IS 12731 : 1989

Indian Standard

HYDRAULIC DESIGN OF IMPACT TYPE ENERGY DISSIPATORS – RECOMMENDATIONS

1 SCOPE

1.1 This standard covers recommendations on hydraulic design of baffled apron drop and baffled outlet type energy dissipators.

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards on 23 June 1989, after the draft finalized by the Spillways Including Energy Dissipators Sectional Committee had been approved by the River Valley Projects Division Council.

Energy dissipators are used to dissipate excess kinetic energy possessed by flowing water. This energy or velocity head is acquired by the water where the velocity is high, such as in a chute or drop and energy dissipators are incorporated into the design of these structures. An effective energy dissipater must be able to retard the flow of fast moving water without damage to the structure or to the channel
below the structure.

Impact type energy dissipators direct the water into an obstruction that diverts the flow in all directions and in this manner dissipates the energy in the flow. In some structures the flow plunges into a pool of water where the energy is diffused. Baffled outlets, baffled aprons, check-drops and vertical stilling wells are examples of impact type energy dissipators (*see* Fig. 1).

The impact type energy dissipator is considered to be more efficient than the conventional hydraulic jump type. Generally, the use of an impact type energy dissipator results in a smaller and more economical structure,