

SAFETY ALERT

Spill-gate Stoplog Jammed in Slot

What happened?

During the routine process of removing 1 of the 8 Spillway stoplog sections from Clyde spillway gate 3, stoplog section No 3 pitched up at one end and jammed in the guides as it exited the water. The sound of the crane motor load increasing alerted the dogman / operator that something was wrong, and the lift was immediately stopped. This resulted in the stoplog becoming bent and damaged at the left bank end.



Top view of lifting beam and stoplog in guides

How did it happen?

The holes that are cut in the horizontal girders of the stoplog are not large enough to prevent suction on the under side of the beam while it is being removed from the water. The suction released unevenly cause one end of the stoplog to become higher than the other.



Bent Section of the Stoplog post-event

What did we learn?

-The deeper stoplog sections get shorter to compensate for higher water loadings. This means that the guides become very close together and increases the chances of jamming.

-The stoplogs are lifted by a single crane hook and lifting beam arrangement rather than a multiple winch system that is found on dedicated stoplog cranes.

-Even though this event had not occurred previously, the potential was always there but not recognised.

-The crane has two speeds. The higher speed has always been used for the lift with no previous issues. It is believed that if the lower speed was used for this lift, the event would not have occurred. A slower elevation of the stoplog from the water would have allowed time for the water to displace correctly, therefore the vacuum effect that caused the rotation would have been minimised.

How can we improve?

Reduce crane speed when removing the spillway stoplogs from the gate slots (at the point where the horizontal stoplog girder exits the water) and share learnings with other Hydro Operators.

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