

**STATE WATER RESOURCES REGULATORY AUTHORITY
JAMMU AND KASHMIR**

DRAFT REGULATION

NO: 19/JKSWRRA/

Dated:

In exercise of the powers conferred under Sections 145 (g) and 198 (2)(1) of the Jammu and Kashmir Water Resources (Regulation and Management) Act, 2010 (Act No XXI of 2010), and all powers enabling it in that behalf the State Water Resources Regulatory Authority hereby makes the following Regulations namely,

**CHAPTER – I
GENERAL**

1. Short Title and Commencement

1. These Regulations may be called the State Water Resources Regulatory Authority (Guidelines on Selection of Water Sources and for, ensuring availability of Water for the Water Supply Irrigation Systems) Regulations, 2018.

- (i) These Regulations shall come into force from the date of their publication in the Government Gazette.
- (ii) These Regulations shall extend to the whole of the Jammu and Kashmir State and shall serve as guidelines on ensuring availability of water and selection of water sources for Water Supply Irrigation Systems from different sources like Rivers, Lakes, Tributaries, Streams, Ponds, Springs, Wells, etc. in the State of Jammu and Kashmir.

**CHAPTER – II
DEFINITIONS**

2. Definitions

- (i) In these Regulations unless the context otherwise requires,
 - (a) ‘Act’ means the Jammu and Kashmir Water Resources (Regulation and Management) Act, 2010 (Act No XXI of 2010);
 - (b) ‘Assistant Executive Engineer’ means an Assistant Executive Engineer in-charge of the concerned wing of Irrigation and Flood Control Department;
 - (c) ‘Authority’ means the State Water Resources Regulatory Authority established under the Act;
 - (d) ‘Chairperson’ means the Chairperson of the Authority;

- (e) ‘Executive Engineer’ means Executive Engineer of the concerned wing of Irrigation and Flood Control Department;
 - (f) ‘Government’ means the Government of Jammu and Kashmir;
 - (g) ‘Member’ means a Member of the Authority;
 - (h) ‘Officer’ means an Officer of the Authority;
 - (i) ‘Prescribed Authority’ means the Chief Engineer In-charge Irrigation and Flood Control;
 - (j) ‘Rules’ mean The Jammu and Kashmir Water Resources (Regulation and Management) Rules, 2011;
 - (k) ‘Secretary’ means the Secretary of the Authority.
- (ii) Words or expressions occurring in these Regulations and not defined herein but defined in the Act or Rules or in the State Water Resources Regulatory Authority (Conduct of Business) Regulations, 2013 shall bear the same meaning as in the Act or Rules or in the State Water Resources Regulatory Authority (Conduct of Business) Regulations, 2013.

CHAPTER – III
GUIDLINES ON SELECTION OF WATERSOURCES AND FOR ENSURING AVAILIBULITYOF
WATERFOR WATERSUPPLY /IRRIGATION SYSTEMS FROM DIFFERENT SOURCES

PHE Sector

a) Surface Sources of Water

The surface sources of water are characterized by an easy access for tapping them for the water supply systems. During selection, surface source of water should be first preference depending, however, on the quality parameters being fairly within the guidelines.

b) Quantity of Water

The average quantity of water available at the source must be sufficient to meet various demands and requirements of the design population during the entire design period. Plans should be made to augment from other sources, if the available water is insufficient.

c) Quality of Water

The water available at the source must not be toxic, poisonous or in any way hazardous to health. The impurities should be as minimum as possible and such that can be removed easily and economically. Practically all water sources have been exposed to pollution of some kind or the other. Therefore, to ensure that water is potable and safe, it must be tested to determine the existence of any excessive impurities that could cause disease, odor, foul taste, or bad colors. In such cases, the

water shall be treated for the removal of these impurities before it is supplied for drinking. In water treatment, the water has to be subjected to various filtration and sedimentation processes, and in nearly all cases to disinfection using chlorine or other disinfecting chemicals.

d) Distance of Water Supply Source

The source of supply must be situated as near the targeted population as possible for economical transfer to the envisaged area of supply.

e) Topography

The area or land between the source and the targeted area should not be highly uneven i.e. it should not have steep gradient because cost of construction or laying of pipes would be high in that case.

f) Elevation of Source of Water Supply

The source of water must be at a high elevation to provide sufficient pressure in the water for daily requirements. If a source is available at lower levels, pumps would be required to be installed to lift water. This may lead to frequent breakdown and may, therefore, need an assured power back up. All this would add to the developmental task as well as operational costs.

g) Reliability

A reliable water source is one that will supply round the year the required amount of water as envisaged in the Scheme. To determine the reliability of the water source, the engineer concerned shall study data, such as hydrological, data to determine the variations that may be expected at the water source. Geological data should also be studied since geological formation can limit the quantity and flow of water available. Another important factor in the selection of water source should be the experience gained by local community or people, especially elders and womenfolk of the area, over the years, about the quantum and quality of water availability from the source.

h) Protection Measures for surface Water Sources

Many surface water sources are used for drinking water purposes. Their protection is therefore, vital. Generally, three basic strategies shall be employed for protection:

- Prevention: protection against pollutants or untreated water from domestic, industrial or agriculture use. Optimized water use and practices in agriculture to stop nutrients from entering aquatic system (e.g. establishing buffer zones).
- Treatment: treatment of polluted water prior to discharge from storm water and its management, ensuring that runoff does not transport pollutants into water bodies.
- Restoration of Ecosystems: enable or support rehabilitation processes, besides protection of flora and fauna.

i) Water Works/Irrigation Intakes

A water works intake is a device or structure installed in a surface water source to permit the right quantity of withdrawal of water from the source. It is used to draw water from lakes, reservoirs or rivers in which there is either a wide fluctuation in water level or when it is proposed to draw water at the most desirable depth.

Location

The following factors shall be considered for selecting/locating the intake:

- 1) The location where the best quality of water is available.
- 2) Absence of currents that will threaten the safety of the intake.
- 3) Absence of ice float etc. and ice-storms.
- 4) A location where formation of shoal takes place shall be avoided.
- 5) Navigation channels shall be avoided as far as possible.
- 6) Absence of fetch of wind and other conditions affecting the waves.
- 7) Availability of power and its reliability.
- 8) Accessibility.
- 9) Nearness to the pumping station.
- 10) Least or no possibilities of damage by heavy moving objects and other hazards.

j) Groundwater Sources

Numerous simple preventive measures shall be applied to protect springs, wells and aquifers from contamination. They are expressed in the following five steps:

- Step 1. Site selection of the water source be never close to pollutant sources.
- Step 2. Construction of spring and well protection.
- Step 3. Fencing.
- Step 4. Set up rules for all community members to observe.
- Step 5. Management, operation and maintenance in the right perspective.

The tapping of ground water location, spacing and yield in a well field should be so phased that the annual recharge and discharge of the aquifer are almost balanced without causing an overdraft in the area. As the loose/porous ground after development increases, problems of well field management will become dangerously critical in many places and the studies on optimum well spacing will be required in order to minimize mutual interference in-between pumped wells.

k) Springs

Springs are formed due to the eruption of groundwater on to the surface. Till the ground water emerges out on the surface as a spring, it carries minerals acquired from the subsoil layers. Spring waters from shallow strata are more likely to be affected by surface pollutions than deep-seated waters. Springs may be either perennial or intermittent. The discharge of a spring depends on the nature and size of catchment, recharge and leakage through the sub-surface. From time to time usefulness of springs as sources of water supply depends on the discharge and its variation from time to time during the year. Every scheme shall be conceived only after taking all such factors into account.

Irrigation Sector

i) Surface Water

Water from rivers and streams is generally more variable in quality and less satisfactory than water from lakes and confined reservoirs. The quality of water depends upon the character and area of the watershed, its geology and topography, the extent and nature of development by mass etc. The quantity of water available at the source must be sufficient to meet various demands and requirements of the area of supply/CCA for the entire irrigation period. The natural and man-made pollution results in producing color, turbidity, hardness, bacteria and other micro-organisms in the water supplies that need to be taken into consideration while selecting the source.

ii) A correct assessment of the capacity of the source is required to be investigated to decide on its dependability for the Project in question. The incidence and the intensity of rainfall, the run-off from a given catchment and the actual gauged flows in streams are the main factors in estimating the safe yield from any source. Reliable statistics on the rainfall over representative regions of the catchment area, recorded through the past 25 years, should be collected, wherever available. In order to cover deficiencies in such data, it is desirable that rainfall recording stations are set up in all water sheds as part of the basic minimum infrastructure requirement.

iii) Use of River Gauging Data:

- a) Wherever river gauging data for at least 8 years is available, the minimum and maximum discharge likely once in a 30-year period may be statistically arrived at and adopted. A 100-year period may be used, if the data available is for a minimum of 25 years.
- b) Where such data is lacking, the following other methods may be adopted in the order of preference:
 - 1) Unit hydrograph method based on rainfall run-off studies.
 - 2) Frequency analysis based on rainfall.
 - 3) Hydraulic curves based on observed floods in similar catchment.
 - 4) Empirical formula based on catchment characteristics.

CHAPTER – IV OFFENCES AND PENALTIES

3. a) Offences

Any action by users which may be in violation of any of the provisions of these Regulation shall be deemed to be an offence punishable under Section 156, 159, 164, and 167 of the Act as the case may be.

b) Penalties

The offenders shall be punishable under the relevant Sections of the Act and Rules and penalties applied as per the provisions of the Act/Rules.

CHAPTER –V
POWER TO AMEND, ETC.

4. a) The Authority may, at any time, add, vary, alter, modify or amend any provision of these Regulations.
- b) Nothing in the Regulations shall be deemed to limit or otherwise affect the inherent powers of the Authority to make such orders as may be necessary to meet the ends of justice or to prevent abuses of the process of the Authority.
- c) Nothing in these Regulations shall bar the Authority from adopting in conformity with the provisions of the Act a procedure, which is at variance with any of the provisions of these Regulations, if the Authority, in view of the special circumstances of a matter or class of matters and for reasons to be recorded in writing deems it necessary or expedient for dealing with such a matter or class of matters.
- d) Nothing in these Regulations shall, expressly or impliedly, bar the Authority dealing with any matter or exercising any power the Jammu and Kashmir Water Resources (Regulation and Management) Act, 2010 and the Jammu and Kashmir Water Resources (Regulation and Management) Rules 2011 for which no regulations have been framed, and the Authority may deal with such matters, powers and functions in a manner it thinks fit.

By order of the Authority

Secretary