

Huitt Manering, P.Eng.

PROFESSIONAL MEMBERSHIPS

- Professional Engineer (P.Eng.), British Columbia, APEGBC
- Member, Institute of Electrical and Electronic Engineers (IEEE)

EMPLOYMENT/PROJECT HISTORY

Terra Nova Technologies	Safford Leach Project Morenci Mine El Abra Sulfolix Project	<ul style="list-style-type: none">• Controls commissioning; as-built drawings for overland and portable conveyors• Electrical design and drafting of Sulfolix portable conveyor system
Regional Power	Sechelt Creek GS Wawatay GS	<ul style="list-style-type: none">• Powerhouse controls troubleshooting, re-commissioning of Intake and Siphon controls.• Powerhouse HMI upgrade
AMEC Ltd. Puget Sound Energy	Snap Lake Mine Snoqualmie Falls Redevelopment	<ul style="list-style-type: none">• Power system commissioning• Lead electrical engineer responsible for the redevelopment/design of two vintage hydroelectric generating facilities; total of seven units and 52 MVA.
BC Hydro	Clowhom GS Fort Nelson GS Puntledge GS Ruskin GS	<ul style="list-style-type: none">• Project engineer for electrical, controls and protection upgrades at several hydroelectric and one gas turbine generating station.• Work included unit, station and spillway controls modifications, replacing generator protection relays and re-designing AC and DC station services.
Generation Engineering	Kootenay Canal GS Seven Mile GS	<ul style="list-style-type: none">• Project manager, responsible for various electrical/protection/mechanical capital projects in the Columbia/Peace Generation areas:<ul style="list-style-type: none">- 230 kV 170 MVA unit transformer (Kootenay)- 230 kV SF6 GIS replacement (Seven Mile)• Prepared project plans, schedules & estimates
Thermal Generation	Burrard GS	<ul style="list-style-type: none">• Control systems supervisor, responsible for Instrumentation, controls and protection. Department included eight I&C technicians, two protection technicians and one I&C engineer.• Continued to manage the DCS supply and engineering contracts to their completion
Dam Safety Engineering	Seven Mile GS	<ul style="list-style-type: none">• Lead engineer for electrical and controls improvements as part of a \$65M dam safety Project. Responsible to ensure electrical/controls designs met reliability and security requirements as established and reviewed by an external dam advisory board.• Led development of the major supply and installation contract documents & drawings.• Designer and EOR for critical control schemes.• Project manager for electrical and controls area (\$10M); responsible for budget, scope, schedule & staffing• Assembled design team with a mix of existing BCH staff and full/part time consultants.

EMPLOYMENT/PROJECT HISTORY continued

Burrard Upgrade	Burrard GS	May 1996 – December 2004
Sandwell / Stone & Webster	Distributed Control System Upgrade	<ul style="list-style-type: none">• Project engineer for plant-wide DCS upgrade• Led development of design standards• Engineered balance of plant controls with vendor• EOR for 4kV switchgear controls• Lead commissioning engineer (12-15 crew); coordinated check & test activities, led daily tailboards and acted as liaison to plant maintenance and management staff• 2,500 I/O per unit; 12,000 I/O plant-wide• Check & test, start-up, on-line testing and tuning• Project manager for DCS and related tasks (\$23M); responsible for budget, scope and schedule
	Burner Management System Upgrade	<ul style="list-style-type: none">• Owner's engineer for three unit BMS upgrade• Commissioning engineer and project manager for BMS and related tasks (\$5M)
	TWIPS	<ul style="list-style-type: none">• PLC program in GE Fanuc for six units• Cimplicity HMI configuration & graphics
	Instrumentation	<ul style="list-style-type: none">• PID control in Moore SLC for 2800 HP boiler feed pump recirculation; various temperature, flow and level control strategies
BC Hydro		October 1992 – April 1996
Engineering	Van. Island Terminal	<ul style="list-style-type: none">• Synchronous condenser control system and static exciter upgrade (design & commissioning)
	Arnot	<ul style="list-style-type: none">• HVDC maintenance support
	Revelstoke GS	<ul style="list-style-type: none">• Air gap monitoring system maintenance
	Mica GS	<ul style="list-style-type: none">• Instrumentation

Please note that only major projects have been listed.