مجلس أبوظبي للجودة والمطابقة
Abu Dhabi Quality & Conformity Council

اشتراطات أبوظبي المهنية

Abu Dhabi Occupational Terms

ADOT

ABU DHABI OCCUPATIONAL TERMS

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الاصدار الأول

First Edition

اشتراطات أبوظبي المهنية في مجال الكهرباء - مقاولي أنظمة الطاقة الكهروضوئية

Abu Dhabi Occupational Terms in Electrical sector -Solar PV Integrator

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1. Amendment Page

To ensure that each copy of this technical document (Abu Dhabi Occupational Terms) contains a complete record of amendments, the Amendment Page is updated and issued with each set of revised/new pages of the document. This ADS is a live document which can be amended when necessary. QCC operates Electrical Works Group which prepared this document and can review stakeholder comments to review and amend this document and issue an updated version when necessary.

Edition Number	Year of Approval	Number of pages	Sections Changes	Notes
First Edition	2024	15	-	New Document

2. About the Abu Dhabi Quality and Conformity Council

Abu Dhabi Quality and Conformity Council (QCC) is an Abu Dhabi government entity established in accordance with Local Law No. (3) of 2009 to raise the quality of Abu Dhabi's exports and products traded locally. QCC consists of a council of regulators and industry with a mandate to ensure provision of quality infrastructure in line with global standards.

- QCC's functions are divided into six key areas:
  - Developing standards and specifications
  - Capacity building of metrology systems
  - Strengthening testing infrastructure
  - Launching conformity schemes
  - Protecting consumer interests
  - Ensuring fair trade
- QCC's key stakeholders include regulatory authorities, consumers, retailers and wholesalers, industry, conformity assessment bodies (CABs) and importers.

QCC supports regulators and government organizations through offering quality and conformity facilities, expertise and resources that allow them to implement products safety and compliance requirements and regulations. Additionally, QCC works towards promoting a culture of quality and protecting the interests of consumers. In doing this, QCC seeks to promote the Emirate's competitiveness to become one of the world's most attractive regions for investments and human capital, and to support the competitiveness of national industries in world markets.

3. Acknowledgement

QCC would like to thank the members of the Working Group listed below.

S.#	Name	Entity
1	Eng. Anas Swedan	Abu Dhabi Distribution Company (ADDC)
2	Eng. Fatema AlAryani	Al Ain Dhabi Distribution Company (AADC)
3	Faten Naser Albreiki	Abu Dhabi Public Health Centre (ADPHC)
4	Eng. Ibrahim Rizk	Smart Grid Engineering consultancy
5	Eng. Hisham El Shaarani	RENTECH SYSTEMS LLC

4. Foreword

Professional requirements are standards that qualified employees must adhere to perform the work assigned to them with high quality level. Under the leadership of His Highness Sheikh Mohamed bin Zayed Al Nahyan, President of the United Arab Emirates and Ruler of The Emirate of Abu Dhabi, The Government of Abu Dhabi, has invested significantly in the highest levels of professionalism and safety in Abu Dhabi's infrastructure. It was mandatory to encourage the presence of skilled and strong labor to maintain the quality and value of infrastructure in Abu Dhabi in particular, and the United Arab Emirates in general.

5. Working Group

The Professional Working Group was organized by Abu Dhabi Quality and Conformity Council and established in July 2024, which was requested by Abu Dhabi Distribution Company, to prepare Abu Dhabi Occupational Terms for 'Solar PV Integrator' in cooperation with the related stakeholders including representatives from government and private sectors.

6. Purpose

The process for approving Electrical contractors in the emirate of Abu Dhabi was revised and updated to introduce two additional categories which include consultants and solar PV integrators working on electrical installations. The occupations terms are professional standards that personnel must meet in order to perform the jobs they are assigned to for these new categories.

7. Occupational Terms

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No.	Field	Details		
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		❒ Controlling	QF	6
		❒ Maintain capability	QF	4 - 6
		☑ Performing/Carry out	QF	1 – 4
7	**Entry information and prerequisites**	Bachelor of Electrical Engineering Certificate or Equivalent Engineering Degree Note: Equivalent qualifications may include, but not limited to, the following disciplines: Electromechanical, Electronics, Control, Mechatronic, Power and Communication.		
8	**Grading**	**Application Unit:** ☑ Competent ❒ Not Competent		
9	**Industry Sector**	Construction, Energy, Electrical Works (Internal Wiring) and Maintenance		
10	**Developed by**	**Government Entities**	Abu Dhabi Quality & Conformity Council, Department of Energy, Abu Dhabi Distribution Company, Al Ain Distribution Company	
		Private Sector	Union Assessment and Certification (UAC)	
11	**Endorsement**	TBD		
12	**Frequency of review**	2 Years		
13	**Version No.**	1		
14	**ISCO-88**	International Standard Classification of Occupations Minor Group 741 – Electrical Equipment Installers and Repairers Unit Group 7411 – Building and Related Electricians		

8. Terms and Definitions

8.1	**Building Diagram**	A technical drawing of a structure or building that is drawn in a scale that is proportionate to its real-world dimensions. Building drawings include site plans, floor plans, elevations and sections. Drawings that provide additional specific/specialist details are known as Coordination Drawings.
8.2	**Load Schedules**	Schedule shows the details of the electrical circuit including wire size, protective device rating, connected and diversity load for each circuit.
8.3	**Cross Section**	A section is a type of building drawing. It represents a vertical plane cut through the structure.
8.4	**Elevation**	It is a drawing of the exterior or interior of a building or structure as seen from a horizontal position - without dimensional perspective.
8.5	**Floor Plan**	A floor plan is a building drawing. It is a drawing to scale showing a view from above, of the relationships between rooms, spaces and other physical features at one level of a structure.
8.6	**Electrical Layout Drawing**	Is a type of drawing that shows information about power, lighting and communication point's positions in combination with architectural drawings.
8.7	**Site Plan**	is a detailed diagram that shows the layout of a property, including buildings, roads, landscaping, utilities, and other key features. It is used for planning, design, and construction purposes.
8.8	**Single Line Diagram**	is a simplified electrical diagram that represents a system's components, such as generators, transformers, circuit breakers, and loads, using a single line to show the electrical connections and flow of power.
8.9	**Isolated**	Disconnected from all possible sources of electrical energy by opening of switches, opening or withdrawal of circuit- breakers, removal of fuses, links, connections and the like and rendered incapable of being energized unintentionally. Isolation of refrigerant gas lines.
8.10	**Cord**	is a flexible string or wire used to connect or carry power, signals, or to tie things together.
8.11	**Terminate**	The connection of a cable or cord to any electrical apparatus.

8.12	**Work Instructions**	Written or verbal description of the work to be undertaken by an individual or work team
8.13	**Electrical Wiring Regulations (EWR)**	Rules established by the electrical regulator that govern the design, construction, installation, maintenance and operation of safe and efficient Low Voltage (LV) Electrical Installations in all Premises within the Emirate of Abu Dhabi.
8.14	**Connected Load**	The aggregate load of Appliances and other electrical equipment at a Premise.
8.15	**Diversified Load**	The load at a Distribution Board, at the Electricity Intake or at any other point in an Electrical Installation, calculated using diversity factors.
8.16	**Connection Point (CP)**	The point which defines the boundary between the Owner's Electrical Installation installed at a Premises and the main cable or equipment owned by the Distribution Company
8.17	**Distribution Board**	An assembly designed for housing isolation switches and Protective Devices and for connecting multiple Circuits, including their associated neutral and Earth Conductors.
8.18	**Electrical Installation**	An Electrical Installation comprises any fixed or temporary cable, switchgear or other electrical equipment or apparatus within a Premises or other place where there is an electricity supply (including outdoor locations). Fixed or portable electrical Appliances are not considered part of the Electrical Installation, although these Regulations do include requirements for the connection of Appliances (e.g. plugs and socket-outlets).
8.19	**Licensed Contractor/Consultant**	A person, entity or company which has been assessed by the Distribution Company as competent to work on Electrical Installations and issued a Competency Licence by that Distribution Company.
8.20	**Premises**	Any occupied or unoccupied land, structure, building, enclosure or other place. Such locations include, but are not limited to, apartments, villas, offices, shops, warehouses, hotels, commercial complexes, leisure complexes, public buildings, parks, farms, temporary Electrical Installations, entertainment arenas, construction sites, tents, outbuildings, caravans, street lighting and traffic signs.

9. Performance Criteria

9.1 Criteria One: Conduct Pre-design activities

Elements	Definition
1.1	Analyze the customer needs and requirements
1.2	Establish required alignment between proposed design and the local regulations (EWR) and engineering standards
1.3	Provide advice and guidance to client
1.4	Consult with client and project manager throughout design process to address issues, changes, and obtain approvals

9.2 Criteria Two: Ability to design small PV system

Elements	Definition
2.1	Estimate load: 1. Review previous Electrical consumption bills 2. Identify expected Electrical consumption 3. Consider future consumption as required 4. Assess quality of existing infrastructure
2.2	Consider other aspects of installation: 1. Existing facility construction 2. Existing wiring 3. Proposed electrical installation methods 4. Any other source of integrated or stand-alone system(s)
2.3	To be able to configure PV electrical components for grid-tie or stand-alone design.

9.3 Criteria three: Ability to design drawings

Elements	Definition
3.1	To be able to identify required equipment components.
3.2	Determining installation steps, construction phases and required construction equipment and components
3.3	Ensure drawings contain accurate measurements for: 1. Dimensions of required components 2. Dimensions of existing components, if applicable 3. Placement of components 4. Runs and placement of materials 5. Specifications (Type/size of component, type of material)
3.4	Capable of using standardized architectural symbols and drawing views

9.4 Criteria four: Ability to conduct construction and installation support

Elements	Definition
4.1	Review drawings and documentation: 1. Review manufacturer's installation/manual 2. Compare as-built drawings to original construction/installation drawings 3. Review requirements for installation
4.2	Ability to determine design changes such as replacing equipment, relocating the installation location/position, changing the orientation of the equipment, adjusting with different equipment types/sizes.

9.5 Criteria Five: Ability to collect and evaluate project related information and data in order to generate different types of engineering reports.

Elements	Definition
5.1	Be able to collect progress information
5.2	Prepare snags list and progress report as required

9.6 Criteria six: Evaluating the quality of site work by applying quality assurance techniques and proposing any required changes.

Elements	Definition
6.1	To be aware of basic quality requirements
6.2	To apply quality assurance techniques

9.7 Criteria seven: Confirm the adherence to health and safety requirements about good knowledge of Emergency preparedness and response requirements by all project team members and applicable health and safety regulations and standards including ADOSH-SF

Elements	Definition
7.1	Applying health and safety regulations and standards including ADOSH-SF and Good knowledge of health and safety requirements.
7.2	To make sure that the project team members are fulfilling the safety requirements

9.8 Criteria eight: Ability to prepare and obtain Distribution Company's approval for electrical wiring and installation drawings in accordance with the Electricity Wiring Regulations before the commencement of any Electrical Installation Work.

Elements	Definition
8.1	Ability to prepare all the required documents to get approval from DISCO
8.2	Ability to prepare the electrical drawings and getting the approval as per EWR

9.9 Criteria nine: Ability to ensure the implementation of all Electrical Installation Work in accordance with the Electricity Wiring Regulations, and any specifications and requirements issued by the Distribution Company and endorsed or approved by the DOE.

Elements	Definition
9.1	Ability to execute all activities accordance to EWR
9.2	Following and complying with all DISCO and DOE requirement and specifications

10. References

- Process for approving Electrical Contractors/Consultants/Solar PV Integrators Working on Electrical Installations in the Emirate of Abu Dhabi (Revision 2) 1/2/2023
- The Electricity Wiring Regulations (2020)
- Abu Dhabi Occupational Safety and Health System Framework (OSHAD-SF) Manual, Version 4.0, July 2024