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PRECA – PREPAREDNESS AND RESPONSE FOR MASS GATHERINGS AND OTHER HEALTH THREATS IN CENTRAL ASIA

CENTRAL ASIA REGIONAL GUIDELINES ON DRINKING WATER SAFETY DURING MASS EVENTS

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I. INTRODUCTION: PURPOSE AND SCOPE

This guidance has been developed to ensure the safe and sustainable supply of drinking water during mass gathering events. It is intended to support event organizers, health authorities, water operators, and emergency response stakeholders in planning, managing, and monitoring water supply systems for such events.

The document is to be used alongside national legal and regulatory frameworks, including but not limited to:

- Civil Protection Law
- Public Health (Healthcare) Code
- Water Code
- Law on Mass Events
- Sanitary and Epidemiological Requirements for Water Supply Facilities
- Other relevant national and local legislation

Each country is encouraged to supplement this guidance with its specific legal requirements and operational standards.

II. KEY CONCEPTS AND TERMINOLOGY

The following terms are used throughout this guidance:

- **Mass Gathering**: A publicly accessible, open event attended simultaneously by a large number of people.
- **Epidemic**: A sudden increase in disease cases above what is normally expected in a given population.
- **Outbreak**: A sudden, localized or widespread increase in disease cases that may be environmental (e.g., waterborne or foodborne) or infectious.
- **Water Safety**: Management of risks related to drinking water quality, based on WHO's Framework for Safe Drinking Water.
- **Water Security**: The capacity to ensure sustainable, safe, and reliable access to water for health and economic needs.
- **Risk**: The likelihood of harm occurring due to an identified hazard.
- **Hazard**: A source of potential harm, whether natural, technological, or human-made.

III. DEFINITIONS AND ROLES

- **Mass Event Organization**: Process of planning, notifying authorities, and preparing for a mass event.
- **Mass Event Regulations**: Official schedule detailing the event program and responsibilities of key actors.
- **Mass Event Application**: Formal document submitted to local executive authorities to seek permission to hold a mass event.
- **Organizer**: Individual or entity responsible for planning and conducting the event.
- **Organizer's Representative**: Appointed individuals responsible for operations, order, and logistics during the event.
- **Participant**: Any individual attending the event and supporting its goals.
- **Open Public Place**: Publicly accessible areas such as streets, parks, and squares.
- **Specially Adapted Places**: Buildings or territories legally designated for public events.
- **Local Executive Body Representative**: Officials from local or regional governments involved in event coordination.
- **Internal Affairs Representative**: Law enforcement officials overseeing public order and security during the event.
- **Mass Media Representative**: Accredited journalists covering the event.

IV. PREPARATORY REQUIREMENTS FOR WATER SUPPLY

To ensure the provision of safe and sufficient water during mass gatherings, the following preparatory measures must be completed well in advance of the event:

Water Supply Plan:

A comprehensive and documented water supply plan must be developed, detailing sources, treatment methods, storage, and distribution systems. This plan should be submitted to and approved by relevant health and local authorities prior to the event. It must also include estimated water demand based on participant numbers and activity types.

Water Safety Plan (WSP) / HACCP Plan:

A Water Safety Plan, based on the principles of Hazard Analysis and Critical Control Points (HACCP), must be prepared to identify, assess, and control potential risks throughout the water supply chain. This includes source protection, treatment, distribution, and point-of-use safety. The plan should include monitoring protocols and corrective actions.

Contingency Plans:

Robust contingency plans must be in place to address potential water supply disruptions, contamination incidents, or system failures. These should outline emergency water supply options (e.g., bottled water, mobile treatment units), communication procedures, and roles during response operations. All responsible personnel must be familiar with the plans.

Roles and Responsibilities:

A clear definition of roles and responsibilities must be established, covering all aspects of water provision, including:

- Source and quality assurance
- On-site storage and distribution
- Routine monitoring and sampling
- Emergency response coordination
- Communication with health authorities and the public

Effective collaboration among event organizers, water suppliers, health departments, and emergency services is critical to ensuring the safety and adequacy of water supply during the event.

V. WATER SUPPLY SOURCES

All water sources used during mass gatherings must comply with national drinking water standards and be supported by complete documentation verifying their safety and quality. Organizers must ensure regular monitoring and coordination with health authorities to prevent any public health risks.

Acceptable water sources include:

Municipal Water Treatment Works (WTW):

Water sourced from a municipal or public utility is generally reliable and requires minimal additional treatment. However, event organizers must:

- ✓ Verify the integrity of pipelines and connections to prevent contamination.
- ✓ Conduct basic indicator testing (e.g., residual chlorine, turbidity) at the point of use.
- ✓ Maintain written confirmation from the municipal provider regarding compliance with national drinking water standards.

New or Temporary Water Sources (e.g., Boreholes, Wells):

These sources must undergo comprehensive water quality testing prior to use. Requirements include:

- Full laboratory analysis for chemical, microbiological, and physical parameters, in accordance with national regulations.
- Continuous indicator monitoring during the event to detect any contamination.
- Proper protection of the source from surface runoff and unauthorized access.

Tankered Water Supplies:

Water delivered via tankers must adhere to strict standards to ensure it remains potable:

- Water must be drawn from an approved and regularly tested source.
- Tanker vehicles must be certified for transporting drinking water and disinfected thoroughly before filling.
- Delivery logs must be maintained to trace water origin and transport conditions.
- Temporary storage tanks on site must be cleaned and disinfected before use, with quality checks conducted throughout the event period.

VI. WATER QUALITY AND SAFETY (WHOLESOMENESS)

Ensure that all water supplied and used during mass gatherings is safe, wholesome, and fit for human consumption. Only potable water that meets national and international standards for chemical, physical, and microbiological safety may be provided. Refer to applicable national laws and WHO guidelines for detailed regulatory requirements.

Key considerations include:

- Source Protection: Water should be sourced from approved and protected systems (e.g. municipal supplies, treated boreholes) to prevent contamination.
- Treatment and Monitoring: Water must be adequately treated and tested regularly to ensure compliance with drinking water standards. Parameters such as turbidity, residual chlorine, coliforms, and pH must be monitored.
- Storage and Distribution: All water storage tanks and distribution lines must be clean, sealed, and maintained to prevent contamination. Temporary piping and connections must be properly installed and protected from cross-connections with wastewater.
- Access and Availability: Adequate access to safe drinking water must be ensured across the event site, including for vulnerable groups. Water points should be marked clearly and located conveniently.
- Emergency Measures: Contingency plans must be in place in case of water supply disruption or contamination, including access to bottled water or mobile treatment units.

Event organizers should collaborate with relevant national water authorities and public health agencies to ensure regular inspections and immediate corrective actions if standards are not met.

VII. WATER QUALITY MONITORING

Routine monitoring of all parameters is impractical during short events. Instead, focus on **key indicator parameters**. Additional testing must be conducted based on specific WSP/HACCP-identified hazards.

Table: Indicator Parameters and Sampling Guidelines

Parameter	Acceptable Value	Sampling Frequency
Physical & Chemical		
Turbidity	< 1.0 NTU	Daily
Residual chlorine	0.5 – 2.0 mg/l	Daily
pH	6.5 – 8.0	Daily
Conductivity	< 2,500 µS/cm	Daily
Ammonia (NH_4)	< 0.5 mg/l	Daily
Nitrite (NO_2)	< 0.5 mg/l	Daily
Nitrate (NO_3)	< 50 mg/l	Daily
Microbiological		
Total Coliforms	0/100 ml	Daily
Thermotolerant Coliforms / E. coli	0/100 ml	Daily
Enterococci	0/100 ml	Daily
Total Microbial Count	No significant change from source	Daily

Note: At least two sets of compliant results must be obtained prior to the event. A customized sampling plan must be created for each event.

VIII. ADDITIONAL MEASURES

To uphold the safety and reliability of drinking water during mass gatherings, the following supplementary measures must be enforced:

Source Approval:

All drinking water sources—whether municipal, boreholes, or tankered—must be certified by competent national authorities. Documentation must be retained to demonstrate compliance with national water quality standards, including recent laboratory test results and source licensing (if applicable).

Sanitary Protection Zones:

To prevent contamination, a minimum 10-meter sanitary buffer zone must be maintained around all on-site water storage tanks. This area must be free from potential contamination sources (e.g., waste disposal, vehicles, food preparation areas) and clearly marked to restrict unauthorized access.

Treatment Equipment and Materials:

All equipment, chemicals, and materials used in the water treatment process (e.g., filters, chlorine tablets, UV systems) must be certified as food-grade and safe for human consumption. Only non-toxic, approved substances should be used, and instructions for safe handling and dosage must be followed.

- Record Keeping and Reporting:
- Accurate records must be maintained throughout the event for:
- Water sampling and test results (including frequency, parameters tested, and location)
- Any deviations from expected values and associated corrective actions
- Maintenance and cleaning of storage tanks and delivery systems

Any adverse water quality results must be reported immediately to the Command, Control and Communication (C3) team and responsible water supply personnel. Rapid response protocols must be in place to prevent consumption of contaminated water.

IX. RESPONSE TO ADVERSE RESULTS

In the event that water quality monitoring detects non-compliance with national or international safety standards, the following immediate response actions must be undertaken to safeguard public health:

Activation of Response Commission:

A dedicated response team—comprising representatives from the Sanitary-Epidemiological Service, water supply operators, and other relevant authorities—must be promptly activated to manage the situation.

Verification Through Additional Sampling:

Follow-up sampling and laboratory testing must be conducted without delay to confirm the contamination and assess its extent.

Notification of Event Organizer:

The event organizer must be informed immediately to coordinate internal response measures and prevent further consumption of potentially unsafe water.

Implementation of Immediate Control Measures:

Appropriate mitigation steps must be taken based on the nature of the contamination, including:

- Temporary suspension of the affected water supply
- Disinfection of water storage tanks, pipelines, or distribution points
- Switch to alternative, verified safe water sources (e.g., bottled water)

Public Health Communication:

In coordination with the event's Command, Control, and Communication (C3) team, clear and timely guidance must be issued to all participants and staff. This includes instructions on avoiding contaminated water, alternative water access points, and updates on remedial measures being taken.

These procedures are critical for maintaining trust, minimizing risk, and ensuring rapid restoration of safe water supply at mass gatherings.

X. LIABILITY

All parties involved in the planning, provision, and oversight of water supply at mass gatherings are responsible for ensuring compliance with this guidance and all applicable national regulations.

Non-compliance with established water safety protocols, including failure to implement preventive measures, monitor water quality, or respond appropriately to contamination events, may lead to:

- Administrative sanctions, such as fines, suspension of permits, or withdrawal of event authorizations
- Legal liability for any harm caused to public health, including civil or criminal prosecution
- Reputational damage to organizers, vendors, and institutions involved in the event

It is the duty of event organizers and service providers to ensure that all water-related activities are conducted transparently, responsibly, and in full alignment with public health and safety standards. Compliance must be documented and verifiable through proper record keeping and cooperation with health authorities.

XI. BEST PRACTICE EXAMPLES

The following documents are intended to provide examples of European or worldwide best practice guidance relevant to drinking water safety for Mass Gatherings

UK - Principles of Water Supply Hygiene and Technical Guidance Notes.
https://www.water.org.uk/principles-water-supply-hygiene
This document sets out the principles to be considered by drinking water quality specialists in drawing up operational procedures for maintaining safe and wholesome drinking water supplies with specific focus being given to hygiene.
The material in the document is not exhaustive nor is it prescriptive and should be used in accordance with experience and specific advice available from a variety sources such as government guidance, decrees from drinking water regulators, water industry research and appointed committees, the proceedings of seminars and journals and textbooks on water supply practices.
Robust water hygiene practices underpin many aspects of a risk-based approach to managing water supplies and these principles are therefore intended to support water undertakers in the development and maintenance of drinking water safety plans.

Northern Ireland - Guidelines for the provision of temporary drinking water supplies at events
https://www.publichealth.hscni.net/publications/guidelines-provision-temporary-drinking-water-supplies-events-northern-ireland
This guidance document is intended for use by organisers of large events such as an Arts event, agricultural show or carnival that require a temporary water supply from a public supply, a private water supply or from tankers of water. It applies to all events that require a new connection to the water supply as well as events that connect to an existing supply, e.g. annual events taking place on the same showground.

New Zealand - Drinking Water Safety Planning for a Planned Event Temporary Drinking Water Supply
https://www.taumataarowai.govt.nz/for-water-suppliers/register-your-supply/guidance-for/
Mass Gathering Event organisers may intend to supply drinking water to people attending their events. Event organisers must either arrange for drinking water to be supplied from a registered drinking water supply, or alternatively arrange a temporary drinking water supply. The application for such a supply must be accompanied by a temporary drinking water safety plan. Event organisers must supply drinking water in accordance with their temporary drinking water safety plan and any conditions set by the authorities.
This document is an example form for a temporary drinking water safety plan. It is designed to assist event organisers to identify and manage the risks which may affect the safety, compliance (i.e., with drinking water standards) or sufficiency of their temporary drinking water supply.