



Potable water contamination in the Town of Koege, January 2007

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The incident:

- Monday 15 January 2007 late morning
The National Board of Health, Public Health Medical Officers of Zealand received a phone call from Koege Municipality, Administration for technology and environment several citizens had fallen ill.

The incident:

- Citizens living in the northern part of Koege Town had reported diarrhoea, vomiting and high temperature during the weekend.
- Some citizens had observed discoloured tap water with an unusual taste and smell.

(During the weekend some of the citizens had attended a party nearby)

The incident:

- The municipal authorities issued a prohibition against drinking the water supplied by the local waterworks "Lyngen", and summoned a co-ordination-group-meeting at 2 o'clock p.m.
- (Participants: Police, Public Medical Health Officer, Waterworks, Municipal Supply (Potable and Waste Water), Municipal Administration for technology and environment, Municipal emergency preparedness. The Veterinary and Food Administrations and The State Serum Institute joined the group the following day)

The incident:

- At the meeting we were informed that one possible source of pollution was the Municipal Waste Water Plant in Koege, - some filtered waste water might have re-entered the potable water system.
 - (a "Meter" at the waste water plant had been reported "running backwards" during the Weekend).

The incident:

- Other possible sources were:
 - Local excavations possibly severing pipes - mixing waste water with potable water?
 - Local slurry-pumps emptying sludge into the potable water system by mistake?
 - Rainwater facilities installed in some of the houses for flushing toilets might lead surface water into the potable water system?
 - Other defects in old pipes in the local area?

The incident:

- It was not possible for the waterworks to section the potable water distribution in smaller areas in order to:
 - limit the spreading of pollution
 - limit the size of population affected by a prohibition of usage

The incident:

- The waterworks had all ready installed a contra valve at the boundary of the waste water plant to prevent additional waste water from entering the potable water system.
- Water samples had been taken at several places for urgent analyses.

The incident:

- The co-ordination group decided to prohibit any use of the potable water in the area distributed by Lyngens Waterworks - except for flushing the toilets
 - 6-7.000 Citizens and some food producing plants were involved
 - Alternative emergency water supply was established

The incident:

- The next days/weeks the co-ordination group had daily meetings monitoring the situation, trying to find the origin of pollution, securing an emergency water supply, flushing the water pipes, clorinating water pipes etc...
- The number of citizens fallen ill was registered by questionnaires from the State Serum Institute, reports from general practitioners and emergency medical services – but information was slow and incomplete.

Map of Denmark and Koege



Map of Koege – cases/illness and "Red Area"



Map of Koege



Legislation

- Danish Emergency Management Agency
- Agency for Spatial and Environmental Planning
- Danish Environmental Protection Agency
- National Board of Health
- The Municipalities

From: Acute pollution of potable water – a practical guide

Phase 1:

- Identify polluting matter - origin/source
- Write a log book
- Assess health risk and –management
- Call in a co-ordinating group
- Define geographical limits of pollution
- Inform the political system, the Police, the media, citizens, food-processing companies, other authorities etc.

From: Acute pollution of potable water – a practical guide

Phase 2:

- Water analyses
- Emergency potable water supply
- Further detection of pollution
- Flushing of water supply system
- Chlorination and/or mandatory boiling of water
- Evaluation

Lessons learned!

- National Board of Health:
 - Faster and more accurate registrations of illness in acute situations
 - Faster and better information of general Practitioners in acute situations

Two working groups have been formed in order to facilitate the process

Lessons learned!

- The Danish Emergency Management Agency:
 - Early warning system – consideration: supplementary system to siren?
 - Guidelines – consideration: underlining role and responsibility between different authorities in acute phase.

Lessons learned!

- Suggestions for different authorities:
 - Consider private water works connection to municipal preparedness system
 - Lay down guidelines for municipalities about dilemma: closing down water supply as opposed to flushing the water system
 - Lay down guidelines for water samples and analytical programs
 - Reconsider means of communication in critical situations

Links to articles etc.

- CASA-evaluation (Danish), www.casa-analyse.dk/3336/2929
- Eurosurveillance, Vol. 12, issue 13, 29. march 2007
- Køge Municipality, www.koege.dk
- The State Serum Institute – EPI-NYT (Danish): Vandforurening i Køge, januar 2007, <http://www.ssi.dk/sw48308.asp>

Thank you for your attention



Emstrur 2003 - Photo: Marianne Adelhardt