DEKRA CONSTRUCTION

Politics

of saving water resources at the construction area

The goal of the water-saving policy is to reduce the consumption of water resources, as well as to introduce the principles of resource efficiency into the activities of the organization at all levels indicated in the organization's environmental policy. When implementing the procedure, it is necessary to be guided by ecological and economic feasibility principles. Water management in the construction area is aimed at reducing unnecessary costs and improving the working conditions of employees of construction companies.

The direction of water saving policy and main sources of emissions

The policy defines priority areas for achieving water conservation goals. Responsibility for implementing the policy lies with the management of the group of companies. For the implementation of the policy, each construction area will appoint a responsible executor responsible for implementing the policy. The policy scope applies to on-area logistics, the domestic needs of the construction area, installation and installation, land, and other construction work.

The water-saving policy is the basis on which the main principles of water consumption management are built. The policy does not cover the cost of water resources for the production of materials, as well as the operation of the building.

The policy is aimed at:

— Introduction of the practice of accounting for water consumption from construction activities;

— Using only water-efficient equipment and installing water-efficient fittings in the camp;

— Informing employees of contractors and subcontractors about the measures taken to save water resources in the course of construction activities;

— Development of a methodology for reporting and comparing areas with different levels of water consumption.

Exceptions

An exception to the policy is when environmental/water-efficient products/measures are unavailable, or their purchase/sale is not economically viable.

Implementation of measures

The text of the water-saving policy guides the management and executive staff of the group of companies. In addition, the procedure is a public declaration confirming the company's intention to reduce water consumption in the construction area. For the collaborative work of the performers, all the goals and plans fixed in the policy should be commented on by the top management discussed and the responsible person, and the corresponding reporting documents should be developed.

Reporting

The implementation of this policy will be monitored at the senior management level of the organization and individual project levels. At the same time, a policy implementation officer will be appointed at each construction area, who will regularly monitor the implementation of targets and prepare monthly reports on the achievement of the overall water consumption indicator, as well as complete reporting once a year or at the end of the project. Reporting should be accompanied by graphic material - a policy implementation schedule.

Once a year, reporting must be submitted to the group's water efficiency committee, and appropriate adjustments to the policy must be made as necessary.

Management will remain actively involved in policy-making for the first three years. When preparing the annual report, it is necessary to make changes and additions to the recommended equipment and measures (Chapter 2). The reporting form is given in Appendix 1 of this policy.

Procedures aimed at implementing the policy

The process of developing a strategy for implementing a water conservation policy can be divided into four parts:

1. Determination of consumers of water resources
2. Determination of sources of water resources
3. Comparison of consumers and sources
4. Implementation of measures to reduce and monitor water consumption

After the development of the strategy, staff training should be conducted (see Annex 1), the content of which will be a brief description of consumers, sources, and measures taken to save water.

Consumers of water resources and measures to reduce water consumption

Most construction jobs require water in one form or another. However, it is also necessary to reduce water consumption at the household level (faucets, showers, toilets). It is essential to determine the processes that use water to take specific water-saving measures.

Consumers of water resources and measures to reduce water consumption

Activity	Use of water	Water saving
Household town	Drinking water, kitchen, toilets, urinals, showers, sinks	Drinking and technical water. Water-efficient distributing fittings and equipment. Using rainwater to flush toilets and urinals. Reduced water consumption for cleaning floors
General cleaning	Washing tools, shoes, wheels and equipment	Technical water. Using containers, not watering taps. Wash guns with trigger
Demolition dust reduction	Demolition of concrete with water Dust suppression	Drinking and industrial water Use of existing water in the building Recycling of water Collection of water for use in other works
Reducing dust from the area	Dust suppression Wheel wash	Technical water. Use of chemical additives Use of dust suppression control systems that change the flow depending on external factors Use of water-efficient spray guns for dust suppression Recycle water Use of water from other processes Use of waterless wheel washing
Drilling, sawing, underground drilling	Lubricant Bentonite production	Drinking and technical water. Regular inspection of water pipes (hoses) for leaks, Elimination if detected Avoid wet drilling Waterproof circulation tanks (not pits) Consumption control. Consumption control
Concrete cooling	Concrete cooling	Technical water. Use of alternative methods of cooling the concrete mix (not spraying) Use of the time of day (night/morning) for free cooling
Production of concrete mix	Production of concrete mix	Drinking and technical water. The use of alternative methods should be considered together with the risk of environmental pollution.
Flushing of concreting equipment	Flushing of concreting equipment	Technical water Collection of wastewater with subsequent treatment, reuse or use in the preparation of concrete mix (water quality control is required for preparation) Washing guns with trigger
Plastering	Plastering	Drinking water Use of technical water Use of dry method of finishing

Activity	Use of water	Water saving
Painting	Instrument washing	Drinking and process water Use of special equipment for washing tools that uses a minimum amount of recycled water Minimizing color changes in paint materials Storing tools in plastic bags to prevent them from drying out Conducting the first rinse in technical water that is free of debris
Commissioning	Engineering networks Pipes Pools Cisterns	Drinking and service water Reuse of water Use of water for irrigation
Hydraulic testing of the roof	Leaks	Technical water Reuse of water Use of water for irrigation
Cleaning the building	Cleaning	Technical water Use of mechanical methods
Green roofs and walls	Green roofs and walls	Technical water Use of timers Reduction of pressure in the irrigation system
Landscaping	Landscaping	Technical water Watering depending on weather conditions
General	Temporary water supply	Drinking and service water Regular inspection of the pipeline for leaks. Installation of a leak detector. Disconnection of water supply for construction needs outside working hours

In the process of organization of construction works there will be created a base of equipment suppliers who share the values in the preservation of the environment, as well as a base of water-saving measures to be implemented. Procurement policy criteria related to water conservation should be included in prequalification documents with all contractors. The leading equipment and materials suppliers should be involved in the early stages of project development to achieve maximum environmental results. All contractors should receive specialized training to improve their ecological qualifications.

Water Sources

The primary source of water for the construction area is the city grid. This section addresses alternative sources of water resources. The use or non-use of alternative sources must have an economic justification.

Types of alternative water sources:

— Storage (on-area tanks)

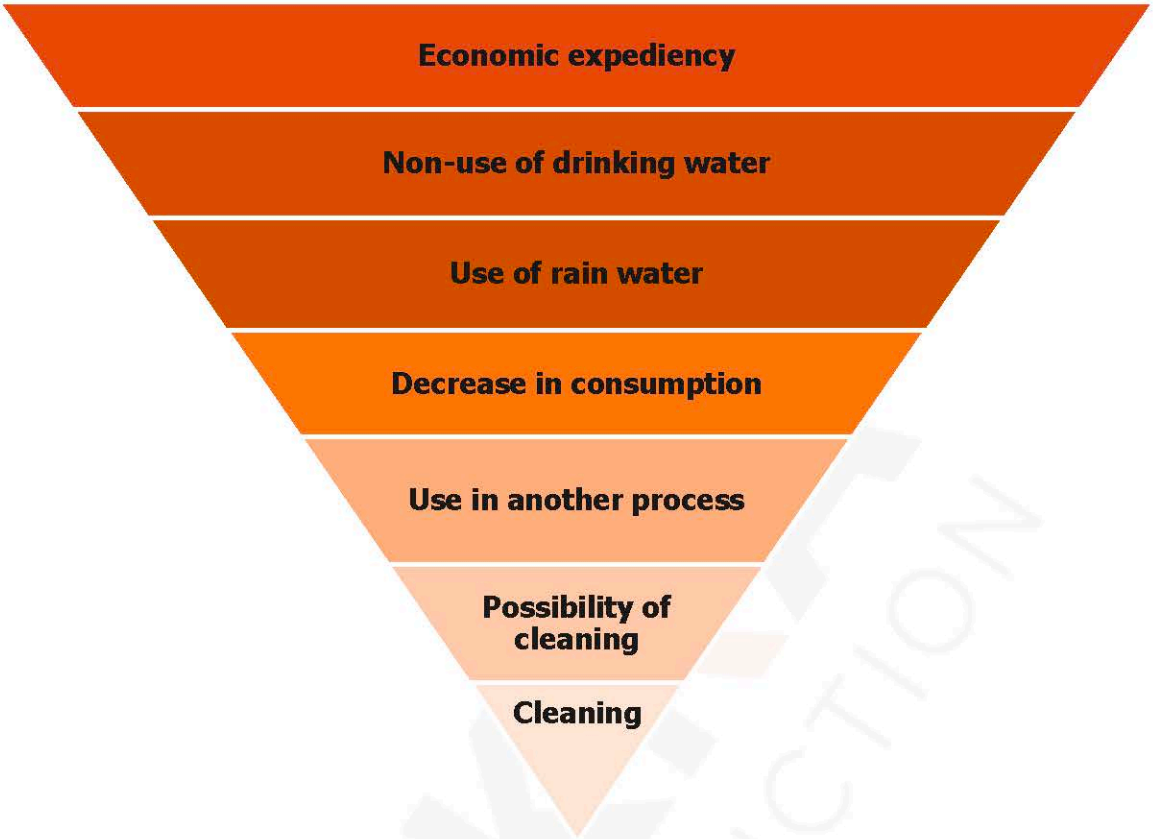
— Collection (rainwater from surfaces)

— Reuse

— Consumption reduction (policy goal, not considered)

The following hierarchy should guide the analysis of the feasibility of implementing alternative sources of water resources:

The table below summarizes the possible sources of water resources



Supply	Source	Description
Technical	Water storage facilities (New or existing)	Cisterns or tanks are installed for the use of service water for technological purposes or for flushing the toilet. Tanks left after dismantling can be used. A water meter must be installed. Write the volume on the tank
Technical	Drainage water	A drainage system must be in place before construction begins. It is necessary to install measures to prevent leaching
Technical	Surface or ground water	Use of water bodies for technological purposes or for toilet flushing. It is necessary to obtain a license for use (Water Code of the Russian Federation)
Reuse	Water storages	Tanks or tanks for water reuse. Tanks left over after dismantling can be used. It is necessary to install a water meter. On the tank write its volume
Recycle	Cleaning at the area for reuse	Wastewater treatment facilities at the construction area
Drinking	Drinking hydrant	Can operate on groundwater, wastewater treatment plants or periodically recharged (cistern installation)

If alternative sources are used, ensure no adverse effect of weakening the natural water flow.

Metering of water consumption

It is necessary to install metering devices on those consumers whose consumption exceeds 10%. However, it is obligatory to separate domestic and construction process costs. The person responsible for implementing the policy shall establish the number and location of metering devices.

All metering devices must have a pulse output.

The advantage of introducing the water consumption metering system will be the formation of a clear idea of the water consumption of construction, as well as the possibility to choose the most effective ways of work based on this criterion.

Water consumption results should be presented in the form of a diagram and posted on the information stands, updating the information every month.

Performance indicators

In the first year of the policy's implementation, a significant deviation from the set goals is allowed due to establishing all the policy implementation processes. Indicators that can be measured were used in preparing the plan. The approach implies an annual review of targets during the formative stage of processes (up to 3 years). The person responsible for implementing the policy should monitor the performance of the criteria and conduct a comparative analysis annually.

When preparing the report, the policy implementer must study possible problems related to using environmental materials and equipment. If the organization manages to achieve a high level of compliance with the set targets, the responsible person may increase the value of the targets in agreement with the management.

Water conservation targets

Main target indicator	
Achievement of the water consumption reduction target	For each construction project, the water consumption should be 5% less than for the previous one
Additional targets	
Trainings on water conservation	Regular trainings at least once a month
Water consumption accounting	Monthly schedule updates

Water consumption is calculated based on an average of m3 per month per square meter of the building under construction. The typical practice of considering water consumption based on annual data is entirely inapplicable to construction projects. Therefore, a step-by-step comparison of water consumption indicators is introduced, namely:

— - Comparison of average monthly consumption during the excavation phase begins when the construction equipment enters the area and ends when the construction equipment leaves the area

— - Comparison of average monthly consumption during construction of the main structures begins when the work camp is set up, may overlap with the previous phase, and ends when the new building is connected to the networks

— - Comparison of average monthly consumption during finishing works begins when the temporary networks are connected to the building and ends when the permanent networks are connected

— - Comparison of the average monthly consumption during the commissioning phase begins when the permanent network is connected and ends when the works are accepted

To implement the policy, the person responsible for implementing the policy will develop forms for effectively monitoring water consumption in the construction area. Implementation of the policy will require the active participation of all project contractors, including primary and specialized contractors, construction equipment supply firms, logistics firms, consultants, and training organizations.

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