WHAT CAN GO WRONG AND WHAT ARE THE CONSEQUENT EFFECTS ?

- Typical problems will be:
  - ✓ Inadequate funds or resources, leading to a shortage of treatment chemicals.
  - ✓ Shortage of trained operators.
  - ✓ Power failure.
  - ✓ Floods.
  - ✓ Droughts
- In the case of under-usage of treatment chemicals, there is an increased risk of bacteriological contamination in the treated water.
- The inability of the operator to properly operate the works, may lead to improperly disinfected water.
- Power failure, with the inability to pump the water, leads to reduction in the water flow and quality
- Floods tend to cause a drastic change in the quality characteristics of the source water, and present a challenge to the treatment operator to adapt the operating parameters so that water of good quality can still be supplied. With floods, there tend to be a pulse coming through, of improperly disinfected water. Floods may also occasionally damage the mechanics of the treatment works.
- Droughts may lead to an increase in salts in the raw water, in the case of surface water supplies. A drought may also lead to the need to ration the supplied water due to inadequate volumes of available source water.

HOW WILL YOU KNOW?

- Reduction in quality of the supplied water may lead to consumer complaints about the aesthetic quality of the water, while reduction in quantity of water may manifest as reduced water pressure or periods of lack of water supply.
- Water analyses will also reveal the deterioration of the water quality.

WHAT TO DO?

- In the case of inadequate funding, initiate a process to acquire funds from other sources, such as provincial or national government.
- In the case of poorly trained operators, initiate a training programme for the operators to operate the specific water treatment works correctly.
- In the case of floods, initiate the modification of the treatment process to deal with the changed raw water conditions. In some cases it may be possible to cease abstraction until the first “pulse” of flood water has passed. Note that water in the red class may only be used for a short duration and that the aim should be to comply at least with yellow class water. (See fact sheet on water classification, DWAF, WR8).
- In the case of droughts, it may be necessary to supply emergency water supplies from an alternative water source with tankers.

References: DWAF (2002). Quality of domestic water supplies. Volume 5: Management Guide. WRC No. TT 162/01, pp. 34 and 35.