Er.N. Kannaiah Naidu B.E., F.I.E.
Technical Advisor
(Hydraulic Gates & Handling Equipments)

Balaji Hydro Mech Experts, Hyd

Date : 13.09.2017

To,

The Member Secretary
Hydraulic gates & valves committee – WRD 12,
Water Resources Department,
Bureau of Indian Standards,
Manak Bhavan,9 Bahadur Shah Zafar Marg
New Delhi.

Dear Sir,

Sub : Request for adding new clause for lifting Surface Radial gates – Reg.
Ref : IS 10210 – 1993 : Criteria for design of Hydraulic Hoists for Gates

The following are brought to the notice to add additional clause to suit to use the same code for spillway radial gates without top seal.

Clause No 3.2 (Addition) : See Fig. 7 - hydraulic hoist hinge mounting for operation of radial gates

See Fig 8 : Hydraulic hoist trunnion mounting for operation of radial gates.

Clause No. 5.1 : The title of the clause shall be modified.

5.1 (a) Capacity of Hydraulic hoists for operation of vertical lift gates like Penstock Gates, River sluices, Top Seal Radial Gates (Sluices) etc.,

Same as existing clause.

Nayudu Enclave, Plot No. 384, Sector 1, Matrusri Nagar, Near ENT Care Hospital, Miyapur, Hyd - 49
Mobile : 9441143272 | 9490448678 | E-mail : bhmech@gmail.com

5.2 (b) Capacity of Hydraulic hoist for operation of Spillway Radial Gates without top seal :

The capacity of hoist should be based on the algebraic sum of the following. Moments shall be considered and the actual lever arm of hoist as per layout shall be used to arrive capacity.

a) Moment due to net moving weight of gate including lifting arrangement of hoist attached to gate.
b) Moment due to trunnion friction on account of water load on the gate.
c) Moment due to lateral load friction if thrust block is used.
d) Moment due to side seal friction.
e) Moment due to load on bottom seal.
f) Moment due to pre compressive force friction of seals.
g) Moment due to guide roller friction.
h) Moment due to silt and ice load if occurred.

The worst combination of moments during either lowering or raising cycle should be considered to determine hoist capacity and the hoist capacity arrived should be increased by at least 20% as reserve.

It is requested to add the above clauses to facilitate to use same code for surface Radial gates without top seal.

Thanking you,
Yours faithfully

(N.Kannaiah Naidu)

Enclosed : The soft copy of Fig : 7 and 8.

Copy to : Chairman RVDF – 12 for kind information and needful.

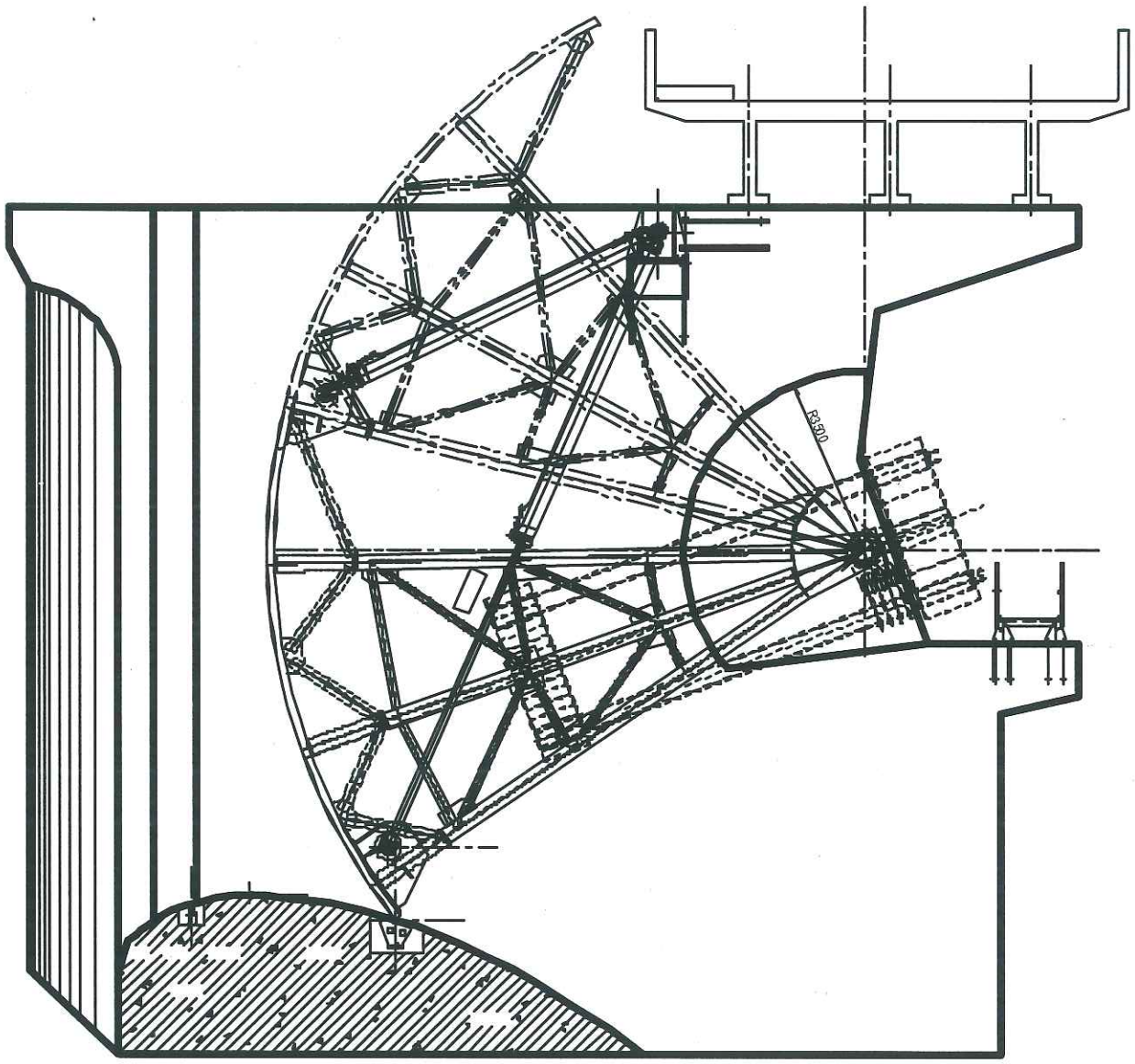

FIG - 7

HYDRAULIC HOIST

HING MOUNTING FOR OPERATION OF R ADIAL GATE

(WITH OUT TOP SEAL)

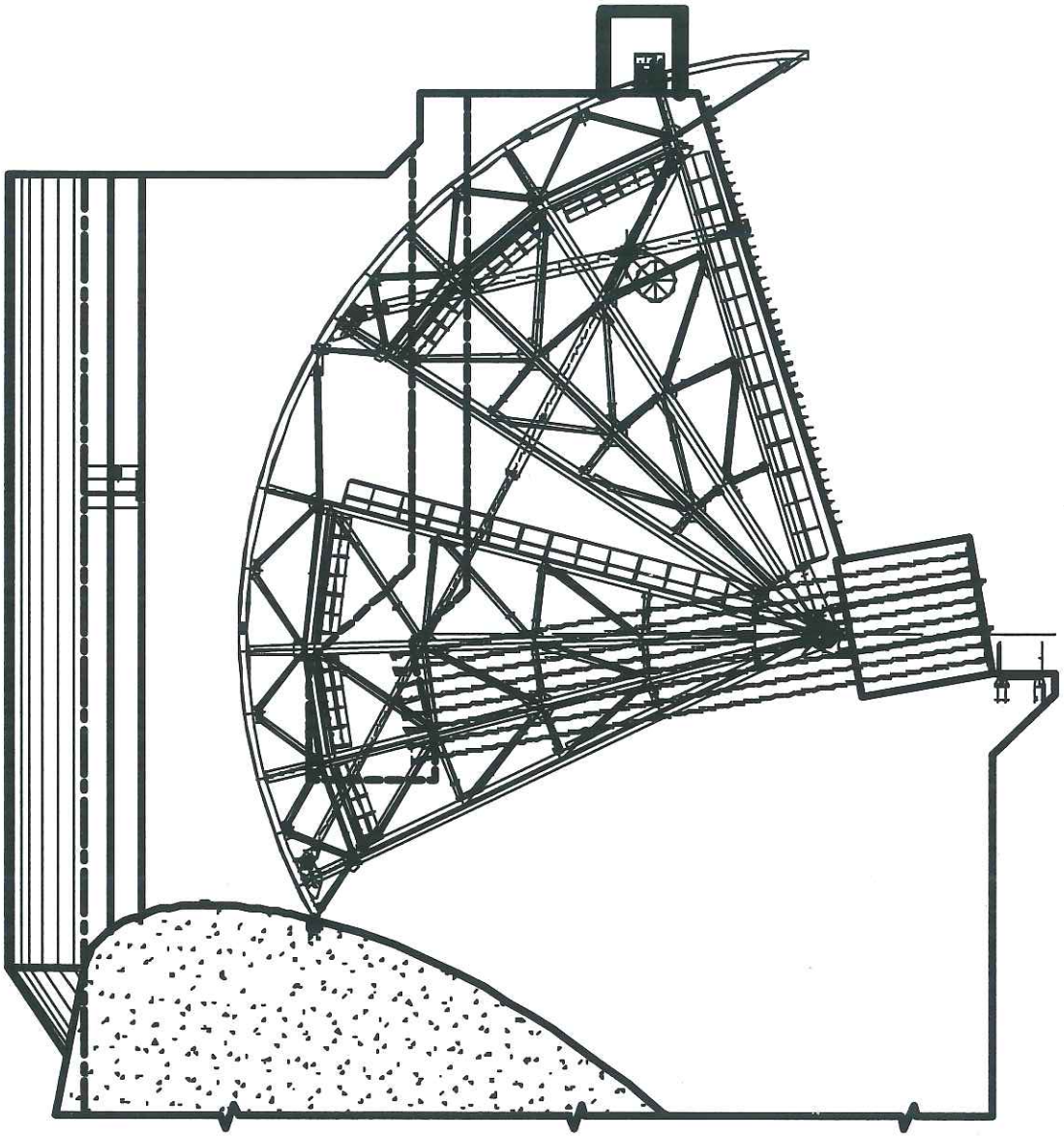

FIG - 8

HYDRAULIC HOIST

TRUNNION MOUNTING FOR OPERATION OF RADIAL GATE

(WITH OUT TOP SEAL)