

Industry Standards – Water Process Technician

What is a water process technician?

Water process technicians perform reactive and routine maintenance on equipment to ensure safe and efficient operations, supporting other disciplines as necessary. The main roles within this occupation involve working on water supply and treatment; water networks and wastewater networks; and wastewater treatment. Depending on employer's needs, training may be for a single role, or be expanded beyond that role.

Water treatment technicians operate the systems and equipment that water companies use to treat raw water so that it can be supplied to their customers. They will operate water treatment processes like chemical dosing, filtration and disinfection.

Wastewater treatment technicians operate the systems and equipment that water companies use to ensure that sewage is treated before being returned to a water course. They will operate wastewater treatment processes such as preliminary and biological treatment, collect and analyse data on the processes, and may also carry out some first line maintenance tasks.

Water network technicians will look after the pipes, mains and pumping stations that supply homes and businesses with water. They will carry out planned, preventative maintenance as well as respond to incidents such as burst pipes and major leaks.

Wastewater network technicians will look after the pipes (sewers) and pumping stations which carry wastewater from people's homes to the wastewater treatment works. They could carry out planned and preventative maintenance and may also diagnose and respond to faults and blockages.

Water Treatment Technician Pathway

This standard is for someone looking to recruit and train someone to operate, monitor and maintain water treatment processes (chemical dosing, filtration, disinfection) within their organisation.

The role of the water treatment technician

Water treatment technicians are crucial to the water companies for ensuring that the water supply to the public (both domestic and business users) is safe and conforms to the Drinking Water Quality Standards.

Through the use of a variety of methods including filtration (whether slow sand, rapid gravity, pressure or membrane filtration), disinfection and coagulation and clarification, the water treatment technician will need to use water treatment theories and principles to make sure that processes are maintained.

Should a fault occur within the works, the water treatment technician will need to be able to find the root cause and make sure they are resolved as quickly as possible, carrying out full treatment works shutdown procedures if required. They will also need to be able to work in a confined space (if required) and have a full understanding of risk assessments and emergency procedures.

Induction Units (A) - Mandatory		
Unit Code	Title	Internal Ref
	Download all Induction Units here	
IND01	Health, Safety and the Environment	2243
IND02	Safety, Health and Environmental Awareness (SHEA) Water (Revised 2018)	2243
IND03	Risk Assessment	2243
IND04	Personal Protective Equipment (PPE)	2243
IND05	Lone Working	2243
IND06	Asbestos Awareness	2243
IND07	First Aid	2243
IND08	Manual Handling	2243
IND09	Operational Procedures	2243
IND10	Fire and Emergency Procedures	2243
IND11	Drug and Alcohol Awareness	2243
IND12	Equality & Diversity	2243
IND13	Customer Focus	2243

IND14	Team Working	
14a	a) Working with Others	2243
14b	b) Interpersonal Skills	
IND15	Control of Substances Hazardous to Health (COSHH)	2243
IND16	Security / Asset Protection	2243
IND17	Industry Regulation	2243
IND18	Quality Systems and Procedures	2243
IND19	Water and Wastewater Industry Appreciation	2243
IND20	Work at Height	2243
IND21	Awareness of Confined Space	2243
IND22	Awareness of Permit to Work	2243

Common Core Units (B) - Mandatory

Unit Code	Title	Internal Ref
CC01	Work at Height	3072
CC03	National Water Hygiene Scheme (knowledge)	2335
WPTCC04	Understand Water Quality Requirements (knowledge)	2336
WPTCC05	Water and Wastewater Science (knowledge)	2337
WPTCC06	Water Quality Monitoring, Sampling and Testing	3074
WPTCC09	Isolation / Shutdown / Re-commissioning of Process Streams	3075
WPTCC10	Energy Performance Monitoring	3076
WPTCC11	Safe Isolation of Plant & Equipment	3077
WPTCC12	Process Control Systems	3078
WPTCC13	Wholesale / Retail Operations (knowledge)	2345
WPTCC15	Driving policies and Procedures	3486

In addition there are optional units which are outlined below:

Unit Code	Title	Internal Ref
CC02	Medium Risk Confined Spaces	3073
WPTCC07	Street Works – Signing, Lighting and Guarding	2339
WPTCC08	Street Works Supervision	2340
WPTCC14	Awareness of Excavation Support (knowledge)	2346

Water Treatment Technician Specific Units (C) - Mandatory

Unit Code	Title	Internal Ref
WTTC01	Raw Water Services Operations	2347
WTTC02	Plant Shutdown and Restart	2348
WTTC03	Water Quality Monitoring for Process Control	2349
WTTC04	Maintenance of Monitoring Equipment	2350
WTTC05	Works Design Flows and Hydraulics	2351
WTTC06	Disinfection Process	2352

WTTC07	Distribution System Protection	2353
WTTC08	Control Treated Water Storage Point	2354
The below are optional units; learners must take a minimum of TWO from the following, one of which MUST be a filtration unit:		
Unit Code	Title	Internal Ref
WTTO01	Screening Operations	2358
WTTO02	Coagulation and Clarification Control	2359
WTTO03	Rapid Gravity Filtration Operations	2360
WTTO04	Slow Sand Filtration Operations	2361
WTTO05	Advanced Water Treatment	2362
WTTO06	Taste and Odour Removal	2363
WTTO07	Pressure Filtration Operations	2364
WTTO08	Membrane Filtration Operations	2365
WTTO09	Waste Streams	2257

Wastewater Treatment Technician Pathway

This standard is for someone looking to recruit and train someone to operate, monitor and maintain wastewater treatment processes (e.g. preliminary, biological treatment etc) within the responsibility of their organisation.

The role of the wastewater treatment technician

Wastewater treatment technicians are crucial to the water companies because they ensure that the wastewater from people's homes and businesses is treated to the required standards before being returned back into the environment.

Through the use of a variety of processes including screening, settlement and biological treatment processes the wastewater treatment technician will need to use wastewater treatment theories and principles to make sure that processes are maintained.

Should a fault occur within the works, the wastewater treatment technician will need to be able to find the root cause and make sure they are resolved as quickly as possible, carrying out process stream shutdown procedures if required. They will also need to be able to work in a confined space (if required) and have a full understanding of risk assessments and emergency procedures.

Induction Units (A) - Mandatory		
Unit Code	Title	Internal Ref
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IND01	Health, Safety and the Environment	2243
IND02	Safety, Health and Environmental Awareness (SHEA) Water (Revised 2018)	2243
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IND05	Lone Working	2243
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IND08	Manual Handling	2243
IND09	Operational Procedures	2243
IND10	Fire and Emergency Procedures	2243
IND11	Drug and Alcohol Awareness	2243
IND12	Equality & Diversity	2243
IND13	Customer Focus	2243

IND14	Team Working:	2243
14a	a) Working with Others	
14b	b) Interpersonal Skills	
IND15	Control of Substances Hazardous to Health (COSHH)	2243
IND16	Security / Asset Protection	2243
IND17	Industry Regulation	2243
IND18	Quality Systems and Procedures	2243
IND19	Water and Wastewater Industry Appreciation	2243
IND20	Work at Height	2243
IND21	Awareness of Confined Space	2243
IND22	Awareness of Permit to Work	2243

Common Core Units (B) - Mandatory

Unit Code	Title	Internal Ref
CC01	Work at Height	3072
WPTCC05	Water and Wastewater Science (knowledge)	2337
WPTCC09	Isolation / Shutdown / Re-commissioning of Process Streams	3075
WPTCC10	Energy Performance Monitoring	3076
WPTCC11	Safe Isolation of Plant & Equipment	3077
WPTCC12	Process Control Systems	3078
WPTCC13	Wholesale / Retail Operations (knowledge)	2345
WPTCC15	Driving policies and Procedures	3486

In addition there are optional units which are outlined below:

Unit Code	Title	Internal Ref
CC02	Medium Risk Confined Spaces	3073
CC03	National Water Hygiene Scheme (knowledge)	2335
WPTCC04	Understand Water Quality Requirements (knowledge)	2336
WPTCC06	Water Quality Monitoring, Sampling and Testing	3074
WPTCC07	Street Works – Signing, Lighting and Guarding	2339
WPTCC08	Street Works Supervision	2340
WPTCC14	Awareness of Excavation Support (knowledge)	2346

Wastewater Treatment Technician Specific Units (C) - Mandatory

Unit Code	Title	Internal Ref
WWTTC01	Wastewater Compliance and Performance Monitoring	2402
WWTTC02	Sewage Pumping Stations Operations	2403
WWTTC03	Wastewater Flows and Hydraulics	2404
WWTTC04	Screenings and Grit Removal	2405
WWTTC05	Primary Settlement Operations	2406
WWTTC06	Fixed Biological Film Treatment	2407

WWTTC07	Activated Sludge Process	2408
WWTTC08	Sludge Storage, Treatment and Transportation	2409
WWTTC09	Odour Management (knowledge only)	2410
WWTTC10	Incident Support	2411
The below are optional units, a minimum of one from the following must be taken:		
Unit Code	Title	Internal Ref
WWTTO01	Odour Management and Control (performance & knowledge)	2413
WWTTO02	Tertiary Treatment	2414
WWTTO03	Phosphate Removal	2415
WWTTO04	Operate and Maintain Anaerobic Digestion	2416
WWTTO05	Sludge Dewatering	2316
WWTTO06	UV Treatment	2317

Water Distribution - Network Technician Pathway

This standard is for someone looking to recruit and train someone to monitor and maintain water networks within the responsibility of their organisation.

The role of the water network technician

Network technician roles are crucial to the water industry. They are responsible for making sure that the water networks are running properly and without leaks.

The water network technician makes sure that water being provided to our houses is maintained at an expected level. In order to do this a water network technician would carry out analysis of the water pressure and flows in order to detect any leakage and they would investigate where problems occur and utilise hydraulic theories and principles in order to carry out fault diagnosis on the water networks.

It would be their responsibility to apply procedures and control measures to the networks in order to continue the supply and minimise the risk of interruption to the water supply as far as they can.

They would also have responsibility for maintaining network equipment and systems, including pumps and control valves.

A knowledge of street works (NRSWA) would be helpful as the water network technician would have to sometimes have to apply signing, lighting or guarding to street works, making sure that pedestrians, road users and site workers are kept safe in the event of excavations on the road or pathway. They would also have to use electronic locating equipment to identify, locate and avoid underground services and cables, as well as being able to identify and avoid overhead cables.

Induction Units (A) - Mandatory		
Unit Code	Title	Internal Ref
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IND01	Health, Safety and the Environment	2243
IND02	Safety, Health and Environmental Awareness (SHEA) Water (Revised 2018)	2243
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IND04	Personal Protective Equipment (PPE)	2243
IND05	Lone Working	2243
IND06	Asbestos Awareness	2243
IND07	First Aid	2243
IND08	Manual Handling	2243

IND09	Operational Procedures	2243
IND10	Fire and Emergency Procedures	2243
IND11	Drug and Alcohol Awareness	2243
IND12	Equality & Diversity	2243
IND13	Customer Focus	2243
IND14	Team Working:	2243
14a	a) Working with Others	
14b	b) Interpersonal Skills	
IND15	Control of Substances Hazardous to Health (COSHH)	2243
IND16	Security / Asset Protection	2243
IND17	Industry Regulation	2243
IND18	Quality Systems and Procedures	2243
IND19	Water and Wastewater Industry Appreciation	2243
IND20	Work at Height	2243
IND21	Awareness of Confined Space	2243
IND22	Awareness of Permit to Work	2243

Common Core Units (B) - Mandatory

Unit Code	Title	Internal Ref
CC01	Work at Height	3072
CC03	National Water Hygiene Scheme (knowledge)	2335
WPTCC04	Understand Water Quality Requirements (knowledge)	2336
WPTCC05	Water and Wastewater Science (knowledge)	2337
WPTCC06	Water Quality Monitoring, Sampling and Testing	3074
WPTCC07	Street Works – Signing, Lighting and Guarding	2339
WPTCC11	Safe Isolation of Plant & Equipment	3077
WPTCC12	Process Control Systems	3078
WPTCC13	Wholesale / Retail Operations (knowledge)	2345
WPTCC14	Awareness of Excavation Support (knowledge)	2346
WPTCC15	Driving policies and Procedures	3486

In addition there are optional units which are outlined below:

Unit Code	Title	Internal Ref
CC02	Medium Risk Confined Spaces	3073
WPTCC08	Street Works Supervision	2340
WPTCC09	Isolation / Shutdown / Re-commissioning of Process Streams	3075
WPTCC10	Energy Performance Monitoring	3076

Water Network Technician Specific Units (C) - Mandatory

Unit Code	Title	Internal Ref
WNTC01	Regulatory Performance Measures (knowledge only)	2366

WNTC02	Materials Used in Clean Water Networks (Mains & Services) (knowledge only)	2367
WNTC03	Water Fitting Regulations	2368
WNTC04	Location & Avoidance of Underground Apparatus	2369
WNTC05	Valve and Hydrant Operations	2370
WNTC06	Pressure Management Including the Low Pressure Register (DG2)	2371
WNTC07	Network Performance Monitoring	2372
WNTC08	Leakage Performance Monitoring – optional for network technician	2373
WNTC10	Leakage Detection Operations	2375
WNTC12	Asset Security (knowledge only)	2377
WNTC13	Customer Side Leakage	2378
WNTC14	Data Logging Operations	2379
WNTC15	Wayleaves – Access to Private Land, Streets and Wayleaves (knowledge only)	2380
WNTC16	Water Network Rehabilitation (knowledge only)	2381
The below are optional units and learners must take a minimum of TWO from the following:		
Unit Code	Title	Internal Ref
WNTO01	Water Distribution Operation & Maintenance Strategy (Knowledge)	2383
WNTO02	Water Network Modelling (Knowledge)	2384
WNTO03	Water Network Design	2385
WNTC09	Pumping Station Operations	2374
WNTC11	Treated Water Storage	2376

Water Distribution - Leakage Technician Pathway

This standard is for someone looking to recruit and train someone to monitor and maintain water networks within the responsibility of their organisation.

The role of the water distribution leakage technician

Leakage technician roles are crucial to the water industry. They are responsible for making sure that the water networks are running properly and without leaks.

The water network leakage technician makes sure that water being provided to our houses is maintained at an expected level. In order to do this a water network leakage technician would use company systems to identify potential and actual leakage and plan and carry out leakage performance monitoring activities to restore the network to its normal operating condition.

It would be their responsibility to apply procedures and control measures to the networks in order to continue the supply and minimise the risk of interruption to the water supply as far as they can.

They would also have responsibility for maintaining network equipment and systems, including pumps and control valves.

A knowledge of street works (NRSWA) would be helpful as the water network leakage technician would have to sometimes have to apply signing, lighting or guarding to street works, making sure that pedestrians, road users and site workers are kept safe in the event of excavations on the road or pathway. They would also have to use electronic locating equipment to identify, locate and avoid underground services and cables, as well as being able to identify and avoid overhead cables.

Induction Units (A) - Mandatory		
Unit Code	Title	Internal Ref
	Download all Induction Units here	
IND01	Health, Safety and the Environment	2243
IND02	Safety, Health and Environmental Awareness (SHEA) Water (Revised 2018)	2243
IND03	Risk Assessment	2243
IND04	Personal Protective Equipment (PPE)	2243
IND05	Lone Working	2243
IND06	Asbestos Awareness	2243
IND07	First Aid	2243
IND08	Manual Handling	2243

IND09	Operational Procedures	2243
IND10	Fire and Emergency Procedures	2243
IND11	Drug and Alcohol Awareness	2243
IND12	Equality & Diversity	2243
IND13	Customer Focus	2243
IND14	Team Working:	2243
14a	a) Working with Others	
14b	b) Interpersonal Skills	
IND15	Control of Substances Hazardous to Health (COSHH)	2243
IND16	Security / Asset Protection	2243
IND17	Industry Regulation	2243
IND18	Quality Systems and Procedures	2243
IND19	Water and Wastewater Industry Appreciation	2243
IND20	Work at Height	2243
IND21	Awareness of Confined Space	2243
IND22	Awareness of Permit to Work	2243

Common Core Units (B) - Mandatory

Unit Code	Title	Internal Ref
CC01	Work at Height	3072
CC03	National Water Hygiene Scheme (knowledge)	2335
WPTCC04	Understand Water Quality Requirements (knowledge)	2336
WPTCC05	Water and Wastewater Science (knowledge)	2337
WPTCC06	Water Quality Monitoring, Sampling and Testing	3074
WPTCC07	Street Works – Signing, Lighting and Guarding	2339
WPTCC11	Safe Isolation of Plant & Equipment	3077
WPTCC12	Process Control Systems	3078
WPTCC13	Wholesale / Retail Operations (knowledge)	2345
WPTCC14	Awareness of Excavation Support (knowledge)	2346
WPTCC15	Driving policies and Procedures	3486

In addition there are optional units which are outlined below:

Unit Code	Title	Internal Ref
CC02	Medium Risk Confined Spaces	3073
WPTCC08	Street Works Supervision	2340
WPTCC09	Isolation / Shutdown / Re-commissioning of Process Streams	3075
WPTCC10	Energy Performance Monitoring	3076

Water Distribution Leakage Technician Specific Units (C) - Mandatory

Unit Code	Title	Internal Ref
WNTC01	Regulatory Performance Measures (knowledge only)	2366

WNTC02	Materials Used in Clean Water Networks (Mains & Services) (knowledge only)	2367
WNTC04	Location & Avoidance of Underground Apparatus	2369
WNTC05	Valve and Hydrant Operations	2370
WNTC06	Pressure Management Including the Low Pressure Register (DG2)	2371
WNTC07	Network Performance Monitoring – optional for leakage technician	2372
WNTC08	Leakage Performance Monitoring	2373
WNTC10	Leakage Detection Operations	2375
WNTC12	Asset Security (knowledge only)	2377
WNTC13	Customer Side Leakage	2378
WNTC14	Data Logging Operations	2379
WNTC15	Wayleaves – Access to Private Land, Streets and Wayleaves (knowledge only)	2380
WNTC16	Water Network Rehabilitation (knowledge only)	2381

The below are optional units and learners must take a minimum of TWO from the following:

Unit Code	Title	Internal Ref
WNT001	Water Distribution Operation & Maintenance Strategy (Knowledge)	2383
WNT002	Water Network Modelling (Knowledge)	2384
WNT003	Water Network Design	2385
WNTC03	Water Fitting Regulations	2368
WNTC09	Pumping Station Operations	2374
WNTC11	Treated Water Storage	2376

Wastewater (Sewerage) Network Technician

This standard is for someone looking to recruit and train someone to monitor and maintain wastewater networks within the responsibility of their organisation.

The role of the wastewater network technician

Wastewater network technician roles are crucial to the water industry. They are responsible for making sure that the wastewater networks are running properly and without blockages or causing any pollution incidents.

Wastewater technicians work in much the same way as water technicians, although they will be working on the wastewater (sewerage) networks, using electronic location equipment to locate drains and sewers. They will need to utilise hydraulics theories and principles, data and calculations from flow surveys to assess sewer capacity and performance and respond to any reports of incidents and / or blockages on the networks.

They may need to carry out or supervise maintenance activities such as high-pressure water jetting, flushing and de-silting operations.

A knowledge of street works (NRSWA) would be helpful as the wastewater network technician would have to sometimes have to apply signing, lighting or guarding to street works, making sure that pedestrians, road users and site workers are kept safe in the event of excavations on the road or pathway. They would also have to use electronic locating equipment to identify, locate and avoid underground services and cables, as well as being able to identify and avoid overhead cables.

Induction Units (A) - Mandatory		
Unit Code	Title	Internal Ref
	Download all Induction Units here	
IND01	Health, Safety and the Environment	2243
IND02	Safety, Health and Environmental Awareness (SHEA) Water (Revised 2018)	2243
IND03	Risk Assessment	2243
IND04	Personal Protective Equipment (PPE)	2243
IND05	Lone Working	2243
IND06	Asbestos Awareness	2243
IND07	First Aid	2243
IND08	Manual Handling	2243
IND09	Operational Procedures	2243
IND10	Fire and Emergency Procedures	2243

IND11	Drug and Alcohol Awareness	2243
IND12	Equality & Diversity	2243
IND13	Customer Focus	2243
IND14	Team Working:	2243
14a	a) Working with Others	
14b	b) Interpersonal Skills	
IND15	Control of Substances Hazardous to Health (COSHH)	2243
IND16	Security / Asset Protection	2243
IND17	Industry Regulation	2243
IND18	Quality Systems and Procedures	2243
IND19	Water and Wastewater Industry Appreciation	2243
IND20	Work at Height	2243
IND21	Awareness of Confined Space	2243
IND22	Awareness of Permit to Work	2243

Common Core Units (B) - Mandatory

Unit Code	Title	Internal Ref
CC01	Work at Height	3072
CC02	Medium Risk Confined Spaces	3073
WPTCC05	Water and Wastewater Science (knowledge)	2337
WPTCC07	Street Works – Signing, Lighting and Guarding	2339
WPTCC11	Safe Isolation of Plant & Equipment	3077
WPTCC13	Wholesale / Retail Operations (knowledge)	2345
WPTCC14	Awareness of Excavation Support (knowledge)	2346
WPTCC15	Driving policies and Procedures	3486

In addition there are optional units which are outlined below:

Unit Code	Title	Internal Ref
CC03	National Water Hygiene Scheme (knowledge)	2335
WPTCC04	Understand Water Quality Requirements (knowledge)	2336
WPTCC06	Water Quality Monitoring, Sampling and Testing	3074
WPTCC08	Street Works Supervision	2340
WPTCC09	Isolation / Shutdown / Re-commissioning of Process Streams	3075
WPTCC10	Energy Performance Monitoring	3076
WPTCC12	Process Control Systems	3078

Wastewater Network Technician Specific Units (C) - Mandatory

Unit Code	Title	Internal Ref
WWNC01	Pipework Responsibilities	2386
WWNC02	Wastewater Networks Design	2387
WWNC03	Wastewater Networks Construction Materials (knowledge)	2388

WWNC04	Wastewater Network Hydraulics & Modelling	2389
WWNC05	Wastewater Network Installation	2390
WWNC06	Sewer Pumping Station Operations	2391
WWNC07	Combined Sewer Overflows Operation and Maintenance	2392
WWNC08	Data Logging Operations	2393
WWNC09	Organise Network Operations	2394
WWNC10	Fat, Oil and Grease Procedures	2395
WWNC11	Water Jetting Operations	2396
WWNC12	CCTV Operations	2397
WWNC13	CCTV Remedial Action	2398
WWNC14	Pipe, Cable & Sonde Location	2399
WWNC15	Trade Effluent Measurement & Monitoring	2400
There is one optional unit available:		
WWNO01	Sewer Pumping and Powered Asset Maintenance	2401