**Action Research Project Report**

**On**

**IS 11793 : 1986**

**GUIDELINES FOR**

**DESIGN OF FLOAT DRIVEN HOISTING**

**MECHANISM FOR AUTOMATIC GATED**

**CONTROL**

Sectional Committee No.: WRD 12

Title: (Hydraulic Gates and Valves Sectional Committee)

1. **OBJECTIVE OF THE STANDARD**

This Indian Standard was adopted by the Indian Standards Institution, after the draft finalized by the Hydraulic Gates and Valves Sectional Committee had been approved by the Civil Engineering Division Council.

Hoisting mechanism of gated-control may be driven by a ‘float’ instead of an electric motor. The float possesses twin self-opposing forces of gravity and bouyancy, one due to its weight and the other due to its submergence in water in a float-well. It may be considered as a hydraulic counterweight. With no submergence, full weight of the float acts as a counterweight to operate the gate in one direction. With submergence, upthrust exerted by bouyancy decreases the effective weight of this counterweight (float). With increase in submergence, the counterweight effect of the float is decreased to the extent that the gate gets operated in the opposite direction. When gravity and bouyancy are balanced, the gate stops in its position and gated opening does not change. Thus operation of the gate is effected by adjusting the water-level in the float-well. It is done by admitting water to or draining water from the float-well through suitable flow control devices such as weirs, orifices or valves. By making operation of these flow-control devices automatic, the gated-control is made automatic.

1. **SCOPE OF THE STANDARD**
   1. This standard lays down guidelines for design of a float-driven hoisting-mechanism for automatic gated-control.
   2. This standard includes only typical arrangements commonly used, since possible arrangements are numerous due to a variety of types of gates, hoisting-mechanisms, float-drives and automatic flow-control devices (sensors). This may be used to admit water to or drain water from the, float-well in response to deviation of the controlled-variable from its predetermined-limits.

**3. ACTION RESEARCH METHODOLOGY AND RESEARCH**

The objective of this review is to study the standard and the latest developments, if any, so that an informed decision may be taken out of the 5 possible options that may chosen regarding the standard -

1. Reaffirm
2. Reaffirm with amendment
3. Reaffirm and Revise
4. Reaffirm and Archive
5. Withdraw
6. **ACTION RESEARCH OUTPUT**

Pursuant to the above, the Standard still seems to be relevant and the expert members may be requested to give their inputs. It may be decided to reaffirm the standard without any change from the date of it being due, for a further period of five years. In case of any further developments, the committee may choose to take up the amendment / revision of the standard.

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