# Guidance on Alternative Supply Operations

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# Contents

# 1. Executive Summary

1.1. This guidance document sets out the Drinking Water Inspectorate's expectations on alternative supply operations and the actions water companies must take when providing supplies from tankers, bowsers, static tanks or bottled water in place of piped supplies for domestic purposes.

1.2. The Drinking Water Inspectorate recognises that it is necessary for alternative water supplies to be used in exceptional circumstances when normal supply configurations are interrupted or compromised. Alternative water supply requirements are included in the Security and Emergency Measures Direction 2022 (as amended) and the associated guidance, for example the Emergency Planning Guidance (EPG).

1.3. Supplying alternative water from tankers, bowsers, static tanks or bottled water involves actions that introduce additional risk to water quality. Water companies are responsible for all alternative supply operations and are required to actively manage and mitigate risks to prevent unwholesome water being supplied to consumers. The standards of the water supplied by undertakers or licenced suppliers are required to meet the relevant water quality standards for domestic supplies.

1.4. This guidance document addresses a number of areas associated with alternative supply operations and takes the opportunity to set out requirements which water companies should implement. The following is not aimed to be exhaustive and water companies should undertake assessments in order to effectively manage the risks posed by their alternative supply operations.

1.5. This guidance has also been updated to incorporate any additional requirements outlined in TGN 11 and TGN 12 of the Principles of Water supply hygiene document and supersedes them.

1.6. The Water Supply (Water Quality) Regulations 2016 (England) and The Water Supply (Water Quality) Regulations 2018 (Wales) will be referred to as 'The Regulations' within this document.

1.7. In line with common practice, water undertakers and licensees are referred to as water companies and suppliers throughout this Guidance

1.8. The Drinking Water Inspectorate will be referred to as the Inspectorate within this document.

# Guidance on Alternative Supply Operations

## 2. Introduction

2.1. When normal drinking water supply arrangements are disrupted, due to planned events or following an operational emergency, water companies must provide alternative water supplies to consumers. This can include the use of tankers to refill service reservoirs or inject directly into distribution networks, deploying static tanks or bowsers for consumers to collect water or by providing bottled water.

2.2. Water companies must have appropriate plans and procedures in place to ensure the efficient deployment of alternative supplies; requirements are outlined in the Security and Emergency Measures Direction and associated guidance. It is good practice to maintain contingency plans with lists of suitable tanker filling locations, bottled water distribution points and static tanks deployment locations, considering accessibility for consumers in the affected area. These plans should be regularly practiced, reviewed and updated where necessary.

2.3. Tankers or alternative supplies should only be used in emergency situations or to support planned network operations where the supply network is interrupted. Alternative supply options should not be considered as a substitute for a robust and well-maintained and resilient treatment and distribution system. Where it becomes necessary to undertake alternative supply activities on a regular basis or over a prolonged period this is an indication that the receiving supply is inadequately sized to meet demand. In instances such as this water companies should consider whether appropriate investment is required to upgrade the supply configuration.

2.4. Water companies must ensure that to protect consumer acceptability, water provided during alternative supply operations is similar to the quality of the original supply, including taste, odour and hardness, this is in addition to the water quality standards which must be met. The purpose of this requirement is to ensure customers have confidence in the quality of water supplied as there should be no change, or changes are mitigated as far as is reasonably practicable. Changes in quality should be avoided however where emergency situations occur, and changes are unavoidable, management through effective consumer liaison should take place. Consideration should be given to chloraminated systems to avoid taste and odour risks caused by free chlorine mixing and staff should be aware of how to manage these risks. Water supplied from alternative sources must be acceptable to consumers to maintain standards of wholesomeness.

2.5. Companies should have regard to the 'guidance to health and water professionals' document DWI_England_DrinkingWaterSafety_February2021_V1.1.pdf for England and DWI_Wales_DrinkingWaterSafety_February2021.pdf for Wales.

## 3. Alternative Supplies

3.1. Water companies should carry out periodic deployment checks and trials to ensure that employees are trained and competent in the operational requirements. Testing and exercising will support training, liaison with third parties and reviews on associated procedures and documentation to ensure these remain fit for purpose.

3.2. Stakeholder engagement should be maintained with local emergency services and authorities, such as local resilience forums, to ensure external parties are familiar with the actions involved in deployment to support emergency planning. All parties must be aware of Security and Emergency Measures Direction requirements and associated guidance.

3.3. If mutual aid is requested from other water companies, the receiving water company is responsible for the water quality supplied by the shared tanker or bottled water stocks. Operational checks and sampling should be carried out on tankers to confirm they are suitable and fit for purpose. Water companies may choose to use third-party food grade tankers in emergency situations however these must be supplied with evidence of prior cleaning and disinfection and compliance with regulation 31 requirements. Companies should ensure that British Standard (BS) 8551: 2015 Provision and management of temporary water supplies and distribution networks – code of practice, is considered in temporary water supply operations.

# Tankering, Static Tanks and Bowsers

## 4. General

4.1 Where Water Suppliers employ the use of third-party vehicles and equipment, additional protection is needed to ensure these are likely to be available when needed. Water Suppliers should have plans in place to contact alternative providers. The Water UK mutual aid scheme has been set up so that suppliers can request additional equipment from other suppliers for temporary use during an emergency. Mutual aid is not to backfill a deficiency in the company's planning. The plans should be regularly tested and updated where necessary.

## 5 Personnel

5.1. All personnel involved in the deployment and use of tankers, static tanks and bowsers should hold a National Water Hygiene Card (see G1). Operational Activity Guidance.

The only exception is tanker drivers provided they do not have contact with the equipment to be deployed including associated fittings such as hoses.

5.2. All clothing and personal protective equipment should be clean and kept suitable for use on restricted operations (separate from other equipment).

## 6. Ancillary Equipment

6.1. All ancillary equipment or chemicals that come into contact with water must meet the relevant requirements under regulation 31 and relevant material in contact with water requirements. It is considered best practice for tankers to have their own dedicated equipment which should be stored hygienically, numbered, bagged, tagged and disinfected prior to use.

6.2. Hoses and other fittings should have suitable end caps which are secured in place when the equipment is awaiting use. Disinfection should always be carried out in accordance with the manufacturer's instructions and records of disinfection and usage of the equipment should be kept for traceability purposes.

6.3. Pipework and fittings should be kept above the vehicle floor and pipes should be end-capped. Small fittings should be kept in their original protective wrappings or in clean polythene bags.

6.4. Backflow protection must be included, when drawing water from the network, on standpipes which are connected to the live network to prevent any risk of back-siphonage/contamination into the network.

6.5. Petrochemicals, oils and chemicals and any fuel-driven equipment should be kept separate from pipework and fittings during transport.

6.6. Each vehicle should carry hand washing facilities, preferably soap and water, but waterless hand cleaner and paper towel or sanitiser may be used.

6.7. Used/soiled equipment should be thoroughly cleaned and disinfected before being stored or returned to use.

## 7. Disinfection and Chemical Storage

7.1. Alternative supply vehicles should be thoroughly cleaned and disinfected prior to use. Vehicles, equipment and fittings used in water supply operations must not be used for any other purpose and kept clean internally and externally and be restricted to drinking water use.

7.2. In exceptional circumstances, tankers used for the transport of appropriate food-grade liquids may be used however, these should be subject to thorough cleaning, disinfection and flushing. Particular care should be taken to avoid tastes and odours and satisfactory passing microbiological samples should be obtained from food transportation tankers prior to use for any water delivery operation. A sample should be obtained to confirm disinfection was successful. Under no circumstances should tankers used for any other purpose, be used for water supply operations.

7.3. Accurate preparation of sodium hypochlorite solutions for disinfection of alternative supply equipment is required to ensure the target concentration of sodium hypochlorite solution is achieved. Procedures on disinfection should include the volume of alternative supply tanks to be filled and calculations on chlorine concentrations should take this into account. Contact times should be clearly stated in procedures and be accurately monitored and recorded. Disinfection procedures should be specific on solution concentration, volume to be filled and the recording of residuals pre and post disinfection in addition to contact times. It is important that auditable records are held for tanker disinfection to demonstrate that, prior to deployment, procedures have been followed and standards met.

7.4. Verification of disinfection is essential and holding auditable records of disinfection is important. Companies should utilise high range chlorine meters capable of measuring the higher concentrations required in disinfection procedures. Monitors should always be part of a regular service and calibration schedule, and validation must be against traceable standards.

7.5. Chemicals such as sodium hypochlorite used during the disinfection of tankers and ancillary equipment must be stored in accordance with the relevant BSEN requirements.

7.6. The storage of sodium hypochlorite for disinfection should be well managed in accordance with BS EN 901:2013 and should follow the specified storage conditions including storage in a cool room. The Inspectorate suggests the use of batch rotation to ensure turnover of stock. The use of 5 L volumes reduces the risk of deterioration of the chlorine concentration in open containers. The storage of sodium hypochlorite with other chemicals is considered poor practice due to the risk of the disinfection chemical being inadvertently contaminated

and stock rotation potentially being deficient if storage units are not kept organised.

7.7. Tankers and bowsers may be kept in a 'ready condition' provided there is a suitable regime of turnover and sampling or periodic disinfection and sampling, and that the appropriate records are maintained.

7.8. If not stored in a state of readiness, tankers, static tanks and bowsers should be left drained and stored in area where the risk of external contamination is minimised, consideration should be given to covered areas for static tanks.

7.9. Water suppliers shall routinely inspect the storage conditions for tankers, static tanks, bowsers and keep records of this activity and actions taken to ensure that they are stored hygienically.

7.10. Appropriate arrangements and methods should be in place to ensure suitable disposal of any chlorinated water. See G8. Operational Activity Guidance.

## 8. Filling

8.1. Water companies should have dedicated filling points, which can be at Water Treatment Works, Service Reservoirs or within the network for example hydrants. Filling points should be identified across the company's area of operation, that are suitable for filling tankers. Water companies should ensure that these filling points have backflow protection, are secure to prevent environmental contamination and/or misuse. Fill points should be routinely inspected, cleaned and maintained, with appropriate records being kept, to inform a risk assessment around its use.

8.2. Where a company uses an ad hoc filling point that has not been designated, a water quality risk assessment should be carried out, prior to use, and documented for the use of the filling point.

8.3. When preparing the hydrant and standpipe for filling a tanker, the equipment must be disinfected appropriately before use. Water quality checks must be carried out on the feed water prior to connection to the tanker. Turbidity of the feed water should not exceed 4 NTU and chlorine residuals should be checked before the tanker is filled. If an actual or potential deterioration in water quality becomes apparent, actions must be taken by the water company to investigate the issue and ensure unwholesome water is not supplied to consumers from the contaminated tanker.

8.4. Care should be taken to avoid negative impacts on the donor system such as starving the supply, vortexing, air entrapment or disturbing sediments. Risk assessments with clear mitigation measures should be set out prior to commencing operations.

8.5. Water suppliers should consider nominating designated filling points that can guarantee a rapid filling rate. At these sites the filling point should be subject to regular flushing to minimise any risk of deterioration in water quality.

8.6. Fill points used in alternative supply operations should be readily identifiable with specific GIS location data and recorded for auditing purposes and any necessary water quality investigations.

8.7. All tankers, static tanks, and bowsers should be completely empty before filling, unless it is being used as a temporary service reservoir sometimes known as a mothership arrangement (one tanker connected to the network infusing whilst other tankers fill the connected tanker to ensure continuous supply) is in place to maintain pressure when infusing.

8.8. Where re-filling operations take place, they should be arranged to ensure an air gap between the delivery hose and the water in the tank to prevent back-syphoning. If this is impractical then a double check valve should be fitted in the re-filling device.

8.9. All equipment (hoses, hydrants and standpipes etc) used for filling must be kept specifically for that purpose, stored appropriately and cleaned and disinfected before use. The filling point should also be flushed and disinfected before use. Acceptable disinfection methods (supported by an appropriate method statement) include the use of steam-cleaning equipment and chlorine solutions.

## 9. Infusion

9.1. During infusion (direct injection) activities it is important to understand the pressures on the receiving network infusion point and to be able to sufficiently control the discharge pressure from the tanker by utilising variable speed pumps or having pressure control valves in place.

9.2. Water quality risk assessments should be completed to minimise the risk of water quality deterioration, such as discolouration, occurring in the receiving supply due to disturbance of sediment. Assessments should feed into the operating plans for individual infusion activities.

9.3. Company procedures should clearly define the roles and responsibilities, steps and operational settings which are required to risk assess and facilitate the safe and hygienic discharge into the network.

9.4. Every delivery point utilised by alternative supply vehicles should be readily identifiable with specific GIS location data and recorded for auditing purposes and any necessary water quality investigations.

9.5. Samples shall be taken at the commencement of the discharge and every 48 hours thereafter, as per the requirements of regulation 6(16) [England] and 6 (4) [Wales] of the Regulations, by a sampler accredited to the relevant ISO standard. Sufficient samples should be taken to demonstrate regulatory compliance. Upon commencement of the first discharge the ‘clock’ does not reset when utilising additional tankers.

## 10. Deployment

10.1. Before delivery of static tanks and bowsers, suppliers should ensure that they are in a safe and secure position. They should be placed in accordance with legislation with regard to signing, lighting and guarding.

10.2. Security of any temporary tanks should be risk assessed as part of the deployment and recorded.

10.3. All tanks and bowsers should be checked for the expected chlorine residual at the point of use. Microbiological samples taken by a sampler accredited to ISO 17024 or ISO 17025 standard shall be analysed at an ISO 17025 accredited laboratory.

10.4. Tankers, static tanks and bowsers should be able to be locked to prevent unauthorised access and be marked with a unique number for reference and audit.

10.5. Consideration should be given to how tampering is prevented, detected and managed.

10.6. Static tanks and bowsers should be clearly signed with 'boil before use' notices, visible to the consumer. This is due to the risk of contamination from the vessel used by the consumer to carry water to the point of use.

10.7. It should be noted that the instructions for use, for some types of tank, do not identify a connection method to networks/consumer pipework and therefore is likely to contravene using that product in accordance with the instructions for use.

10.8. If sterile, regulation 31 compliant collection vessels are supplied by the company, then a mandatory boil before use is not required for the **first fill**. Subsequent fills of the same container, or any other container provided by the customer should be issued with a boil water notice.

10.9. Where static tanks and bowsers are deployed for customers to collect water, the position of the equipment should be recorded and a re-filling and sampling plan put in place.

## 11. Discharge

11.1. In order to avoid contamination and compromise of water quality, care should be taken during tanker discharge. A risk assessment of the proposed tanker operation must be carried out considering the discharge stage and any water quality risks, for example sediment disturbance due to changes in flow rates and flow direction.

11.2. Discharge activities can be divided into two categories - discharge to waste and discharge into a live tank, reservoir or supply network.

11.3. When discharging to waste, measures must be taken to ensure all hoses and couplings are protected from contamination and that a sufficient air gap between the tanker supply hose and the discharge location is maintained. All materials used should be disinfected and properly identified to prevent contamination of pipe work after operating near environmental waters and/or surface water or foul sewers. If using hoses to discharge to waste, sufficient equipment must be in place to prevent back siphonage or vermin contamination via the pipework. Companies are reminded to ensure compliance with Environment Agency/Natural Resources Wales discharge permits and dichlorination requirements to prevent pollution incidents.

11.4. When discharging into a reservoir, tank or supply network, a risk assessment must be undertaken. In situations where continuous discharge of multiple tankers is necessary, measures must be taken to ensure all hoses and couplings are protected from contamination or tampering whilst in use. Tanks and reservoirs receiving deliveries should be readily identifiable with GIS location data that is recorded for auditing purposes and any necessary water quality investigations.

11.5. Where possible, purpose built and designed tanker filling points should be used when filling service reservoirs. Filling through open hatches should be avoided wherever possible. If filling via an open hatch is unavoidable, the fill point should be appropriately secured to prevent vermin access and all other forms of contamination. The filling facilities should be sufficiently robust to prevent contamination due to coupling, uncoupling and discharging activities and should be **constantly attended** to prevent any risk of tampering and to immediately address any contamination risk. Where the hatches are double skinned, the hatch should be cleaned prior to the inner hatch being opened.

11.6. Water suppliers should have a pre-planned list of appropriate locations to place static tanks and bowsers, considering accessibility for consumers, risk of vandalism and contamination, and suitability for filling and re-filling by tanker.

# Bottled Water

## 12. General

12.1. As set out by regulations 27 and 28 of the regulations, water companies are required to carry out risk assessments on all their supplies. This includes any bottled water providers that are to be used in case of emergency. The point of compliance is defined within regulation 4 of the regulations. Risk assessments should cover the source to tap (or in this case bottle) approach used by the company.

12.2. Some commercially available bottled waters may not be suitable for making up feeds for infants due to their mineral (salt) content and all bottled water, like tap water, must be boiled and then cooled prior to use for infant feeds. Water companies should make consumers aware if the water is not being suitable for infant feeds and offer an alternative that is suitable.[1]

## 13. Storage

13.1. Water is labelled with 'Best before' durability labelling, rather than 'Use By'. If the bottles of water are stored in accordance with the manufacture instructions, the water will not deteriorate however it is best practice to routinely sample water in storage. The storage conditions should be supervised and routinely checked to ensure that they are satisfactory.

13.2. Bottled water must be stored in conditions suitable for food products as recommended by the supplier. A cool, temperature monitored, dust-free environment, away from direct sunlight, frost and potential sources of contamination, such as faecal matter, strong-smelling chemicals or diesel fumes. Under no circumstances should the product be stored outside and/or exposed to sunlight or frost.

13.3. Bottled water should not be stored or transported inside a van or other vehicle for more than 24 hours, without additional risk mitigations in place. Where there is a requirement to exceed the 24 hours, the vehicle should be considered a store and paragraph 13.2 applies including temperature monitoring.

13.4. The water company should produce a risk assessment for the storage of bottled water including acceptable temperature ranges for storage.

13.5. The shelf-life of the product kept in suitable conditions is as advised by the manufacturer. Stocks should have a clearly displayed 'Best before date' and effective stock management should be used to ensure that the oldest stock is used first. Any stock identified as being past the best before date, must not be issued and should be disposed of appropriately.

13.6. If there are any concerns that the quality of a batch of bottled water has

[1] Formula milk: common questions - NHS

deteriorated, then a quarantine and testing procedure should be in place to ensure it is not deployed to customers until sample results have confirmed conformity or otherwise to the regulations. In addition to microbiological parameters, consideration should be given to monitoring for potential contaminants that can leach from PET bottles for example antimony, phthalates and bisphenols.

13.7. Each water supplier's store of bottled water should be subject to a sufficiently regular audit, by water quality staff to protect public health. This should include that there are no signs of leaks, vermin, contamination sources, temperature has not exceeded the allowed maximum, a review of any operational sampling, and ensure that all water has not exceeded the best before date.

13.8. The findings of the audit should be discussed and agreed with relevant personnel and management and any improvements documented and actioned.

13.9. Audits of bottled water providers should also be carried out to enable the water undertaker to satisfy itself of the quality management procedures throughout the entire production process, storage and distribution.

## 14. Product recall

14.1. Should a bottled water supplier instigate recall of a batch of bottled water, the water undertaker should be notified immediately in order to prevent issue of substandard or contaminated product to its customers.

14.2. Procedures should be in place for communication during and outside normal working hours.

14.3. The bottled water supplier should provide full details of the reasons for the recall together with details of the batch recalled, including the location of all relevant deliveries made to the water undertaker.

14.4. The appropriate batch should be quarantined for return to the supplier or discarded.

14.5. Should bottled water be recalled by the water undertaker, this should be communicated to the original supplier.

## 15. Distribution

15.1. Water should be transported in vehicles that are clean, protect the water from direct sunlight, and are free of other sources of contamination.

15.2. Water companies should have in place a system of record keeping that ensures the bottled water it uses is traceable from its origin to the point of use.

15.3. A record shall be kept when bottled water is deployed. This should detail the date, quantity issued and batch number. In some cases, the record may need to include where the water was used such as a sub-depot or to whom the bottled water was issued.

15.4. The record should be completed for all issues – including any water that is returned or discarded (including the reason why).

15.5. Water that is deployed to a bottled water distribution site shall be kept out of direct sunlight, in cool conditions and a clean environment for storage onsite for example keeping it off the ground on pallets.

15.6. If water is being kept overnight at a bottled water distribution centre consideration should be given to ensuring the bottles are not tampered with.

## Sampling

## 16. Tankers, Static Tanks and Bowsers

16.1. Sampling from alternative supplies such as tankers, static tanks, and bowsers must be carried out at the commencement of the distribution from that alternative supply vessel (ie when it is ready for use by consumers) and every 48 hours thereafter as per the requirements of regulation 6(16) [England] and 6 (4) [Wales] of the Regulations by a sampler accredited to the ISO 17025 standard. Sample results from tankers will provide retrospective confirmation of wholesomeness and therefore it is important to ensure that appropriate validation of procedures and processes is in place to protect consumers.

16.2. Free and total chlorine readings should be taken and recorded upon filling and before discharge/infusion. If there is a significant difference in readings taken between filling and discharge this may indicate the presence of contamination or that the age of the water is not appropriate for use in the supply network and should not be released from the vessel. Water companies should determine what constitutes a significant difference and include in procedures provided to staff. Where results indicate a risk, investigations to confirm wholesomeness should be completed before delivery into the live network.

16.3. Alternative supply vehicle deliveries should take place as soon as possible after filling to avoid potential deterioration in water quality inside the vessel. Holding water inside tankers, static bowsers or bowsers for excessive periods should be avoided.

16.4. Companies should consider water quality risks associated with the use of alternative supply vehicles and keep these risk assessments under continuous review to support sample scheduling and parameter analysis. The mobilisation of historical sediments in tanks and water mains should be considered and risk assessments prior to discharge or infusion should identify whether further sampling is required.

16.5. Tanker design should enable investigations to be easily completed with facilities on alternative supply vehicles enabling appropriate and representative sampling from the body of the tanker.

## 17. Bottled Water

17.1. Sampling from alternative supplies such as bottled water must be carried out at the commencement of the distribution. It is recognised that distribution of bottled water occurs in different formats and therefore it is appropriate to split these into categories. Suppliers normally identify a single production run as either a batch or ‘lot’ and this represents that the bottles were filled at the same time from the same source. Batch/Lot size varies, but reference to this is a

reference to the supplier markings identifying the same production run, these will be called 'Batch' in this document. It is expected that bottled water sampling is completed by dropping the bottle to the laboratory drop-off point rather than being decanted into sample bottles.

17.1.1. **Fixed-Point Distribution Centres**, these are usually seen during large scale loss of supply events. These might also be known as bottled water stations, and customers usually drive or walk through these to collect water. It is expected that one sample from each batch is sampled each day. If the same batch is utilised at multiple geographic locations, then one sample TOTAL is expected per day. If the same batch is utilised across multiple days, then a sample for each day the batch is used is expected. This is to represent any changes to water quality that might occur whilst being stored at the distribution centre. If multiple batches are used then a sample from each batch should be taken each day.

If the water is subject to conditions, outside of this document, that is likely to change the wholesomeness of the contents of the bottle then the water should not be provided to the customer, should be quarantined and sampled.

17.1.2. **Widespread PSR Deliveries following a loss of supply**, these are normally doorstep deliveries completed by company staff and/or couriers directly to a consumer's address. One sample TOTAL per batch per day is expected similar to the fixed-point distribution centres, however it is important that this sample collected should have been subject to the same conditions as the distributed water. Therefore, it is suggested that the sample, from each batch is identified (and marked) at the commencement of bottled water distribution and is scheduled to be dropped to the laboratory drop-off point as the last delivery on a round.

There is not a requirement to sample water from each vehicle involved in deliveries. Similar to the fixed-point distribution centres, if multiple batches are used then a sample from each batch, each day, subject to the same conditions as the consumers delivery should be used.

If the water is subject to conditions, outside of this document, that is likely to change the wholesomeness of the contents of the bottle then the water should not be provided to the customer, should be quarantined and sampled.

17.1.3. **Small Scale Deliveries**, these are typically one or two, but can be more, houses subject to a restriction such as BWN (boil water notice), DND (do not drink) or DNU (do not use).

Subject to paragraph 13.3 samples are required from the batch at the store that the water originated from, rather than at each point of delivery. These samples should be at least monthly.

If the water is subject to conditions, outside of this document, that is likely to change the wholesomeness of the contents of the bottle then the water should not be provided to the customer, should be quarantined and sampled.

17.2. Sampling of stored water, is considered good practice but does not negate the need to sample at the point of distribution, as detailed above.

17.3. Sample results from bottled water will provide retrospective confirmation of wholesomeness and therefore it is important to ensure that appropriate validation of procedures and processes are in place to protect consumers.

17.4. Companies should consider regular operational sampling of bottled water in storage to provide confidence that it is wholesome prior to distribution. This does not negate the point of compliance which is deemed to be the point of distribution.

17.5. Guidance to the Water Supply Water Quality Regulations[2] contains further details of the monitoring requirements necessary for bottled water supplied to customers. This specifically requires bottled water that has been deployed to be sampled at the point of distribution (for example where a pallet of bottled water is delivered to the corner of a street or car park). The sample results should be submitted alongside any other event samples in an event report.

17.6. Companies should lay out clear standards for bottled water testing with regard to 'no abnormal change' on the Colony Counts at 22C, and what the trigger would be for an abnormal change.

[2] https://dwi-production-files.s3.eu-west-2.amazonaws.com/wp-content/uploads/2020/11/03165751/Part-03-Wholesomeness.pdf

## 18. Procedures and Quality Assurance

18.1. Vertical audits should be carried out periodically to ensure training is embedded and that staff are competent in completing field checks and assessing sample results and filling point locations. Routine audits should also be conducted on the filling points and alternative supply vehicles to review the cleanliness of the connection points and ensure the condition of the tankers and fill points are satisfactory with appropriate equipment available for operation.

18.2. Water companies must ensure that alternative supply vehicles (company-owned or received from third parties) are disinfected appropriately with evidence of acceptable sample results prior to deployment.

18.3. For all alternative supply vehicle deployment operations, records must be held centrally to support investigations and audits. Records must include site names, GIS locations, dates and times of filling, infusion and discharge points, reasons for using alternative supplies in the area, identification of the alternative supply vehicle and driver/staff involved with deployment. Disinfection history and water quality sample identification and parameter results should additionally be recorded for each vessel.

18.4. Procedures associated with alternative supply operations should be kept up to date and appropriate training and refreshers for staff should be carried out periodically and recorded.

## 19. Products and Materials

19.1. All tanker, bowsers and alternative supply vehicles used by water companies for the transportation of water supplies must meet regulation 31 approval requirements and relevant material in contact with water requirements. Instructions-for-Use documents must always be followed correctly for operations and storage to ensure compliance with regulation 31. Companies using specific components and fittings on tankers or alternative supply tanks must be able to demonstrate verification of compliance with the regulations. Ancillary equipment, such as hoses, utilised for the transfer of water from alternative supply vehicles to consumers that fall under the requirements of regulation 31 4(b) must follow Advice Sheet 8 on the DWI website. Contact time ratios should be well understood, and documented where required.

19.2. Instructions for use (IFU) documents associated with approved products should be readily available for staff to use. Under regulation 31, approved products should be operated in compliance with the associated IFU document, and any conditions attached to the approval. It is good practice for operational tanker staff and management to have access to relevant IFU documents and that internal audits are completed for assurance that IFU and any approval conditions are being adhered to.

19.3. Companies are encouraged to ensure tanker teams understand the requirements of regulation 31 to safeguard against avoidable events caused by misused products. The Inspectorate reminds the industry that failure to comply with regulation 31 is an offence under regulation 33 of the Regulations. Procedures for the procurement of products and materials should be sufficiently robust to ensure that regulation 31 approval checks are completed and that there is accountability within the company for regulation 31 compliance responsibilities.

## 20. Risk Assessments

20.1. Where alternative supply vehicles and/or tankers are part of processes and procedures for maintaining supply, these should be included in the drinking water safety plan and risk assessment as part of regulation 27.

20.2. It is considered good practice to include alternative supply vehicles/tankers as a hazardous event within drinking water safety plans. The questions, data, and information included as part of the risk record assessment should cover the risks arising from the alternative supply vehicle/tanker operations.

20.3. Water companies should be able to demonstrate how risk has been calculated for alternative supply activities in a logical, scientific, and robust manner. This would usually be through the use of risk questions and data which is validated through audits, visual inspection and sampling, as appropriate.

20.4. The use of alternative supplies/tankers is frequently included as a control measure for a number of hazards or hazardous events, especially those relating to loss of supply. In order for these to be included as a single control measure at an asset, the use of alternative supply vehicles or tankers should, alone, provide adequate resilience for the supply if DWI category A is to be used.

## 21. Roles and Responsibilities and Training

21.1. All personnel (internal water company staff and third party contractors) involved in the filling, deployment and use of tankers, static tanks and bowsers should hold a National Water Hygiene Card.

21.2. Where water is in manufacturer sealed containers, with tamper proof seals such as bottled water, there is no requirement to hold a National Water Hygiene Card as this is not considered restricted operations.

21.3. All companies should use suitable systems for tracking employee and contractors' National Water Hygiene card registration and expiry dates to ensure that re-training takes place in a timely manner. The Inspectorate **reminds** the industry of the importance of upholding a valid National Water Hygiene EUSR registration for all individuals entering clean water sites or working on the clean water network (known as 'Restricted Operations').

21.4. There are inherent risks if water companies utilise third parties to provide tanker services and roles and responsibilities of both the water company and third parties should clearly be defined. Ultimately water companies are responsible for any activities that are undertaken in their networks so having clearly defined roles and responsibilities, captured in documented procedures which are followed and can be audited is an important quality assurance measure.

21.5. The Inspectorate considers it good practice for all roles to have defined training requirements with modules that are assessed to ensure that staff have reached the required level of competency before undertaking live operations. Competency-based assessments should be undertaken periodically to confirm that changes and updates to procedures are embedded. Operational control centre staff should be considered as part of the tanker training schedule to support decision making on the identification of suitable fill and infusion locations making sure these are appropriate and that consequences for water quality are understood. It is good practice for staff to be able to readily have access to training and instructional videos to review procedures whenever necessary. Internal audits should be utilised as development tools to identify any further training needs and maintain staff competency. A central record of staff training and when periodic refresher training is due should be held by companies.

21.6. For companies utilising third-party contractors in alternative supply operations regular liaison meetings should be held to maintain understanding of each other's processes and support the identification of any gaps that may present a risk to water quality. These liaison meetings should ensure that procedures are kept updated as best practice evolves.

## 22. Summary

22.1. Tankers or alternative supplies should only be used in emergency situations or to support planned network operations. Alternative supply options must not be considered as a substitute for a robust, well-maintained and resilient treatment system and distribution network.

22.2. Water companies must consider whether water provided during alternative supply operations is of similar quality to the original supply, consideration should be given to taste and odour, pH and corrosion impacts on pipework in addition to hardness and fluoridation. If this is not possible appropriate consumer notification should be carried out regarding the need for a temporary change. Chloraminated systems receiving alternative supplies should be risk assessed to avoid taste and odour risks. Water supplied from alternative sources must be acceptable to consumers with no abnormal change.

22.3. Stakeholder engagement should be maintained between alternative response teams and water quality teams alongside external parties such as local emergency services and local authorities.

22.4. This guidance serves to provides further clarification on risk assessment, sampling and alternative supply disinfection practices. It also includes expectations on operational procedures and training and clarifies requirements under regulations 6 and 31. It is the responsibility of water companies to ensure that operations on the water supply network are undertaken using methods and practices that safeguard a wholesome water supply.

# 23. References


23.1. DWQR (2021) Information Letter 1-2021 'The Augmentation of Drinking Water Supplies by Tanker'. Edinburgh**.**

23.2. Security and Emergency Measures Direction and Guidance (Legislation - Drinking Water Inspectorate (dwi.gov.uk).

23.3. BS 8551: 2015 Provision and management of temporary water supplies and distribution networks – code of practice. British Standards Institution (www.bsi-global.com).

23.4. BS 6920 Parts 2.2.1 Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water – Part 2: Methods of test – Section 2.2: Odour and flavour of water – Subsection 2.2.1: General method of test. British Standards Institution (https://standards.globalspec.com/std/1691331/BS%206920-2.2.1).

23.5. BS 6920 Parts 2.4 Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water – Part 2: Methods of test – Section 2.4: Growth of aquatic microorganisms test. British Standards Institution (https://standards.globalspec.com/std/1691316/BS%206920-2.4).