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VOLUME II

ENVIRONMENTAL MONITORING UNIT MANUALS AND CHECKLISTS

(RSSTI) Red Sea Sustainable Tourism Initiative

(TDA) Tourism Development Authority

(USAID) United States Agency for International

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Glossary of the Terminology Used in the Manual

Annex One

Glossary of the Scientific Desalination Terminology
Used in this Manual
English/ Arabic

English Terminology	Arabic	Abbreviated meaning
A		
Additives	إضافات	Chemical elements and compounds are added for specific purposes such as to resist corrosion, remove scale, etc.
Alkalinity	القلوية	Presence of hydroxide ions (OH), carbonates (CO3) or bicarbonates (HCO3) in water
Atmospheric Pressure	الضغط الجوي	Is the weight of gas columns in the atmosphere, equivalent to 1,0123 bar at sea level, and increases as reduced below sea level
Anions	أيونات سالبة	Such as fluorides, sulfates, carbonates, bicarbonates, and chlorides and are attracted to the anode
Auxiliary Components	المكونـــــات المساعدة	Are the auxiliary components supporting the production process such as pumps, filters, and injection systems, etc.
Acidity	حامضي	The increase of the rates of hydrogen ions in water, and consequently there is a reduction in pH below 7
Aeration tank	حوض تهوية	Is used in wastewater treatment plants, where air is used to activate bacteria that feed on sanitary wastes changing them into sediments that can be settled or filtered.
Alternative Energy	طاقة بديلة	Are the alternative energies other than fossil fuel (hydrocarbons such as coal, oil, and natural gas), and may be renewable energy (such as solar or wind) or nonrenewable (such as nuclear energy)
Alkaline	قلوي	pH number I above 7
Anode	قطب سالب	Positive electric poles attracting ions of negative elements
Activated Carbon	كربون نشط	Special treated carbon used to remove excess chlorine, organic substances, and odors
Aqueous	مائي	Aqua is a Latin term meaning water, either in terms of color, taste, or form etc
Anti	مـواد مقاومـة (ضد)	Such as anti corrosion material Anti scale Anti foam
B		
Back wash	غسيل عكسي	Is the reverse water direction of the seal during the operation of filters etc, for the purpose of washing the filter or the component

Biological Oxygen Demand (BOD)	احتياجات الأكسجين الحيوي	Is the amount of oxygen used in the consumption of organic materials required for the biological treatment of water
Boiling Temperature	درجة الغليان	The temperature degree where water boils, and varies as per pressure, for water it is 100˚c at atmospheric pressure, and is equivalent to 180˚c at atmospheric pressure of 10, and equivalent only to 46˚c at 1/10 of atmospheric pressure
Back wash	غسيل عكسي	The process of washing filters and ionic exchangers and others, where pure water is pumped in a reverse direction to expel any suspended solids that accumulate during operation
Boiling	غليان	Is the process of evaporation of water (liquids) and changes water into bubbles from vapors that rises and separates from water level.
Brine	محلول ملحي	Saline water whose concentration is higher than that of the feed water
Blow Down	ماء صرف (طرد)	Blown or discharged water effluent from the plant to preserve the salinity rate at the plant
Brine water	مسخن المحلول الملحي	Is a heat exchanger using a heating source (such as vapors) to increase the temperature degree of brine to the highest possible degree (T.B.T)
Brackish water	ماء خفيف الملوحة (بئر)	A light saline water (from 1000 to 10,000 ppm) and is found in wells
Boiler(Steam Generator)	غلاية (مرجل) (مولد بخار)	Used to turn water into steam through the boiling process
C		
Coagulant (Aluminum Sulfate)	الشبه (كبريتات الألمونيوم)	Is used as a subsidiary agent in the process of clearing, as it helps in assembling the tiny suspended solids into bigger particulates that can be settled in sedimentation beds
Condensate	ماء ناتج التكثف	Drops of water resulting from the steam condensation
Commercial Methods	طرق تجارية	Desalination technologies that superseded the research stages to manufacturing stages, on the commercial level.
Clouds	السحب	Condensed water vapor in the form of very tiny airborne drops, bright white in color (vapor is colorless), and if it is close from ground level it is called fog
Cations	الأيونات الموجبة	Such as sodium, calcium. And magnesium, etc, and is attracted to the cathode
Chemical Additives	إضافة كيماوية	Additives for specific purposes such as anti sedimentation, resist corrosion, killing fungi

Crystals	بلورات	When the liquid dries, it changes into solid crystals (saline treatment)
Concentration	تركيز	The rate of presence of (salts and other elements content) in water, and is measured by ppm units
Corrosion	تآكل	The collapse of minerals due to its reaction with the brine (or medium)
Compaction	تضاغط	If pressure increases on membranes as time goes by in attempts to increase production. The membranes are compacted, and then its permeability for fresh water, which in turn reduces production.
Condensation	تكثف/تكثيف	Rate of salts dissolved in water, and is measured by ppm units or by mg/l.
Chemical Oxygen Demand (COD)	إحتياجات الأكسجين الكيماوية	Rate of oxygen used to oxidize inorganic materials, and required for treatment of non-biological material in water.
Cell	خلية	This term is used in power dialyzing units, where the unit consists of a number of cells, and each cell consists of membranes through which the conc. brine and salt production channels pass.
Copper Alloys	سبائك النحاس	Used for its good conductivity of heat and its high resistance to corrosion such as copper and nickel alloys 90/10, 70/30
Capacity	السعة	Such as Thermal capacity and Production capacity
Compressor	ضاغط	A rotating equipment to compress gases and vapors
Coating	طلاء	To coat/paint the metallurgic materials to resist corrosion
Chamber	غرفة	Such as chamber for flashing evaporation
Cathode	قطب موجب (كاثود/مهبط)	positive elements Negative electric poles that attracts ions of
Corrosion inhibitors	موانع (مثبط) التآكل	Chemical materials added with specific rates to prevent (or minimize) metallurgic corrosion
Condenser	مكثف	Heat exchanger for the purpose of vapor/steam condensation
Concentration Ratio	نسبة التركيز	The rate between the salinity of water (or brine) to the salinity of feed water
Calibration	معايرة	To confirm the accuracy of equipment used in measurements
Cooling Water	ماء التبريد	Used to discharge heat from the unit
Commercial Units	وحدات تجارية	Technologies that reach the competition on the commercial levels
D		
Distillation	التقطير	Is the heating desalination process using condensed steam
Diffusion	انتشار	Moving of elements through brines due to differential concentrations
Dissolved Solids	الأملاح الذائبة	Consists of a number of positive and negative ions such as cations Calcium (Ca) Sodium (Na) Magnesium (Mg) Potassium (K)

Desalination Economics	اقتصـــاديات التحلية	Includes the primary prices per unit and the costs of equipment, operation, maintenance, and accordingly, the production costs of desalinated water per cubic meter.
Disinfections	تطهيـــــر (التعقيم)	Adding materials such as chlorine to kill microbes and harmful bacteria in water
Desalination (Desalting)	تحليـة (إزالـة ملوحة/تعذيب)	Separation of salts from water (or vice versa) in brine (such as seawater or well water.
Dilution	تخفيف	Increase water rates and reduction of rates of other elements
Dialysis	ديلزة (فرز)	Is the process of separation or dilution of the brine, by separation of salts there from, and attracting these salts by means of electric poles
Deposits	رواسب	Soft deposits or sediments such as clay and carbon scales, and solid deposits as sulfates and silica scales
Deairator	طـــــارد (مزيـــــل) الغازات	An equipment using the processes of atomization and heating to discharge the gases dissolved in feed water
Dissolved gases	غازات ذائبة	Such as oxygen, carbon dioxide, which must be disposed prior to entering to unit6s (specially thermal units) to prevent corrosion, and affect the chambers' pressure
Demister	فاصل الرذاذ	Mist is water sprinkles, and is carried partly with steam and therefore causes its pollution with its carried salts and minerals. Therefore the demister is used to achieve pure steam.
Duel Purpose (Co-generation)	محطـة ثنائيـة الغرض	Double purpose stations for power generation and water production, that is to say production of two types of electric and thermal energies.
Distillate (Distilled water)	ماء مقطر	Water produced from the process of distillation (evaporation and condensation)
Desalination Plant	محطة تحلية	Consists of one or more desalination units (to produce bigger amounts of water)
Deairation	نـــازح (أو مزيـــــل الغازات)	Is placed before the thermal desalination units as a part of the primary treatment of feed water to remove the dissolved gases (which leads to unit corrosion)
Desalination Unit	وحدة تحلية	The set of the components required for the production of a specific amount of water
Distillate	ماء مقطر	The water output resulting from any thermal desalination plant
E		
Environment	البيئة	The ambient air, water, or ground surrounding human beings
Electro Dialysis (E.D.)	الـــــديلزة (الفـــــرز) الكهربائي	Uses the differential power voltage to attract salts away from the brine, which turns it into fresh water
Electro Dialysis Reverse (EDR)	الـــــديلزة (الفـــــرز) الكهربـــائي المعكوسة	Similar to (E.D.) above mentioned but with changing electric poles (positive and negative) to reverse the salt separation process in order to minimize the potential salt deposits on membranes surfaces.

Electric Conductivity	التوصـــــل الكهربائى	Method for measuring water salinity. As water salinity increases, the electric conductivity also increases. The measuring unit of electric conductivity is m S /cm& µS/ cm and the electric conductivity is about twofold the total solids dissolved in potable water
European Desalination Society (EDS)	الجمعيـــــة الأوروبيـــة لتحلية المياه	A European society based in Italy, specialized in water desalination.
Egyptian Desalination Association (EDA)	الجمعيـــــة المصـــرية لتحلية المياه	First registered and newly operating Egyptian association in water desalination based in Cairo, Egypt.
Environment Pollution	تلوث البيئة	Introducing unfavorable elements into the environment that hazardously affect human beings. Pollution may be in air, water or food, etc
Evaporation	تبخير	Similar to evaporating but after setting up a heat source to push forward the process of turning of liquid into steam
Effectiveness	فعالية	The state of benefiting from energy in terms of input energy (to the unit) and similar output energy
Efficiency	كفاءة	The state of benefiting from energy according to design requirements, and is equal to the ratio of output to input energy
Enriched Uranium	يورانيـــوم مخصـــب (خصب)	Uranium containing specific excess of 235, and typically consists of 3.5 activated Uranium 235, 96% and the rest is inactive uranium 238.
F		
Filtration	الترشيح	Separation of suspended solids (and some dissolved solids), and its accuracy varies from normal filtration to micro filtration to Ultra filtration, to nano- filtration.
Fouling (soft scale)	ترســـبات (رواســـب) قشور طرية	Deposits that can be removed by mechanical, chemical methods, or by diluted acids such as the deposits of suspended materials like clay and algae, or dissolved as carbonates
Flashing	تبخيـــــر ومضي	Sudden evaporation due to the presence of water (liquid) at a temperature above heating, and then the liquid is set in a pressure below boiling pressure, a part of the liquid shall be changed into steam, and then the liquid temperature is reduced to the boiling degree.
Freezing	تجمـــــد (تجميد)	By reduction of temperature degree the liquid is changed into solid salt-free crystals.
Feed	يغذى	Supplying any equipment, component, or system with the main source thereof such as feeding feed water to the desalination unit or steam boilers
Filtration	ترشيح	clearing water off suspended solids such as sand, clay, etc
Foam	رغـــــاوي (رغوة)	Soils of organic and inorganic material that are formed on the water levels may be carried by steam with water sprinkles

Freezing methods	طرق التجميد	A thermal method where saline water is cooled leading to frozen fresh water crystals that may be separated and dissolved to achieve water.
Feed water	ماء التغذية	Input water that enters to feed the unit and compensate output water
Fresh water	ماء عذب	Potable water
Flow rate	معـــــــدل السريان	Measured by quantified units such as cubic meter per day or by masses units such as ton/hr.
G		
Gases	الغازات	Presence of gases in water causes corrosion of heat units
Generator	مولد	Such as Steam Generator, Generator Electric
Ground water	مياه جوفية	Such as wells and springs
H		
Heavy water (Deuterium Oxide-D_2O)	الماء الثقيل	The well known type of water is the soft water (H_2O), and each 7,000 part of it consists of one part of heavy water (Deuterium Oxide-D_2O) and Deuterium (D_2) is a counterpart of hydrogen (H_2), but its atom contains neutron in addition to the proton in the Hydrogen atom. This is why its is heavier, and thus called heavy water.
Heat Transfer	انتقـــــــال الحرارة	Heat is transferred according to differential temperature degrees from highest to lowest degrees either by conductivity (diffusion), loading, or radiation.
Heat Recovery	اســـــتعادة الحرارة	Recover and reuse of heat to benefit therefrom: Negative ions Chloride (Cl) Carbonate (CO_3) Bi-Carbonate (HCO_3) Sulfate (SO_4)
Hydrological Cycle	الدورة المائية	Source of fresh water for all humanity through the evaporation of seas and oceans waters into clouds, and then rainfall and returns to seas again.
Hollow Fine Fibers	الشـــعيرات الدقيقـــــة المجوفة	Like human head hair manufactured from substances like cellulose acetate and used as semi permeable membranes for the process of reverse osmosis
Heating system (Vapor)	بخار تسخين	The difference between the vapor and the steam is that the latter has a higher pressure and temperature degree. Heating steam is typically used as a heat source to heat the brine in thermal stations.
Hard Scale	ترسبات (رواسب) (قشور) صلبة	Scales that cannot be removed by mechanical, chemical methods or by acids such as sulfates and silica scales
Heat	حرارة	A form of energy that causes heating
Hollow Fiber	خيط مجوف	Like human head hair used in making membranes for the process of reverse osmoses
Heat rejection	طرد الحرارة	To achieve heat balance in any component or system, it is necessary to discharge an amount of energy similar to the inlet heat, but with a lower temperature degree.

Heat Exchanger	مبـــــــادل	Equipment for heat exchanging between hot and cool

	حراري	seals. Shall be called a heater, cooler, condenser, evaporator according to its intended purpose(s), etc
Heat source	مصـــــــدر حرارة	A source of external thermal energy required for the thermal desalination plants as a thermal power for the process of distillation, and shall be either steam, hot water, or hot gases, etc.
I		
Ion Exchange	التبـــــــادل الأيوني	Uses resins for exchanging ions with ions dissolved in brine, leading to dilution of brine to fresh water. There are positive ion exchangers to absorb cations and there are negative ion exchangers to absorb anions. Also there are Mixed beds to absorb both anions and cations.
International Desalination Association IDA	الجمعيـــــة العالميـــــة لتحلية المياه	An association board in USA, having experts, scientists, and international companies as members, in the field of desalination
Ions	أيونات	The molecule of the compounds dissolved in water is divided into particles with either a positive or negative charge, each of which is called ions.
L		
Latent Heat	الحـــــرارة الكامنة	Either an added (or withdrawn) heat at the fixation of temperature degree to change the liquid into steam (or vice versa). This heat is latent, that is, it is intangible due to lack of sensing instruments (such as thermostat). Same meaning applies in case of changing the liquid to solid (freezing) or from solid to liquid (melting). And is measured by kg l/kg
M		
Membrane Compaction	انضـــــغاط الأغشية	Increase in density of membranes due to increase of pressure and temperature degrees on membranes. This causes tightness in the membrane permeability and reduction of production capacity and hence requires pressure increase from the high-pressure pump.
Membrane	أغشية	Special materials (such as cellulose and polymer compounds) to separate the dissolved substances in the brine
Mass Transfer	انتقال المادة	The mass is transferred according to differential concentration degrees from the highest to the lowest either by diffusion or loading.
Multi Stage Flash (M. S. F.)	التبخـــــــر الومضـــــي متعـــــــدد المراحل	One of the most commonly known and applied thermal desalination processes especially in major stations. M. S. F. is used through several stages to maximize benefits from the energy carried by the brine.
Multi (Multiple) Effect (ME or MED)	التبخير متعدد التأثير	The boiling process is used to evaporate the brine, and the steam generated in each stage is used as a heat source to produce another type of steam in another stage (at a lower pressure) and so on.
Mass	الكتلة	Units measured by kg or ton.
Main Components	المكونـــــات الأساسية	Components directly involved in the production process such as the evaporators in thermal units, membranes, and high pressure pumps in membrane

		units

Membrane Distillation	التقطيـــــر الغشائي	A method using thermal energy for water distillation. And the passage of steam (only) through thermal membranes.
Multi stage Flash (MSF)	تبخر ومضي متعـــــــدد المراحل	Uses flashing evaporation to form steam, which condenses to form fresh water produced. The units consists of several stages, where pressure is lowered from one stage to another.
Micro-Filtration	ترشيح دقيق (ميكروبي)	Process of clearing water off the tiny suspended particulates such as algae within the micron limit.
Maintenance	صيانة	Conserving the equipment by changing the damaged and conducting repair works for operation.
Monitoring	مراقبـــــــة (متابعة)	Following up and controlling the performance of components and systems through measurement devices, either onsite or in the control room.
Make Up water	ماء التعويض	To feed the unit to compensate its effluent either in the form of output water or discharged wastewater.
Multi (Multiple) Effect	متعدد التأثير	Type of desalination technology, where benefits are drawn from the generated resulting energy to produce steam from the next impact stage and under lower pressure and so on.
N		
Nuclear Energy	الطاقـــــــة النووية	The energy resulting from the fission of heavy atoms such as Uranium or merging of atoms such as Helium, in order to transfer this nuclear energy (between nuclei) into a beneficial energy for human beings (thermal or electrical).
Nano Filtration	ترشـــــــيح متناهي الدقة	Clearing water off the very tiny suspended particulates such as the dual ions, colors, and odors (ranging from 10 to 100 angstroms).
Nuclear Energy	طاقة نووية	Benefits from the fission of heavy natural elements such as Uranium, heat generation, and the release of particulates such as neutrons, alpha, beta, and gamma rays for human benefit either in peace or for military excellence.
Natural Uranium	يورانيـــــوم طبيعي	Uranium produced from its specific mines, and naturally consists of 0.7% of active Uranium (235), and the rest 99.3% of inactive uranium (238).
O		
Osmotic	أسموزي	Permeation of diluted solution to conc. Brine through a semi permeable membrane to produce a balanced concentration.
Osmotic Pressure	الضـــــــغط الأسموزي	The pressure at which the permeation stops of the diluted solution to the conc. Brine through a semi permeable membrane.
Once Through	أحـــــــادي المـــــرور (اتجاه واحد)	Inlet system of feed water, passing through the desalination unit, then fully discharged and replaced by new quantities of feed water.
Osmosis	تناضح	Permeation of diluted solution to conc. Brine through a semi permeable membrane to produce a balanced concentration
Operation	تشغيل	Production process along with monitoring equipment

		performance.
Orifice	فتحـة ضـيقة (خانقة)	Used to measure and reduce the flow rate, and also to create a differential pressure before and after the orifice (relatively).
P		
pH	الرقم (الأس) الأيدوجيني	Is the number that determines the nature of the solution (brine), in terms of acidity or alkalinity. It is the negative logarithm for the concentration of hydrogen ion, below 7 acidity, and more than 7 alkalinity.
Productivity	الإنتاجية	Production rate per hour or per day whether a quantified rate such as m^3/day or mass rate (ton/hr).
Performance	أداء	The status of operating the components according to its design requirements.
Pressure Vessel	إناء ضغط	A cylindrical container that tolerates high pressures, and consists of membrane elements in the units of reverse osmosis.
Power Generation	توليـد القـدرة (الكهربية)	Using multi methods for electric power generation in power plants (whether thermal, nuclear, or solar, etc.).
Part of Million (PPM)	جـــزء فـــى المليون	Unit for measuring salinity (and other elements) in the brine.
Per Capita	حصة الفرد	Individual share (in a community) from any material, income, product, or natural resource.
Properties	خواص	Anything that has chemical and/or physical characteristics, etc, that determines its capability of performing a specific activity.
Permanent Hardness	عسـر المـاء الدائم	The hardness of sulfates, chlorides, and calcium nitrates and /or magnesium and is removed by heating.
Product Water	ماء منتج	Fresh water produced from the desalination unit.
Potable Water	ماء شرب	Salinity from 100 to 500 ppm, in addition to its being void of any pollutants that hazardous to human beings.
Power Plant	محطة قوى	A single-purpose station only for electric power generation.
Pre- Treatment	معالجة أولية	The preparation of feed water before its entering the unit (by removal of gases, suspended solids, and chemical additives) in order not to negatively affect equipment by corrosion and deposits.
Post Treatment	معالجة نهائية	The preparation of water produced from the desalination plant using the specifications required for usage.
Product Water	ماء منتج	The output resulting from any desalination plant
Pump	مضخة	A revolving equipment to push forward liquids and increase its pressures, and is typically operated by electric motor or turbine (gaseous, steamy) or diesel engine.
Preformance Ratio (PR)	معامل الأداء	The ratio between the rate of product water, and the rate of inlet energy (or heating steam).
Primary Water Resources (PWR)	مصادر الماء الطبيعية	The quantity of natural water for a group of humans, including rivers, rainwater, natural ground water, and other sources.
Permeation	نفاذية	The possible passage of an element through membranes.
R		

Resin	راتنجات	Resin materials in the form of small balls (ml) placed inside the Ion Exchanges
Reverse Osmosis (R.O.)	التناضـــــح العكسي	One of the most commonly applied desalination by using membranes, and uses the high pressure to push (separate) fresh water from saline water through semi permeable membranes
Recirculation	إعـــــــادة الدوران	A portion of the brine is recirculated to benefit from its chemical contents, and thereby reduce the rates of the feed water required for the desalination plant.
Rain	أمطار	Condensed water drops from clouds
Re-Generation	تنشيط	Activate resin materials in the ion exchangers after consumption of ions there from to restore it back to its normal conditions.
Residual	مخلفات	Such as in case of adding chlorine for disinfection, for example it is required to remove the remaining rate before entering the desalination unit, to prevent its negative impact on membranes.
Research Methods	طرق بحث	Technologies that are still technically and economically non-competitive for commercial manufacturing.
Renewable Energy	طاقة متجددة	The resources that do not deplete as long as there is life on earth, such as solar energy, wind-driven energy, organic materials, etc.
Raw Water	ماء خام	Waters from rivers, canals, lakes, wells, and/or sea that constitute source of feed water for treatment or desalination plants.
Resistance	مقاومة	Resistance for heat transfer by insulation or resistance for corrosion (corrosion preventives), etc.
Recovery Ratio	نسبة الاستعادة (الاستفادة)	The ratio of fresh water production rate to rate of inlet feed water, and ranges in case of reverse osmosis from 35% to 45% for seawater and 85% for well waters.
S		
Salinity	الملوحة	The total inorganic elements dissolved in water, measured by ppm or gm/kg of water.
Solar Radiation	إشـــــــعاع الشمس	Power of solar radiation by energy (Watt) falling over square meter (W/m^2), and varies from zero at sunrise to the highest level at mid-day (approximately from 100-600 $watt/m^2$) then reaches zero at sunset.
Semi Permeable Membrane	أغشـية شـبه نفاذة	Membranes that permit the passage of some elements excluding others, and are used in desalination processes.
Sensible Heat	الحـــــرارة المحسوسة	Is sensible according to rising or decreasing temperature degrees when some heat is either added or withdrawn.
Specific Heat	الحـــــرارة النوعية	One of the physical properties, and is equivalent to the amount of the heat required to raise (or decrease) 1 kg of material, 1˚c temperature, and for water it is 4.18 kg l/kg .m (?)
Saturated Steam	بخار مشبع	Steam whose temperature degree is equivalent to the boiling degrees.
Superheated Steam	بخـــــــار محمص	Steam whose temperature degree is higher than the boiling degree (under same pressure)
Saturation	تشبع	Used thermally as a saturated steam that is 100% steam, and where salinity rate reached the saturation

		level, and any increase may cause the deposit of salts.
Stainless steel	حديد صلب	Alloys of corrosion-resistant steel such as Steel 316 L.
Sludge	حمأة	Steel outputs in the process of wastewater treatment.
Surface	سطح	Such as heat transfer surfaces and membrane surfaces.
Semi Permeable	شبه نفاذ	Membranes that permit the passage of some elements excluding others.
Steam Rejector	طارد بخاري	Used in withdrawal of gases or to pressurize steam and gases (to eject into the air). Uses the theory of transferring speed difference to vacuum, where gases and withdrawn and pressurized.
Solar Energy	طاقة شمسية	Using heat and light radiation to change them to energy (heat or electrical) that could be beneficial.
Solar Still	مقطر شمسي	A simulation of the natural water cycle conducted in a small device operating by solar energy for evaporation (and disinfection).
Section	منطقة (جزء/قطاع)	A series of stages having same properties
Stage	مرحلة	Steam chamber, containing evaporated water, and condensed steam.
Sea water	ماء البحر	Saline water, whose salinity is higher than well water, higher than 30,000 ppm.
Saline (salty) water	ماء مالح (ملحي)	When salinity is higher than that is permissible for potable water (salinity above 1000 ppm) and is called well water (or brackish water) if its salinity range from 1000 to 10,000 ppm, and is called seawater in case its salinity is above 30,000 ppm.
Surface Water	مياه سطحية	Such as rivers, tributaries, seas, and lakes.
Silt Density Index (SDI)	مقياس كثافة العكارة	An index that determines the necessity of pretreatment and filtration to remove the suspended elements so as not to affect negatively the desalination unit especially membranes.
Specifications	مواصفات	Is abbreviated as "specs", which are the prerequisites in an element, component, or an operation system.
Spiral Wounded	ملفوفة حلزونيا	Spirally wrapped membrane belts to increase the permeable surface area, while reducing the size of membrane.
Salt passage	نسبة مرور الملح	The ratio between the concentration of the fresh water produced to feed water concentration, and reaches 10%
T		
Turbidity	العكارة	Tiny and suspended particulates in water, which causes dirt in water clarity and prevents passage of light.
Top Brine Temperature (T.B.T)	أعلى درجة حرارة للمحلول	Highest temperature degree of brine in thermal stations, and as it increases, the plants productivity and efficiency also increases, but is determined with solid deposits (such as sulfates, silica) over heat transfer surfaces.
Thermal Membrane	أغشية حرارية	Semi permeable membranes that allows the passage of steam (only).

Total Hardness	عسر الماء الكلي	The total concentration of calcium and magnesium ions (ppm).

Temporary Hardness	عسـر المـاء المؤقت	Hardness of calcium and/or magnesium bicarbonate
Total Dissolved Solids (TDS)	المـواد الكليـة الذائبة	Element to determine water salinity, and is measured by ppm, and measured by electrical conductivity and the total suspended solids are almost equivalent to half of electrical conductivity for potable water.
Total Suspended Solids (TDS)	مجمـــــوع المواد العالقة	Suspended elements (or solids) in water that are removable by filtration
U		
Ultra Filtrate	ترشـيح فـائق الدقة	Clearing water from the tiny particulate matters such as fungi within the limits from 1 to 0.1 Micron (100-100 angstrom).
Uranium	اليورانيوم	A heavy unstable material that can be fissured and used in generating nuclear energy. There are Uranium 235 and 238 that can be directly fissured for power generation. It has a simple percentage in nature (0.7%), while the biggest percentage (99.3%) is in the form of inactive uranium (238), which requires neutron absorption to change into an inactive element which is Plutonium 239 used in nuclear arms and nuclear energy.
V		
Volume	الحجم	A unit measured by liter or cubic meter.
Vaporization	بخر (تبخر)	Movement of water vapor from the water surface and at a temperature degree below boiling degree) through material movement (airborne) or by diffusion.
Vacuum	تفريـــــــغ (تخلخل)	Reduce pressure below atmospheric pressure, and accordingly, reduce the liquid's boiling temperature degree.
Venting	تهويـــــــة (تنفيس)	Allowing a quantity of gases to flee to the atmosphere either for disposal or pressure relief.
Vapor pressure	(ضـــــغط البخار)	Is the pressure at which the solution boiling degree is determined.
Vapor Compression	انضـــــغاط (ضـــــغط البخار)	A thermal desalination method that uses steam in the final desalination unit stages as a heat source after being pressured (either thermally or mechanically).
W		
Water Science and Technology Association (WSTA)	جمعية العلوم وتكنولوجيـــا المياه	An association affiliated to the Gulf Cooperation Council (GCC) for water technologies and sciences, based in Manama, Bahrain.
Water Quality	نوعية المياه	Means water is void of specific rates of rejected elements as per application.

Wind Energy	طاقة الرياح	Using air movement to push forward windmills changing it to a moving energy to run components such as pumps, power generators, and etc.
Water Hardness	عسر الماء	Presence of compounds such as calcium and magnesium that reduces the soap foam in water, and exists at a rate from 1 to more than 180 ppm.
Water Treatment	معالجة المياه	A term that expresses the meaning of changing any invalid water into valid water for human benefit.

		Treatment differs according to the water source and nature of usage required for the produced water.