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| Title | **Apply basic knowledge of Micro Hydro Power operations** | | |
| Level | **2** | **Credits** | **12** |

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| Purpose | This competency standard is intended for those who may wish to pursue a career in Micro Hydro Power [MHP] operations. People holding credit for this competency standard are able to: Apply knowledge of main electrical and mechanical components in MHP operations; and apply knowledge of civil structures in MHP operations. |

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| Classification ISCED | 0713 Electricity and energy |

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| Available grade | Competent / Not yet competent |

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| Modification history | N/A |

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| **Competency Unit** | **Performance Criteria** | **Knowledge and Understanding** |
| **I1:**  **Apply knowledge of main electrical components in MHP operations** | **Trainee will be able to:**  **P1-** Apply knowledge of the purpose of Generators/Alternators  **P2-** Apply knowledge of the purpose of electronic load controllers  **P3-** Apply knowledge of the purpose of power transformers  **P4-**Apply knowledge of transmission and distribution lines  **P5-**Apply knowledge of the distribution network | **K1-** Types of Generator/Alternator  **K2-** Types of mechanical/hydraulic load controllers  **K3-** Types of power transformers  **K4-** Transmission and distribution line requirements  **K5-** Network design |
| **I2:**  **Apply knowledge of main mechanicalcomponents in MHP operations** | **Trainee will be able to:**  **P1-** Apply knowledge of the purpose of turbines  **P2-** Apply knowledge of the purpose drive systems  **P3-** Apply knowledge of mechanical speed governors used for load control  **P4-** Apply knowledge of valves and pressure gauges | **K1-** Types of turbines  **K2-** Drive system components  **K3-** Basic principles of mechanical speed governors |
| **I3:**  **Apply knowledge of civil structures in MHP operations** | **Trainee will be able to:**  **P1-** Apply knowledge of the purpose of weirs and water intakes  **P2:**Apply knowledge of the purpose of channels  **P3:** Apply knowledge of the purpose of settling basins  **P4:** Apply knowledge of the purpose of spillways  **P5:**Apply knowledge of the purpose of force bay tanks  **P6:**Apply knowledge of the purpose of penstocks | **K1-** Design and features of weirs and intake  **K2-** Design and features of channels  **K3-** Design and features of settling basins  **K4-** Design and features of spillways  **K5-** Design and features of force bay tanks  **K6-** Design and features of penstocks |