## 2.11 HYDRO (TYPE NO.6)

| | | |
|---|---|---|
| **Type:** | Hydro | |
| **Total Population** | 73 | |
| **State Distribution** | QLD, VIC, NSW, TAS | |
| **Output Range** | 70-1500MW | |
| **Sub-Types:** | 5, | No. 1 Pelton, |
| | | No.2 Francis, |
| | | No.3 Kaplan, |
| | | No.4 Leffel, |
| | | No.5 Waterwheel |

### 2.11.1 Pelton (Sub Type 1)

## Table 2.9 Type Profile: Hydro - Sub-Type: Pelton

| PELTON - HYDRO | | | | OUTPUT MW | | | | | | UNITS |
|---|---|---|---|---|---|---|---|---|---|---|
| Const. Date | Name | State | <10 | 30-100 | 101-500 | >500 | ≥2 | 2-5 | 6-10 | Notes |
| 1895 | Gara River | NSW | | | | | | 4 | | Nothing remains |
| 1895 | Thargomindah | QLD | | | | | 1 | | | Not operational |
| 1897 | Mt Bischoff | TAS | | | | | | | | Nothing remains |
| 1909 | Moorina | TAS | .9MW | | | | | 3 | | Operational |
| 1910 | Myendetta* | QLD | | | | | 1 | | | Not operational |
| 1914 | Lake Margaret | TAS | 8.4MW | | | | | | 7 | Operational |
| 1916 | Jenolan Caves | NSW | .04MW | | | | 2 | | | Decommissioned |
| 1916 | Waddamana A | TAS | | 49MW | | | | | 9 | Decommissioned |
| 1926 | Mullumbimby | NSW | .3MW | | | | 2 | | | Operational |
| 1926 | Rubicon Falls | VIC | .3MW | | | | 1 | | | Operational |
| 1928 | Rubicon | VIC | 9.2MW | | | | 2 | | | Operational |
| 1933 | Quilpie* | QLD | .008MW | | | | 1 | | | Not operational |
| 1938 | Tarraleah | TAS | | 90MW | | | | | 6 | Operational |
| 1944-1949 | Waddamana B | TAS | | 48MW | | | | 4 | | 2 units kept on standby |
| 1957 | Kareeya | QLD | | 72MW | | | | 4 | | Operational |
| 1964 | Poatina | TAS | | | 300MW | | | | 6 | Operational |
| 1965 | Bedourie* | NSW | .008MW | | | | 1 | | | Operational |
| 1973 | Fisher | TAS | | 46MW | | | 1 | | | Operational |

* In rural areas Pelton wheels were sometimes installed on farms to harness power from bore water. Information on these is difficult to obtain - generators at Myendetta, Bedourie and Quilpie are examples of these.

**Table 2.9 Type Profile** | Sub-Type: Pelton

**Classes Identified:** 3 | Small <10 MW

Medium 30-100 MW

Large >100 MW

**Table 3.9 Audit: Pelton Hydro Stations**

**Table 3.9.1 Audit: Pelton Small <10MW**

| NAME | STATE | DATE OF CONSTRUCTION | NOTES |
|---|---|---|---|
| **Pelton Small <10MW** | | | |
| Gara River | NSW | 1895 | Only scattered relics remain at this site. |
| Thargomindah* | QLD | 1895 | Single Pelton powered by water from a bore. Not operational. Has been offered to a museum - by the private owner. |
| Mt Bishoff | TAS | 1897 | Nothing remains at this site. |
| Moorina | TAS | 1909 | Operational 3 x .3MW turbines. |
| Myendetta * | QLD | 1910 | Not operational - a single turbine which ran from a bore. Privately owned. |
| Lake Margaret 1 | TAS | 1914 | Operational - 7 x 1.2MW turbines. |
| Jenolan Caves | NSW | 1916 | Last operated in 1984 - 2 x .02MW turbines. The power house also houses operating diesel engines. |
| Mullumbimby | NSW | 1926 | Operational - 2 x 0.15MW turbines. The power house also houses operating diesel engines. |
| Rubicon Falls | VIC | 1926 | Operational - 1 x .3MW turbine. |
| Rubicon | VIC | 1928 | Operational - 2 x 4.6MW turbines. |
| Quilpie * | QLD | 1933 | Not operational - Single .008MW Pelton which ran from a bore. Prviately owned. |
| Bedourie * | NSW | 1965 | Operational - Single .008MW Pelton powered by water from a bore. |

* These single Peltons are examples of small generations which were used (usually privately owned) in rural areas where bore pressure was high enough.

**Table 3.9.2 Audit: Pelton Medium 30MW-100MW**

| NAME | STATE | DATE OF CONSTRUCTION | NOTES |
|---|---|---|---|
| **Pelton Medium 30MW - 100MW** | | | |
| Waddamana - A | TAS | 1916 | Not operational - 9 x 5.4MW turbines. Since 1988 this station has been operated as a static museum. |
| Tarraleah | TAS | 1938 | Operational - 6 x 15MW turbines. |
| Waddamana B | TAS | 1944-49 | Operational - two of the four 12MW turbines are kept on standy. |
| Kareeya | QLD | 1957 | Operational - 4 x 18MW turbines. |
| Fisher | TAS | 1973 | Operational - 1 x 46MW turbine. |

**Table 3.9.3 Audit: Pelton Large >100MW**

| NAME | STATE | DATE OF CONSTRUCTION | NOTES |
|---|---|---|---|
| **Pelton Large > 100 MW** | | | |
| Poatina | TAS | 1973 | Operational - 6 x 50MW turbines. |

### 2.11.2 Small Pelton Hydro

| TYPE: HYDRO | SUB-TYPE PELTON |
|---|---|
| CLASS: SMALL | |
| Period | 1895 to present |
| State Distribution | NT -, Qld 3, SA -, Tas 3, WA -, NSW 4, Vic 2-. |
| Output Size | .0001 MW - <10 MW |
| No. of Units | 1-9* |
| Population Total<br>12 | Notes: This class includes early historic stations for which there may be very little surviving information.<br>It is possible that further examples of this class exist within private rural holdings. |

### Hydro Pelton Medium

| TYPE: HYDRO | SUB-TYPE PELTON |
|---|---|
| CLASS: MEDIUM | |
| Period | 1916 to present |
| State Distribution | NT -, Qld 1, SA -, Tas 4, WA -, NSW -, Vic -. |
| Output Size | 30 MW - 100 MW |
| No. of Units | 1-9 |
| Population Total<br>5 | Notes: |

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**Hydro Pelton Large**

| TYPE: **HYDRO** | SUB-TYPE **PELTON** |
|---|---|
| CLASS: **LARGE** | |
| Period | **1960 to present** |
| State Distribution | **NT -, Qld -, SA -, Tas 1, WA -, NSW -, Vic -.** |
| Output Size | **>100 MW** |
| No. of Units | **≥6** |
| Population Total<br>**1** | **Notes: Poatina is the only station in this range at present.** |

** See Section 3.9 for a more detailed audit of the Hydro Pelton power station Type.