



Electricity Human Resources Canada is a non-profit organization supporting the human resources needs of the Canadian electricity sector.

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# Job Demands Assessment: Power Station Operator – Hydro



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The purpose of a Job Demands Assessment (JDA) is to document the bona fide essential duties of a task. These assessments can be used for:

- Return to work planning
- Allowing medical professionals to evaluate job offers for suitability
- Determining job and task suitability
- Determining the likelihood that a job or task contributed to an injury
- Assisting Rehabilitation Specialists set up effective treatment protocols
- Training employees
- Hiring practices and Post Offer Pre-employment hiring programs
- Identifying ergonomic hazards

## Using the JDA

This JDA is purposely generic in nature to ensure applicability across various organizations. The JDA is meant to serve as a benchmark document that provides an overview of the most common physical demands associated with the occupation. Not all tasks could be observed during the assessment process; instead, the most common tasks have been assessed.

Where applicable, potential accommodations are noted to illustrate alternative means for achieving the required demand or action.

This JDA can be used by Medical Practitioners / Health Care Providers involved in return to work rehabilitation support, and workplace accommodations to identify the Major Essential Demands that can be Performed, Modified, or Avoided by an individual based on their capacity and ability.

## Acknowledgements

This JDA was completed by [ERGO Inc.](#), an Ergonomics, Injury Prevention & Safety Consulting & Training Firm that has been providing Canadian companies with practical ergonomic and injury prevention solutions for over 25 years.

Electricity Human Resources Canada and ERGO Inc. would like to thank [Ontario Power Generation \(OPG\)](#) for allowing us onsite to complete the JDA at the Sir Adam Beck Hydroelectric Complex, Niagara Falls (November, 2021).

Position: **Power Station Operator - Hydro**

Date of On-Site Assessment: **November 8, 2021**

## General Information

<b>Job Description</b>	<p><b>Statement of Overall Job Description:</b> Power Station Operators are responsible for operating power generating equipment, including turbines and generators. They monitor and control equipment and auxiliary systems from both the Station Floor (Field) and Control Room to ensure equipment and systems are operating safely, efficiently, and within regulatory requirements. At some stations, Power Station Operators may be responsible for both Field and Control Room duties, rotating between assignments, while other Operators may only be responsible for Control Room duties, e.g. where the Control Room is located remotely from the generating site.</p> <p><b>Tasks of a Power Station Operator include:</b></p>	<p><b>Approx. % of Time Spent Performing Each Task</b></p>
	<p><b>1. Control Room Duties:</b> Monitoring displays, communicating with Operators and staff (e.g. maintenance, regulatory personnel) in person and via telephone, maintaining logs, and making remote (computer) adjustments to the system (e.g. bringing units online/offline, adjusting generation levels) as needed to ensure system runs safely and within regulatory requirements.</p>	<p>Assigned to control room on ~70-100% of shifts. Assigned for full shift at a time. 15-20% of shift spent on the phone, most calls &lt;2 min. ~50% of shift spent using mouse.</p>
	<p><b>2. Field Duties – Routine Checks:</b> Includes daily walkthrough of equipment areas performing visual checks, such as checking gauges/displays, inspecting for leaks, sparks, noises (indicating issues). Also perform daily physical tasks on multiple pieces of equipment including checking oil levels, balancing accumulator tanks (requires opening/closing valves), emptying oil catch pans.</p> <p><b>3. Field Duties – Non Routine:</b> Diagnosing/troubleshooting issues (typically via visual inspection), implementing/removing work protection plans to isolate equipment. Includes tasks such as: lockout/tagout procedure, starting/stopping equipment, pulling fuses, opening/closing breakers, switches, and valves, cleaning filters/strainers, problem solving, and requesting Maintenance (or other) support when needed.</p> <p>Role does not include physical repair of issues. May also include time spent at a desk reviewing work protection plan documents.</p>	<p>Assigned to field on ~30% of shifts. Not assigned to this role daily. Assigned to field for full shift at a time. Routine: Equipment typically inspected 1-2x/shift, takes several hours at a time. Non-routine: time varies with issues and planned maintenance activities. If few alarms/issues, could spend 3-6 hours/shift at desk.</p>
<b>Work Load</b>	<p>Demands vary shift to shift with grid demands, scheduled maintenance, system issues, etc.</p>	
<b>Work Schedule</b>	<p>24/7 operation, typically 12-hour shifts. May rotate between assignment in Control Room and assignment in the Field, as well as between day and night shift. May work overtime during staff shortages or large outages.</p>	
<b>Work Environment</b>	<p><b>Description:</b> Field work conducted on equipment indoors and outdoors in all seasons. Equipment may be located in isolated areas. Control Room duties performed in an indoor office space with workstations equipped with multiple monitors (~8), keyboards (2-3), mice (2-3), and telephone, as well as a wall of larger panel screens for additional data reference. Number of workstations will vary by site.</p>	
	<p><b>Working Heights:</b> Field – Valves, breakers and other components located floor to overhead. Ladders may be used to access overhead equipment. Typical working heights floor to 82", higher with stepstools, rolling stairs, and/or ladders. Control Room – 29" desk working height. Some Control Rooms may have sit/stand adjustable workstations.</p> <p><b>Working Reaches:</b> Typically, unrestricted forward access. Forward reach to items on desk up to 20-25" depending on set up.</p>	

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## Pictures of Main Job Tasks



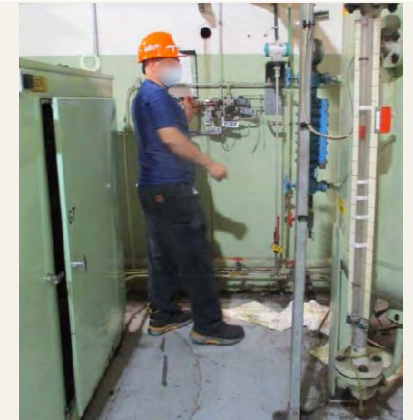
Control Room Workstation



Applying Locks



Closing Switch



Adjusting Accumulator Tank Levels



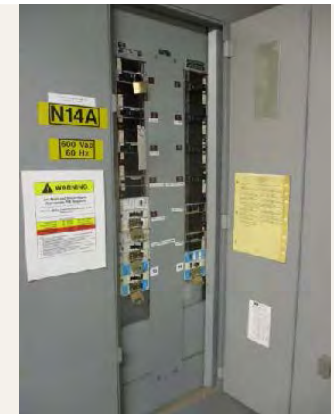
Adjusting Accumulator Tank Levels



Checking Turbine Oil Level



Closing Valve



Breaker Panel

*Disclaimer: Not all tasks within the occupation were being performed at the time of data collection. The data reported in this document is based on the measurement of available equipment, observation, mockup of some tasks, and walk throughs at a hydroelectric power generation station, as well as a description of other tasks that were described as part of the Power Station Operator occupation. This JDA may not be 100% representative of any one job site, as demands may vary based on Company and location.*

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## Summary of Major Essential Demands

*For further details refer to the tables on the following pages*

To be completed by Health Care Provider — Please check one:

	Able to Perform	Modification Required (Explain)	Unable to Perform
Rare <b>one-</b> and <b>two-handed lifting</b> (typical <11 lbs, max ~40 lbs) of locks, binders, oil bucket, floor to waist typical, occasionally over shoulder. Majority of lifting is one-handed, <b>option for 2 hands and to only partially fill oil buckets.</b>			
Not daily to occasional <b>one-</b> and <b>two-handed carrying</b> (typical <11 lbs, max ~40 lbs) of locks, binders, oil bucket. Distances are variable, up to ~500 ft with oil, may carry locks for several hours as complete lock out. Majority of carrying is one-handed.			
Not daily to rare <b>one-</b> and <b>two-handed horizontal pushing/pulling</b> of valves, hand wheels & cranks, doors. Forces vary from light (few lbs), to average (~20 lbs), to difficult, requiring 2-people to rotate (strength demand rated 8-10/10 by Operators).			
Occasional (Field) to constant (Control Room) <b>sitting</b> on <b>adjustable office chair</b> , up to several hours at a time. <b>Option to get up and move around, particularly if sit/stand workstations are available.</b>			
Rare (Control Room) to occasional (field, and in some instances up to frequent) <b>standing</b> on concrete, asphalt, and gravel for several minutes at a time, intermittent with walking.			
Rare (Control Room) to frequent (field) <b>walking</b> on concrete, asphalt, and gravel, may be snow/ice covered. Typically, 300-1000 feet along the length of the building. 15-20 minutes continuous at a time, 15,000-20,000 steps/shift typical.			
Frequent to constant <b>gripping/handling</b> in the dominant hand and occasional to frequent in the non-dominant hand of valves, handwheels, breakers, and the computer mouse. Grip required to turn "hard" handwheels or valves, rated as 8-10/10 difficulty by Operators, hook grip of 40 lbs pail of oil.			
Occasional <b>pinching/fingering</b> with both hands of breakers, fuses, push buttons and to type. Forces typically negligible.			
Not daily to rare <b>crouching, squatting</b> , and/or <b>kneeling</b> when assigned to the field to access low level equipment.			
Not daily to occasional <b>climbing</b> , primarily of stairs (30-50 flights/shift), with rare use of rolling stair style ladders.			
Low to moderate <b>back repetition</b> , primarily forward bending for low level work (over 45 degrees), and with visually intensive desk tasks (low range), with some twisting and lateral (side) bending to gain visual access of hard to see areas. Forward back bending often static.			
Low <b>neck repetition</b> , primarily forward bending for visually intensive tasks in the field and at the control room desk, often <b>static</b> . Some twisting and lateral (side) bending to gain visual access of hard to see areas.			
Low <b>bilateral shoulder repetition</b> (forward and sideways reaching). Low range with some <b>static</b> postures typically required in control room depending on workstation set up. Reaching up to and over >90 degrees forward and to the side required in the field to access valves and controls over chest height (static for <few minutes at a time).			
Low <b>bilateral elbow repetition</b> (bending/straightening the arms, turning the palms up/down). <b>Static</b> palm down posture required for desk work, rotation with some force required to turn valves and cranks, with full range extension required for forward and side reaching.			
Low <b>bilateral wrist repetition</b> (bending the wrists up/down, bending the wrists sideways) required to manipulate valves, wheels, and cranks. Some wrist repetition may also be present while typing and mousing depending on workstation set up.			
Excellent <b>visual acuity</b> , attention to detail, memory, and decision making skills are required.			

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Demand / Action		Check if Performed	Description & Potential Accommodations <i>*Accommodation options noted in green</i>
Sensory	<b>Hearing / Speech:</b>		
	• Conversation	✓	In Control Room with colleagues, co-workers, other departments, Contractors, and Regulatory bodies in person and via telephone. Walkie-talkies or phone system used to communicate between Control Room and Field Operators. Auditory alarms in Control Room and on equipment. Use hearing to detect issues with equipment in the field.
	• Signals	✓	
	<b>Vision:</b>		
	• 20 inches or less	✓	Near: Small text on Control Room screens. Read work protection plans, tags, equipment numbers, lock numbers, equipment displays, visual confirmation if breakers/valves/switches are open/closed.
	• 20 feet or more	✓	Far: Data monitors on large wall mounted screens. <i>Data is redundant with information available on desktop screens.</i> Visual confirmation if breakers/valves/switches are open/closed (may be overhead at a distance).
	• Colour	✓	SCADA displays and equipment utilize red/green to indicate on/off, open/closed. Alarms colour coded (red, yellow, blue, white) to indicate priority and status. Colour coding not redundant; critical.
• Depth Perception	✓	To apply locks, for keyboarding and mouse work.	
	<b>Smelling</b>	✓	May be able to detect equipment issues from smell.
	<b>Tactile / Feeling</b>	No	
Environment	<b>Conditions of Work</b>		Field work completed indoors and outdoors, all season including work in basement and roof, which may be isolated from other workers. Work performed floor level to overhead, and in some tight spaces. Control Room is typical indoor office space with multiple workstations, other Operators, and wall of mounted reference screens. Teamwork and coordination between Operators and with other departments (e.g. Maintenance) required.
	<b>Temperature / Humidity</b>		Work areas may be hot and humid, especially during summer months. Exposure to outdoor environment in all seasons. Control Room temperature regulated with heat and A/C.
	<b>Noise</b>		Background conversational noise in control room. Areas of the field include exposure to noise levels in excess of 85 dBA.
	<b>Vibration</b>		Whole body vibration exposure possible when working in the basement areas of large hydroelectric dams.
	<b>Walking / Working Surface</b>		Control Room: tile, carpet. Field: concrete, asphalt, gravel. May be wet or snow/ice covered.
	<b>Lighting</b>		Overhead lighting. Small pen light may be used during field work for visual inspection of equipment.
	<b>Electrical</b>		Exposure to electrical systems, 115 V typical. Lock-out procedures in place and use of electrical insulating gloves for some activities.
	<b>Sharp Objects</b>		Not in typical work activities. Potential for sharp edges on equipment.
	<b>Hot / Cold Hazards</b>		Exposure to equipment indoors and outdoors in all seasons.
	<b>Chemical / Dust</b>		In Field, potential exposure to carbon dust, oil, mold, and lead depending on age and type of facility.
Tools	<b>Moving Machinery / Equipment</b>		In Field, potential exposure to moving equipment in work areas (e.g. cranes, oil separator, vehicles). Includes work performed near open, rotating shafts.
	<b>Hand / Sharp Tools</b>		Wrenches, screwdrivers, battery powered impact driver (to turn some valves).
	<b>Personal Protective Equipment</b>		In Field, safety boots, hard hat, safety glasses, and depending on work, gloves, including electrical insulating gloves may be required.
	<b>Other Equipment / Supplies</b>		Lifting devices (e.g. for large breakers), carts.

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Demand		Rate Requirement	Description of Tasks that Demand is Required & Potential Accommodations <i>*Accommodation options noted in green</i>
Legend: NE = Not Essential   ND = Not Daily but essential   5% or less = Rare Essential   6-33% = Minor Essential Demand   >33% = Major Essential Demand			
Cognitive	<b>Reading:</b>		
	• English	Major	Work protection plans, equipment labels, equipment displays, Control Room displays and logs, equipment/plant schematics, reference manuals (electronic and printed). Alphanumeric. French required in some provinces.
	• French	Varies by Province	
	• Other	No	
	<b>Writing:</b>		
	• English	Minor	Short entry, completion of work logs (e.g log of unit start up time, maintenance work start/end time) and work protection plan (i.e. log lock and tag numbers) as they are executed. Email (communicating planned outages, work protection plans, unit restrictions). Alphanumeric. French required in some provinces.
	• French	Varies by Province	
	• Other	No	
	<b>Verbal Communication:</b>		
	• English	Major	With other Control Room Operators, Maintenance staff, Work Protection staff, Contractors, Portfolio Group, Regulators. In person, via phone, potentially via walkie-talkie. French required in some provinces.
	• French	Varies by Province	
	• Other	No	
	<b>Supervising Others</b>	Varies	One of the desks staffed in the Control Room is typically staffed by a Supervisor.
	<b>Working to Speed</b>	Major	Required to respond to dispatch (requested change in power output) within 5 min. Time sensitivity in responding to alarms and issues varies with system, e.g. river systems with plants located close together require faster response as problems can be cascading between plants.
	<b>Self-Supervision/ Working Alone</b>	Major - Field	Typically, works in the vicinity of other Operators in the control room. Field work may be performed in isolated areas. Coordination between Control Room and Field Operator required.
	<b>Computer Usage</b>	Major – Control Room	Control Room requires constant monitoring of SCADA, dispatch, and other computer systems as well as navigating and making system adjustments, typically through mouse entry. Short entry keyboarding for completion of logs, email, and work protection plans. Some field equipment operated via computer, including touchscreen displays.
	<b>Math:</b>		
• Simple	Major	Simple calculations to read gauges, make basic adjustments to unit flow, balance accumulator tanks, calculate spilled water volumes, etc. More complex for water flow calculations, especially during emergencies and issues, pen and paper calculations with help of calculator. May have second Operator check critical calculations.	
• Complex	Minor		
<b>Memory:</b>			
• Short Term	Major	STM to track progress through sequential steps when adjusting system from Control Room and in particular while completing steps for lockout work protection plans. When multiple calls, or issues occur at once, to ensure each action is completed and logged. LTM and experience used to inform the way in which data is interpreted and the problem solving and decision making process. Procedural memory key and also to know where to locate pieces of equipment (particular valves, breaker boxes, etc.) reference documents available.	
• Long Term	Major		
<b>Organization</b>	Major	To prioritize activities in instances where there are multiple calls and/or issues occurring at once. Ensuring all required steps (in Control Room and Field) are completed in sequential order critical to H&S of staff and protection of the system.	
<b>Decision Making</b>	Major	To determine what types of adjustments to make to maintain the system, to determine who/when to notify others and request assistance (e.g. field Op, Maintenance, Regulators, Supervisors). May review decisions with other parties (e.g. Maintenance, Regulators). Procedures and guidelines guide decision making. Large system adjustments (e.g. units online/offline) require permission from Regulators.	
<b>Attention to Detail</b>	Major	Critical to maintain the safety of staff and protection of the system. Errors could result in failures to lock out equipment correctly or failures of system components. Critical steps, e.g. work protection lock-out reviewed by multiple staff prior to commencing work.	
<b>Problem Solving</b>	Major	Experience key to diagnosing potential issues and making decisions about how to adjust the system in the face of issues or changing demands (e.g. an alarm on one unit may be less critical than on another unit). Direction available from Supervisors, others, and procedures for critical decisions.	
<b>Emergency Management</b>	Minor – but Critical	Written procedures for how to proceed in the event of varying types of emergencies (e.g. system outage or person fall in canal and must adjust unit flow to assist with rescue). Emergency lines run through control room, e.g. 911 calls may be managed via control room.	

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Demand / Action		Check if Performed	Duration	Frequency	Description & Potential Accommodations <i>*Accommodation options noted in green</i>
<b>Legend: NE = Not Essential   ND = Not Daily   Rare = 1-5%   Occasional = 6-33%   Frequent = 34-66%   Constant = 67-100%</b>					
Strength	Lifting	Two Hands	✓	Rare	Locks: not daily, may install 10-35 locks for lock out Pail of oil: not daily  <b>Objects:</b> locks and tags, pail of oil (40 lbs), locks (0.4 lb each, set of 30 = 11 lbs), binders (<3 lbs), oil dip stick (<2 lbs) <b>Weight Max:</b> ~40 lbs (typically one-hand, option for 2 hands or to partially fill oil buckets to limit the total weight) <b>Weight Typical:</b> Varies <b>Range of Lift:</b> floor to waist typical, occasionally over shoulder
		One Hand	✓		
	Carrying	Two Hands	✓	ND - Occasional	Locks: not daily, may carry set of 10-35 locks for several hours as complete lock out Pail of oil: not daily  <b>Objects:</b> locks and tags, pail of oil (40 lbs), locks (0.4 lb each, set of 30 = 11 lbs) <b>Weight Max:</b> ~40 lbs (typically one-hand carry option for 2 hands or to partially fill oil buckets to limit the total weight) <b>Weight Typical:</b> <10 lbs <b>Distance:</b> Varies, up to ~500 feet <b>Handles Present:</b> Varies
		One Hand	✓		
	Pushing/Pulling	Two Hands	✓	ND - Rare	Typically: adjust 5-10 valves/shift in the case of issues or taking component in/out of service "Hard" valves: 2-3x/year per Operator Roll large breaker: few x/year per Operator Doors: several per/hour (field)  <b>Objects:</b> valves (90° turns), hand wheels & cranks (up to 50+ rotations), breaker levers, rolling larger breaker from cabinet (65 lbs), sliding turbine physical isolation pin (force unknown), doors (variable) <b>Force Max:</b> "Hard" valves reported to require force levels rated as 8-10/10, some require 2-persons to turn. <b>Force Sustained:</b> sample valve 20 lbs turn force <b>Distance:</b> Typically, stationary arm work <b>Handles Present:</b> Varies
		One Hand	✓		
Mobility	Sitting	✓	Occasional (field) – Constant (control rm)	Continuous in control room, intermittent in field.	Height adjustable chair in Control Room environment. In the event of no alarms or issues, Field Op may spend several hours sitting at a desk in the Control Room. Some rooms have sit/stand desks allowing control over sitting/standing durations.
	Standing	✓	Rare (control rm) - Occasional	Intermittent with walking in field.	Stand for short periods (< 5 minutes) at equipment during visual inspection and lockout procedures.
	Walking	✓	Rare (control room) – Frequent (field)	Field: Up to 15-20 min continuous. 14,000-20,000 steps/shift. Intermittent with standing.	300-1000 ft length of building. On indoor and outdoor surfaces in all seasons and conditions.
	Foot Activation	✓	ND - Rare	Not daily; up to few times/shift	Foot brake on carts, lifting equipment, rolling stairs.
	Crouching/Squatting	✓	ND - Rare	Not daily; up to few times/hour	For low level access to valves etc. in field. Option to kneel.
	Kneeling	✓	ND - Rare	Not daily; up to few times/hour	For low level access to valves etc. in field. Option to squat.
	Climbing	✓	ND (control room) – Occasional (field)	In large facility, may do 30-50 flights/shift Ladders: 1-2x/month	Stairs, rolling stair style ladders.



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Legend: NE = Not Essential   ND = Not Daily   Rare = 1-5%   Occasional = 6-33%   Frequent = 34-66%   Constant = 67-100%					
Mobility	Balancing	✓	ND	Ladders: 1-2x/month	Primarily rolling stair style ladders.
	Crawling	No	ND	Not during typical routine work	Some valves and access may require kneeling/crawling depending on site.
Dexterity	<b>Gripping/Handling (Gross motor)</b>			Frequent (field) to constant (control rm) (dominant) Occasional to frequent (non-dominant)	<b>Objects:</b> turn valves, hand wheels, hand cranks, operate breaker switches, computer mouse. Use of ergonomic mouse or alternative input device. <b>Weight Max:</b> 40 lbs Weight Typical: <10 lbs <b>Force Max:</b> Grip required to turn "hard" handwheels or valves, rated as 8-10/10 difficulty by Operators.
	Right Hand	✓			
	Left Hand	✓			
	Either	✓			
	<b>Pinching/Fine Finger Movement</b>			Occasional	<b>Objects:</b> flip breakers, pull fuses, push buttons, typing. Use of ergonomic keyboard. <b>Weight:</b> Negligible, less than a few pounds.
	Right Hand	✓			
	Left Hand	✓			
	Either	✓			
<b>Hand/Eye Coordination</b>		✓	Occasional – Frequent	Intermittent throughout the shift	To operate mouse, to apply locks and tags, to pull fuses.

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Demand / Action		Check if Performed	Typical Posture Range of Motion (°)	Typical Repetition Rate/Hour	Description & Potential Accommodations <i>*Accommodation options noted in green</i>
<b>Posture &amp; Joint Position</b>	<b>Neck Movement</b>				Neck flexion for tasks with increased visual demands e.g. reading from paper documents or inspecting low equipment displays. Extension for visual inspection of overhead equipment. Static for up to a few minutes.
	• Flexion (bent forward)	✓	<input checked="" type="checkbox"/> <20° <input checked="" type="checkbox"/> 20-45° <input type="checkbox"/> >45°	<input checked="" type="checkbox"/> <120 <input type="checkbox"/> 120-180 <input type="checkbox"/> >180 <input checked="" type="checkbox"/> STATIC	
	• Extension (bent backwards)	✓	<input type="checkbox"/> <5° <input checked="" type="checkbox"/> >5°		
	• Rotation (twist)	✓	<input checked="" type="checkbox"/> <45° <input type="checkbox"/> >45°	<input checked="" type="checkbox"/> <120 <input type="checkbox"/> 120-180 <input type="checkbox"/> >180 <input checked="" type="checkbox"/> STATIC	
	• Lateral Flexion (bent to side)	✓	<input type="checkbox"/> <5° <input checked="" type="checkbox"/> >5°	<input checked="" type="checkbox"/> <120 <input type="checkbox"/> 120-180 <input type="checkbox"/> >180 <input checked="" type="checkbox"/> STATIC	May be required for field (to look under/around obstacles).
	<b>Back Movement</b>				Typically, near neutral in Control Room with some flexion during forward reaching/desk work. Back bending over 45° required in field for low level access, static at times.
	• Flexion (bent forward)	✓	<input checked="" type="checkbox"/> <20° <input type="checkbox"/> 20-45° <input checked="" type="checkbox"/> >45°	<input checked="" type="checkbox"/> <12 <input checked="" type="checkbox"/> 12-120 <input type="checkbox"/> >120 <input checked="" type="checkbox"/> STATIC	
	• Extension (bent backwards)	No	<input type="checkbox"/> <5° <input type="checkbox"/> >5°		
	• Rotation (twist)	✓	<input checked="" type="checkbox"/> <15° <input type="checkbox"/> 15-30° <input type="checkbox"/> >30°	<input checked="" type="checkbox"/> <12 <input type="checkbox"/> 12-120 <input type="checkbox"/> >120 <input type="checkbox"/> STATIC	
	• Lateral Flexion (bent sideways)	✓	<input checked="" type="checkbox"/> <20° <input type="checkbox"/> 20-45° <input type="checkbox"/> >45°	<input checked="" type="checkbox"/> <12 <input type="checkbox"/> 12-120 <input type="checkbox"/> >120 <input checked="" type="checkbox"/> STATIC	Typically, <span style="background-color: #d9ead3;">able to move feet to minimize twisting.</span> May be required for field (to look under/around obstacles).
	<b>Shoulder Movement (Dominant)</b>				Low range flexion and abduction typically required to operate keyboard/mouse depending on desk set up, including some static forward and lateral reaching. Primarily flexion (forward reaching) with some abduction (side reaching) 45-90° and occasionally flexion over 90° to access valves, breakers, etc. located at chest level and above. Varies with location of equipment. May be static, but typically for <few minutes at a time. Extension and adduction not typically required in the normal course of duties, may vary with work technique. Demands typically higher in the dominant hand in both the Control Room and field but some valves and computer tasks are bilateral.
	• Flexion (raised in front of body)	✓	<input checked="" type="checkbox"/> <45° <input checked="" type="checkbox"/> 45-90° <input checked="" type="checkbox"/> >90°	<input checked="" type="checkbox"/> <90 <input type="checkbox"/> 90-150 <input type="checkbox"/> >150 <input checked="" type="checkbox"/> STATIC	
	• Extension (raised behind body)	NE	<input type="checkbox"/> <5° <input type="checkbox"/> >5°		
	• Abduction (raised to side)	✓	<input checked="" type="checkbox"/> <45° <input checked="" type="checkbox"/> 45-90° <input type="checkbox"/> >90°		
	• Adduction (across body)	NE	<input type="checkbox"/> <45° <input type="checkbox"/> 45-90° <input type="checkbox"/> >90°	<input checked="" type="checkbox"/> <90 <input type="checkbox"/> 90-150 <input type="checkbox"/> >150 <input checked="" type="checkbox"/> STATIC	
	• Rotation (turned in/out)	✓	<input type="checkbox"/> <5° <input checked="" type="checkbox"/> >5°		
	<b>Shoulder Movement (Non-dominant)</b>				
	• Flexion (raised in front of body)	✓	<input checked="" type="checkbox"/> <45° <input checked="" type="checkbox"/> 45-90° <input checked="" type="checkbox"/> >90°	<input checked="" type="checkbox"/> <90 <input type="checkbox"/> 90-150 <input type="checkbox"/> >150 <input checked="" type="checkbox"/> STATIC	
	• Extension (raised behind body)	NE	<input type="checkbox"/> <5° <input type="checkbox"/> >5°		
	• Abduction (raised to side)	✓	<input checked="" type="checkbox"/> <45° <input checked="" type="checkbox"/> 45-90° <input type="checkbox"/> >90°		
• Adduction (across body)	NE	<input type="checkbox"/> <45° <input type="checkbox"/> 45-90° <input type="checkbox"/> >90°	<input checked="" type="checkbox"/> <90 <input type="checkbox"/> 90-150 <input type="checkbox"/> >150 <input checked="" type="checkbox"/> STATIC		
• Rotation (turned in/out)	✓	<input type="checkbox"/> <5° <input checked="" type="checkbox"/> >5°			
<b>Elbow Movement (Dominant)</b>				Static pronation for operation of the mouse and keyboard, static. Demands higher in the dominant hand. Pronation/supination with force to turn valves, typically in the dominant hand (some bilateral). Small range rotation with elbow near 90° to turn hand cranks. Full range extension required to reach forward and up to access equipment and to a lesser extent to equipment on the Control Room desk.	
• Pronation/Supination (palm down/up)	✓	<input type="checkbox"/> Neutral <input type="checkbox"/> Partial <input checked="" type="checkbox"/> Full	<input checked="" type="checkbox"/> <120 <input type="checkbox"/> 120-180 <input type="checkbox"/> >180 <input checked="" type="checkbox"/> STATIC		
• Flexion/Extension (bent/straight)	✓	<input type="checkbox"/> Neutral <input type="checkbox"/> Partial <input checked="" type="checkbox"/> Full	<input checked="" type="checkbox"/> <120 <input type="checkbox"/> 120-180 <input type="checkbox"/> >180 <input checked="" type="checkbox"/> STATIC		

Position: **Power Station Operator - Hydro**

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Demand / Action		Check if Performed	Typical Posture Range of Motion (°)			Typical Repetition Rate/Hour	Description & Potential Accommodations <i>*Accommodation options noted in green</i>
<b>Posture &amp; Joint Position</b>	<b>Elbow Movement (Non-dominant)</b>						
	• Pronation/Supination (palm down/up)	✓	<input type="checkbox"/> Neutral	<input type="checkbox"/> Partial	<input checked="" type="checkbox"/> Full	<input checked="" type="checkbox"/> <120 <input type="checkbox"/> 120-180 <input type="checkbox"/> >180 <input checked="" type="checkbox"/> STATIC	Static pronation for operation of the mouse and keyboard. Demands higher in the dominant hand. Pronation/supination with force to turn valves, typically in the dominant hand (some bilateral).
	• Flexion/Extension (bent/straight)	✓	<input type="checkbox"/> Neutral	<input type="checkbox"/> Partial	<input checked="" type="checkbox"/> Full	<input checked="" type="checkbox"/> <120 <input type="checkbox"/> 120-180 <input type="checkbox"/> >180 <input checked="" type="checkbox"/> STATIC	Small range rotation with elbow near 90° to turn hand cranks. Full range extension required to reach forward and up to access equipment and to a lesser extent to equipment on the Control Room desk.
	<b>Wrist Movement (Dominant)</b>						
	• Flexion/Extension (bent up/down)	✓	<input type="checkbox"/> Neutral	<input checked="" type="checkbox"/> Partial	<input type="checkbox"/> >½ range	<input checked="" type="checkbox"/> <900 <input type="checkbox"/> 900-1800 <input type="checkbox"/> >1800 <input type="checkbox"/> STATIC	Flex/extend for load securement, don PPE, hoisting & assembly.
	• Deviations (bent to side)	✓	<input type="checkbox"/> Neutral	<input checked="" type="checkbox"/> Partial	<input type="checkbox"/> >½ range	<input checked="" type="checkbox"/> <900 <input type="checkbox"/> 900-1800 <input type="checkbox"/> >1800 <input type="checkbox"/> STATIC	Deviate to assemble, radial deviate to grasp tool handles.
	<b>Wrist Movement (Non-dominant)</b>						
	• Flexion/Extension (bent up/down)	✓	<input type="checkbox"/> Neutral	<input checked="" type="checkbox"/> Partial	<input type="checkbox"/> >½ range	<input checked="" type="checkbox"/> <900 <input type="checkbox"/> 900-1800 <input type="checkbox"/> >1800 <input type="checkbox"/> STATIC	Small range wrist extension (static) may be present while typing depending on desk set up as well as deviation with use of the mouse.
• Deviations (bent to side)	✓	<input type="checkbox"/> Neutral	<input checked="" type="checkbox"/> Partial	<input type="checkbox"/> >½ range	<input checked="" type="checkbox"/> <900 <input type="checkbox"/> 900-1800 <input type="checkbox"/> >1800 <input type="checkbox"/> STATIC	Wrist movement in all directions required for manipulation of valves and hand wheels.	

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## Optional Form

Can be used for Accommodation and Return to Work. **To be completed by employee's medical practitioner/ health care provider (do not include diagnosis).**

**Employee's Name:**

Are there any medical/health conditions that account for absence(s) from the workplace or would affect the employee's ability to perform his/her duties?

**Yes**  **No**

If yes, describe the employee's specific work-related limitations and/or restrictions.

Indicate duration of limitation(s) and/or restriction(s) identified above. **Permanent**  **Temporary**

If temporary, what is the expected duration?

Is employee involved in treatment and/or taking medication that may affect his or her ability to work, including regular attendance, and/or performing certain duties? **Yes**  **No**

If yes, describe the impact (i.e. medication may cause drowsiness, safety risk related to treatment, treatment requires intermittent absences from work.)

Are any further absences from work (e.g. surgery) anticipated at this time? **Yes**  **No**

If yes, please specify:

When is the date of your next assessment?

Name and address of medical practitioner/health care provider completing this form:

