Apprenticeship Manitoba

Steamfitter-Pipefitter RSOS (2015) Subtask to Unit Comparison

	RSOS Subtask	Manitoba Unit(s)
Task 1	- Performs safety-related functions.	
1.01	Maintains safe work environment.	A1a Trade Safety Awareness A1b Learning about Work A1c Communications and Trade Communication All Units from Level 1 to 5
1.02	Selects, inspects and uses personal protective equipment (PPE) and safety equipment.	All offics from Level 1 to 5A1a Trade Safety AwarenessA1b Learning about WorkA2a Tools and EquipmentA2b Access EquipmentA3a Rigging, Hoisting and LiftingA5b Copper, Tube and Tubing PracticalA5c Plastic Piping PracticalA5d Black Iron Piping PracticalA5e Introduction to Welding, Arc Welding and CuttingA6a Piping ValvesA9a Intro to Basic ElectricityA11a Gas Code IAll Units from Level 1 to 5
1.03	Follows lock-out procedures.	A1a Trade Safety AwarenessA1c Communications and Trade CommunicationA2a Tools and EquipmentA2b Access EquipmentA3a Rigging, Hoisting and LiftingA6a Piping ValvesA9a Intro to Basic ElectricityA11a Gas Code IB1a Tools and Equipment IIB1b Advanced Hoisting, Lifting and RiggingB4a Hydronic SystemsB4b Hydronic System ControlsB4c Cross Connection Controls AwarenessB5b Hydronic Heat Trace System ControlsB8a Electrical IIC1a Low Pressure Steam SystemsC1b High Pressure Steam SystemsC2a Process Piping SystemsC3a Hydronic ControlsC4a Low Pressure Steam Heat TracingC4a Low Pressure Steam Heat TracingC5a Fuel SystemsC6a Medical Gas and Gas Piping SystemsC8a Electrical Controls and Diagrams for Pumps andHydronicsC9a Gas Code IIAII units from Level 4AII units from Level 5
Task 2	2 – Uses and maintains tools and equip	ment.
2.01	Uses common tools and equipment.	A1a Trade Safety Awareness A2a Tools and Equipment C3a Hydronic Controls

	RSOS Subtask	Manitoba Unit(s)
		A5b Copper, Tube and Tubing Practical
		A5c Plastic Piping Practical
		A5d Black Iron Piping Practical
		A5e Introduction to Welding, Arc Welding and Cutting
		A6a Piping Valves
		A9a Intro to Basic Electricity
		A10a Drawings
		A10b Blueprints
		A11a Gas Code I
		B1a Tools and Equipment II
		B1b Advanced Hoisting, Lifting and Rigging
		B2a Spool and Fitting Fabrication
		B2b Stainless Steel Piping
		B2d Industrial Drawings I
		B2e GTAW Welding
		B3a Industrial Drawings II
		B3b Template Development
		B4a Hydronic System
		B4b Hydronic System Controls
		B4c Cross Connection Controls Awareness
		B5a Hydronic Heat Trace Systems
		B5b Hydronic Heat Trace System Controls
		B8a Electrical II
		C1a Low Pressure Steam Systems
		C1b High Pressure Steam Systems
		C1c Condensate Return Systems
		C4a Low Pressure Steam Heat Tracing
		C6a Medical Gas and Gas Piping Systems
		C8a Electrical Controls and Diagrams for Pumps and
		Hydronics C9a Gas Code II
		D1a Fundamentals of Complex Rigging
		D3a Hydraulic Systems
		Da riveraule Systems
		D11a National Requirements Review
		D14a Electrical IV
		D15a Gas Code III
		All units from Level 4
		All units from Level 5
2.02	Uses access equipment.	A5b Copper, Tube and Tubing Practical
2.02		A5c Plastic Piping Practical
		A5d Black Iron Piping Practical
		B4a Hydronic Systems
		B4b Hydronic System Controls
		B5a Hydronic Heat Trace Systems
		B5b Hydronic Heat Trace System Controls
		C4a Low Pressure Steam Heat Tracing
		D1a Fundamentals of Complex Rigging
		D4a Compressed Air Systems
2.03	Uses welding equipment.	A5c Plastic Piping Practical
	adalation	B2a Spool and Fitting Fabrication
		B2c Specialty Piping
		B4a Hydronic Systems
		C1a Low Pressure Steam Systems
		C1b High Pressure Steam Systems
		C1c Condensate Return Systems
2.04	Uses soldering and brazing equipment.	A5b Copper, Tube and Tubing Practical
2.04		B4a Hydronic Systems
		B4b Hydronic System Controls
		B4c Cross Connection Controls Awareness
		C6a Medical Gas and Gas Piping Systems
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	RSOS Subtask	Manitoba Unit(s)
2.05	Uses oxy-fuel equipment.	A5d Black Iron Piping Practical A5e Introduction to Welding, Arc Welding and Cutting B2a Spool and Fitting Fabrication B4a Hydronic Systems C1a Low Pressure Steam Systems C1b High Pressure Steam Systems C1c Condensate Return Systems
Task	3 – Organizes job.	
3.01	Plans work.	A5b Copper, Tube and Tubing Practical
		A5c Plastic Piping Practical A5d Black Iron Piping Practical B1b Advanced Hoisting, Lifting and Rigging B2a Spool and Fitting Fabrication D9b Job Planning
3.02	Generates drawings.	A10a Drawings A10b Blueprints A11a Gas Code I B2a Spool and Fitting Fabrication B2d Industrial Drawings I B2e GTAW Welding B3a Industrial Drawings II B3b Template Development B8a Electrical II C1a Low Pressure Steam Systems C1b High Pressure Steam Systems C1c Condensate Return Systems C4a Low Pressure Steam Heat Tracing C6a Medical Gas and Gas Piping Systems C8a Electrical Controls and Diagrams for Pumps and Hydronics C9a Gas Code II D1a Fundamentals of Complex Rigging D3a Hydraulic Systems D4a Compressed Air Systems D11a National Requirements Review D14a Electrical IV D15a Gas Code III
3.03	Interprets drawings and specifications.	A10a Drawings A10b Blueprints A11a Gas Code I B2c Specialty Piping B2d Industrial Drawings I B3a Industrial Drawings II B3b Template Development B4a Hydronic Systems B4b Hydronic System Controls B5a Hydronic Heat Trace Systems B5b Hydronic Heat Trace System Controls B8a Electrical II C1a Low Pressure Steam Systems C1b High Pressure Steam Systems C1c Condensate Return Systems C2a Process Piping Systems C3a Hydronic Controls C4a Low Pressure Steam Heat Tracing C4b High Pressure Steam Heat Tracing C4b High Pressure Steam Heat Tracing C5a Fuel Systems C6a Medical Gas and Gas Piping Systems C7a Mathematics III

	RSOS Subtask	Manitoba Unit(s)
		C8a Electrical Controls and Diagrams for Pumps and
		Hydronics
		C9a Gas Code II
0.04		D11a National Requirements Review
3.04	Develops piping templates.	B2d Industrial Drawings I
		B2a Spool and Fitting Fabrication
		B3a Industrial Drawings II
		B3b Template Development
2.05	Derferme preliminer (quelit (centrel	D11a National Requirements Review
3.05	Performs preliminary quality control	A10a Drawings
	functions.	A10b Blueprints A11a Gas Code I
		B4a Hydronic Systems B4b Hydronic System Controls
		B4c Cross Connection Controls Awareness
		B5a Hydronic Heat Trace Systems
		B5b Hydronic Heat Trace System Controls
Task 4	4 – Performs fabrication.	
4.01	Fabricates piping system components.	A5d Black Iron Piping Practical
		A5e Introduction to Welding, Arc Welding and Cutting
		B2e GTAW Welding
		B4a Hydronic Systems
4.02	Fabricates brackets, supports, hangers,	A5d Black Iron Piping Practical
	guides and anchors.	A5e Introduction to Welding, Arc Welding and Cutting
		B2e GTAW Welding
		B4a Hydronic Systems
		g, tubing, fittings and related components.
5.01	Lays out, identifies and installs copper	A5b Copper, Tube and Tubing Practical
	piping, tubing, fittings and related	B4a Hydronic Systems
	components.	B4c Cross Connection Controls Awareness
		B5a Hydronic Heat Trace Systems
		C1a Low Pressure Steam Systems
		C2a Process Piping Systems
		C5a Fuel Systems
		C6a Medical Gas and Gas Piping Systems
		D2a Process Piping Systems
		D4a Compressed Air Systems
		D6a Refrigeration Systems
		D7a Heat Recovery Systems
5.00	Love out identifies and installe plastic	D8a Geothermal Systems and Solar Heating Systems
5.02	Lays out, identifies and installs plastic	A5c Plastic Piping Practical B2a Spool and Fitting Fabrication
	piping, tubing, fittings and related	B4a Hydronic Systems
	components.	
		B4b Hydronic System Controls C2a Process Piping Systems
		D2a Process Piping Systems
5.03	Lays out, identifies and installs carbon	A5d Black Iron Piping Practical
5.05	-	And Black from Piping Plactical A11a Gas Code I
	steel piping, tubing, fittings and related	B2a Spool and Fitting Fabrication
	components.	C1a Low Pressure Steam Systems
		C1b High Pressure Steam Systems
		C1c Condensate Return Systems
		C2a Process Piping Systems
		C3a Hydronic Controls
		C4a Low Pressure Steam Heat Tracing
		D2a Process Piping Systems
		D2a Process Piping Systems D4a Compressed Air Systems

	RSOS Subtask	Manitoba Unit(s)
5.04	Lays out, identifies and installs stainless	B2a Spool and Fitting Fabrication
	steel piping, tubing, fittings and related	B2b Stainless Steel Piping
	components.	C1a Low Pressure Steam Systems
		C1b High Pressure Steam Systems
		C1c Condensate Return Systems
		C2a Process Piping Systems
		C3a Hydronic Controls
		C4a Low Pressure Steam Heat Tracing
		C4b High Pressure Steam Heat Tracing
		C6a Medical Gas and Gas Piping Systems
		D2a Process Piping Systems
5.05	Lays out, identifies and installs	B2a Spool and Fitting Fabrication
	fibreglass piping, fittings and related	B2c Specialty Piping
	components.	C2a Process Piping Systems
		D2a Process Piping Systems
5.06	Lays out, identifies and installs specialty	B2a Spool and Fitting Fabrication
	piping, fittings and related components.	B2c Specialty Piping
		D2a Process Piping Systems
		D3a Hydraulic Systems
		D4a Compressed Air Systems
		D6a Refrigeration Systems
Tack	6 – Installs, maintains, troubleshoots, rej	nairs and tosts valves
6.01	Installs valves.	A5b Copper, Tube and Tubing Practical
0.01		A5c Plastic Piping Practical
		A5d Black Iron Piping Practical
		A11a Gas Code I
		B4a Hydronic Systems
		B4b Hydronic System Controls
		B4c Cross Connection Controls Awareness
		C1a Low Pressure Steam Systems
		C1b High Pressure Steam Systems
		C1c Condensate Return Systems
		C4a Low Pressure Steam Heat Tracing
		C4b High Pressure Steam Heat Tracing
		C6a Medical Gas and Gas Piping Systems
		C9a Gas Code II
		D2a Process Piping Systems
		D3a Hydraulic Systems
		D4a Compressed Air Systems
		D5a Intermediate Steam Review
		D6a Refrigeration Systems
		D7a Heat Recovery Systems
		D8a Geothermal Systems and Solar Heating Systems
0.0-		D15a Gas Code III
6.02	Maintains, troubleshoots, repairs and	A5b Copper, Tube and Tubing Practical
	tests valves.	A5c Plastic Piping Practical
		A5d Black Iron Piping Practical
		A11a Gas Code I
		B4a Hydronic Systems
		B4b Hydronic System Controls
		B4c Cross Connection Controls Awareness
		C1a Low Pressure Steam Systems
		C1b High Pressure Steam Systems
		C1c Condensate Return Systems
		C4a Low Pressure Steam Heat Tracing
		C4b High Pressure Steam Heat Tracing
		C6a Medical Gas and Gas Piping Systems
		C9a Gas Code II
		D2a Process Piping Systems
		D3a Hydraulic Systems

	RSOS Subtask	Manitoba Unit(s)
		D4a Compressed Air Systems
		D5a Intermediate Steam Review
		D6a Refrigeration Systems
		D7a Heat Recovery Systems
		D8a Geothermal Systems and Solar Heating Systems
		D15a Gas Code III
	7 – Installs, tests, maintains, troublesho	
7.01	Installs steam tracing systems.	B5a Hydronic Heat Trace Systems
		B5b Hydronic Heat Trace System Controls
		C4a Low Pressure Steam Heat Tracing
7.00	Maintaina turuklaakasta yanaina and	C4b High Pressure Steam Heat Tracing
7.02	Maintains, troubleshoots repairs and	B5a Hydronic Heat Trace Systems
	tests steam tracing systems.	B5b Hydronic Heat Trace System Controls
		C4a Low Pressure Steam Heat Tracing
7.00		C4b High Pressure Steam Heat Tracing
7.03	Installs liquid-filled tracing systems.	B5a Hydronic Heat Trace Systems
		B5b Hydronic Heat Trace System Controls
		C4a Low Pressure Steam Heat Tracing
7.04		C4b High Pressure Steam Heat Tracing
7.04	Maintains, troubleshoots, repairs and	B5a Hydronic Heat Trace Systems
	tests liquid-filled tracing systems.	B5b Hydronic Heat Trace System Controls
		C4a Low Pressure Steam Heat Tracing
		C4b High Pressure Steam Heat Tracing
Task 8	 B – Performs common rigging, hoisting, 	lifting and positioning
8.01	Determines load.	A3a Rigging, Hoisting and Lifting
0.0.		B1b Advanced Hoisting, Lifting and Rigging
		D1a Fundamentals of Complex Rigging
8.02	Prepares lift plan(s).	B1b Advanced Hoisting, Lifting and Rigging
		D1a Fundamentals of Complex Rigging
8.03	Selects rigging, hoisting, lifting and	A3a Rigging, Hoisting and Lifting
	positioning equipment.	B1b Advanced Hoisting, Lifting and Rigging
		D1a Fundamentals of Complex Rigging
8.04	Inspects rigging, hoisting, lifting and	A3a Rigging, Hoisting and Lifting
	positioning equipment.	B1b Advanced Hoisting, Lifting and Rigging
	F	
		D1a Fundamentals of Complex Rigging
8.05	Secures lift area.	D1a Fundamentals of Complex Rigging A3a Rigging, Hoisting and Lifting
8.05	Secures lift area.	A3a Rigging, Hoisting and Lifting
8.05	Secures lift area.	A3a Rigging, Hoisting and Lifting B1b Advanced Hoisting, Lifting and Rigging
		A3a Rigging, Hoisting and Lifting B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging
8.05 8.06	Sets up rigging, hoisting, lifting and	A3a Rigging, Hoisting and Lifting B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging A3a Rigging, Hoisting and Lifting
		A3a Rigging, Hoisting and Lifting B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging A3a Rigging, Hoisting and Lifting B1b Advanced Hoisting, Lifting and Rigging
8.06	Sets up rigging, hoisting, lifting and positioning equipment.	A3a Rigging, Hoisting and Lifting B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging A3a Rigging, Hoisting and Lifting B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging
8.06	Sets up rigging, hoisting, lifting and	A3a Rigging, Hoisting and Lifting B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging A3a Rigging, Hoisting and Lifting B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging B1b Advanced Hoisting, Lifting and Rigging
8.06	Sets up rigging, hoisting, lifting and positioning equipment. Performs lift and positioning.	A3a Rigging, Hoisting and Lifting B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging A3a Rigging, Hoisting and Lifting B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging
8.06	Sets up rigging, hoisting, lifting and positioning equipment. Performs lift and positioning. Maintains and stores rigging, hoisting,	A3a Rigging, Hoisting and LiftingB1b Advanced Hoisting, Lifting and RiggingD1a Fundamentals of Complex RiggingA3a Rigging, Hoisting and LiftingB1b Advanced Hoisting, Lifting and RiggingD1a Fundamentals of Complex RiggingD1a Fundamentals of Complex RiggingB1b Advanced Hoisting, Lifting and RiggingD1a Fundamentals of Complex RiggingB1b Advanced Hoisting, Lifting and RiggingA3a Rigging, Hoisting and LiftingA3a Rigging, Hoisting and Lifting
8.06	Sets up rigging, hoisting, lifting and positioning equipment. Performs lift and positioning.	A3a Rigging, Hoisting and LiftingB1b Advanced Hoisting, Lifting and RiggingD1a Fundamentals of Complex RiggingA3a Rigging, Hoisting and LiftingB1b Advanced Hoisting, Lifting and RiggingD1a Fundamentals of Complex RiggingB1b Advanced Hoisting, Lifting and RiggingD1a Fundamentals of Complex RiggingB1b Advanced Hoisting, Lifting and RiggingD1a Fundamentals of Complex RiggingA3a Rigging, Hoisting and LiftingA3a Rigging, Hoisting and LiftingB1b Advanced Hoisting, Lifting and Rigging
8.06	Sets up rigging, hoisting, lifting and positioning equipment. Performs lift and positioning. Maintains and stores rigging, hoisting,	A3a Rigging, Hoisting and LiftingB1b Advanced Hoisting, Lifting and RiggingD1a Fundamentals of Complex RiggingA3a Rigging, Hoisting and LiftingB1b Advanced Hoisting, Lifting and RiggingD1a Fundamentals of Complex RiggingD1a Fundamentals of Complex RiggingB1b Advanced Hoisting, Lifting and RiggingD1a Fundamentals of Complex RiggingB1b Advanced Hoisting, Lifting and RiggingA3a Rigging, Hoisting and LiftingA3a Rigging, Hoisting and Lifting
8.06 8.07 8.08	Sets up rigging, hoisting, lifting and positioning equipment. Performs lift and positioning. Maintains and stores rigging, hoisting,	A3a Rigging, Hoisting and Lifting B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging A3a Rigging, Hoisting and Lifting B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging A3a Rigging, Hoisting and Lifting B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging A3a Rigging, Hoisting and Lifting B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging
8.06 8.07 8.08	Sets up rigging, hoisting, lifting and positioning equipment. Performs lift and positioning. Maintains and stores rigging, hoisting, lifting and positioning equipment.	A3a Rigging, Hoisting and LiftingB1b Advanced Hoisting, Lifting and RiggingD1a Fundamentals of Complex RiggingA3a Rigging, Hoisting and LiftingB1b Advanced Hoisting, Lifting and RiggingD1a Fundamentals of Complex RiggingB1b Advanced Hoisting, Lifting and RiggingD1a Fundamentals of Complex RiggingB1b Advanced Hoisting, Lifting and RiggingD1a Fundamentals of Complex RiggingA3a Rigging, Hoisting and LiftingB1b Advanced Hoisting, Lifting and RiggingD1a Fundamentals of Complex RiggingA3a Rigging, Hoisting and LiftingB1b Advanced Hoisting, Lifting and RiggingD1a Fundamentals of Complex Rigging
8.06 8.07 8.08 Task 9	Sets up rigging, hoisting, lifting and positioning equipment. Performs lift and positioning. Maintains and stores rigging, hoisting, lifting and positioning equipment. 9 – Performs complex and critical riggin	A3a Rigging, Hoisting and Lifting B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging A3a Rigging, Hoisting and Lifting B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging A3a Rigging, Hoisting and Lifting B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging A3a Rigging, Hoisting and Lifting B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging
8.06 8.07 8.08 <u>Task 9</u> 9.01	Sets up rigging, hoisting, lifting and positioning equipment. Performs lift and positioning. Maintains and stores rigging, hoisting, lifting and positioning equipment. 9 – Performs complex and critical riggin Prepares lift plan for complex and critical rigging, hoisting, lifting and positioning.	A3a Rigging, Hoisting and Lifting B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging A3a Rigging, Hoisting and Lifting B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging A3a Rigging, Hoisting and Lifting B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging D1a Fundamentals of Complex Rigging
8.06 8.07 8.08 Task 9	Sets up rigging, hoisting, lifting and positioning equipment. Performs lift and positioning. Maintains and stores rigging, hoisting, lifting and positioning equipment. 9 – Performs complex and critical rigging Prepares lift plan for complex and critical rigging, hoisting, lifting and positioning. Performs calculations for complex and critical rigging, hoisting, lifting and positioning. Performs calculations for complex and critical rigging, hoisting, lifting and positioning.	A3a Rigging, Hoisting and Lifting B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging A3a Rigging, Hoisting and Lifting B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging A3a Rigging, Hoisting and Lifting B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging
8.06 8.07 8.08 Task 9 9.01	Sets up rigging, hoisting, lifting and positioning equipment. Performs lift and positioning. Maintains and stores rigging, hoisting, lifting and positioning equipment. 9 – Performs complex and critical rigging Prepares lift plan for complex and critical rigging, hoisting, lifting and positioning. Performs calculations for complex and critical rigging, hoisting, lifting and positioning. Performs calculations for complex and critical rigging, hoisting, lifting and positioning.	A3a Rigging, Hoisting and Lifting B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging A3a Rigging, Hoisting and Lifting B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging A3a Rigging, Hoisting and Lifting B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging
8.06 8.07 8.08 Task 9 9.01	Sets up rigging, hoisting, lifting and positioning equipment. Performs lift and positioning. Maintains and stores rigging, hoisting, lifting and positioning equipment. 9 – Performs complex and critical rigging Prepares lift plan for complex and critical rigging, hoisting, lifting and positioning. Performs calculations for complex and critical rigging, hoisting, lifting and positioning. Performs calculations for complex and critical rigging, hoisting, lifting and positioning.	A3a Rigging, Hoisting and Lifting B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging A3a Rigging, Hoisting and Lifting B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging A3a Rigging, Hoisting and Lifting B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging B1b Advanced Hoisting, Lifting and Rigging D1a Fundamentals of Complex Rigging

	RSOS Subtask	Manitoba Unit(s)
9.04	Sets up rigging, hoisting, lifting and	B1b Advanced Hoisting, Lifting and Rigging
	positioning equipment for complex and critical lifts.	D1a Fundamentals of Complex Rigging
9.05	Performs complex and critical lifts and	B1b Advanced Hoisting, Lifting and Rigging
	positioning.	D1a Fundamentals of Complex Rigging
Task 1 syster		oots and repairs low pressure steam and condensate
10.01	Installs equipment for low pressure	C1a Low Pressure Steam Systems
	steam and condensate systems.	C1c Condensate Return Systems
		D5a Intermediate Steam Review
10.02	Installs piping for low pressure steam	C1a Low Pressure Steam Systems
	and condensate systems.	C1c Condensate Return Systems
		D5a Intermediate Steam Review
10.03	Tests low pressure steam and	C1a Low Pressure Steam Systems
	condensate systems.	C1c Condensate Return Systems
		D5a Intermediate Steam Review D5a Intermediate Steam Review
		D5b System Testing and Commissioning IV
		Da Quality Control
10.04	Maintains, troubleshoots and repairs	C1a Low Pressure Steam Systems
	low pressure steam and condensate	C1c Condensate Return Systems
	systems.	D5a Intermediate Steam Review D5b
		D14a Electrical IV
Task 1 syster	ns.	oots and repairs high pressure steam and condensate
11.01	Installs equipment for high pressure	C1b High Pressure Steam Systems
	steam and condensate systems.	C1c Condensate Return Systems
11 00	Installe nining for high processo atopm	D5a Intermediate Steam Review
11.02	Installs piping for high pressure steam and condensate systems.	C1b High Pressure Steam Systems C1c Condensate Return Systems
		D5a Intermediate Steam Review
11.03	Tests high pressure steam and	C1b High Pressure Steam Systems
	condensate systems.	C1c Condensate Return Systems
		D2b System Testing and Commissioning I
		D5a Intermediate Steam Review
		D5b System Testing and Commissioning IV
		D9a Quality Control
11.04	Maintain, troubleshoots and repairs	C1b High Pressure Steam Systems
	high pressure steam and condensate	C1c Condensate Return Systems
	systems.	D3a Hydraulic Systems D5a Intermediate Steam Review
		D5a Intermediate Steam Review D5b System Testing and Commissioning IV
		Dib System Testing and Commissioning TV D14a Electrical IV
Task 1	12 – Installs, tests, maintains, troublesh	oots and repairs hydronic systems.
12.01	Installs equipment for hydronic systems.	B4a Hydronic Systems
	Installs equipment for hydronic systems.	B4b Hydronic System Controls
		B4b Hydronic System ControlsB4a Hydronic Systems
	Installs equipment for hydronic systems.	B4b Hydronic System Controls
12.01 12.02 12.03	Installs equipment for hydronic systems.	B4b Hydronic System Controls B4a Hydronic Systems B4b Hydronic System Controls B4a Hydronic Systems
12.02	Installs equipment for hydronic systems. Installs piping for hydronic systems.	B4b Hydronic System Controls B4a Hydronic Systems B4b Hydronic System Controls B4a Hydronic Systems B4b Hydronic System Controls
12.02	Installs equipment for hydronic systems. Installs piping for hydronic systems.	B4b Hydronic System Controls B4a Hydronic Systems B4b Hydronic System Controls B4a Hydronic Systems B4b Hydronic System Controls D2b System Testing and Commissioning I
12.02 12.03	Installs equipment for hydronic systems. Installs piping for hydronic systems. Tests hydronic systems.	B4b Hydronic System Controls B4a Hydronic Systems B4b Hydronic System Controls B4a Hydronic Systems B4b Hydronic System Controls D2b System Testing and Commissioning I D9a Quality Control
12.02	Installs equipment for hydronic systems. Installs piping for hydronic systems. Tests hydronic systems. Maintains, troubleshoots and repairs	B4b Hydronic System Controls B4a Hydronic Systems B4b Hydronic System Controls B4a Hydronic Systems B4b Hydronic Systems B4b Hydronic System Controls D2b System Testing and Commissioning I D9a Quality Control B4a Hydronic Systems
12.02 12.03	Installs equipment for hydronic systems. Installs piping for hydronic systems. Tests hydronic systems.	B4b Hydronic System Controls B4a Hydronic Systems B4b Hydronic System Controls B4a Hydronic Systems B4b Hydronic Systems B4b Hydronic System Controls D2b System Testing and Commissioning I D9a Quality Control B4a Hydronic Systems B4b Hydronic Systems B4b Hydronic Systems B4b Hydronic Systems B4b Hydronic System Controls
12.02	Installs equipment for hydronic systems. Installs piping for hydronic systems. Tests hydronic systems. Maintains, troubleshoots and repairs	B4b Hydronic System Controls B4a Hydronic Systems B4b Hydronic System Controls B4a Hydronic Systems B4b Hydronic Systems B4b Hydronic System Controls D2b System Testing and Commissioning I D9a Quality Control B4a Hydronic Systems

	RSOS Subtask	Manitoba Unit(s)
Took 4	2 Installa tasta maintaina travblach	acts and renairs presses nining systems
		bots and repairs process piping systems.
13.01	Installs equipment for process piping systems.	D2a Process Piping Systems
13.02	Installs piping for process piping systems.	D2a Process Piping Systems
13.03	Tests process piping systems.	D2a Process Piping Systems D9a Quality Control
13.04	Maintains, troubleshoots and repairs process piping systems.	D2a Process Piping Systems D14a Electrical IV
Task 1 systen		pots and repairs industrial water and waste treatment
14.01	Installs equipment for industrial water and waste treatment systems.	C2a Process Piping Systems
14.02	Installs piping for industrial water and waste treatment systems.	C2a Process Piping Systems
14.03	Tests industrial water and waste treatment systems.	C2a Process Piping Systems D2b System Testing and Commissioning I D9a Quality Control
14.04	Maintains, troubleshoots and repairs industrial water and waste treatment systems.	C2a Process Piping Systems D14a Electrical IV
Test 4		
	5 – Installs, tests, maintains, troublesho	
15.01	Installs equipment for hydraulic systems.	D3a Hydraulic Systems
15.02	Installs piping, tubing and hoses for hydraulic systems.	D3a Hydraulic Systems
15.03	Tests hydraulic systems.	D3a Hydraulic Systems D3b System Testing and Commissioning D9a Quality Control D14a Electrical IV
15.04	Maintains, troubleshoots and repairs hydraulic systems.	D3a Hydraulic Systems D14a Electrical IV
		oots and repairs heating, ventilation, air conditioning and
16.01	ration (HVACR) systems. Installs equipment for HVACR systems.	D6a Refrigeration Systems
16.02	Installs hydronic piping and refrigeration tubing for HVACR systems.	D6a Refrigeration Systems
16.03	Tests associated components of HVACR systems.	D6a Refrigeration Systems D9a Quality Control D14a Electrical IV
		•
	7 – Installs, tests, maintains, troublesho	
17.01	Installs equipment for fuel systems.	A11a Gas Code I C5a Fuel Systems C9a Gas Code II D15a Gas Code III
17.02	Installs piping and tubing for fuel systems.	All Units in Level 5 A11a Gas Code I C5a Fuel Systems C9a Gas Code II D14a Electrical IV

	RSOS Subtask	Manitoba Unit(s)
		D15a Gas Code III
		All Units in Level 5
17.03	Tests fuel systems.	A11a Gas Code I
		C5a Fuel Systems
		C9a Gas Code II
		D9a Quality Control
		D14a Electrical IV
		D15a Gas Code III
		All Units in Level 5
17.04	Maintains, troubleshoots and repairs	A11a Gas Code I
	fuel systems.	C5a Fuel Systems
		C9a Gas Code II
		D14a Electrical IV
		D15a Gas Code III
		All Units in Level 5
		oots and repairs medical gas systems.
18.01	Installs equipment for medical gas systems.	C6a Medical Gas and Gas Piping Systems
18.02	Installs piping and tubing for medical gas systems.	C6a Medical Gas and Gas Piping Systems
18.03	Tests medical gas systems.	C6a Medical Gas and Gas Piping Systems
		D9a Quality Control
18.04	Maintains, troubleshoots and repairs	C6a Medical Gas and Gas Piping Systems
	medical gas systems.	D14a Electrical IV
		oots and repairs compressed air and pneumatic systems.
19.01	Installs equipment for compressed air	D4a Compressed Air Systems
40.00	and pneumatic systems.	
19.02	Installs piping and tubing for	D4a Compressed Air Systems
	compressed air and pneumatic	
19.03	systems. Tests compressed air and pneumatic	D4a Compressed Air Systems
13.05	systems.	D4b System Testing and Commissioning III
	systems.	Dag Quality Control
		D14a Electrical IV
19 04	Maintains, troubleshoots and repairs	D4a Compressed Air Systems
10.04	compressed air and pneumatic	D4b System Testing and Commissioning III
	systems.	D14a Electrical IV
	Systeme:	
Task 2	0 – Installs and tests fire protection sy	stems. (NOT COMMON CORE)
20.01	Installs equipment for fire protection	N/A
-	systems.	
	(NOT COMMON CORE)	
20.02	Installs piping and tubing for fire	N/A
	protection systems.	
	(NOT COMMON CORE)	
20.03	Tests fire protection systems.	N/A
	(NOT COMMON CORE)	
Task 2	21 – Installs, tests, maintains, troublesh	oots and repairs geo-exchange and geothermal systems.
21.01	Installs equipment for geo-exchange	D8a Geothermal Systems and Solar Heating Systems
	and geo-thermal systems.	
21.02	Installs piping for geo-exchange and	D8a Geothermal Systems and Solar Heating Systems
	geo-thermal systems.	
21.03	Tests geo-exchange and geo-thermal	D8a Geothermal Systems and Solar Heating Systems
	systems.	D8b System Testing and Commissioning VII
		D9a Quality Control
		D14a Electrical IV
	í	

	RSOS Subtask	Manitoba Unit(s)
21.04	Maintains, troubleshoots and repairs geo-exchange and geo-thermal	D8a Geothermal Systems and Solar Heating Systems D14a Electrical IV
	systems.	
Task 2	2 – Installs, tests, maintains, troublesho	oots and renairs solar heating systems
22.01	Installs equipment for solar heating systems.	D8a Geothermal Systems and Solar Heating Systems
22.02	Installs piping for solar heating systems.	D8a Geothermal Systems and Solar Heating Systems
22.03	Tests solar heating systems.	D8a Geothermal Systems and Solar Heating Systems D8b System Testing and Commissioning VII D9a Quality Control D14a Electrical IV
22.04	Maintains, troubleshoots and repairs solar heating systems.	D8a Geothermal Systems and Solar Heating Systems D14a Electrical IV
Task 2	3 – Installs, tests, maintains, troublesho	ots and renairs heat recovery systems
23.01	Installs equipment for heat recovery systems.	D7a Compressed Air Systems
23.02	Installs piping for heat recovery systems.	D7a Compressed Air Systems
23.03	Tests heat recovery systems.	D7a Compressed Air Systems D7b System Testing and Commissioning VI D9a Quality Control
23.04	Maintains, troubleshoots and repairs heat recovery systems.	D7a Compressed Air Systems D7b System Testing and Commissioning VI
Task 2	4 – Prepares system for commissioning	start-up and turnover.
24.01	Flushes system.	D2b System Testing and Commissioning I D3b System Testing and Commissioning II
		D4b System Testing and Commissioning III D5b System Testing and Commissioning IV D6b System Testing and Commissioning V D7b System Testing and Commissioning VI D8b System Testing and Commissioning VII
24.02	Chemically treats system.	D2b System Testing and Commissioning I D3b System Testing and Commissioning II D4b System Testing and Commissioning III D5b System Testing and Commissioning IV D6b System Testing and Commissioning V D7b System Testing and Commissioning VI D8b System Testing and Commissioning VI
24.03	Pre-checks system for commissioning.	D2b System Testing and Commissioning I D3b System Testing and Commissioning II D4b System Testing and Commissioning III D5b System Testing and Commissioning IV D6b System Testing and Commissioning V D7b System Testing and Commissioning VI D8b System Testing and Commissioning VI
24.04	Selects and connects commissioning equipment.	D2b System Testing and Commissioning I D3b System Testing and Commissioning II D4b System Testing and Commissioning III D5b System Testing and Commissioning IV D6b System Testing and Commissioning V D7b System Testing and Commissioning VI D8b System Testing and Commissioning VI
Task 2	5 – Commissions systems.	
25.01	Secures commissioning area.	D2b System Testing and Commissioning I D3b System Testing and Commissioning II D4b System Testing and Commissioning III

	RSOS Subtask	Manitoba Unit(s)
		D5b System Testing and Commissioning IV
		D6b System Testing and Commissioning V
		D7b System Testing and Commissioning VI
		D8b System Testing and Commissioning VII
		D9 Commissions System
		E5 Tests/Inspects Piping & Gas Appliance Efficiency
25.02	Pressurizes system.	D2b System Testing and Commissioning I
		D3b System Testing and Commissioning II
		D4b System Testing and Commissioning III
		D5b System Testing and Commissioning IV
		D6b System Testing and Commissioning V
		D7b System Testing and Commissioning VI
		D8b System Testing and Commissioning VII
		D9 Commissions System
		E5 Tests/Inspects Piping & Gas Appliance Efficiency
25.03	Inspects system.	D2b System Testing and Commissioning I
		D3b System Testing and Commissioning II
		D4b System Testing and Commissioning III
		D5b System Testing and Commissioning IV
		D6b System Testing and Commissioning V
		D7b System Testing and Commissioning VI
		D8b System Testing and Commissioning VII
		D9 Commissions System
	•	E5 Tests/Inspects Piping & Gas Appliance Efficiency
25.04	Corrects faulty conditions.	D2b System Testing and Commissioning I
		D3b System Testing and Commissioning II
		D4b System Testing and Commissioning III
		D5b System Testing and Commissioning IV
		D6b System Testing and Commissioning V
		D7b System Testing and Commissioning VI
		D8b System Testing and Commissioning VII
		D9 Commissions System
25.05	Derticipates in start up and turnauer	E5 Tests/Inspects Piping & Gas Appliance Efficiency
25.05	Participates in start-up and turnover	D2b System Testing and Commissioning I D3b System Testing and Commissioning II
	procedures.	D4b System Testing and Commissioning II
		D5b System Testing and Commissioning IV
		D6b System Testing and Commissioning V
		D7b System Testing and Commissioning V
		D8b System Testing and Commissioning VI
		D9 Commissions System
		E5 Tests/Inspects Piping & Gas Appliance Efficiency
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