CONSTRUCTION ISLAND SPECIFICATION

Project # 39673
SPP Controls and Third Treatment Train

Contract ID TBD

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1.0 PURPOSE

The purpose of this document is to govern the setup, operation, and collapse of the Construction Island (CI). Any work activities not related to the CI, or activities to be completed outside the CI or in an operating pond - physically segregated areas within the CI with controlled access - will follow the applicable Bruce Power procedures and are not addressed in this document.

2.0 ACRONYMS

- **CI** - Construction Island
- **COS** - Centre of Site
- **EPS** - Bruce Power Emergency Protective Services
- **MOE** - Ontario Ministry of the Environment
- **MOL** - Ontario Ministry of Labour
- **OHSA** - Ontario Health and Safety Act
- **PPE** - Personal Protective Equipment
- **SCR** - Station Condition Record
- **SPOC** - Single Point of Contact

3.0 CONSTRUCTION ISLAND DESCRIPTION

3.1 Scope of Work

The scope of the work will involve upgrading the SPP's control systems and to optimize the current overall control strategy. Additionally, a third treatment train will be installed and commissioned to aid in SPP redundancy. This will include the SPP's monitoring systems required per Bruce Power's Environmental Compliance Approval (ECA) and the Municipal Industrial Strategy for Abatement (MISA) program requirements. This scope of work includes the following for the Control Upgrades:

- Electrical/Control Preparation - Installation of electrical duct bank, routing of new cable/conduit for power/control wiring throughout SPP
- SPP UV System Upgrades
- MISA System Upgrades
- Raw Sewage Pump Variable Frequency Drive (VFD) Updates
- Return Activated Sludge (RAS) / Waste Activated Sludge (WAS) Valve Upgrades
- Effluent Flow Measurement Upgrades
- Master SPP Control System
- Supervisory Control and Data Acquisition (SCADA) Integration

The scope of work includes the following for the Third Treatment Train installation:

- Construction of near identical third treatment train built north of the current trains
    - Plug flow conventional activated sludge aeration tank
    - Rectangular final settling tank
    - Two stage aerobic digester
    - Return Activated Sludge (RAS) / Waste Activated Sludge (WAS) pumps
    - Four positive displacement (PD) lobe type blowers, 2 x190 L/s, 2 x 120 L/s
- Third train will receive raw wastewater from the SPP EQ tank
- Discharge treated secondary effluent to the existing SPP UV disinfection system
- Master SPP control system similar to upgrades to existing trains

3.2 Construction Island Requirements

3.2.1 Construction Island Perimeter

Drawing(s) outlining the Construction Island boundaries, operating ponds, access and egress locations and emergency access routes/locations are attached as Appendix A - Construction Island General Layout. The Constructor will be responsible for the construction of the physical perimeter if one is requested by Bruce Power, if the Constructor is obligated by law or if the Constructor chooses to establish one. The Constructor is responsible for posting signage with its contact information and entry requirements at the access points to the CI.

3.2.2 Construction Island Access

The entrance to the CI will be regulated and controlled by the Constructor's Superintendent according to an accounting system approved by Bruce Power. All visitors will report to the Constructor's Superintendent prior to entry and will be required to follow the Constructor's safety rules, including the site Personal Protection Equipment (PPE) requirements.

3.2.3 Emergency Response

Medical and fire emergencies within the CI that are beyond the control of the Constructor's First Aid or fire extinguishing capabilities will be handled by Bruce Power Emergency and Protective Services (EPS).

In the event of an emergency, contact (519) 361 2673, then extension:

For Center of Site: 13333

For Bruce A: 14444

For Bruce B: 15252

3.3 Opening the Construction Island

The CI will be considered to be in full effect only once all of the following provisions have been made:

- Bruce Power Property Management has approved the CI and provided a redacted copy of the Bruce Power - OPG site lease (if the CI is expected to last more than one year);
- The Construction Island outer boundaries and any operating ponds have been established by Bruce Power (refer to Appendix A);
- The Bruce Power Contract Supervisor has provided, through the Bruce Power scanning single point of contact (SPOC), the engineering drawings of the buried services within the Construction Island and crossing the Construction Island perimeter;

- The Bruce Power Contract Supervisor has provided the Constructor with a list of all known hazardous substances within the Construction Island;
- The Constructor has submitted the Notice of Project to the Ministry of Labor (MOL) and copies have been posted on site;
- Bruce Power's Department Manager of Conventional Safety, or delegate, has reviewed and accepted the Constructor's project-specific Health and Safety Plan (refer to Sections 4.2 and 5.2). It is acceptable to develop plans for different phases of the project.
- Bruce Power's Department Manager of Environment Support, or delegate, has reviewed and accepted the Constructor's project-specific Environmental Plan (refer to Sections 4.3 and 5.3). It is acceptable to develop plans for different phases of the project.
- Bruce Power's Section Manager of Fire Protection Programs, or delegate, has reviewed and accepted the Constructor's project-specific Fire Protection Plan (refer to Sections 4.4 and 5.4). It is acceptable to develop plans for different phases of the project.
- If applicable Bruce Power's Department Manager of Radiation Protection Support has reviewed and accepted the Constructor's project-specific Radiation Protection Plan.

The Bruce Power Contract Manager, Contract Supervisor and Controlling Authority and the Constructor's Superintendent are to perform an initiating walk-down of the CI. The Bruce Power Controlling Authority, Contract Manager and the Constructor's Superintendent will then sign and date Appendix B: Accessed Lands Walk-down Certificate, including Schedule A: Drawing of Accessed Lands and Schedule B: List of Energized Services, to officially start the CI portion of the project.

The proposed date of the turn back is highlighted on the Accessed Lands Walk-down Certificate and should be adhered to. If necessary, the Certificate should be updated to reflect and date changes and should be signed off by the Controlling Authority, Contract Manager and the Constructor's Superintendent.

3.4 Closing the Construction Island

The CI will be considered closed and turned-back to Bruce Power once the following requirements are satisfied:

- The Constructor has completed the required scope of work within the Construction Island;
- The Constructor has removed all equipment, trailers, stakes, c-cans, fences, signs, waste, etc.

The Bruce Power Contract Manager, Contract Supervisor, Controlling Authority, Operations Manager, Property Management and the Constructor's Superintendent are to perform a

concluding walk-down of the CI. The Bruce Power Controlling Authority, Contract Manager, Operations manager of Property Management and the Constructor Superintendent will then sign and date Appendix C: Accessed Lands Closing Walk-down Certificate to officially end the Construction Island portion of the project.

3.5 Modify the Construction Island Boundaries

During project execution, the limits of the CI may be adjusted at the request of either the Constructor or Bruce Power. In order to do so, both the Constructor and Bruce Power will agree by means of a revised Accessed Lands Walk-down Certificate (Appendix B), a drawing of the new boundaries (Appendix B - Schedule A), and a list of energized services within the CI lands (Appendix B - Schedule B). The revised Turn-over Certificate will be signed by the Constructor's Superintendent, or delegate, and the Bruce Power Controlling Authority and Contract Manager or delegate.

4.0 RESPONSIBILITIES OF THE CONSTRUCTOR WITHIN THE CONSTRUCTION ISLAND

4.1 General Responsibilities of the Constructor

- Register with the Construction Branch of the MOL;
- Submit Notice of Project to MOL;
- Complete MOL FORM 1000, Registration of Constructors and Employers Engaged in Construction, and keep the completed form on site;
- Control all access for those entering the Construction Island and enforce accounting. All visitors are to report to the site superintendent.

  Exception: Reporting not required if Bruce Power authorized employees must enter the CI to provide emergency response to protect life or property or to mitigate the dispersion of any material that would constitute an unacceptable release to the environment and would be reportable to the Ontario Ministry of the Environment or to the CNSC.
- Establish protocol for communication between the Constructor and Bruce Power authority in the event that access to Bruce Power operating equipment is necessary, including the length of time of notice and level of approval required prior to access. Protocol will also include communication from the Constructor to Bruce Power for notification of any changes made to operating equipment after access has been granted.
- Ensure appropriate supervision and conduct inspections on the project;
- Ensure all personnel performing work inside the CI are trained and qualified for the work being performed as per O.Reg. 572/99;
- Post signage indicating Constructor contact information and entry requirements at CI access points;
- Allow Owner's Representatives escorted access to the CI when requested and facilitate walk-downs during construction;
- Notify Bruce Power Security prior to materials and equipment arrival on site and ensure packaging and delivery details have been pre-approved by EPS;
- Assume 'liability' for any damage of services within the CI boundaries. Services include, but are not limited to: steam lines, Bruce Power utility poles and buried services;

- Accept full responsibility for scheduling, coordinating and supervising all drilling and excavation work upon receipt of Bruce Power engineering drawings locating known buried services. Therefore, the Constructor shall inspect and scan the CI site prior to any excavation or drilling work and will be held accountable if a drilling or excavating incident occurs. The Constructor must report any unidentified buried services to Bruce Power;

- Retain full responsibility for the security of the equipment and materials within the Construction Island boundaries.

4.2 The Constructor Health & Safety Responsibilities

The Constructor will:

- Prepare and submit a project-specific Health & Safety Plan for Bruce Power acceptance;

- Provide site-specific health and safety orientation to all employees on site and to Owner's Representatives as required;

- Establish and co-chair a Joint Health and Safety Committee if required (depending on size of workforce and duration of the project);

- Have in place a Site Evacuation Plan;

- Monitor all visitors and workers, including contractors and subcontractors, and ensure compliance with the Constructor's Health and Safety Plan and procedures, OHSA and Regulations for Construction Projects;

- The Constructor is required to develop, implement and monitor specific processes for the handling, use, transportation, storage and disposal of hazardous substances including obtaining all required permits, licenses, approvals, authorizations and certificates. Any hazardous substances being brought to site by the Constructor or any of its subcontractors must get written approval by Bruce Power. The Bruce Power Contract Manager, or delegate, will be the SPOC for this process which is detailed in BP-SM-00054, Hazardous Materials Approval Process;

- Provide adequate safety and First Aid equipment;

- Post a safety board with all required documentation (refer to Appendix E: Safety Board Documentation);

- Report all incidents that occur within the Construction Island boundaries to the appropriate authorities and to the Bruce Power Contract Supervisor;

- Provide follow up with corrective actions of any incidents or issues to the Bruce Power Contract Supervisor;

- Make available the personnel accounting information to the Bruce Power project team when requested;
- Except as noted for emergency situations, all visitors to the CI, including Bruce Power personnel, shall report to the Constructor Superintendent prior to entering the CI work area.

4.3 The Constructor Environmental Responsibilities

- Prepare and submit an Environmental Plan for Bruce Power acceptance;
- Dispose of all waste outside of the Bruce Power site;
- Have adequate and easily accessible spill kits on site;
- Report any significant spills or contamination events immediately to the Bruce Power Contract Supervisor and to the appropriate authorities;
- Allow immediate access to Bruce Power employees responding to spills or contamination events.

4.4 The Constructor Fire Protection Responsibilities

- Prepare and submit a Fire Protection Plan for Bruce Power acceptance;
- Provide adequate fire protection and fire fighting equipment on site;
- Report all fire events immediately to the applicable emergency number and to the Bruce Power Contract Supervisor;
- Allow immediate access to Bruce Power employees responding to fire events.

4.5 The Constructor Security Responsibilities

- Follow Bruce Power security processes for on-boarding workers and Bruce Power site entry.
- Inform Bruce Power EPS immediately of any security threats
- Allow immediate access to Bruce Power employees responding to security threats.

5.0 RESPONSIBILITIES OF BRUCE POWER WITHIN THE CONSTRUCTION ISLAND

5.1 Bruce Power General Responsibilities

- Bruce Power will carry out the duties of the 'Owner' as defined by OHSA for the duration of the project;
- Owner Representatives will attend the Constructor's health and safety orientation, familiarize and act in compliance with the Constructor's rules, guidelines and procedures;
- The Contract Supervisor will provide drawings of all known buried services crossing and within the Construction Island perimeter;
- Provide all necessary site security arrangements for access to the Construction Island;
- Request and obtain permission from the Constructor prior to entering the Construction Island for any reason other than for fire, medical, or environmental emergency;
- Respond to medical, fire and environmental emergencies beyond the internal capability of the Constructor's emergency equipment capabilities;
- Audit the Constructor's compliance with their project-specific plans;
- Include the Construction Island in emergency plans and provide directions if a site emergency is declared;
- Facilitate the interface with Bruce Power departments and processes as required.

5.2 Bruce Power Health & Safety Responsibilities

- Bruce Power's Department Manager of Conventional Safety, or delegate, to review and accept the Constructor's project-specific Health and Safety Plan;
- Bruce Power's Contract Supervisor to provide a list of known hazardous substances and energized services to the Constructor prior to construction;
- Periodically audit the Constructor's performance against their safety plan;
- Order work stoppages upon observation of unsafe work posing serious and immediate threat to people or property;
- Report non-compliances of Constructor's project plans to the Constructor's Superintendent and demand corrective action. Input Station Condition Records (SCRs) as required.

- Provide a representative at the Constructor's request for excavation or drilling activities within the Construction Island boundaries which involve a Bruce Power identified service that cannot be shut off.

5.3 Bruce Power Environmental Responsibilities

- Bruce Power's Department Manager of Environment Support, or delegate, to review and accept the Constructor's project-specific Environmental Plan ;
- Monitor for Constructor's compliance against their environmental plan;
- Report non-compliances of Constructor's project plan to the Constructor's superintendent and demand corrective action;
- Provide spill response for significant spills or spills beyond the containment capabilities of the Constructor.

5.4 Bruce Power Fire Protection Responsibilities

- Bruce Power's Section Manager of Fire Protection Programs, or delegate, to review and accept the Constructor's project-specific Fire Protection Plan;
- Provide firefighting services if fire incidents occur and are beyond the extinguishing capabilities of the Constructor's equipment within the Construction Island;
- Monitor for Constructor's compliance against their Fire Protection Plan;
- Report non-compliances of Constructor's project plan to the Constructor's superintendent and demand corrective action.

5.5 Bruce Power Security Responsibilities

- Provide on-boarding and site access support for new workers to the Construction Island.
- Respond immediately to security threats.

6.0 SERVICES PROVIDED

The required services and boundary points for the purposes of construction and for the duration of the construction within the Construction Island and the responsible organizations are identified in the Plans and Procedures Interface Chart in Appendix D - Construction Island Checklist of this Construction Island Specification.

7.0 PROJECT CONTACT INFORMATION

Bruce Power Contract Supervisor:	Lynn Brown (519) 361-2673 x16550 Cell: 519-386-2942
Bruce Power Contract Manager:	Serge Goulet (519) 361-2673 x14223 Cell: 519-386-6585
Bruce Power Project Manager: (if different than Contract Manager)	
Bruce Power Emergency & Protective Services:	Center of Site: 13333
	Bruce A: 14444
	Bruce B: 15252
	For external lines: (519)-361-2673 then extension

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APPENDIX A: CONSTRUCTION ISLAND GENERAL LAYOUT



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Construction Island Layout Notes:

- The buildings above (803A, B, C) must remain operational and for the most part, under complete control on Bruce Power
- For any and all work required to be complete within 803A, B, and C, a construction island addenda will be complete, with required walk downs and signatures. These "roving" construction islands will be removed once work is completed, and operation returned to Bruce Power
- 600V, 100A service is available for contractor use at the construction island. A plug is outside of building 803B
- The red outlined SSTF facility has been demolished, within the red outline is currently a gravel lot. An older image was used to provide more detail of the area

APPENDIX B: ACCESSED LANDS WALK-DOWN

ACCESSED LANDS WALK-DOWN CERTIFICATE

Date: _____

The undersigned each hereby confirm on behalf of Bruce Power and Contractor (and not in their personal capacity), respectively, to the other that the walk-down contemplated pursuant to [Schedule A] of the "Agreement" entered into between Bruce Power and Constructor dated as of (date) ____ has been completed on (date) ____ (the "Walk-down Date") for those areas of the retained facilities identified as the accessed lands on the attached Schedule B: Drawing of Accessed Lands.

The undersigned hereby confirm that they have identified the terminal points and isolation points used to eliminate electrical and mechanical energy sources to the accessed lands and have verified in the presence of each other that the required isolations and de-energizations of the identified energy sources have been completed in a manner such that the energy sources cannot be re-established during the period of the Work. Furthermore, the undersigned hereby confirm that any electrical and mechanical systems that will or must remain energized and in service either within or in the immediate vicinity of the accessed lands have been identified and verified as not to be a system or component that was to have been isolated and de-energized.

For the purpose of supporting and as evidence of the walk-down attached to this Appendix B shall be a document, or documents as might be required, designated as Schedule B identifying (i) those systems and components which were isolated and de-energized; and (ii) those systems or components which will remain energized and in service either within or in the immediate vicinity of the accessed lands.

Having completed the walk-down, Bruce Power hereby provides the Constructor with, and the Constructor hereby accepts full care and control of the accessed lands specified in Schedule A of this Appendix B hereto for the express purpose of the Work effective as of ____ at ____ Hours. The care and control of the accessed lands shall remain with the Constructor and Bruce Power agrees that the Constructor may, at the Constructor's discretion, grant full care and control to its designated contractor until the closing walk down is completed, and Appendix C of the Construction Island Specification is executed by the Parties hereto which the Parties agree shall occur on or before the expiry date of this Accessed Lands Walk-down Certificate **(date)**.

CONTROLLING AUTHORITY BRUCE POWER L.P.	CONTRACT MANAGER BRUCE POWER	SITE SUPERINTENDENT CONSTRUCTOR
_____	_____	_____
Name: _____	Name: _____	Name: _____

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Appendix B (Continued)

Schedule A to Appendix B Walk-down Certificate Dated: ____

Drawing of Accessed Lands:

Schedule B to Appendix B Walk-down Certificate Dated: ____

Isolated & De-Energized Services and Services to Remain Operational and Energized Within or in the Vicinity of the Construction Island lands:

Attach a list identifying (i) those systems and components which were isolated and de-energized; and (ii) those systems or components which will remain energized and in service either within or in the immediate vicinity of the Construction Island lands as specified in Schedule A of this Appendix B of the Construction Island Specification.

(Prepared at the time of and in advance of the Walk-down of the Construction Island lands)

APPENDIX C: ACCESSED LANDS CLOSING WALK-DOWN

ACCESSED LANDS CLOSING WALK-DOWN CERTIFICATE

Date: _____

In connection with the Appendix B Walk-down Certificate dated _____, the undersigned each hereby confirm to the other that the closing walk-down contemplated pursuant to Schedule A of the Agreement entered into between Bruce Power and Constructor dated as of (date) _____ has been completed on (date) _____ (the "Closing Walk-Down Date") and the Parties confirm that the Work under the Agreement has been completed in accordance with the terms of the Agreement.

The execution of this Appendix C by the Parties confirms that the care and control of the accessed lands shall be returned to Bruce Power from Constructor as of the Closing Walk-Down Date.

CONTROLLING AUTHORITY BRUCE POWER L.P.	SITE SUPERINTENDENT CONSTRUCTOR
_____	_____
Name: _____	Name: _____
OPERATIONS MANAGER, PROPERTY MANAGEMENT BRUCE POWER L.P.	CONTRACT MANAGER BRUCE POWER L.P.
_____	_____
Name: _____	Name: _____

APPENDIX D: CONSTRUCTION ISLAND CHECKLIST

See PDF file 39673 FORM – 13931 CI Checklist

APPENDIX E: SAFETY BOARD DOCUMENTATION

The Constructor must post the following items on the project's site safety board:

1. WSIB poster 82C.
2. A copy of the Occupational Health and Safety Act and Regulations for Construction Projects.
3. Constructor's Health and Safety Policy.
4. Notice of Project.
5. Emergency Evacuation Plan.
6. MOL orders/field visits/notices of compliance.
7. Health and Safety Rep or JHSC Certified Member(s) for the project: name(s) and contact information.
8. Any applicable permits: i.e., hot work.

In addition, the Constructor must keep on site and make the following easily accessible:

1. First Aid kit and name of the First Aid attendant available (attendant must have a valid certificate).
2. WSIB First Aid Regulation 1101.
3. Form 1000 for all contractors on site.