.

# 3.4. Identification& Segregation of Nonconformance Product/Service

- **3.4.1.** Non-conforming product shall be identified as such by a suitable identification method e.g. attaching "HOLD" sticker or marking it with the Nonconformance/Corrective Action Report or the Over, Short and Damage Report number with a paint marker.
- **3.4.2.** Where possible, the nonconforming product shall be segregated or placed in the designated Quarantine Area.
- 3.4.3. The Nonconformance/ Corrective Report shall be raised by the QA / QC Manager or his designated QC inspectors and shall notify the Project Manager/Procurement Manager as applicable. Nonconforming services may be suspended by the Project Manager.
- **3.4.4.** Where Client non-conformances have occurred and are reported, it shall be the responsibility of the Project Manager to report this to the Client and to the QA / QC Manager.
- **3.4.5.** Where a Supplier nonconformance occurs, it shall be the responsibility of the Project Manager to report this to the Procurement Manager and the QA / QC Manager. The Procurement Manager shall issue the Nonconformance/Corrective Action Report or the Over, Short and Damage Report to the supplier for their action.

# 3.5. Root Cause Analysis and Preventive Action

3.5.1 The Project Manager/Department Managers shall determine appropriate action to eliminate the cause of potential nonconformities in order to prevent their occurrence. Preventive actions shall be appropriate to the effects of the potential problems. Nonconformance/Corrective Action Report shall be used to suggest the root cause of a potential nonconformity and evaluating the need for action to prevent occurrence of nonconformities.

# 3.6. Disposition Action

- **3.6.1.** Corrective Action is the action taken to rectify the product or service to ensure that it meets the specified requirements.
- **3.6.2.** The Corrective Action required will depend upon the nature of the nonconformance and may include any of the following: -

Use as in 3.6.1.3 and 3.6.1.2, Repair, Modify or Replace.

3.6.3 Where specified by Client contract or order, authority to use as is, repair or rectification shall follow an appropriate formal concession agreement by the Client. Following any rework/repair/recertification operations re-inspection shall be carried out.

# 3.7 Reporting

- 3.7.1 The nonconforming product service/product will be reported and product with an overage, shortage or damage will be reported.
- 3.7.2 Client/Proponent shall receive copies of all (contractor & subcontractor) nonconformance reports within 48 hours of issue and prior to closing of NCR.

# 3.8 Follow- up Audit s

3.8.1 Follow-up Audit to the nonconforming product service/product will be carried out and a Follow-up Audit to an overage, shortage or damage will be carried out.

#### E. CORRECTIVE ACTION:

#### 1. 0 SCOPE

1.1.1 This procedure sets out the method to be used when a Corrective Action requires to be implemented as a result of a noted deficiency or nonconformance as a result of a:

- 1.1.2 Quality Management System deficiencies
- 1.1.3 Product/service non-conformances
- 1.1.4 Customer complaint

#### 2.0. RESPONSIBILITIES

# 2.1 QA/QC Manager

- 2.1.1 Responsible for the review of Corrective Action measures taken for identified non-conformances.
- 2.1.2 Responsible for the control of Corrective Action measures taken for non-conformances raised against their project/department.

# 2.1.3. QC Inspector / Auditor

- **2.1.4.** Responsible to verify the effectiveness of any Corrective Action by means of a follow-up audit.
- **2.1.5.** Responsible for reporting any nonconformance found and where applicable, responding to, and implementing agreed Corrective Action measures to correct and prevent the further occurrence of a similar nonconformance.

#### 3.0. PROCEDURE

#### 3.1. Corrective Action

- **3.1.1.** Where non-conformances are found (by any member of staff), they shall be documented on a Nonconformance/Corrective Action Report and issued to the appropriate Project/Department Manager, who will review and investigate the nonconformance with all relevant personnel to find the root cause of the problem.
- **3.1.2.** Upon finding the root cause, a Corrective Action shall be defined and a suitable timescale for completion will be agreed. Details of the Corrective Action shall be documented on a Nonconformance/Corrective Action

Reports will be issued to the relevant staff member for action/implementation.

- **3.1.3.** On implementation of the Corrective Action the QC Inspector/Auditor shall verify the effectiveness of the Corrective Action by means of a follow-up audit The QC Inspector/Auditor shall sign the Nonconformance/Corrective Action Report to indicate the satisfactory completion of the Corrective Action.
- **3.1.1.** Details of any Non-conformances shall then be transferred to the Nonconformance Log and the Non-conformance/Corrective Action Report filed.
- **3.1.2.** Copies of all closed out and completed Nonconformance/Corrective Action Reports and Nonconformance Logs shall be sent to the QA/QC Manager.

#### Review of Nonconformance

**3.2.1.** A quarterly review of nonconformance will be carried out by the QA /QC Manager and if applicable, further Corrective Action measures will be implemented.

#### 3.3. Internal Audit

3.1.1. All nonconformance identified during an Internal Audit shall be dealt

#### 3.4. Customer Feedback

**3.4.1.** Nonconformance's identified and reported by a customer shall be documented on a Customer Feedback Report and this procedure, a Nonconformance/Corrective Action Report raised and a Corrective Action decided on. The Client shall be informed of any Corrective Actions raised and closed out.

#### F. PREVENTIVE ACTION:

#### 1.0. SCOPE

- 1.1. This procedure defines the methods used to implement and execute Preventive Action measures within the Quality Management System for:
- 1.1.1. Quality Management System improvements
- 1.1.2. Product / service failures
- 1.1.3. Customer feedback

#### 2 RESPONSIBILITIES

#### 2.1. QA / QC Manager

**2.1.1.** Responsible for the review of Preventive Action measures taken for-any potential nonconformance that have been identified.

OBJECTIVE	PREVENTION ACTION	QUALITY PROCEDURE
To ensure that only current documents are in use	Control of Documents	
Review of quality management system activities, promote	Management Review Meetings	
To ensure that all employees are trained and competent to fulfill the requirements of their job description.	Qualification, Training Performance appraisal	
To ensure that the company has the capability to satisfy the requirements of the contract	Contract Review	
To ensure the method for a particular task is consistent and carried out by the appropriate personnel in a manner in compliance with required standards.	Preparation and issue of method statements/work instructions	
To ensure that the service/product received from suppliers is consistent and meet the requirements of the company.	Approval of Suppliers	
To verify that all goods, equipment etc. conforms to company's specified requirements.	Receiving Inspection.	
To ensure that all equipment's are safe to use and fully operational	Planned Maintenance and Calibration of Equipment	
To ensure that all equipment's dispatched are correct and working	Checking of Shipping documents	
To audit the quality management system to ensure the compliance to the company's system and to ISO 9001:2000 and to promote improvement.	Internal Auditing	
To ensure the company is working in accordance with its quality management system and ISO 9001:2000	Quality Management system	

### 2.2. Project/ Department Manager:

**2.2.1.** Responsible for the control of Preventive Action measures taken for any Recommendation for Improvement raised within them.

### 2.3. QC Inspector/Auditor

**2.3.1.** Responsible to verify the effectiveness of any Preventive Action by means of a follow-up audit.

#### 2.4. All Staff

**2.4.1.** Responsible for carrying out the Preventive Action processes as required by their function. Responding to and implementing agreed Preventive Action measures to prevent a nonconformance occurring and to promote improvement within the Company.

#### 3.0. PROCEDURE

#### 3.1. Preventive Action Process

**3.1.1.** The Company has set out specific actions within the Quality Management System to prevent potential nonconformities occurring, which are recorded on the appropriate forms as required by the relevant Quality Procedure. The Preventive Actions are shown in the table below.

#### 3.2. Recommended for Improvement

- **3.2.1.** When a Preventive Action measure is proposed, the originator shall raise a Recommendation. This shall be forwarded to the appropriate Project/Department Manager for review.
- **3.2.2.** After the Project/Department Manager completes his review he shall forward this along with any additional comments to the QA/QC Manager for approval.
- **3.2.3.** Upon acceptance of proposed improvement, the QA/QC Manager will' issue the Recommendation for Improvement to the appropriate party for action and implementation.
- **3.2.4.** On implementation of the Preventive Action the QC Inspector/Auditor shall verify the effectiveness of the Preventive Action try means of an audit. The QC Inspector/Auditor shall sign the Recommendation for Improvement to indicate the satisfactory completion of the Preventive Action.

**3.2.5.** Copies of all closed out and completed Recommendations for Improvement shall be sent to the QA/QC Manager.

#### 3.3. Review of Preventive Action

**3.3.1.** Review of Preventive Actions will be carried out as part of the Management Review.

#### G. PRESERVATION AND MAINTENANCE:

#### 1.0. SCOPE

- 1.1. This procedure shall be used as a guideline for preservation and maintenance of equipment / materials by WNAPS to provide the basis for performing preservation during storage and installation periods prior to installation.
- **1.2.** Where manufacturers recommend a particular procedure for preservation of their supplied items it shall take precedence over this procedure.
- **1.3.** Where applicable Specific Project and Site Quality Procedures will be established in line with Client Standards and Procedures and shall not conflict with the requirements of this document.
- 2.0. DEFINITIONS: TEAM INDUSTRIAL SERVICES ESTABLISHMENT
- 3.0. RESPONSIBILITY
- 3.1. Project Manager
- 3.1.1. The PM (or his delegate deputy) shall ensure compliance by all **TEAM INDUSTRIAL SERVICES ESTABLISHSMENT** staff and employees to this procedure.

#### 3.2. QC Supervisor

3.2.1. The QC Supervisor shall ensure that the QC Inspection personnel are experienced and/or qualified for the work, allocated for performing such work in accordance with the required schedule, this procedure and manufacturing recommendations for the Preservation of equipment. He shall inform the AL-KMPC senior Inspector at the relevant times of pending inspections, plus he shall ensure that the correct documentation forms are maintained and collated.

#### 3.3. Inspection Personnel

**3.3.1.** Ensure that the inspections are performed and reported to the requirements of this procedure. Store man ensure all Materials/Equipment have preservation and maintenance in accordance with these procedure & manufacturing recommendations

#### 4.0. PROCEDURE:

#### 4.1. General:

- **4.1.1.** Where practical, and as per the Client requirements, equipment shall have some type of desiccant placed on the inside as a protection element against the ingress of moisture.
- **4.1.2.** The supervisor shall prepare a preservation schedule for each required discipline Mechanical, Civil, Electrical or Instrumentation.
- 4.1.3. Preservation activities shall commence upon site acceptance of the equipment.
- **4.1.4.** The schedule shall identify each piece of equipment / material and the dates that the preservation checks are to be made. Each check done shall be signed/ initialed by the person doing the checking
- 4.1.5. The Store man /QA /QC Supervisor with concurrence from the Project Manager shall initiate the schedule as required.
- **4.1.6.** Checklists shall be completed for each preservation inspection made on equipment or material as referred to in the preservation schedule. Each checklist shall have a full description of the equipment / material, its location on site and TAG number as applicable.
- **4.1.7**. The inspector shall initial the schedule at every interval
- 4.2.1. Rust Preservatives
- **4.2.2.** All surfaces to be protected must be dry and clean before any rust preventative materials are applied.
- **4.2.3.** Approved Mineral solvents shall be used for cleaning surface prior to application of rust preventative solutions.
- 4.2.3. Kerosene or gasoline shall not be used as cleaning agents.

- **4.2.4.** Before placing the protected part in service, the applied film should be removed from bearing surface, threads or surface that will come in contact with lubricants.
- **4.2.5.** Protective coating shall be inspected at regular intervals and shall be repaired or renewed as necessary.
- **4.2.6.** The frequency of reviewing the condition of the preservative shall be identified in the preservation checklist.
- 4.3. Examination of Equipment on Arrival at Site
- **4.3.1.** If the inspection requires the removal of protective covers and in some case vapor seals, these items shall be replaced immediately after inspection.
- **4.3.2.** If vapor inhibitors or desiccants are used to protect the interior of mechanical equipment, the seals shall be examined.
- 4.3.3. Any damaged vapor seal shall be replaced as necessary.
- **4.3.4.** All protective covers, plugs and coating shall be replaced or renewed if not in good condition.
- **4.3.5.** If water, sand or foreign matter has entered the equipment through damaged or improperly secured covers and plugs, the equipment shall be inspected and cleaned before covering and plugging is renewed.
- **4.3.6.** Vapor corrosion Inhibitors and Desiccants, shall be inspected and replaced where required. Metering Units
- 4.3.7. Initial preservation shall be done by the manufacturer before dispatch to

#### TEAM INDUSTRIAL SERVICES ESTABLISHMENT

- **4.3.8.** Initial preservation shall be carried out upon receipt and every 2 months thereafter unless manufacturer's guidelines state otherwise.
- 4.3.9. Where pipes are not connected the protective cover shall not be removed unless authorized. If the cover is damaged any debris visible shall be removed and the pipe shall be resealed.
- 4.3.10. No damaged plugs, blinds or protective caps shall be removed.
- 4.3.11. The unit shall be checked for damage or any discrepancies upon receipt

- **4.3.12.** Prior to installation any instruments that may be susceptible to damage shall be removed, tagged and packed to reduce the risk of damage and stored in a dry, dust free environment as per manufacturer recommendations.
- **4.3.13**. Where nitrogen purge has been used to preserve the unit from corrosion, this shall be checked as a minimum of every month.
- **4.3.14.** Pressure shall be maintained at 0.4 bar (g) unless otherwise stated by the manufacturer.
- **4.3.15.** If the system does not have a positive charge of nitrogen, it shall be inspected on a monthly basis during long periods of storage the blanks shall be removed from the pipe work and an inspection of the internal pipe for corrosion shall be performed, if there is no visible indication of corrosion the system shall be re-sealed. If there is visible sign of corrosion this shall be reported to the project manager for further action. (NCR is required for all items that do not meet the standards and specifications).
- **4.3.16**. The unit shall be protected from the elements and damage and where possible it should be stored undercover in a protected environment, the crate that the unit was supplied in maybe reused as extra protection.
- 4.3.17. If there are visible sign of corrosion an NCR shall be raised and reported

#### 4.4. MOTORS AND GENERATORS

- **4.4.1.** Motors and generators for indoor use shall be stored indoors with protective covering permitting good ventilation.
- **4.4.2.** For motors and electric motor-operated valve actuators stored under protective cover, the following shall apply;
- **4.4.3.** All enclosure opening not intended to be open during operation of the equipment, Such as conduit and cable entrances in terminal boxes, shall be closed with watertight plugs.
- **4.5.1.1.** Temporary plastic plugs shall be replaced with permanent storage steel plugs.
- **4.5.1.2.** All motors and valve actuators shall be stored in their normal operating position, E.g. vertical motors in an upright position with their shaft extension downwards.
- **4.5.3.** The insulation resistance values of each winding in electric motors shall be measured and recorded. This must be done as soon as possible after arrival on site and subsequent as appropriate to the climatic conditions.

- 4.5.4. If the winding resistance is too low, dry out until valves are acceptable
- 4.5.5. Brushes shall be removed from brush holders and stored in a dry place
- 4.5.6. Internal of the oil lubricated bearing housing shall be removed coated with lubricant
- 4.5.7. Drain connections shall be plugged or blinded, using compatible steel fittings
- **4.5.8.** Internal shall be checked at monthly intervals and re-coated as necessary unless manufacturing guidelines state otherwise.
- 4.5.9. Examine and renew coating of collector rings as necessary
- **4.5.10**. All motors/generators equipped with ball or roll bearings shall be rotated 2 full turns plus % of a turn every three month.
- **4.5.11**. If deterioration of the properties of the grease is visible; the unit must be cleaned and repacked.
- 4.5.12. Prior to start-up, the following shall be performed
- **4.5.13**. Measure and record insulation values of all units with cable connections. If the readings are too low, the units shall be dried out before start-up,
- 4.5.14. Clean off protective coating from collector ring surface
- 4.5.15. Clean the entire unit.

#### H. QUALITY CONTROL INSPECTION:

#### 1.0. SCOPE

- 1.1. This procedure encompasses inspection activities performed by TEAM INDUSTRIAL SERVICES ESTABLISHMENT QC department, details the manner in which inspection activities are initiated, advised and recorded.
- **1.2.** Excluded from this scope are the requirements for material receipt and welding inspection which are addressed in procedures, Materials Control and Welding Inspection respectively.

#### 4.1. PROCEDURE

#### 4.2. Requesting Inspection

- **4.2.1.** Following the completion of a work activity identified for inspection/test on the Project Quality Control Inspection Plan. The Discipline Supervisor raises an RFI, form and passes this to the Project QC Department.
- **4.2.2.** RFI Distribution is as follows Original Copy Remains with Client Originator Project QC Department

#### 4.2. Inspection

- **4.2.1** The discipline QC inspector identifies the level of surveillance and performs the inspection activity in accordance with the approved Quality Control Inspection Plan and related standards and specifications,
- 4.2.2.. RFI status in identified by the QC inspector as follows:
- 4.2.2.1. Proceed to next stage, continue work until the next inspection stage
- **4.2.2.2.** Rework/Repair: Remedial work required, do not proceed to the next stage. Not acceptable
- **4.2.2.3.** Punch list items, miscellaneous items to complete which are identified on the punch list and is attached to the RFI these may, or may not hold further work, dependent category.

### 4.3. Punch List Categories:

- 4.3.1. `An' Items which make the system or component inoperable or unsafe,
- 4.3.2. `B' Items of a minor nature that shall not affect the integrity of the system or component will affect safety.
- **4.3.3.** The "Punch list Master Log" or database (whichever is applicable) is maintained by the QC Section and updated regularly to indicate current punch list status, by the QC Inspector or QC document controller.
- **4.3.4.** The discipline Supervisor/Foreman returns the punch list copy once the identified work is complete.
- **4.3.5.** On acceptance QC Inspector endorses the 'copy' and returns to the Supervisor/Foreman.Hethenindicatesontheoriginal"thatallitemshavebeencleared.

#### I. RESOURCESMANAGEMENT:

#### 2.0. HUMAN RESOURCES:

#### 2.1 General

- **2.1.1.** Personnel performing work affecting product quality must be competent. The basis for competence is education, training, skills and experience.
- 2.1.2. Using the word 'competent' standard surely emphasizes the importance of ensuring that people are suitably qualified for what they do, and hence strengthens the requirement.
- 2.2. Competence, Awareness and Training
- **2.2.1.** Determine the necessary competence for personnel performing work affecting product quality.
- 2.2.2. Provide training or take other action to satisfy these needs
- 2.2.3. Evaluate the effectiveness of the action taken.
- **2.2.4.** Ensure that its employees are aware of the relevance and importance of their activities and how they contribute to the achievement of the quality objectives.
- 2.2.5. Maintain appropriate records of education, training, skills and experience

#### 3.0. INFRASTRUCTURE

The organization is required to determine, provide and maintain infrastructure needed to achieve conformity of the product.

- 3.1. Buildings, work space and associated utilities
- 3.2. Process equipment, (both hardware and communication)
- 3.3. Supporting services (such as transport and communication)

#### 4.0. WORK ENVIRONMENT

4.1. The organization shall determine and manage the work environment needed to achieve conformity to the product requirements.

- 4.2 However, the degree of innovation in these requirements may have far-reaching, significant implications for organizations.
- 4.3 The organization must determine and manage all those factors of the work environment that are needed to supply conforming products.
- 4.4 These factors may include among others:

#### **HUMAN FACTORS:**

- -Creative works methods
- -Opportunities for greater involvement of personnel-Safetyrules and guidance
- -Ergonomics
- -Special Facilities for people

#### PHYSICAL FACTORS:

- > Heat
- Noise
- Light
- Hygiene
- Humidity
- Cleanliness
- Vibration
- Pollution
- > Airflow

#### J. DESIGN REVIEW PROCEDURE:

#### 1.0. SCOPE:

1.1. The purpose of this procedure is to provide a guideline for design reviews. Design reviews are usually conducted at the conclusion of pre-design and at 50% and 90% design levels. The package of QA /QC reviews selected for a particular project should be specified in the Pre-Design Report. Value Engineering is also included in the category of design reviews. These reviews follow standard protocols and are conducted to reduce oversights, control costs, increase value, and ensure that the facility will operate as designed.

#### 2.0. RESPONSIBILITIES

#### 2.1. Project Manager

- **2.1.1.** The Project Manager is responsible for establishing, implementing and enforcing the quality assurance and quality control review policies and procedures within the program. The Project Manager will assign Design Review Team Leader, and review personnel and will approve the precise review milestones set by the Project Manager in the work plan for each project.
- **2.1.2.** Establish precise review milestone dates and enter them into the Project Status Report in the Uniform Project Reporting System (UPRS).

### 2.2. QA/QC Manager

- **2.2.1.** The Project Engineer is responsible forman aging and supervising the design, as well as completing the following activities.
- **2.2.1.1.** Assist the Project Manager in implementing the quality assurance policies and quality control procedures.
- **2.2.1.2.** Coordinate the quality control reviews with the design activities and other quality reviews.
- 2.2.1.3. Promote a cooperative attitude between the Designer(s) and Reviewer(s).
- 2.2.1.4. Act as liaison between the designers and reviewers
- 2.2.1.5. Determine the contents and the required number of copies of the review package.

- 2.2.1.6. Assemble the review package and to determine its readiness for review
- **2.2.1.7.** Submit the review package to the Reviewer or Design Review Team Leader.
- **2.2.1.9.** Review the comments and determine which comments are to be incorporated into the design documents.
- **2.2.1.10.** Submit the comments to the designers
- **2.2.1.11**. Review the designer's responses
- 2.2.1.12. Act as liaison between the designers and the consultant
- **2.2.1.13.** Ensure that the consultant id managing design and review procedures in accordance with the consulting engineering services agreement.
- **2.2.1.14.** Ensure that the Consultant has an independent, in-house review procedure that is adequate.
- **2.2.1.15.** Monitor the Consultant's in-house review process. Review the comments generated by the Consultant's in-house review team.

### 2.3. QA/QC Inspector:

- 2.3.1 The Designer or Design Team is responsible for completing the following activities:
- **2.3.1.1** Provide the up-to-date plans, specifications, calculations and all supporting documentation requested by the Project Engineer.
- **2.3.1.2.** Address and provide written responses to the review comments in the Design Review Log.
- **2.3.1.3.** Incorporate the appropriate review comments into the design documents.
- 2.3.1.2. Meet with the reviewed when requested
- 2.3.1.3. Coordinate with other discipline
- 2.3.1.4. Manage and coordinate the Consultant's design and review activities in accordance with the Consulting Engineering Services Agreement.

- 2.3.1.3 Implement the consultants in-house review procedures
- **2.3.1.4** Provide copies of the comments and responses generated by the Consultant's in-house Reviewers and Designers to the Project Engineer.
- **2.3.1.10** Transmit the required number of copies of the review package to the Project Engineer for review by the Reviewer / Design Review Team.
- **2.3.1.11** Ensure that the Consultant's Designers address and incorporate the appropriate comments from both the City and the Consultant's Reviewers and record their responses in the Design Review Log.
- **2.3.1.12** Forward the Design Review Log, with the recorded responses, to the Project Engineer.
- 2.3.1.13 Other functions of QA/QC Inspector related to review:
- 2.4.1. Function as a liaison between the Design Review Team, Project Manager/Engineer, and design group.
- 2.4.2. Receive the review package and perform a preliminary review of its content
- **2.4.3.** Coordinate the review efforts (starting with a Design Review Team coordination meeting), answer questions, and instruct the Reviewers.
- 2.4.4. Distribute the appropriate parts of the review package to reviewers
- 2.4.5. Oversee and participate in the review process
- **2.4.6.** Compile the Design Review Log sheets and review the Design Review Team's comments.
- 2.4.7. Forward the design review log sheets and review the design reviews teams
- **2.4.8.** Review the design groups response
- 2.4.9. Participate in any follow-up action required

#### 3.0. PROCEDURE:

- **3.1.** All projects, whether designed by City staff or Consultants, will be reviewed for quality in accordance with the QA / QC principles discussed in this Chapter.
- **3.2.** Project type, complexity, size, and schedule will determine the precise timing of the review, the make-up of the review team, and the components of the QA / QC package. The package of QA/QC reviews for a particular project should be specified in the Pre-Design Report. The selection of QA / QC elements included in the package will depend on a number of factors, including project type, complexity, project cost and schedule.

#### 3.3. Timing

**3.3.1.** A design review of all project plans and specifications is typically performed at the pre-design, and then immediately prior to the Design Completion milestone. The later review is a follow-up to the previous review to assure that the previous review comments have each been addressed and appropriately incorporated into the design documents. All established milestone dates are to be entered into the Uniform Project Reporting System by the Project Manager.

#### 3.4. Reviewer of Review Team

- **3.4.1.** A Reviewer or Review Team should conduct the reviews. Reviewers should be experienced and responsible persons who are as far removed from the specific design activities as the size and concurrent workload of the design organization allow. Reviewers should possess the necessary experience in the discipline assigned to. Be able to recognize problems, inconsistencies and errors in the plans and specifications.
- **3.4.2.** A team of Reviewers, rather than an individual Reviewer, can be assigned to a project to provide the necessary technical depth or to maintain a project schedule. When a review team is assigned, a Review Team Leader is designated to assure that the review effort proceeds in a coordinated and effective manner.
- 3.4.3. Reviewers usually include the design office staff and the Client. On complex projects, a Technical Advisory Committee (TAC) of outside experts may be assembled to help in the review process. Squad checks are also a part of the design review process. Each discipline involved with the design process, such as electrical, mechanical, civil, structural, instrumentation and control, should conduct internal checks of their design work. Each discipline is expected to maintain QA / QC standards for their work. The squad checks are to ensure that each design meets these standards. For complex projects, the Design Review Team should include all the disciplines needed for the design which could include the following:
  - Civil
  - Electrical
  - Plans
  - Specifications
  - Calculations (up-to-date by all discipline)
  - Design review log sheets (including comments and responses)
  - Reviewer sign off form
  - > The schedule of work and prices

- **3.4.4.** A Reviewer experienced in more than one discipline may be assigned to review all disciplines within his/her fields of expertise. If a quality control design review is conducted simultaneously with the operability and construction reviews, it is not necessary to assign Reviewers from the construction, operations, and maintenance disciplines to the Design Review Team.
- **3.4.5.** In circumstances where adequate City staff is not available to do the required review, exchange of personnel between divisions and/or districts, use of consultants, or a combination of these should be considered.

#### 3.5. Review Package:

- 3.5.1. The number of copies of the package or parts of the package to be issued for Review will be determined by the Project Manager when the Design Review Team has been selected. The Review package consists of:
- **3.5.2.** Supporting documentation that provides the basis of the design must also be made available to the Design Review Team, as needed. Supporting documentation may include the following, as applicable:
  - Pre-design report
  - Value Engineering reports
  - Special studies report
  - Updated cost estimates
  - Environmental Documentation
  - Required building and safety permits and approvals review and permits
  - Maps and documentation
  - Survey drawings
  - Previous design, construction review logs
  - Pertinent correspondence, photographs and other information required by the Project manager

#### 3.6. Squad Package

**3.6.1.** Because designs may involve multiple engineering disciplines, such as process, civil, structural, electrical, mechanical, and instrumentation and controls, design offices are usually organized into separate squads representing each discipline. (They may be called different things in different organizations, but the term "squad" will be used here.) Typically, these squads conduct their own internal review prior to submitting their design documents for formal design review.

- **3.6.1.** After the squad check has been completed, the Design Squad Check Sign-Off stamp should be applied to the flysheet of the specifications, the title sheet, and the first sheet of each discipline of the plan set. Each responsible design squad member should sign the appropriate stamp.
- **3.6.2.** When the design squad has completed its check, the Project Manager and, if applicable, the Consultant's Project Manager should provide a preliminary check to determine whether the plans and specifications are ready for a formal review for quality. If the documents are determined to be ready, the Project Engineer or the Project Manager signs the Design Squad Check Sign-Off stamps.

#### 3.7. Review Process:

- **3.7.1.** The Review Team should be assembled at an adequate location, preferably remote from the design activities, to provide an intense, effective, and efficient review. The location should be equipped with all necessary items and should be conducive to the review activities. A sufficient number of review packages must be on hand.
- 3.7.2. The Review Team may use a Quality Control Review Checklist to aid in their review. The following sample Quality Control Review Checklist contains a list of items that may be checked during the Review. The checklist is not all-inclusive and contains items that are not applicable to all projects. It must be modified to accommodate the previous project reviews, which critiqued incomplete plans and specifications. The Review Team checks the plans(drawings) and specifications to confirm that:

#### 3.8. Checklist:

The review team checks the plans (drawings) and specifications to confirm that:

- **3.8.1.** The concept detailed on the plans and described in the specifications conforms to the intent established by the project authorization documents, the Pre-Design Report, and the up-to-date Design Memorandum.
- 3.8.2. The objectives of the facilities plan and master plan is met.
- 3.8.3. Building and Safety and all other permitting agency requirements have been satisfied and incorporated.
- 3.8.4. Design calculation is correct and complete 3.8.5 Design Consumption is reasonable
- **3.8.6.** Research report numbers and expiration dates are properly shown in the plans and specifications, as applicable.
- 3.8.7. Reasons for selecting specific types of materials and equipment have been addressed in the Design Memorandum

- **3.8.8.** Land survey information, geotechnical considerations, utilities, and site conditions have been adequately and properly incorporated.
- **3.8.9.** Information's how non the plans and provided in the specifications is presented clearly, consistently and accurately.
- **3.8.10.** Drawing details and sections are appropriate, complete, and accurate and are correctly cross-referenced to each other and to the plan views. Coordinated relationships, uniformity, and continuity are maintained among all details.
- **3.8.11.** Plans are complete and organized in a logical arrangement that makes the project easily understood.
- 3.8.12. Continuity is carried through from one drawing to another.
- **3.8.13**. The location of the same equipment and features show non-different drawings (same or different discipline) is the same on each.
- **3.8.14.** The locations and features of the structures, substructures, equipment, fixtures, piping, conduits, ducts, building members, building appurtenances and utilities are coordinated such that there are no physical conflicts that could prevent their installation or proper use. There is adequate access to all equipment and fixtures that must be operated and maintained.
- 3.8.15. Graphics are used consistency throughout the plan set
- 3.8.16. All abbreviation and symbol are complete and accurate.
- 3.8.17. Plan sheets and details are coordinated within and among disciplines.
- 3.8.18. Technical specifications are included for all required item
- **3.8.19.** Plan and specifications are consistent and coordinated.
- **3.8.20.** Restrictions, procedures, means and methods provided for in the plans and specifications are reasonable and necessary.
- 3.8.21. The project is constructible at reasonable cost.
- **3.8.22.** All Value Engineering recommendations have been properly addressed and the accepted recommendations have been incorporated.

- 3.8.23 Previous review comments have been addressed and appropriately incorporated and the logs have been annotated.
- 3.8.24 The construction cost estimate accurately reflects the package being reviewed.
- 3.8.25 Plans have been properly signed and sealed by the Consultant, when applicable, and by the Division Engineer. (This item applies only to the review at the Design Completion milestone.)
- 3.8.26 The ready to advertise checklist has been completed.

#### ISO 9001: 2000 certification Coverage

Presently we are not certified with ISO 9001 - 2000 but all of our projects are being controlled by our own quality polices and inspected by third parties.

Quality Assurance and quality control plan does control the quality of Fabrication, construction of roads, earth work pads, structures civil, mechanical and electrical Works as per specified or project Specification and international standards.

With Implementation of the control procedures all the work activities are documented in detail to assure management that Construction is to be performed in compliance with all applicable In Kingdom or International standards whichever is governing.

Our Quality plan includes procedures to monitor all major construction phases of the project. The quality control functions include but are not limited to, review of inspection testing and examination for the facilities.

QA/QC records will be made for, QA/QC functions including the following:

- Audits
- Audits Reports
- QA /QC Activity reports
- Management correction actions reports and logs
- Inspection &Survey reports
- notes and Documentation

A third party (approved) from Company will be requested to establish a site lab on job site to make all the field test requirements for earth works, civil, concrete test, asphalt tests and all other tests which are necessary to make sure that all the material incorporated and utilized for the project does meet the requirements of the governing standards.

## QUALITY POLICY COMMITMENT

**TEAM INDUSTRIAL SERVICES EST. (TEAMISECO)** is committed and believes to achieve the highest quality of works. To achieve this goal our team will provide you the best quality of works.

### TEAM INDUSTRIAL SERVICES EST. (TEAMISECO) is committed to:

- To ensure that Client/Customer satisfaction is the axis for all of its operations, processes, activities, initiatives with a good workmanship.
- Develop its Human Resource & achieve Organizational excellence through innovative process improvements, manpower effective trainings and regular performance measurement especially of customer & employee satisfaction level.
- A continuously improve its process by reviewing them a suitable intervals using Customer feedbacks and **TEAMISECO** driving values of innovation, excellence, responsibility with a quality performance.
- Provide into a highest value of a good and achievable standard services in order to satisfy the Customer needs, and to exceed their expectations in quality, safety, reliability and service.
- Review the Quality Management system including the Quality Policy & Quality Objectives in the higher Management Review meetings at proper intervals just to ensure its suitability for the current Business operations and to identify the improvement potentials.

We understand that it will not always be easy to comply with these rules; nothing worthwhile is ever easy, with your help, we can make this company a quality place to work.

### TURKI A. AL-QAHTANI

### President / Owner





## SAFETY POLICY COMMITMENT

## **Employee Safety is our Goal**

**Team Industrial Services Establishment**. (TEAMISECO) believes that everyone benefits from a safe and healthful work environment. We are committed to maintaining an injury-free and illness –free workplace, and complying with applicable laws and regulations governing workplace safety.

To achieve this goal the work performed by is varied, both in nature and location. Under all circumstances, it is the intent of **TEAMISECO**.

- 1) Comply with the requirements of our clients, and to or any of Saudi Arabian work Safety Regulation
- 2) Provide a safe and healthful work environment for its employees. This program is everyone's responsibility as we work together to identify and eliminate conditions and practices that reduce the benefits of a safe and Healthful work environment. **TEAMISECO** expects and requires all employees to follow the requirements set forth in our safety manual.

#### Our Objectives include:

- To provide a safety program consistent with good construction practices;
- To reduce the number of accidents to an absolute minimum;
- To create an attitude of safety consciousness in general management, field supervision and employees;
- To provide for assignment of specific responsibilities for effective implementation and continuation of our safety program.
- To provide a basis for continuing safety education and training.

### To accomplish objectives, actions include:

- Pre-planning safety in our operations through job hazard analysis, Management experience and expertise to be used to anticipate and mitigate or eliminate accident-producing situations;
- Provide mechanical and physical safeguards to the maximum extent possible;
- Conducting a program of safety inspections to discover and correct unsafe working conditions or practices;
- Training all employees on good safety practices.
- Providing necessary personal protective equipment;
- Developing and enforcing safety rules and requiring that all employees cooperate with these rules as a condition of employment; and
- Investigating every accident promptly to find its cause and correcting the problem in order to prevent recurrence.

We understand that it will not always be easy to comply with these rules; nothing worthwhile is ever easy, with your help,

we can make this company a safer place to work.

TURKI A. AL-QAHTANI President / Owner

# □ SECTION 4

## MANPOWER LIST & EQUIPMENT





No	Name	Nationality	Position	Iqama No
1	MOHAMMED ABDULLA HANTOUR	Egyptian	Executive Director	2167007323
2	ALAA ELDIN ALI ALI OSMAN	Egyptian	Sr. Electrical Engineer	2277827032
3	MOHAMMED ISMAIL AWAAD ISMAIL	Egyptian	Business Development Director	2250905102
4	DANNY L.MARQUEZ	Filipino	Sr. Civil Engineer	2425516529
5	NELSON QUINTO	Filipino	Sr. Mechanical Engineer	2172117745
6	AHMED MOHAMMED GABALLA	Egyptian	Civil Engineer	2363138450
7	TAMER EMAD HASSAN ELMORSHEDY	Egyptian	Civil Engineer	2382592109
8	MOHAMED AWAD ELBAHNASY FADDAH	Egyptian	Electrical Engineer	2390208326
9	MOHAMMED SAEED MAHMOUD SAEED	Egyptian	Accountant	2354501187
10	MOHAMED REDA SAYEDAHMED	Egyptian	Accountant	2366313100
11	RAMY MOGHZZY NASEF	Egyptian	Accountant	2375890981
12	ABDULLAH OBAID SAUD ALHARTHI	Saudi	Government Relations Officer	1006041717
13	IQBAL KHALIL IBRAHIM ALSAFIAN	Saudi	IN AND OUT WRITER	1010161766
14	NAGOD MOFLEH MASAOD	Saudi	General Manager	1011346739
15	SALEH MESFER SOAI ALQAHTANI	Saudi	Government Relations Officer	1035685625
16	NAWAL MOHAMED SAID ALAHMARY	Saudi	General Manager	1050769619
17	ABDULLAH MOTAQ MARZOQ ALKARSHAMI	Saudi	Government Relations Officer	1060430889
18	HEIA AWAD ALI ALQAHTANI	Saudi	IN AND OUT WRITER	1083931624
19	FAISAL MESHBEB HADY ALQAHTANI	Saudi	IN AND OUT WRITER	1092900727
20	ALHANOUF ABDULHADI SAID ALQAHTANI	Saudi	Data entry clerk	1096128838

No	Name	Nationality	Position	Iqama No
21	KHAIRIAH MUAWWADHAH FAHAD ALQAHTANI	Saudi	Payroll clerk	1012876676
22	NORA SAAD ALDOSARI	Saudi	General Manager	1022202111
23	HADY DEPEAS SAID ALQAHTANI	Saudi	Government Relations Officer	1023672635
24	MESFER SAAD MESFER	Saudi	Director of Public Relations	1028230140
25	SAAD MUAWWADHAH FAHAD ALQAHTANI	Saudi	Director of Finance and Accounting	1057979724
26	NASER AQEEL MOHAMMED ALNASSAR	Saudi	Government Relations Officer	1064179946
27	SALMAN MASTOUR ALSHAHRANI	Saudi	Tourist reservation clerk	1079389019
28	BASHAIER AWAD ALI ALQAHTANI	Saudi	Data entry clerk	1086734397
29	KIBRIA ABDUR RASHID RASHID	Bangladeshi	Electronics Technician	2251123424
30	AYMAN SALEH IBRAHIM EL SHAHAWY	Egyptian	General Electrician	2317401004
31	ZAHID BASHIR BASHIR AHMED	Pakistani	Electrician	2340261599
32	MUHAMMAD AJAZ AHMAD SANGEEN KHAN	Pakistani	Car Electrician	2396838043
33	MC LEANON ANONUEVO MUJAR	Philipine	Electricity Technician	2423515531
34	ABDUL KARIM MOSTAFA – MIAH	Bangladeshi	Aluminum technician	2169996085
35	YAHYA ABDELRAZEK BAKIR	Egyptian	Technical Building	2287634832
36	RAMY AHMED HAWWAS	Egyptian	Decoration Technician	2339299287
37	AHMED KHALED ABDELHALIM NASEF	Egyptian	AC Technician	2383481294
38	EMAD WAGDY SHEHATA	Egyptian	Plumber	2323946067
39	YOUSRY ALI OSMAN	Egyptian	Plumber	2420535243
40	MOHE DAWAN RAZAKH DAWAN	Bangladeshi	Carpenter	2258905690

No	Name	Nationality	Position	Iqama No
41	HAMDY ELSAYED SHEHATA	Egyptian	Carpenter	2426154841
42	RAHID MEHMOOD MUHAMMAD SHARIF	Pakistani	Mason	2324649637
43	MUHAMMAD RIAZ GHULAM RASOOL	Pakistani	General Building	2298459518
44	AMER ALI SALEH ALMEKHLAFI	Yamain	Marketing Specialist	2302563230
45	MANNAN AZIZUL HOQUE MRIDHA	Bangladeshi	Steel Fixer	2258580212
46	AKTER KHORSED MOLLA O	Bangladeshi	Steel Fixer	2258905716
47	MANIKANDAN ARUMUGAM	Indian	Steel Fixer	2356131132
48	ELSAYED GAMAL SALEM	Egyptian	Steel Fixer	2375891054
49	MOHAMMED ABD ELNABY MOHAMMED	Egyptian	Steel Fixer	2381331798
50	SHAH SAUD AHMAD JAN MUHAMMAD	Pakistani	Purchasing Agent	2347692200
51	RAMR SALEH ALI SALEM	Egyptian	Purchasing Agent	2364126991
52	BASEM AHMED SADOHOM	Egyptian	Purchasing Agent	2402634295
53	MONTASER SALEH ALI SALEM	Egyptian	Sales Agent	2354152148
54	MD RAZZAK MD DUDU	Bangladeshi	Painting	2242916357
55	OSAMA MAHMOUD AHMED HANTOUR	Egyptian	Painting	2380315677
56	SALEEM KHAN MEHRAB KHAN	Pakistani	Heavy Duty Driver	2333517122
57	NOOR MAT KHAN NADIR KHAN	Pakistani	Heavy Duty Driver	2333517171
58	RIZWAN MEHDI QAMAR ZAMAN	Pakistani	Heavy Duty Driver	2349762985
59	ABDUL REHMAN ABDUL REHMAN GHULAM MUSTAFA	Pakistani	Bus Driver	2405648771
60	ALAMGIR AURANGAZEB - HOSSAIN	Bangladeshi	Driver	2132794435

No	Name	Nationality	Position	Iqama No
61	MIZANURAHMAN RJAFAR	Bangladeshi	Driver	2163687102
62	MOHAMMED MILAD TOFSIRUL ALAM	Bangladeshi	Car driver public	2210064107
63	MOHAMMED DELOWAR - ALI	Bangladeshi	Car driver public	2254511138
64	AHSAN ULLAH ABDUL WAHED JAJJAH	Pakistani	Car driver public	2274090485
65	REDA ABD ELMONEEM FOUAD	Egyptian	House Driver	2275170096
66	MOHAMMED WAGDY SHEHATA	Egyptian	House Driver	2400931792
67	SOBAHAN KHAN ABDUR RAHMAN	Bangladeshi	General Tailor	2239290386
68	MOHAMMED MOSLEHUDDIN	Bangladeshi	Labor	2084444229
69	ALI AHMED ABDULKARIM	Bangladeshi	Labor	2108709706
70	MOHAMMAD SHAH SHAHIDULLAH	Bangladeshi	Labor	2110629785
71	OLIUR SUNAFORALI	Bangladeshi	Labor	2129177354
72	ABDULHALEM ABDULMATIN	Bangladeshi	Labor	2139807057
73	EMRAN HOSSAIN - NURUZZAMAN	Bangladeshi	Labor	2152572026
74	MAHA FARUK	Bangladeshi	Labor	2189002054
75	SHAHAB MUTALEB	Bangladeshi	Labor	2205722230
76	RAFIQUE SEKANTAR - MIAH	Bangladeshi	Labor	2205810878
77	ABDUL MOTALEB BODIUL ALAM	Bangladeshi	Labor	2206900967
78	JAHANGIR MIAH	Bangladeshi	Labor	2208053302
79	ALHAJJ MOHAMMED HANIF ABDUL	Bangladeshi	Labor	2209778030
80	HEMAYET HOSSAIN	Bangladeshi	Labor	2214980415

No	Name	Nationality	Position	Iqama No
81	MASUMMIAH MOAIZUDDIN	Bangladeshi	Labor	2215869872
82	RAZZAK AHAMMAD - ALI	Bangladeshi	Labor	2216707584
83	MOHAMMED SIRAJ CHOUDHRI	Indian	Labor	2227395353
84	ISMAIL ABUL - HOSSAIN	Bangladeshi	Labor	2239081421
85	BILLAL HOSSAIN SAFAYET ULLAH	Bangladeshi	Labor	2241415930
86	BILLAL HOSSAIN ARAB ALI BEPARY	Bangladeshi	Labor	2244192718
87	ABDUL GAFUR SHEIKH MD	Bangladeshi	Labor	2246048769
88	ALIAR RAHMAN ABDUR O	Bangladeshi	Labor	2247764877
89	MOHAMMAD MOBASSER HOSSAIN	Bangladeshi	Labor	2252797028
90	ABDUL GOFRAN ABDUR RAZZAK	Bangladeshi	Labor	2254648237
91	AMIN MIAH KARIM ALI	Bangladeshi	Labor	2264406915
92	KHURRAM SHAHZAD ZULFIQAR AHMAD	Pakistani	Labor	2290345806
93	NAVEED ARSHID MUHAMMAD ARSHID	Pakistani	Labor	2292570922
94	MOHAMMAD SHAFIQ MOHAMMAD TAUFIQ	Indian	Labor	2299330437
95	SHAMIM AHMED WAHEED AHMED	Indian	Labor	2300845886
96	MUHAMMAD KASHIF MUHAMMAD NAZIR	Pakistani	Labor	2317138291
97	SAKHAWAT ALI LIAQAT ALI	Pakistani	Labor	2317255384
98	SHAHADAT ALI NOOR MUHAMMAD	Pakistani	Labor	2318936859
99	MD YEASIN ARAFAT BUHIYA	Bangladeshi	Labor	2320965052
100	MOHAMMAD SALEEM MOHAMMAD SHAFI	Pakistani	Labor	2334538085

No	Name	Nationality	Position	Iqama No
101	BAIJU ALIYARU KUNJU	Indian	Labor	2335474249
102	ABDUL FAHAD KATTUPPURA	Indian	Labor	2341335871
103	MUHAMMAD FAISAL FAIZ UL HAQ	Pakistani	Labor	2345728667
104	HUMAYUN KABIR ABDUL MATIN	Bangladeshi	Labor	2349210787
105	NOUMAN ALI LIAQAT ALI	Pakistani	Labor	2356956694
106	SHIYAS SAINULABDEEN KALID	Indian	Labor	2402081570
107	LATHEEF ABOOBAKER ABOOBAKER	Indian	Labor	2402083238
108	MUHAMMAD IDREES MUHAMMAD YOUSAF	Pakistani	Labor	2402083733
109	MUHAMMAD NAEEM SARWAR	Pakistani	Labor	2402084020
110	FAIZAN SAFDAR MUHAMMAD SAFDAR	Pakistani	Labor	2402089045
111	KAUSAR ABBAS MUHAMMAD IQBAL KHAN	Pakistani	Labor	2402122721
112	ALAA MOHAMED ABDELHAMID HANTOUR	Egyptian	Labor	2402226183
113	SALEH KHALIFA ELZANATY KHALIFA	Egyptian	Labor	2402266858
114	AHMED ABDRABOU SOLIMAN MATR	Egyptian	Labor	2402267542
115	AHMED MOUSTAFA YOUSEF MATHANA	Egyptian	Labor	2402268276
116	KAREEM ABDELSHAFY HANTOUR	Egyptian	Labor	2402279620
117	MAHMOUD REDA KAMAL ABDOU	Egyptian	Labor	2404716215
118	HOSAM HASSAN RIZQ	Egyptian	Labor	2405040011
119	AAMIR AAMIR CHHOTE KHAN	Indian	Labor	2405637469
120	SHAN SHAN KUTTY	Indian	Labor	2405637923

No	Name	Nationality	Position	Iqama No
121	GALIB GALIB NABI	Indian	Labor	2405640521
122	MOHD SERAJ SABIR ALI	Indian	Labor	2405641602
123	TAIMOOR TAIMOOR SALEEM AKHTAR	Pakistani	Labor	2405647146
124	ANILKUMAR SOMARAJAN SOMARAJAN	Indian	Labor	2405647708
125	SHAMEER SIDDIKH SIDDIKH	Indian	Labor	2405651825
126	MUHAMMAD MUHAMMAD MIAN	Pakistani	Labor	2405703550
127	ANIL RAGHAVAN RAGHAVAN	Indian	Labor	2405705308
128	YASIR YASIR MUHAMMAD ASLAM BHATTI	Pakistani	Labor	2405707502
129	MUHAMMEDU MUHAMMED SHAMSUDEEN	Indian	Labor	2405708336
130	KAMRAN SOHAIL MUHAMMAD RAFIQ	Pakistani	Labor	2405709037
131	FARHAN FARHAN HAQ NAWAZ	Pakistani	Labor	2405709813
132	RIZWAN RIZWAN JAHAN DAD	Pakistani	Labor	2405710571
133	MUHAMMAD MUHAMMAD ASHRAF	Pakistani	Labor	2405715554
134	ATIF ATIF ARIF MEHMOOD	Pakistani	Labor	2405717063
135	MUHAMMED FARIS PAKKATH	Indian	Labor	2405717683
136	MUHAMMAD MUHAMMAD LATIF	Pakistani	Labor	2405718996
137	ASMAT ULLAH MUHAMMAD RAMZAN	Pakistani	Labor	2405720547
138	MUHAMMAD UMAIR MUSHTAQ AHMAD	Pakistani	Labor	2405753365
139	MUHAMMAD QAISER MUHAMMAD SADIQ	Pakistani	Labor	2405753688
	NAFSAL KHAN MOHAMMED BASHEER	Indian	Labor	2405754116

No	Name	Nationality	Position	Iqama No
141	MUHAMMAD ISMAIL PAINDA KHAN	Pakistani	Labor	2405754389
142	ABDELMAGID IBRAHIM HUSSEIN	Egyptian	Labor	2408953897
143	MUJAHID MUJAHID MUNAWAR HUSSAIN	Pakistani	Labor	2410942730
144	SAJID JAVED REHMAT ALI	Pakistani	Labor	2410969204
145	SADDAM SADDAM HUSEN	Nepali	Labor	2411221688
146	SAMEH HELMY GHONIM	Egyptian	Labor	2420471233
	SAYED AHMED MAHMOUD ABBAS	Egyptian	Labor	2420789626
	RAHUMATHUMMA IBRALEBBE	Siri Lankan	Labor	2398556882
	BAINA TALILISAN LANDASAN	Filipino	Labor	2416262547
		·	Labor	
	PADAM BAHADUR B K	Nepali		2440736946
151	SAMSHER TAMANG	Nepali	Labor	2440738306
152	YUVRAJ RAJBANSHI	Nepali	Labor	2440738215
153	HASNAT KUMAR YADAV	Nepali	Labor	2440737472
154	MEHENDRA TAMANG	Nepali	Labor	2440738397
155	CHITRA BAHADUR HAMAL	Nepali	Labor	2441504442
156	JITAN KHATWE	Nepali	Labor	2441504178
157	RAJNANDAN MANDAL	Nepali	Labor	2441504293

## SITE DEVELOPMENT & GRADING WORKS







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