

## Treated liquid fraction

## Are conditions

- There is enough space for the site controlled reuse of the treated effluent as irrigation water for low-risk crops.

reused (e.g. treated effluent as irrigation water for low-risk crops) and the safe use of the treated liquid effluent is fully supported if it can be done on-site.

YES

safe handling of the treated effluent are available, for the full duration of the implementation.

NO

## Are conditions in place for safe infiltration?

- The groundwater level is at least 1.5 m deeper than the bottom of the infiltration trench. Increase this distance for fissured rocks and limestone.
- The closest water source is more than 30 meter away from the infiltration point.
- The soils infiltration capacity is sufficient, this should be determined with an infiltration test.

YES

Impact is minimal on environmental and public health, so no monitoring of liquid effluent is required. Proper separation of solids and liquids before infiltration is essential for sustainable long-term operations.

NO

## Are conditions in place for safe discharge to a surface water body?

- Information, means, tools and materials for safe monitoring of treated effluent are available, for the full duration of the implementation. Monitoring can be done through a simple field lab or a professional lab can be contracted if available.
- In cases where the receiving water body has a very large flow relative to the discharged effluent flow, less stringent effluent standards can be discussed and agreed with local government.

YES

These standards are based on a trade-off between the impact of treatment (considering health and environment), and the feasibility to achieve them. These parameters can be measured using field kits except for helminth eggs analysis (research is ongoing to simplify analysis).

pH 5-9  
E.coli < 1000 CFU/100ml  
Helminth eggs < 1 n/l  
TSS < 200 mg/l  
COD < 250 mg/l  
TN < 25 mg/l

If means are not available to analyze the helminth concentration, it is acceptable to ensure that treatment targets helminth removal. Helminths are removed by e.g. sand filtration, high-temperature drying/composting and will accumulate to a large extent in the solid fraction.

during the treatment process.

NO

## Are conditions in place for safe burying of treated solids fraction?

- The groundwater level is at least 1.5 m deeper than the bottom of the pit. Increase this distance for fissured rocks and limestone.
- The closest water source is more than 30 meter away from the infiltration point.
- The burying site is fenced (considering long term risks buried helminth, up to 10 years).

YES

Impact is minimal on environmental and public health, so no monitoring of the to be buried treated solid fraction is required.

NO

## Are conditions in place for safe burning of treated solid fraction?

- Burning is only possible if the treated solid fraction is extensively dried, treatment plant technology selection and sizing need to allow for this.
- A chimney is used to mitigate risks of particulate emissions (minimum chimney length of 2 meter above roofs).

YES

Impact is minimal on environmental and public health, so no monitoring of the to be burned treated solid fraction is required. In order to burn the treated solid fraction, extensive drying is required.

For most types of reuse of the treated solid fraction, extensive drying is required. Treatment technology selection and design should allow for this.