

Activities of the Mangahao HEPS

Scheme component	Activity
Structures in the beds of lakes and rivers	The activities of the Mangahao HEPS which are associated with the use of existing structures in the beds of lakes and rivers (i.e. dams / weirs) would be a Permitted Activity under Rule LF-AWBD-R57 of the One Plan.
Mangahao No.1 Dam and Reservoir	<ul style="list-style-type: none"> • To use the bed of the Mangahao River to site the No.1 Dam. • To dam the full flow of the Mangahao River at the No.1 Dam site. • To take up to 20 cumecs of water from the Mangahao River stored in the No.1 Reservoir via the disperser valve. • To discharge up to 20 cumecs of water from the No.1 Reservoir via the disperser valve to the Mangahao River adjacent to the No.1 Dam. • To take up to 1,029 cumecs of water from the No.1 Reservoir on the Mangahao River via the No.1 Dam tipping gates. • To discharge up to 1,029 cumecs of water from the No.1 Reservoir via all or any of the tipping gates to the Mangahao River adjacent to the No.1 Dam. • To take up to 80 cumecs of water from the No.1 Reservoir via the No.1 Dam bypass tunnel. • To discharge up to 80 cumecs of water from the No.1 Reservoir via the No.1 Dam bypass tunnel to the Mangahao River adjacent to the No.1 Dam. • To take water from the No.1 Reservoir via the syphon chamber inlets and seepage into the dam structure. • To discharge water from the No.1 Reservoir via the drainage and syphon chamber control ports in the No.1 Dam to the Mangahao River adjacent to the No.1 Dam. • To take up to 14 cumecs of water from the No.1 Reservoir on the Mangahao River via the low head turbine of the Mini-Hydro Power Station. • To discharge up to 14 cumecs of water from the low head turbine of the Mini-Hydro Power Station via the draft tube to the Mangahao River adjacent to the No.1 Dam. • To disturb and remove sediment in the No.1 Reservoir by way of routine flushing type activities allowing the sediment to be transported by water through the No.1 Dam bypass tunnel for the purpose of removing accumulated sediment on a routine basis and maintaining dam safety.
Mangahao No.2 Dam and Reservoir	<ul style="list-style-type: none"> • To dam the full flow of the Mangahao River at the No.2 Dam site. • To take up to 20 cumecs of water from the No.2 Reservoir on the Mangahao River via Tunnel No.1. • To take up to 1,296 cumecs of water from the No.2 Reservoir on the Mangahao River via the No.2 Dam tipping gates. • To discharge up to 1,269 cumecs of water from the No.2 Reservoir via the No.2 Dam tipping gates into the Mangahao River. • To take up to 80 cumecs of water from the No.2 Reservoir on the Mangahao River via the No.2 Dam bypass tunnel.

	<ul style="list-style-type: none"> • To discharge up to 80 cumecs of water from the No.2 Reservoir via the No. 2 Dam Bypass Tunnel into the Mangahao River. • To take water from the No.2 Reservoir on the Mangahao River via the No.2 Dam syphon chamber inlets and seepage into the dam structure. • To discharge water from the No.2 Reservoir via the drainage and syphon chamber control ports in the No.2 Dam into the Mangahao River adjacent to the No.2 Dam. • To disturb and remove sediment in the No.2 Reservoir by way of routine flushing type activities allowing the sediment to be transported by water through the No.2 Dam Bypass Tunnel for the purpose of removing accumulated sediment on a routine basis and maintaining dam safety. • Reservoir No.2 Ancillary Water Discharge.
Mangahao No.3 Dam and Reservoir	<ul style="list-style-type: none"> • To discharge up to 20 cumecs of water from the No.2 Reservoir via the No.1 Tunnel into the No.3 Reservoir. • To dam the full flow of the Tokomaru River at the No.3 Dam site. • To take up to 15 cumecs of water from the No.3 Reservoir for hydro-electricity generation purposes. • To take water from the No.3 Reservoir via seepage into the No.3 Dam. • To discharge water from the No.3 Reservoir via the No.3 Dam drainage and control ports into the Tokomaru River bed.
Mangahao Power Station	<ul style="list-style-type: none"> • To discharge up to 1.2 cumecs of water from the surge chamber and penstock pipes of the Mangahao Power Scheme via a drain and culvert into an unnamed tributary of the Mangatangi Stream. • To discharge up to 0.180 cumecs of water from the penstock pipes via land into unnamed tributaries of the Mangatangi Stream. • To discharge up to 15 cumecs of water from the Mangahao Power Station turbines into the tailrace section of the Mangaore Stream. • To discharge up to 0.10 cumecs of water from drain valves associated with the Mangahao Power Station's turbines into the tailrace section of the Mangaore Stream. • To take up to 0.035 cubic metres of water from the Mangatangi Stream (via a small sump) adjacent to the Mangahao Power Station for cooling purposes ancillary to electricity generation. • To discharge up to 0.350 cubic metres of water from the draft tube dewatering pump in the Mangahao Power Scheme into the tailrace section of the Mangaore Stream. • To discharge stormwater from the area around the Mangahao Power Station into the Mangaore Stream. • To divert the Mangaore Stream for purposes of erosion control.