

October 31, 2016

The Board of Commissioners of Public Utilities  
Prince Charles Building  
120 Torbay Road, P.O. Box 21040  
St. John's, NL A1A 5B2

**Attention: Ms. Cheryl Blundon**  
**Director Corporate Services & Board Secretary**

Dear Ms. Blundon:

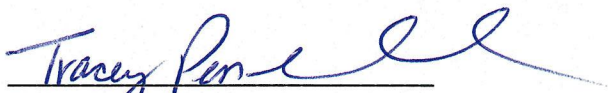
**Re: The Board's Investigation and Hearing into Supply Issues and Power Outages on the  
Island Interconnection System – Winter Readiness Planning Report**

Further to the Board's correspondence of October 13, 2016, please find enclosed the original plus 12 copies of Hydro's report entitled *A Report to the Board of Commissioners of Public Utilities Regarding 2016-17 Winter Readiness Planning - Update*.

Should you have any questions, please contact the undersigned.

Yours truly,

**NEWFOUNDLAND AND LABRADOR HYDRO**



Tracey L. Pennell  
Senior Counsel, Regulatory

TLP/bs

cc: Gerard Hayes – Newfoundland Power  
Paul Coxworthy – Stewart McKelvey Stirling Scales  
Sheryl Nisenbaum – Praxair Canada Inc.  
ecc: Roberta Frampton Benefiel – Grand Riverkeeper Labrador

Dennis Browne, Q.C. – Consumer Advocate  
Thomas O' Reilly, Q.C. – Cox & Palmer  
Danny Dumaresque

*Investigation and Hearing into Supply Issues and Power Outages on the  
Island Interconnected System*

**An Update to the Board of Commissioners of Public Utilities  
Regarding 2016-17 Winter Readiness Planning  
As of October 22, 2016**

October 30, 2016

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## **1.0 BACKGROUND AND INTRODUCTION**

On September 13, 2016, the Board of Commissioners of Public Utilities (the Board) requested that Hydro file a report outlining its Winter Readiness Planning for the 2016-2017 season (Annual Winter Readiness Report). Hydro's Annual Winter Readiness Report was filed with the Board on September 30, 2016 for 2016-2017. On October 13, 2016, the Board requested that Hydro update its Annual Winter Readiness Report on October 30 and November 30. This is the first update to Annual Winter Readiness Report (the October Update Report). All data in this report is as of October 22, 2016.

This October Update Report addresses the following items as requested by the Board:

1. The status of Annual Work Plan items, in the format previously provided to the Board, for Hydro's generating plants and transmission and terminal stations, including the completion date; outstanding items to complete; and any risks to completion or as a result of failure to complete;
2. A description and schedule for all outstanding 2016 capital projects for Hydro's generating plant and transmission and terminal stations, including progress on completion status to date and expected completion date;
3. The identification of all equipment and plant testing to be carried out in advance of the winter period (generation plant, emergency diesels, black start generators, fire systems, transmission system equipment), including progress on completion status to date;
4. The planned generation outage schedule for the period September to December 31, 2016, including an explanation for any planned outages extending beyond December 1, 2016;
5. An update of critical spares assessment and procurement;
6. The forecast loads and expected generation capacity and reserves (setting out the basis for calculation) for the upcoming winter, as of December 1, 2016, and including capacity assistance agreements in place or planned; and,

7. An identification of any risks that could impact the winter readiness of assets as of December 1, 2016 and associated contingency plans.

## **2.0 ANNUAL WORK PLAN STATUS**

Hydro's Annual Work Plan integrates all planned activities for the year related to the corrective maintenance, preventive maintenance, and capital project support that are critical to providing customers with safe, reliable electricity. Hydro regularly measures and tracks the progress of its Annual Work Plan execution in comparison with plan, down to the level of individual work plan items.

This October Update Report produces a consolidated summary of actual Annual Work Plan progress for the entire plan (first chart in each set) and the winter readiness sub-activities (second chart in each set), versus the plan, as of the week ending October 22, 2016 for each of the following areas of operations:

- 1) Holyrood Thermal Generating Station
  - a. Three generating units and Balance of Plant, including black start diesels.
- 2) Gas Turbines
  - a. Holyrood Combustion Turbine;
  - b. Hardwoods; and
  - c. Stephenville.
- 3) Hydraulic Generation
  - a. Bay d'Espoir;
  - b. Cat Arm;
  - c. Hind's Lake;
  - d. Paradise River;
  - e. Upper Salmon; and
  - f. Granite Canal.
- 4) Transmission and Terminal Stations
  - a. Transmission; and

b. Terminal Stations.

Each chart includes the completed and remaining Annual Work Plan and winter readiness activities, as well as a progress bar indicating the planned task completion target to date. A text box to the right of each winter readiness chart below indicates Hydro's forecasted completion status as of October 22, 2016 in relation to the Annual Work Plan winter readiness activities using the Red/Yellow/Green coding:

- Green: completion remains on target, or mitigation plans are in place to ensure successful completion
- Yellow: caution – successful completion is off target, and additional recovery planning and mitigation actions are required
- Red: target will not be fully met

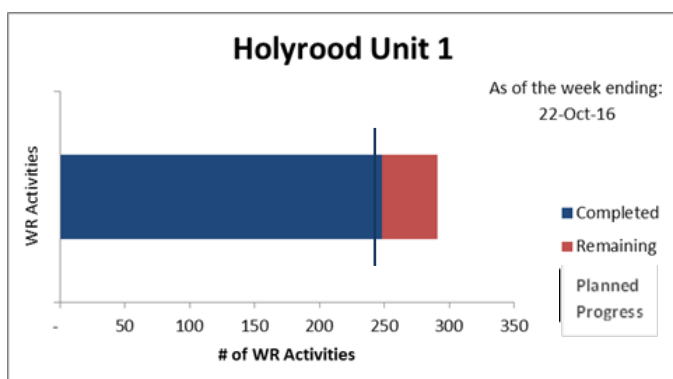
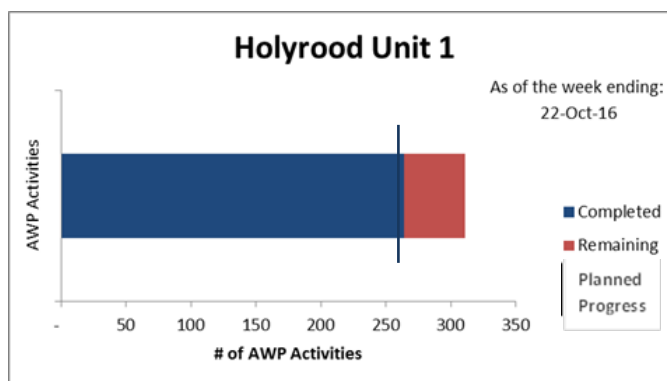
Relevant highlights are also provided.

## **2.1 Holyrood Thermal Generating Station**

The status of the Annual Work Plan and winter readiness work at Holyrood is summarized in the charts below<sup>1</sup>. As noted, all planned 2016 winter readiness work is expected to be complete by December 1, 2016.

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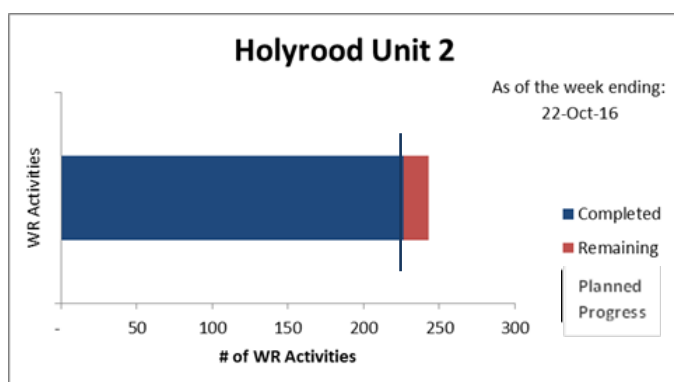
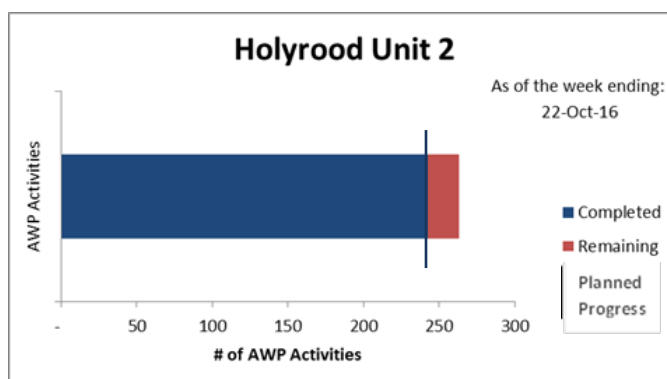
<sup>1</sup> Annual Work Plan and Winter Readiness noted as AWP and WR, respectively, in the following charts



**Forecast Completion Status: (R/Y/G):** Green

**Comments (e.g. ahead, behind, recovery plan):**

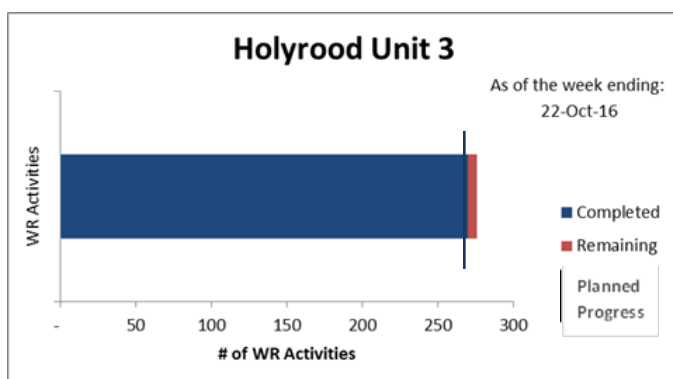
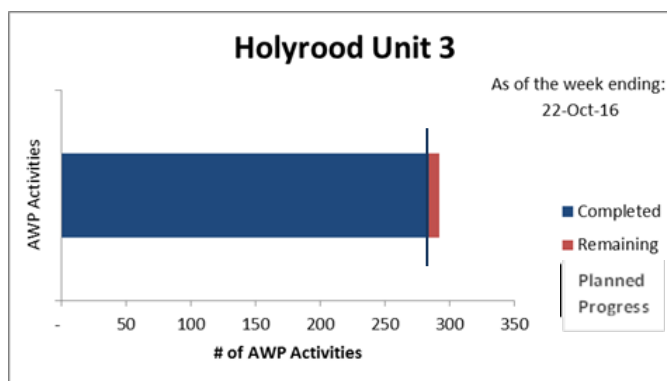
- Overall AWP completion is 85% to date
- Annual maintenance outage has a completion date of November 1, and covers many of the outstanding activities
- Planned Winter Readiness work on schedule for successful completion by December 1, 2016



**Forecast Completion Status: (R/Y/G):** Green

**Comments (e.g. ahead, behind, recovery plan):**

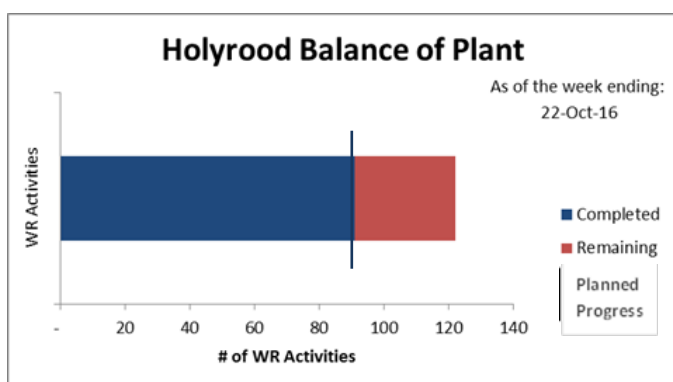
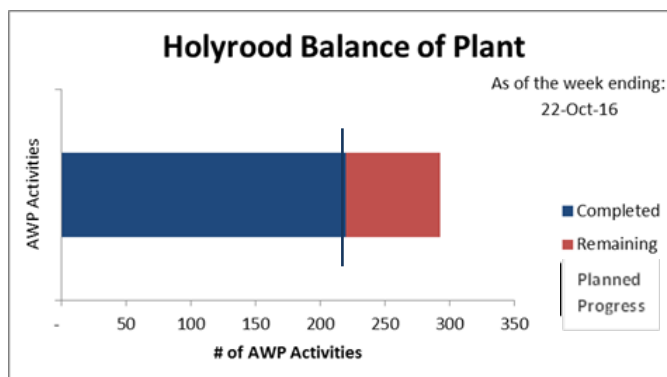
- Overall AWP completion is 92% to date
- Annual maintenance outage is complete.
- Remaining items are related to online Preventative Maintenance program executed in Q4
- Planned Winter Readiness work on schedule for successful completion by December 1, 2016



**Forecast Completion Status: (R/Y/G):** Green

**Comments (e.g. ahead, behind, recovery plan):**

- Overall AWP completion is 97% to date
- Annual maintenance outage is complete
- Remaining items are related to online Preventative Maintenance program executed in Q4.
- Planned Winter Readiness work on schedule for successful completion by December 1, 2016



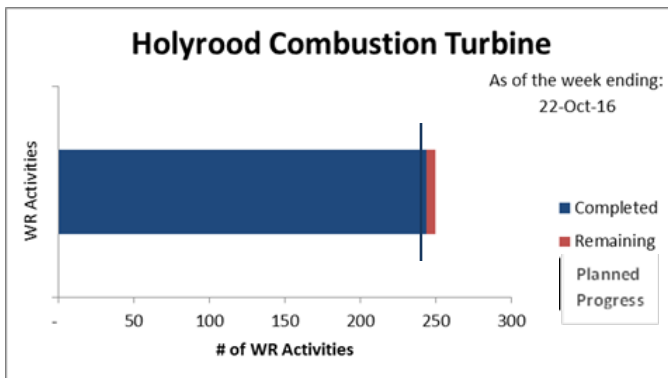
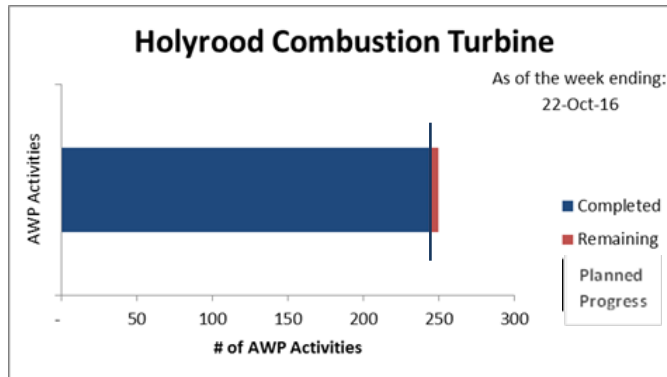
**Forecast Completion Status: (R/Y/G):** Green

**Comments (e.g. ahead, behind, recovery plan):**

- Overall AWP program completion is 75% to date
- Remaining items are related to online Preventative Maintenance program executed in Q4
- Planned Winter Readiness work on schedule for successful completion by December 1, 2016

## 2.2 Gas Turbines

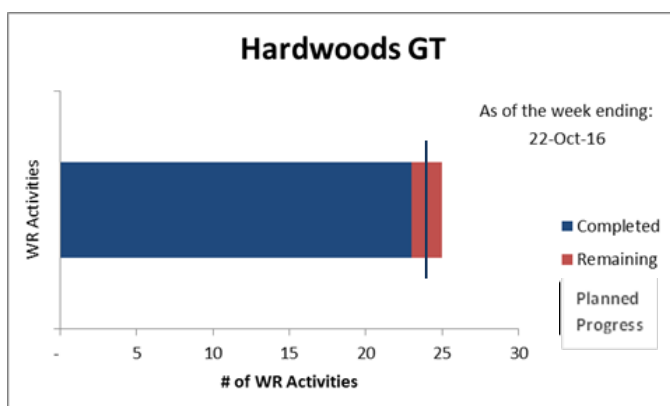
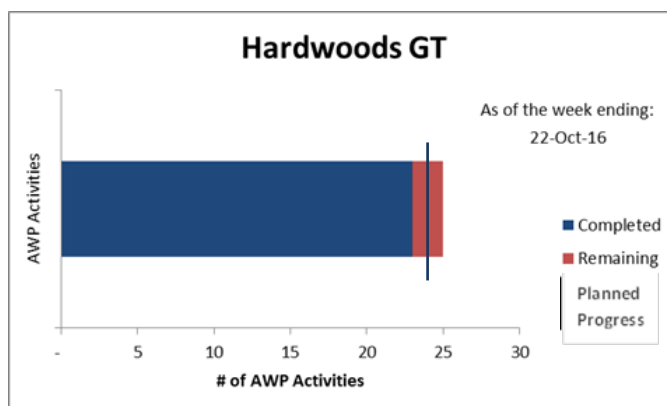
The current status of the Annual Work Plan and winter readiness execution at the Holyrood Combustion Turbine, and the Hardwoods and Stephenville gas turbines is summarized in the charts below. As noted, all planned 2016 work is expected to be complete by December 1, 2016. In the case of Stephenville and Hardwoods, all Annual Work Plan work is winter readiness work.



**Forecast Completion Status:** (R/Y/G): **Green**

**Comments (e.g. ahead, behind, recovery plan):**

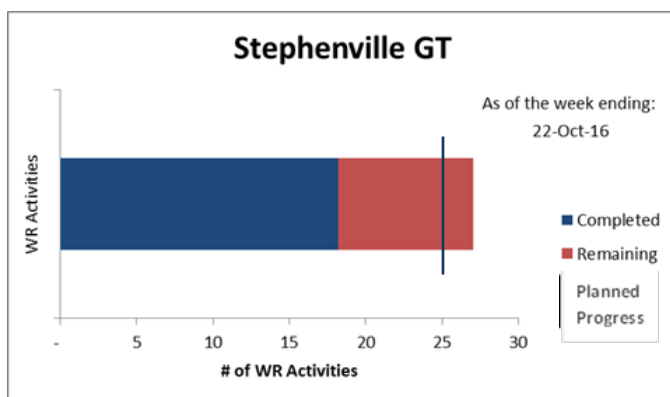
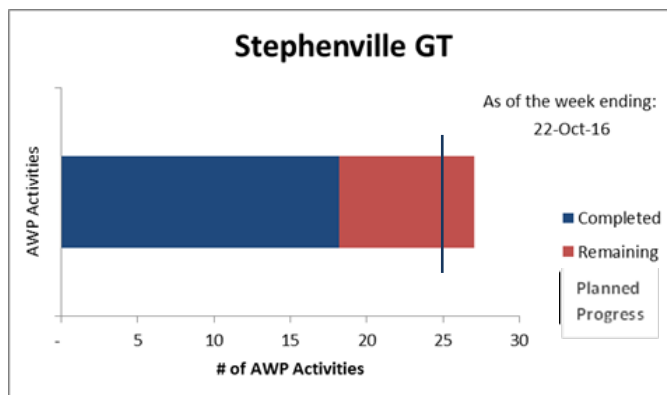
- Overall AWP completion is 98% to date
- Planned capital work (combustor major overhaul) is scheduled to be completed in November
- Planned Winter Readiness work on schedule for successful completion by December 1, 2016



**Forecast Completion Status:** (R/Y/G): **Green**

**Comments (e.g. ahead, behind, recovery plan):**

- Overall AWP completion is 92% to date
- Planned capital work is scheduled to be completed (including installation of the refurbished engine) in November. Refer to Section 8
- Slightly behind schedule; however, mitigation plan in place and remaining winter readiness work is still expected to be completed for December 1, 2016



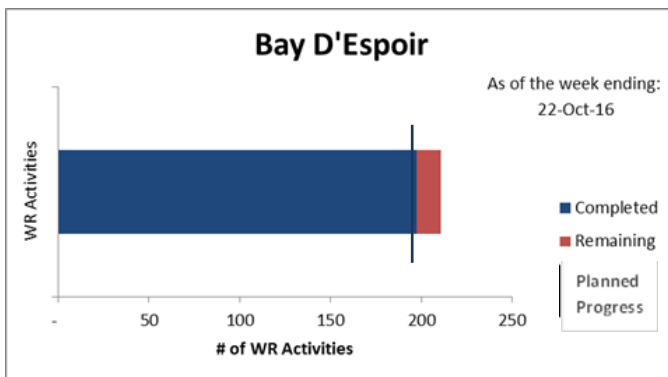
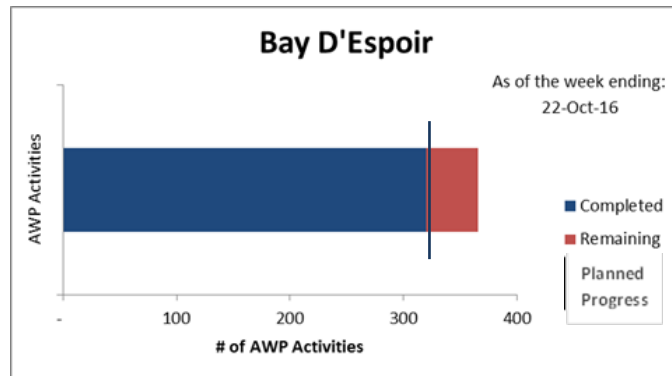
**Forecast Completion Status** (R/Y/G): **Green**

**Comments (e.g. ahead, behind, recovery plan):**

- Overall AWP completion is 67% to date
- AWP activities behind plan would have been completed; however, they are now linked with major capital work (install refurbished engine) scheduled for completion in November. Refer to Section 8
- Activities behind schedule; however, mitigation plan in place and remaining winter readiness work is still expected to be completed for December 1, 2016

## 2.3 Hydraulic Units

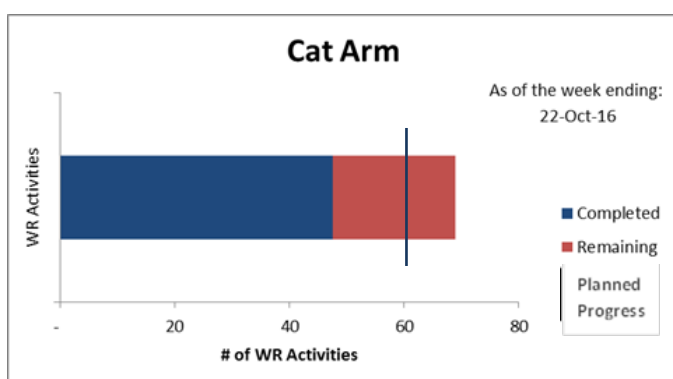
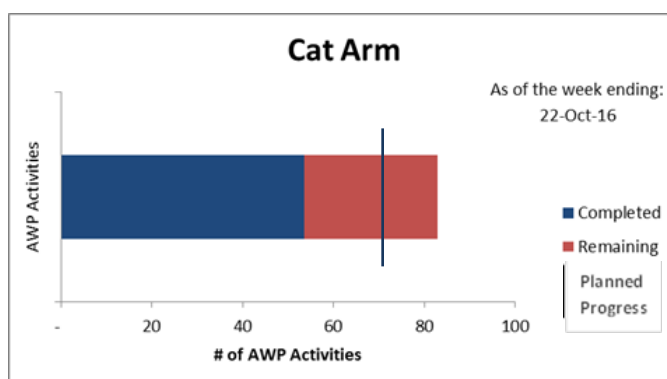
The current status of the Annual Work Plan and winter readiness execution at Bay d'Espoir and other hydraulic generation facilities is summarized in the charts below. Given recent system events (damage from Hurricane Matthew and Bay d'Espoir Penstock 1 weld failure, both of which are discussed further in Section 8) Annual Work Plan execution timing has been reviewed and modified this fall to ensure that critical work activities are still completed as required. As noted, all planned winter readiness activities are expected to be complete by December 1, 2016.



**Forecast Completion Status (R/Y/G):** Green

**Comments (e.g. ahead, behind, recovery plan):**

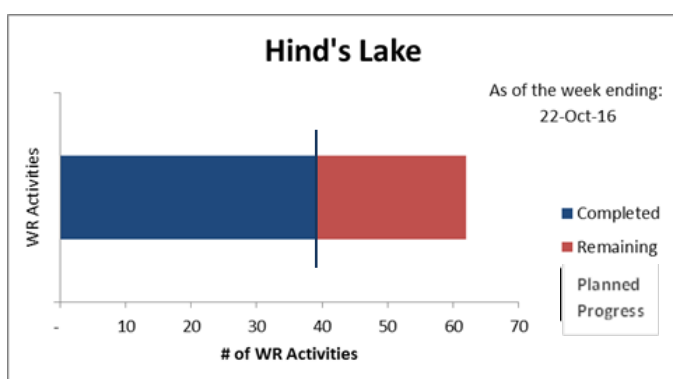
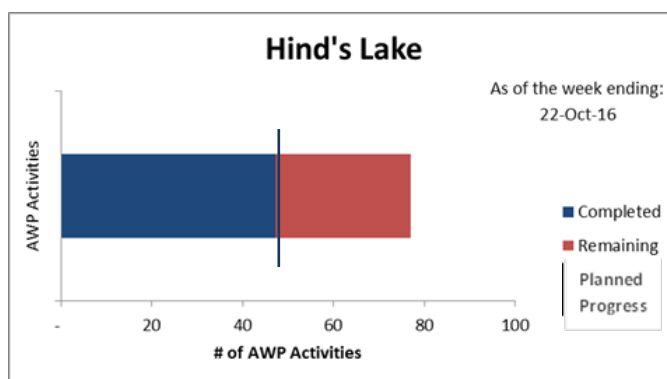
- Overall AWP completion status, including work in progress, is 87%
- All seven planned unit outages are complete
- Remaining Winter Readiness work is on schedule for successful completion by December 1, 2016.



**Forecast Completion Status (R/Y/G):** Green

**Comments (e.g. ahead, behind, recovery plan):**

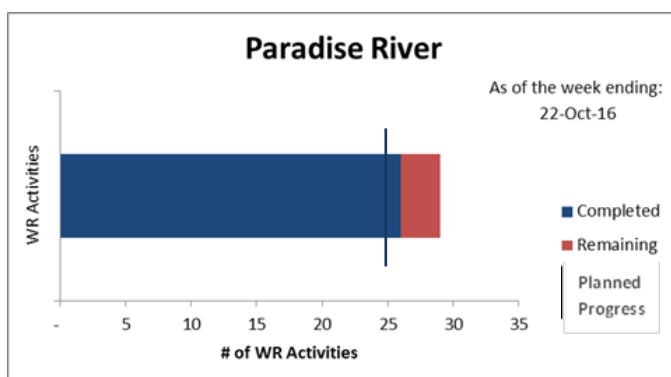
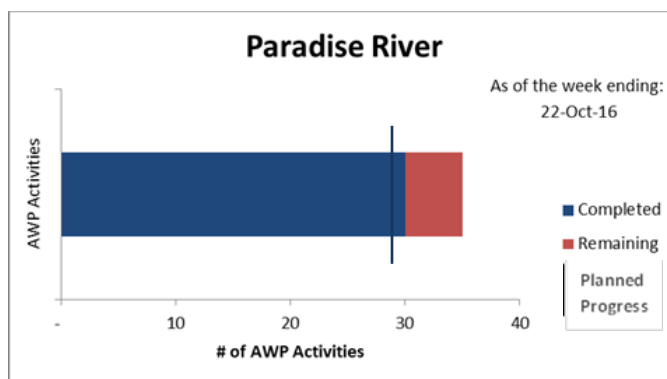
- Overall AWP completion status, including work in progress, is 65%
- Due to system events with the leak in BDE Penstock 1 and damage from Hurricane Matthew, the Cat Arm outages were modified. Refer to Section 8.
- Activities behind schedule; however, mitigation plan in place and remaining winter readiness work is still expected to be completed for December 1, 2016



**Forecast Completion Status (R/Y/G):** Green

**Comments (e.g. ahead, behind, recovery plan):**

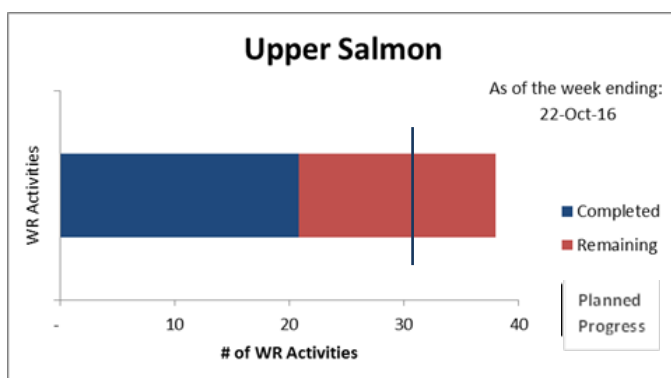
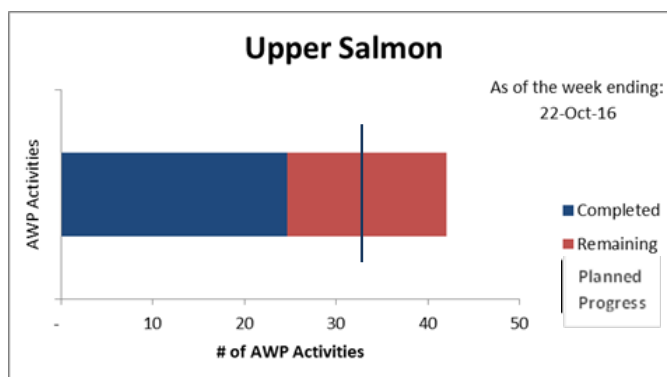
- Overall AWP completion status, including work in progress, is 61%
- Unit outage is scheduled for Oct 31 to Nov 11
- Remaining Winter Readiness work is on schedule for successful completion by December 1, 2016.



**Forecast Completion Status (R/Y/G):** Green

**Comments (e.g. ahead, behind, recovery plan):**

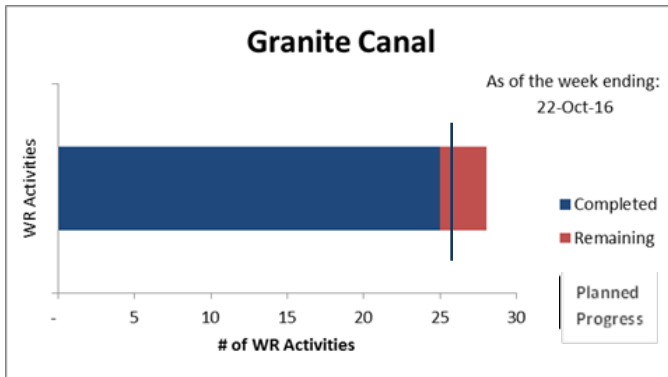
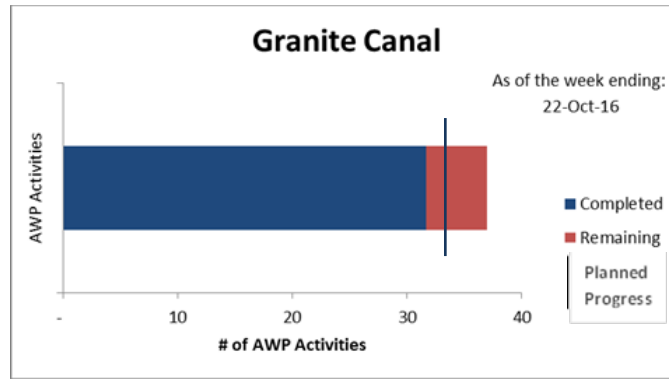
- Overall AWP completion status, including work in progress, is 86%
- Unit outage is complete.
- Remaining Winter Readiness work is on schedule for successful completion by December 1, 2016.



**Forecast Completion Status (R/Y/G):** Green

**Comments (e.g. ahead, behind, recovery plan):**

- Overall AWP completion status, including work in progress, is 60%
- Unit outage postponed due to road washout from Hurricane Matthew. Shorter outages required to complete winter readiness activities scheduled for mid-November once access is restored. Refer to section 8
- Activities behind schedule; however, mitigation plan in place and remaining winter readiness work is still expected to be completed for December 1, 2016



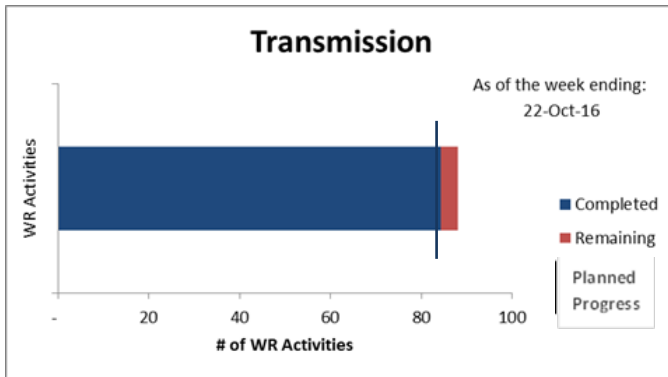
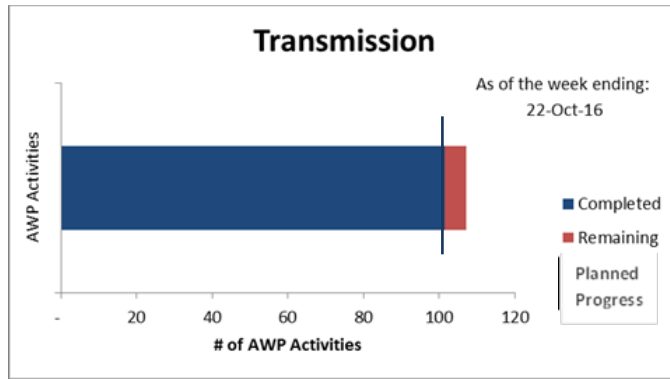
**Forecast Completion Status (R/Y/G):** Green

**Comments (e.g. ahead, behind, recovery plan):**

- Overall AWP completion status, including work in progress, is 86%
- Unit outage is complete
- Slightly behind schedule; however, mitigation plan in place and remaining winter readiness work is still expected to be completed for December 1, 2016

## 1 2.4 Transmission and Terminal Stations

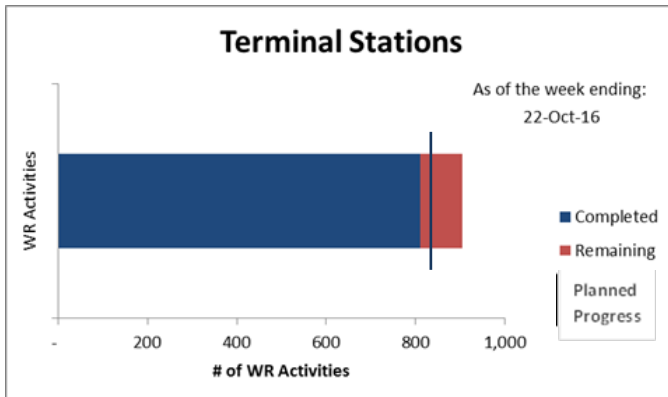
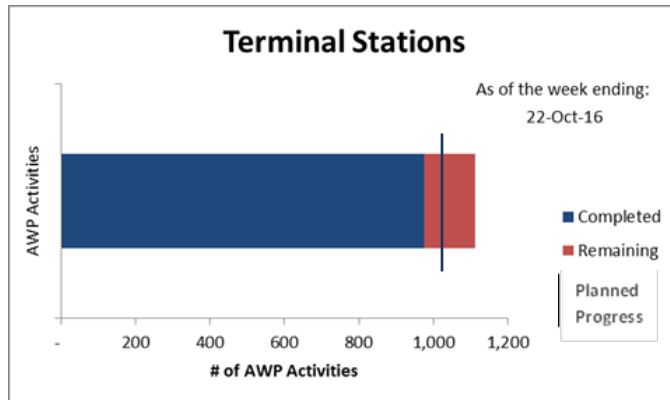
- 2 The current status of the Annual Work Plan and winter readiness execution for both
- 3 transmission line and terminal station facilities on the Island Interconnected System (IIS)
- 4 (Northern, West and East regions) is summarized in the charts below. As noted, it is expected
- 5 that all planned 2016 winter readiness activities will be complete by December 1, 2016.



**Forecast Completion Status (R/Y/G):** Green

**Comments (e.g. ahead, behind, recovery plan):**

- Overall AWP completion status is 94%
- Continue work on Wood Pole Line Management Program, which is tracking to plan
- Planned Winter Readiness work on schedule for successful completion by December 1, 2016



**Forecast Completion Status (R/Y/G):** Green

**Comments (e.g. ahead, behind, recovery plan):**

- Overall AWP completion status is 88%
- Main focus on relay maintenance, recloser maintenance, and breakers operations
- Activities behind schedule; however, mitigation plan in place and remaining winter readiness work is still expected to be completed for December 1, 2016

### 3.0 STATUS OF WINTER READINESS CAPITAL PROJECTS

Appendix A of this October Update Report identifies the 2016 capital projects that include scope related to 2016-17 winter readiness, and indicates status of each. Table 3.1 below summarizes the status of the winter readiness components of these projects by asset category. Two additional winter readiness projects commenced in October: (1) the Refurbishment of Bay d'Espoir Penstock 1; and (2) the Refurbishment of Access Roads for Bay d'Espoir. Both of these projects are summarized in notifications to the Public Utilities Board on October 14, 2016 (Appendix H and Appendix I).

TABLE 3.1 2016 Capital Projects with Winter Readiness Scope				
Asset Category	Complete	Outstanding	Deferred <sup>2</sup>	Total
Thermal Generation	10	1	0	11
Hydraulic Generation	6	3	1 <sup>3</sup>	10
Gas Turbine Generation	2	2	0	4
Transmission	2	0	0	2
Terminal Stations	4	4	3 <sup>4</sup>	11
Various (Critical Spares)	0	1	0	1
<b>TOTAL</b>	<b>24</b>	<b>11</b>	<b>4<sup>1&amp;2</sup></b>	<b>39</b>

Since the filing of its Annual Winter Readiness Report on September 30, 2016, an additional 9 winter readiness projects are complete and in service, for a total of 24 of the 39 capital projects.

Under the Hydraulic Generation Asset Category, the winter readiness work for the Station Service Breaker Replacement Project for Cat Arm Generating Station has been rescheduled to

<sup>2</sup> Only small work scopes of the four projects noted are deferred and not the entire project. Refer to relevant notes indicated for each project.

<sup>3</sup> Reference note 16 in Appendix A.

<sup>4</sup> Reference Section 8 and notes 9A, 11A and 13A in Appendix A. Note that only small work scopes are carried over.

2017. The work that is being deferred is the upgrade of the programmable logic controller (PLC) for the station service breaker. The primary scope of this project was the replacement of the breaker which was completed in 2015. The PLC upgrade was scheduled for 2016 during the planned outage to Cat Arm Units 1 and 2. That planned outage was compressed as a result of the need for emergency refurbishment of Penstock 1 in Bay d'Espoir starting in the fall of 2016 and because there is a maximum amount of generation that can be removed from service on the Island Interconnected System at any one time. The risk of completing this project in a compressed 2016 outage was weighed against the risk of carrying the project over to 2017 and it was determined that moving the project to 2017 was the least risk from a winter readiness perspective. The risk of failure through the winter with the existing PLC is low as the plant operation is typically steady state through the winter period. In the unlikely event of failure, the new PLC is ready for installation or the breaker can be operated in manual mode.

The remaining winter readiness work for the outstanding projects is generally tracking against plan. There are some elements of work in the Terminal Station Asset Category that have been deferred to 2017. These are mostly a result of unforeseen events including damage from Hurricane Matthew, vandalism at three terminal stations and the unavailability of Bay d'Espoir Units 1 and 2 due to the requirement to refurbish the penstock. The deferred work includes transformer refurbishments at 2 of 8 terminal stations; 1 of 10 breaker refurbishments; and 3 of 35 instrument transformer replacements. While this work has been deferred, Hydro does not anticipate that this will impact reliability of the Island Interconnected System for the winter 2016-2017. Details regarding the cause of the deferrals, as well the risk and mitigation through the winter are provided in the Notes accompanying the table in Appendix A.

Overall, Hydro's capital program in 2016 is on track for a high completion rate of the winter readiness work contained within the projects. Hydro continues to closely coordinate its overall work plan and manage associated risks as we enter the final month prior to our winter readiness target of December 1.

## **4.0 PLANT AND EQUIPMENT TESTING**

In its thermal and hydraulic generation facilities, Hydro follows a structured checklist for planning and documenting its testing and inspection of plant and equipment from a winter readiness perspective.

In its transmission, terminal station and gas turbine operations, Hydro relies on its Annual Work Plan process to plan and track its winter readiness testing and inspection of these assets. The AWP's in these areas include planned preventative maintenance (PM) activities, as well as corrective maintenance (CM) items, both of which involve inspection and testing. Planned PMs, CMs, and any other activities pertaining to winter readiness are flagged inside the respective Annual Work Plans, and are therefore tracked separately to ensure prioritization and completion.

### **4.1 Thermal Generation**

Winter readiness testing of generating equipment in Thermal generation is focused primarily around annual unit maintenance outages. Following annual outages, units are run up, synchronized, and all systems are verified before operating status is determined and preparedness is confirmed. Unit load tests are performed at this time as well.

The winter readiness testing protocol includes the testing of appropriate Balance of Plant components, as well as the black start diesels and confirming their ability to black start the Holyrood Plant.

The current status of equipment/plant testing for Thermal Generation is indicated in Appendix B of this Report. Consistent with the generation outage schedule shown in Appendix D, it is expected that all winter readiness testing will be completed by December 1, 2016.

**4.2 Hydraulic Generation**

Winter readiness testing of generating equipment and balance of plant in Hydraulic Generation is completed using the same process as for Thermal Generation as described in section 4.1 above.

The current status of equipment/plant testing for Hydraulic Generation is indicated in Appendix C of this report. Consistent with the generation outage schedule shown in Appendix D, it is expected that all winter readiness testing will be completed by December 1, 2016.

**4.3 Transmission and Terminal Stations**

As noted above, the Annual Work Plans for both Transmission and Terminal Stations are predominantly comprised of PMs and CMs, which involve inspection and testing. Examples of winter readiness activities that are included in the Annual Work Plan work scopes include the following:

- a) Transformer PMs and CMs;
- b) Annual exercises on all high voltage circuit breakers;
- c) Exercise of 230 kV circuit breakers from protection during PM inspections;
- d) Infrared scans at all terminal stations;
- e) Annual ultrasonic leak testing on all terminal station air systems; and
- f) Annual helicopter patrol of transmission lines prior to the winter season.

Annual Work Plan charts which include winter readiness activities are shown in section 2.4 of this report, and it is expected that all activities will be completed by December 1, 2016.

**4.4 Gas Turbines – Holyrood, Hardwoods and Stephenville**

Examples of winter readiness testing activities that are included in the Annual Work Plan work scopes and maintenance plans for the Hardwoods, Stephenville and Holyrood gas turbines include the following:

- a) PMs and CMs for major components and auxiliary systems;

- b) Black start testing;
- c) Monthly operational testing; and
- d) Execution of capital upgrades and refurbishment.

Annual Work Plan charts which include winter readiness activities are shown in section 2.2 of this report, and it is expected that all activities will be completed by December 1, 2016.

## **5.0 GENERATION OUTAGE SCHEDULE**

Hydro's 2016 Master Generation Outage Schedule for the period October 23 to December 31, 2016 is attached to this Report as Appendix D. This Schedule does not currently contemplate any planned generation outages beyond November 30, 2016, and it is expected that all generation assets will be fully available as of December 1, 2016. Holyrood Unit 3 was previously derated to 135 MW when it returned to operation after completion of the planned 2016 annual maintenance outage; however, additional condition assessment work completed in September and October resulted in the restoration of full load capacity of 150 MW for this unit. The Stephenville and Hardwoods Gas Turbines will also be restored to their full rated capacity of 50 MW following their annual maintenance.

Since the September 30, 2016 report, variations to the Schedule have occurred because of damage due to Hurricane Matthew and the weld failures in Bay d'Espoir Penstock 1, including:

1. Upper Salmon extended three week outage, scheduled for October 16 to November 5, has been removed due to access road damage caused by Hurricane Matthew, causing some low priority capital work to be deferred to 2017 (refer to Section 3). Maintenance work will be completed under daily outages once access is restored.
2. Hinds Lake outage, originally planned for November 6 to 26 has been accelerated to October 30 to November 12 given that Upper Salmon outage was cancelled due to Hurricane Matthew, but had to be reduced to two weeks because of the weld

1 issue in Bay d’Espoir Penstock 1, thus having an impact on the capital program  
2 (refer to Section 3).

- 3 3. Cat Arm 1 outage, originally scheduled for completion October 14 was delayed by  
4 the weld failure of Bay d’Espoir Penstock 1, but with the events of Hurricane  
5 Matthew affecting Upper Salmon this outage was returned to the schedule and  
6 completed on October 25 (refer to Section 3).
- 7 4. Cat Arm 2, originally scheduled for October 9 to 22 was shortened to October 16 to  
8 22 because of the events of Hurricane Matthew and Bay d’Espoir Penstock 1 (refer  
9 to Section 3).
- 10 5. The Star Lake outage, managed by Hydro, was delayed from November 6 to 19 to  
11 November 13 to 25 also because of road damage due to Hurricane Matthew. Work  
12 continues to gain access to the facility.

## 14 **6.0 CRITICAL SPARES**

15 Hydro’s critical spares status leading into the 2016-17 winter season is very strong. For the  
16 Thermal Generation (Appendix E), Hardwoods and Stephenville Gas Turbines (Appendix F),  
17 and Hydro Generation (Appendix G), 98.6% of items are in stock and the remaining 17 items  
18 are on order (1.4%) with expected delivery by December 1, 2016.

19  
20 The spares list for the Holyrood CT is detailed in Appendix F and includes both operational and  
21 critical spares. Greater than 50% of these spares are in stock, including the high priority items.  
22 Of the remainder, 37 are on order, and 134 are in the procurement process awaiting quotes  
23 from vendors. It is anticipated that the majority of the critical items will be on order by the  
24 end of October, with a significant portion delivered by December 1.

25  
26 Spares for 11 critical components for Island Interconnected generation stations were  
27 identified as capital spares in 2015, and approved in Board Order P.U. 24(2015). Ten of these  
28 spares were received after last year’s December 1, 2015 Winter Readiness Report. As noted  
29 in the 2015 Winter Readiness Report, the high voltage bushings for Unit 3 had a longer lead

time and would not be available until late 2016. These bushings are scheduled for delivery by December 15, 2016. Refer to comment 14A in Appendix A – Status of 2016 Capital Projects Related to Winter Readiness.

Hydro's 2015-16 critical spares plan for Holyrood included the procurement of rectifying transformers for Unit 1 and Unit 2. Due to reliability concerns with the existing transformers, replacement transformers were purchased under a supplemental capital application approved in September 2015 (Board Order P.U. 27(2015)) to be available as critical spares for the 2015-2016 operating season, and, as detailed in the supplemental application, to be installed during the annual 2016 outage for Holyrood Units 1 and 2. The installation work has now been completed on both units as planned.

## **7.0 FORECASTED LOADS, CAPACITY AND RESERVES**

Table 7.1 below has been updated to reflect Hydro's most recent forecasts of customer loads and system power requirements for the 2016-17 winter season. The forecast used as the basis for Hydro's September 30, 2016 Winter Readiness report is included for comparison. The updated forecast is essentially the same as the previous forecast with a nominal 2 MW increase in peak load due to a modest revision in customer demand forecast, resulting in a 2 MW decrease in capacity reserves (MW) over the September 30, 2016 report. The calculated percent reserve margin remains at 17%.

The Capacity at Peak, 2,009 MW, in Table 7.1 includes the most recent information for system gross continuous unit ratings, as provided by Hydro's System Operations department. The current ratings for Holyrood Units 1 and 2 are 170 MW, and Holyrood Unit 3 is 150 MW. The Capacity at Peak of 1,994 MW indicated in the September 30, 2016 report included a rating of 135 MW for Holyrood Unit 3. Further analysis completed in October confirmed that Unit 3 could now be operated at its full rating of 150 MW, as discussed in Section 8. Note that the Capacity at Peak includes 10.8 MW of capacity assistance provided by Vale.

Hydro's capacity and reserve forecasts continue to include 90 MW of capacity assistance, achieved via additional generation and load curtailment under the capacity assistance agreements Hydro currently has in place. This is assumed to be available through the 2016-17 winter season.

Table 7.1 indicates Hydro's forecasts for the 2016-17 winter season.

TABLE 7.1 Forecasts of Peak Load, Capacity and Reserves – 2016-17					
		Sept 30 Report		Oct 30 Update <sup>5</sup>	
A	IIS Peak Load – P90	1,801 MW		1,803 MW	
B	Subtract: Curtailable Load (-90 MW)	1,711 MW		1,713 MW	
C	Capacity at Peak	1,994 MW		2,009 MW	
	Reserves (C-B)	283 MW	17%	296 MW	17%

Additionally, as detailed in the Energy Supply Risk Assessment report filed with the Board on May 27, 2016 Hydro has identified that securing 15 MW of incremental curtailable load on the Avalon Peninsula would be beneficial in advance of the in-service of TL267. Hydro continues to pursue commercial discussions to obtain this commitment. Table 7.2 indicates Hydro's forecasts for the 2016-17 winter season with an incremental 15 MW of curtailable load.

<sup>5</sup> The Exploits facilities are not specifically discussed in this report but Hydro would like to advise that there are two projects ongoing within Exploits Generation that may affect reserves at the beginning of the Winter period. At Bishop's Falls, the operating floor of the plant was partially flooded during Hurricane Matthew. Hydro is now working aggressively with a contractor to get as many units back on line as possible in advance of December 1. Additionally, Unit 4 at Grand Falls is undergoing a major refurbishment and runner replacement. This work is now not expected to be complete until later in December. Both projects are being managed to bring them online as soon as possible, but if Unit 4 is not available and not all units are back in service by at Bishop's Falls by December 1, the expected reduction in reserves would be about 13 MW. This is not yet reflected in the tables above. As the return to service for all these units is better understood through November, if the risk of reserve reduction is still present, Hydro will reflect this impact in the next Winter Readiness report and notify the Board. It is expected that the full 63 MW Hydro considers in its reserves from Exploits will be fully available at year end 2016.

TABLE 7.2 Forecasts of Peak Load, Capacity and Reserves – 2016-17					
		Sept 30 Report		Oct 30 Update	
A	IIS Peak Load – P90	1,801 MW		1,803 MW	
B	Subtract: Curtailable Load (-105 MW)	1,696 MW		1,698 MW	
C	Capacity at Peak	1,994 MW		2,009 MW	
	Reserves (C-B)	298 MW	18%	311 MW	18%

## 8.0 RISKS AND RISK MITIGATION

In the last couple of months, three significant events resulted in projects being added to Hydro's 2016 Capital and maintenance programs. These include: 1) Bay d'Espoir Penstock 1 weld failures, 2) Hurricane Matthew impacts, and 3) station grounding vandalism. Hydro modified the execution of its programs to address these events, as detailed below, in order to mitigate the level of risk exposure.

### 8.1 Capital Work

Upon review of the Annual Work Plan, four 2016 capital projects were affected by the above noted events to a point where a small components of the project work has to be carried over to 2017. In all cases, risk assessment and appropriate mitigation has been carried out to minimize impact, and Hydro is not anticipating any operational issues during the 2016/2017 winter season related to delay in completion of these components. The details can be found in notes 9A, 11A, 13A and 16 in Appendix A. Although the timing of execution of the capital projects has been modified to take into account the above noted significant events, no other schedule delays beyond the December 1, 2016 winter readiness date are foreseen at this time. The risk of additional project delays caused by factors such as: the need for additional outage extensions; availability of resources for final commissioning; weather conditions; or other risks could affect project completion as Hydro enters the final month for winter readiness work. Potential schedule risks are mitigated through a daily monitoring of critical capital project progress which enables the early identification of risks and the development of

1 appropriate mitigation or recovery plans. Ongoing PM and CM programs are regularly  
2 monitored as well to ensure that any delays in the execution of this work will not have an  
3 impact on capital project commissioning and completion.

## 4 5 **8.2 Gas Turbine Refurbishments**

6 Failure at the Hardwoods and Stephenville gas turbine facilities in the winter of 2016 resulted  
7 in damage to one of the two Hardwoods gas turbine engines and one of the two Stephenville  
8 gas turbine engines. This necessitated an overhaul of these engines. Refurbishment work is  
9 currently in progress; however, delay at the out of province test facility has consumed much  
10 of the available float in the schedule for both Stephenville and Hardwoods. Although this work  
11 continues with in-service delays of only one day for Stephenville and two days for Hardwoods,  
12 there is a risk that the required work may not be completed by December 1 due to the  
13 challenge of obtaining an outage to install the units. While the overhaul work is expected to  
14 be completed in time for installation of the Hardwoods engine prior to December 1, system  
15 conditions will necessarily dictate the actual installation schedule. This will be mitigated by  
16 Hydro maintaining its existing 19 MW leased engine at the Hardwoods site until the  
17 overhauled engine can be installed and the plant returned to full capacity.

## 18 19 **8.3 Bay d'Espoir Penstock 1 Refurbishment**

20 Bay d'Espoir Penstock 1 serving Units 1 and 2 experienced two longitudinal weld failures, the  
21 first in May, 2016 and the second in September, 2016. Detailed condition assessment on the  
22 penstock has identified the requirement to refurbish 700 m of penstock weld, including  
23 grinding out the affected weld material, testing of the ground out area, and re-welding the  
24 affected areas, followed by a final weld inspection. Hydro has initiated a major refurbishment  
25 program that will be carried out until late November to replace these affected welds. Given  
26 that Bay d'Espoir units 1 and 2 are unavailable during this time, a significant refocusing of the  
27 execution of the Annual Work Plan has been initiated to ensure that the Annual Work Plan  
28 activities can be completed. This refocusing effort has affected the work activities required for  
29 the Cat Arm, Hinds Lake and Upper Salmon facilities. The planned outage in Cat Arm Unit 2

1 had to be reduced, and therefore some non-critical winter readiness work items were not  
2 completed as planned. These items do not require an outage, and will be completed in  
3 November. The Hinds Lake outage has been shortened to accommodate the system  
4 constraints, and therefore some non-critical capital work has been deferred as noted above;  
5 however, planned required maintenance activities are still on schedule and Hinds Lake  
6 reliability through the winter is not expected to be impacted by the deferral of this work.  
7 Because of the Penstock 1 refurbishment program had initially moved the work at Upper  
8 Salmon ahead in the schedule to accommodate the modified execution plan, damage from  
9 Hurricane Matthew cut off access to the plant, as discussed below, further modifying the plan.

#### 11 **8.4 Damage Caused by Hurricane Matthew**

12 On October 11, Hurricane Matthew tracked over the south coast of Newfoundland, depositing  
13 a significant rainfall exceeding 200 mm, and causing extensive damage to 24 river and stream  
14 crossings in the Bay d’Espoir and Upper Salmon access road system. Although the original  
15 response to the Penstock 1 refurbishment program was to accelerate the capital and  
16 maintenance work at Upper Salmon, damage from Hurricane Matthew cut off access to the  
17 facility, and the planned capital work, as detailed above, had to be deferred to 2017. These  
18 deferred activities will not affect the winter readiness of this facility. The maintenance  
19 activities that are required to be completed under outage are being planned for mid-  
20 November under shorter outages, but will be completed as required for December 1, 2016.

#### 22 **8.5 Holyrood Unit 3 Load Rating**

23 In 2016, Hydro completed a study of the reliability of the Holyrood boilers based on the  
24 condition of the boiler tubes. A boiler industry consultant, AMEC Foster Wheeler (AMEC FW),  
25 was hired to review the existing boiler tube thickness data and provide recommendations. As  
26 a result of this study, AMEC FW found no reason to limit the load on Unit 1 or Unit 2, but  
27 recommended a 10% reduction in operating pressure (and consequently load) on the Unit 3  
28 boiler. Hydro implemented this recommendation to reduce the maximum load from 150 MW  
29 to 135 MW early in the 2016-2017 operating season. Additional boiler tube inspections were

1 completed on Unit 3 during September of 2016 to verify the previous concerns and to provide  
2 additional information for possible tube replacements. Based on the analysis of the most  
3 recent inspection results, AMEC FW has lifted the previous recommendation for a load  
4 reduction during the 2016-2017 operating season, restoring the full generation capacity of  
5 150 MW for Holyrood Unit 3. Additional inspection will be completed during the 2017 annual  
6 Unit 3 outage, and any required actions resulting from that inspection will be completed.

## 8 **9.0 CONCLUSION**

9 The results of Hydro's current review of the year-to-date completion status of its annual work  
10 plan for its island interconnected system assets indicate that there have been adjustments  
11 made to accommodate events outside the company's control; however, remaining winter  
12 readiness work is on track for December 1, 2016, with some necessary capital carry-over to  
13 2017 due to the recent significant events. Any adjustments in schedule and carry-over items  
14 are well understood and low risk. Hydro will continue to track required winter readiness  
15 activities and will keep the Board informed on any risk to planned completion.

## **APPENDIX A**

### Status of 2016 Capital Projects Related to Winter Readiness

HYDRO ISLAND INTERCONNECTED SYSTEM - CAPITAL WINTER READINESS PROJECTS - STATUS

Asset Category	Project Description	Expected In Service Date (for 2016 Winter Readiness Scope) September 30 Update	Expected In Service Date (for 2016 Winter Readiness Scope) October 30 Update
Thermal Generation	Turbine Generator Overhaul - Unit 3 - Holyrood	Complete	Complete
Thermal Generation	Overhaul Unit 2 Cooling Water Pump - East - Holyrood	Complete	Complete
Thermal Generation	Overhaul Unit 2 Extraction Pump - North - Holyrood	Complete	Complete
Thermal Generation	Overhaul Unit 1 Boiler Feed Pump - West - Holyrood	11/1/2016	Complete
Thermal Generation	Rewind Rotor and Install Flux Probe - Unit 3 - Holyrood	Complete	Complete
Thermal Generation	Replace Excitation Transformers - Holyrood	11/1/2016 Note 1	11/1/2016 Note 1A
Thermal Generation	Purchase of 12 MW Diesel Generators - Holyrood	Complete	Complete
Thermal Generation	Replace Boiler Tubes - Unit 1 & 2 - Holyrood	11/1/2016 Note 2	Complete
Thermal Generation	Boiler Reheater Tubes - Unit 2 - Holyrood (Unforeseen)	Complete	Complete
Thermal Generation	Boiler Reheater Tubes - Unit 1 - Holyrood (Unforeseen)	Complete	Complete
Thermal Generation	Replace Air Receivers & Compressors - St. Anthony Diesel Plant	10/21/2016	Complete
Hydraulic Generation	Overhaul and Inspection - Unit 6 - Bay d'Espoir	Complete	Complete
Hydraulic Generation	Thrust Bearing Refurbishment - Units 1-6 - Bay d'Espoir	Complete	Complete
Hydraulic Generation	Overhaul and Inspection Unit 7 - Bay d'Espoir	Complete	Complete
Hydraulic Generation	Replace Generator Cooling Water Piping - Hinds Lake	11/26/2016	11/12/2016 Note 15
Hydraulic Generation	Replace Vibration Monitoring System - Unit 7 - Bay d'Espoir	Complete	Complete
Hydraulic Generation	Turbine Rehabilitation of Unit 4 - Bay d'Espoir	Complete	Complete
Hydraulic Generation	Station Service Breaker Replacement - Cat Arm	10/28/2016	2017 Note 16
Hydraulic Generation	Upgrade Work - Units 1 & 2 - Cat Arm	10/22/2016	Complete Note 17
Hydraulic Generation	Penstock 1 Refurbishment - Bay d'Espoir		12/1/2016 Note 18
Hydraulic Generation	Access Roads Refurbishment - Bay d'Espoir		12/15/2016 Note 19
Gas Turbines	Snow Door Overhaul - Hardwoods	Complete	Complete
Gas Turbines	Upgrade Gas Turbine Plant Life Extension - Stephenville	11/4/2016 Note 3	Complete
Gas Turbines	Gas Generator Engine Refurbishment - Hardwoods & Stephenville	11/28/2016 Note 4	11/29/2016 Note 4A
Gas Turbines	Combustion Turbine Inspection and Overhaul - Holyrood	11/19/2016 Note 5	11/18/2016
Transmission	Perform Wood Pole Management Program - Various Sites	11/15/2016 Note 6	Complete
Transmission	Insulator Replacement - TL203	Complete	Complete
Terminal Stations	Replace Interrupter Breaker B3L50 - Bottom Brook	Complete	Complete
Terminal Stations	Exciter Refurbishment - Corner Book Frequency Convertor	10/28/2016	10/28/2016
Terminal Stations	Replace Batteries & Chargers - Various Sites	11/15/16 Note 7	11/15/2016 Note 7A
Terminal Stations	Upgrade Terminal Stations Protection & Control - Various Sites	11/15/2016	11/30/2016 Note 20
Terminal Stations	Replace Disconnects - 2015-2016 - Various Sites	10/18/2016 Note 8	Complete
Terminal Stations	Upgrade Power Transformers - Various Areas	11/15/2016 Note 9	Note 9A
Terminal Stations	Replace Surge Arrestors - Various Areas	10/21/2016 Note 10	Complete
Terminal Stations	Replace Instrument Transformers - Various Areas	10/18/2016 Note 11	11/11/2016 Note 11A
Terminal Stations	Upgrade Aluminum Support Structures - Holyrood	10/27/2016	11/4/2016 Note 21
Terminal Stations	Upgrade Circuit Breakers 2015-2016 - Various Sites	10/16/2016 Note 12	Complete
Terminal Stations	Upgrade Circuit Breakers 2016-2020 - Various Sites	11/15/2016 Note 13	11/15/2016 Note 13A
Various	Purchase Critical Spares - Generating Stations	12/1/2016 Note 14	12/15/2016 Note 14A

NOTES

- 1 - The 2016 winter readiness scope of work is to replace excitation transformers on Units 1 and 2 at Holyrood. The work is complete for Unit 2. The work is in progress for Unit 1.
- 1A - The construction work is complete for Unit 1. Final commissioning will be completed when Unit 1 is brought back into operation.
- 2 - This is a supplemental project approved by the Public Utilities Board on June 10, 2016. The 2016 winter readiness scope of work includes boiler tube replacements for Units 1 and 2 at Holyrood. The work is complete for Unit 2. The work is in progress for Unit 1.
- 3 - The 2016 winter readiness scope of work includes: main lube oil glycol system replacement; and exhaust stack repairs. The main lube oil glycol system replacement is complete. The exhaust stack repairs are in progress.
- 4 - This is a supplemental project approved by the Public Utilities Board on June 15, 2016. The 2016 winter readiness scope of work includes the refurbishment of one engine for Hardwoods and one engine for Stephenville. Both engines are presently at the repair facility. Hardwoods is expected to be in service on November 22, 2016 and Stephenville is expected to be in service on November 28, 2016.
- 4A - There is a slight change to the in-service dates. Hardwoods is expected to be in service on November 24, 2016 and Stephenville is expected to be in service on November 29, 2016.
- 5 - This is a supplemental project approved by the Public Utilities Board on September 23, 2016. The 2016 winter readiness scope of work includes a combustor inspection and overhaul of the Combustion Turbine at Holyrood. The project is in the planning and procurement phase and is expected to be completed by November 19, 2016.
- 6 - The 2016 winter readiness scope of work includes work on six transmission lines. The work for five transmission lines is complete. The remaining work, for TL201, is expected to be complete by November 15, 2016.
- 7 - The 2016 winter readiness scope of work includes the replacement of battery banks at two sites and the replacement of chargers at three sites. One battery bank and one charger have been replaced. The remaining battery bank to be replaced is at Buchans and the remaining chargers to be replaced are at Plum Point and Western Avalon. All of these are expected to be in service by November 15, 2016.
- 7A - The battery charger at Plum Point is complete. The work at Buchans and Western Avalon remains on schedule.
- 8 - The 2016 winter readiness scope includes the replacement of fourteen disconnect switches, of which ten are complete. The remaining four, located at Come By Chance and Hardwoods, are expected to be completed by October 18, 2016.
- 9 - The 2016 winter readiness scope of work includes transformer refurbishments at eight terminal stations and the replacement of two transformers at Bay d'Espoir and Cat Arm. Transformer refurbishments at six terminal stations are complete and the new Bay d'Espoir transformer is in service. The two remaining refurbishments are located at Upper Salmon and Hinds Lake and are expected to be completed by November 15, 2016. The new Cat Arm transformer is on site and installation is in progress with an expected in service date of October 28, 2016.

9A - The new Cat Arm transformer is now in service. The refurbishment of the transformer at Upper Salmon has been rescheduled to 2017 due to road washouts from Hurricane Matthew and the inability to get people and equipment to site during the planned outage. System conditions prevent the rescheduling of this outage in 2016. The refurbishment work was to process the oil to improve oil quality and therefore reduce the probability of dielectric failure. The risk and appropriate mitigation through this winter is being assessed. At Hinds Lake, internal cleaning and oil processing was planned for the two unit transformers. However, the outage window has been significantly shortened as a result of a revised generation outage schedule. The generation outage schedule was revised in order to schedule emergency refurbishment for Bay d'Espoir Penstock 1. The shortened outage means that the oil will be processed for only one of the two transformers at Hinds Lake. To reduce the risk on the second transformer, an inspection and cleaning was performed by Hydro, which is deemed to be sufficient to mitigate the risk of failure during the 2016/2017 winter season. The internal cleaning and oil processing on the second transformer will be rescheduled to 2017.

10 - The 2016 winter readiness scope of work includes the replacement of nine surge arrester sets at seven locations. Eight of the surge arrester sets have been replaced. The ninth surge arrester set is for Stony Brook and is expected to be in service by October 21, 2016.

11 - The 2016 winter readiness scope of work includes the replacement of 35 instrument transformers at 12 locations. To date, 21 instrument transformers have been replaced. The remaining 14 instrument transformers to be replaced are at Holyrood, Stephenville, Massey Drive, ~~Cat Arm~~, Stony Brook, Howley and Hardwoods. All of these are expected to be in service by October 18, 2016. (Corrections noted in colour.)

11A – An additional 8 instrument transformers are now in service for a total of 29 of 35 in service. Of the remaining 6, 3 are expected to be completed in 2016 and 3 have been deferred to a future year. Two of the three deferrals resulted from pre-construction inspections that revealed that the instrument transformers are in acceptable condition to extend their replacement to a future year. Delays were incurred with the start of the Howley instrument transformer replacement as a result of the unavailability of labour resources and the mobile substation, due to grounding vandalism damage restoration in three substations. The mobile substation could not be removed safely from the South Brook Terminal Station. Without the mobile substation, an 8-hour customer outage would be required to complete the work. It has been decided to defer this work beyond 2016 to align with other work at Howley and the availability of the mobile substation. The risk and appropriate mitigation through this winter is being assessed. The remaining three instrument transformers to be replaced in 2016 are at Holyrood and are scheduled to be in service by November 4, 2016.

12 - The 2016 winter readiness scope of work includes the replacement or refurbishment of twelve breakers. The work is complete for eleven breakers. The twelfth breaker is at Bay d'Espoir and is expected to be in service by October 16, 2016.

13 - The 2016 winter readiness scope of work includes the assessment, replacement or refurbishment of ten breakers. The work for six breakers is complete. The remaining locations are Howley, Bear Cove, Plum Point and the Corner Brook Frequency Converter. The last of these is expected to be in service by November 15, 2016.

13A - The remaining work at Bear Cove, Plum Point and Corner Brook Frequency Converter is on schedule. Delays were incurred with the start of the Howley breaker refurbishment work as a result of unavailability of labour resources and the mobile substation, due to grounding vandalism damage restoration in three substations. The mobile substation could not be removed safely from the South Brook Terminal Station. Without the mobile substation, an 8-hour customer outage would be required to complete the work. It has been decided to defer this work beyond 2016 to align with other work at Howley and the availability of the mobile substation. In the event of a premature failure, parts will be readily available to perform emergency replacement.

14 - This is a supplemental project approved by the Public Utilities Board in July 2015 for the procurement of various critical spare components for several hydraulic, thermal and gas turbine generating facilities. All spare components have been received with the exception of high voltage bushings for Unit 3 at Holyrood. These bushings are expected to be received by December 1, 2016.

14A - The vendor has revised the delivery date for the Holyrood Unit 3 spare high voltage bushings to December 15, 2016.

15 - The 2016 winter readiness scope is to replace cooling water piping. The original outage for this work was three weeks in duration. That planned outage has been compressed to 10 days as a result of the need for emergency refurbishment of Penstock 1 in Bay d'Espoir starting in the fall of 2016. The work plan has been adjusted to complete the work within the new outage window. There is risk that not all of the piping will be replaced in 2016 due to this reduced outage duration. The construction crew will focus on the piping in the most critical condition.

16 - The 2016 winter readiness scope is to upgrade the programmable logic controller (PLC) for the station service breaker. This work is rescheduled to 2017. The primary scope of this project was replacement of the breaker which was completed in 2015. The PLC upgrade was scheduled for 2016 during the planned outage to Cat Arm Units 1 and 2. That planned outage was compressed as a result of the need for emergency refurbishment of Penstock 1 in Bay d'Espoir starting in the fall of 2016. The risk of completing this project in a compressed 2016 outage was weighed against the risk of carrying the project over to 2017 and it was determined that moving the project to 2017 is the least risk from a winter readiness perspective. The risk of failure through the winter with the existing PLC is low as the plant operation is typically steady state through the winter period. In the unlikely event of failure, the new PLC is ready for installation.

17 - This is a 2016-2017 project which includes replacement of the deflector servomotors for Cat Arm Units 1 and 2. The deflector servomotor for each unit allows deflector plates to track next to the needle valve water jets in the turbine area. During an emergency shut down of the unit, the deflector plates move in front of the needle valves preventing water from hitting the turbine buckets. The 2016 winter readiness scope in this project was to replace the deflector servomotor for Cat Arm Unit 2 with the available spare deflector servomotor, to prove its function prior to ordering two replacement servomotors for installation in 2017. The spare servomotor was installed but exhibited excessive leakage during commissioning. The spare servomotor was removed and the original servomotor has been re-installed with new seals and is in service for the winter. The leaking from the spare servomotor is being investigated and will allow Hydro to incorporate a solution into the new servomotors next year. The risk and appropriate mitigation through this winter is being assessed.

18 - This is an urgent and unforeseen project as per the notification to the Public Utilities Board on October 14, 2016. The 2016 winter readiness scope is to refurbish the substandard penstock welds. Contractor mobilization is in progress. The December 1 in-service date is preliminary and subject to revision once the pace of the welding is established.

19 - This is an urgent and unforeseen project as per the notification to the Public Utilities Board on October 14, 2016. The 2016 winter readiness scope is to refurbish roads that were washed out due to Hurricane Matthew on October 10, 2016. The work is in progress. The December 15 in service date is preliminary and subject to revision once the work scope and resource plans are further defined.

20 - The 2016 winter readiness scope is: (1) the upgrade of breaker fail protection systems at Bay d'Espoir Terminal Station 1; and (2) the upgrade of line protection equipment for Transmission Lines 133L and 130L at Stony Brook Terminal Station. Construction is substantially complete and completion is dependant on securing the required equipment outages. The remaining work at Bay d'Espoir has been delayed by 17 days as a result of a revised generation outage schedule. The generation outage schedule was revised in order to schedule emergency refurbishment for Bay d'Espoir Penstock 1. The remaining work at Bay d'Espoir for this project has been rescheduled to be completed during individual daily outages beginning November 7 and continuing until December 2. The required outage for work at Stony Brook associated with 133L is on schedule for October 24 to November 13. The required outage for work at Stony Brook associated with 130L has been delayed and is now scheduled for November 14 to 30. This delay is a result of a separate outage in progress for Newfoundland Power's work on 132L, which is delayed. (Both outages can not proceed at the same time.) None of these outages will result in customer impact.

21 - The winter readiness scope is to upgrade aluminum supports for five structures at Holyrood Terminal Station. The work is in progress with a revised completion date of November 4, 2016. Minor delays were experienced due to the addition of one structure identified during the pre-construction survey as well as the need to modify some of the temporary support structures to suit field conditions.

## **APPENDIX B**

Status of Winter Readiness Testing of Plant and Equipment  
Holyrood Thermal Generating Station  
As of October 22, 2016

## 2016-17 Winter Readiness Report - Update

Status of Test			
Unit 1	Unit 2	Unit 3	BoP

**Plant:**

Following Annual outages, Unit is run up, Synchronized and all Systems verified before Operating Status determined, as per ECC, prior to coming Winter Operating Season to ensure preparedness. A Unit Load Test is performed at this time.	S/U	✓	✓	N/A
Black Start Test of the black start diesel systems is performed prior to the Winter Operating Season.	N/A	N/A	N/A	✓
Perform Megger testing of 600 volt motors prior to the Winter Operating Season.	✓	✓	✓	✓

**Safety:**

Boiler Service Pressure Test performed as required by Regulator.	S/U	✓	✓	N/A
Safety Valves testing as required.	S/U	✓	✓	N/A
Boiler Operational Off-Line High / Low Drum Level Trip Tests.	✓	✓	✓	N/A
Breaker & Disconnect Operation verified by Ops. Dept. & Whitbourne Crew.	S/U	✓	✓	N/A

**Service Air and Instrument Air Systems:**

All Stationary Air Compressors available.	N/A	N/A	N/A	✓
Air Compressor operational checks performed (e.g. oil levels, cooling water, etc.)	N/A	N/A	N/A	✓
Air Compressor STBY / Sequencing capability.	N/A	N/A	N/A	✓

**Raw and Makeup Water System:**

Quarry Brook Dam Integrity.	N/A	N/A	N/A	✓
Raw Water Sump Water Supply Control Valve operational.	N/A	N/A	N/A	✓
Raw Water Pumps operational.	N/A	N/A	N/A	✓
Adequate supply of Chemicals (1172, 1179, Polymer, etc.).	N/A	N/A	N/A	✓
1172, 1179, Polymer Injection Pumping Sets, Pumps, valves, lines, agitators, etc. operational.	N/A	N/A	N/A	✓
Portable Diesel Pump check of Emergency Plant Water Supply from Quarry Brook Dam.	N/A	N/A	N/A	✓
Adequate & Readily available supply of Hoses for the Portable Diesel Pump from Quarry Brook Dam to Plant.	N/A	N/A	N/A	✓

**Raw and Makeup Water System & Water Treatment Plant:**

Instrumentation & Controls operational.	N/A	N/A	N/A	✓
Analytical Rack Sample Cooler Filters cleaned/replaced as required.	S/U	✓	✓	N/A
Analytical Rack Sample Coolers cooling water in service.	S/U	✓	✓	N/A
Two (2) Sample cooling water pumps availability.	N/A	N/A	N/A	✓

**Clarifier:**

Clarifier Recirculator, VFD Motor, VFD Controller.	N/A	N/A	N/A	✓
Clarifier Recirculator Scraper.	N/A	N/A	N/A	✓
Clarifier Badger Meter and Clearwell Instrumentation.	N/A	N/A	N/A	✓

## 2016-17 Winter Readiness Report - Update

Status of Test			
Unit 1	Unit 2	Unit 3	BoP

**Sand Filters:**

Sand Filters (#s 1, 2 & 3) Resin integrity.	N/A	N/A	N/A	✓
Sand Filters (#s 1, 2 & 3) Valve Operation (Normal & Backwashing, etc.).	N/A	N/A	N/A	✓
Two (2) Clearwell Pumps available.	N/A	N/A	N/A	✓

**Demineralization System:**

Cation & Anion Trains (A, B & C) Resin integrity.	N/A	N/A	N/A	✓
Adequate supply of Chemicals (Caustic Soda, Sulphuric Acid, 1172, 1179, Polymer, etc.).	N/A	N/A	N/A	✓
Sulphuric Acid & Caustic Soda Transfer Pumps, valves, lines, etc.	N/A	N/A	N/A	✓
Sulphuric Acid & Caustic Soda Regeneration Sets, Pumps, valves, lines, etc.	N/A	N/A	N/A	✓

**Reserve Feedwater System, 'RFW':**

RFW Transfer Pump Oil Normal Operating Level.	S/U	✓	✓	N/A
RFW Transfer Pumps operational.	S/U	✓	✓	N/A

**Circulating Water 'CW' and Screen Wash System:**

Vacuum Seal Pits operational.	S/U	✓	✓	N/A
All CW Travelling Screens Operational.	S/U	✓	✓	N/A
CW Pump Motorized discharge valves 'Manual' & 'Auto', 'Cracked' Position operation verified.	S/U	✓	✓	N/A
CW Pump Motors Oil Normal Operating Level,	S/U	✓	✓	N/A
CW Pumps operational.	S/U	✓	✓	N/A
CW Pump Discharge Vacuum Breakers operational.	S/U	✓	✓	N/A
CW Travelling Screens Wash Pumps operational.	S/U	✓	✓	N/A
Condenser Flushed.	S/U	✓	✓	N/A
Condenser Backwashed.	S/U	✓	✓	N/A
General Service 'GS' Coolers Backwashed, cleaned, etc.	✓	✓	✓	N/A
Turbine / Generator 'TG' Coolers Backwashed, cleaned, etc.	✓	✓	✓	N/A
Vacuum Pump Coolers Backwashed, cleaned, etc.	✓	✓	✓	N/A

**Boiler:**

Pre-Outage Valve Survey conducted of Boiler Drains.	✓	✓	✓	N/A
Service pressure test on boiler for tube leaks.	S/U	✓	✓	N/A

**Condenser Air Extraction System:**

Vacuum Pumps available & tested for STBY 'Auto-Start'.	S/U	✓	✓	N/A
Vacuum Pump Seal Water Tank water level controller operational.	S/U	✓	✓	N/A
Vacuum Pump Seal Water Pump operational.	S/U	✓	✓	N/A
Condenser Vacuum Breakers operational.	S/U	✓	✓	N/A

## 2016-17 Winter Readiness Report - Update

Status of Test			
Unit 1	Unit 2	Unit 3	BoP

**High Pressure 'HP' Feedwater System:****Boiler Feed Pumps:**

Boiler Feed Pumps available.	✓	✓	✓	N/A
Boiler Feed Pump Oil Tank Normal Operating Level and checked for moisture content.	S/U	✓	✓	N/A
Boiler Feed Pump Auxiliary Oil Pumps available.	✓	✓	✓	N/A
Boiler Feed Pump Suction Valves & Limit Switches.	S/U	✓	✓	N/A
Boiler Feed Pump Emergency Gland Seal Injection Pump available.	✓	✓	✓	N/A
Boiler Feed Pump Emergency Gland Seal Pump Oil Normal Operating Level.	S/U	✓	✓	N/A
Boiler Feed Pump Gland Seal Water available from the Emergency Pump and Condensate Extraction Pumps.	S/U	✓	✓	N/A
Boiler Feed Pump Gland Seal Water Control Valve operational.	S/U	✓	✓	N/A
Boiler Feed Pump Gland Seal Water Drains Tank Level Float Operated Valve operational (Units 1 & 2).	S/U	✓	N/A	N/A
Boiler Feed Pump Gland Seal Water Transfer Pumps operational (Units 1 & 2).	S/U	✓	N/A	N/A
Boiler Feed Pump Gland Seal Water Drains Tank Level Control Valve operational (Unit 3).	N/A	N/A	✓	N/A
Boiler Feed Pump Gland Seal Water Transfer Pumps operational (Unit 3).	N/A	N/A	✓	N/A
Boiler Feed Pump Recirculation Control Valves operational.	S/U	✓	✓	N/A
Boiler Feed Pump Motorized Discharge Pilot & Main Valves operational.	S/U	✓	✓	N/A
Low Load Feedwater Isolator & Control Valves operational.	S/U	✓	✓	N/A
Main Feedwater Isolator & Control Valves operational.	S/U	✓	✓	N/A
High Pressure Heater Motorized Valves (Inlet, Outlet & Bypass) checked for proper operation, sequencing, etc.	S/U	✓	✓	N/A

**Miscellaneous:**

Economizer 'Manual' Operated Valve operational.	✓	✓	✓	N/A
Economizer Motorized Recirculation Valve operational (Unit 3).	N/A	N/A	✓	N/A
Boiler Drum Level Instrumentation operational.	S/U	✓	✓	N/A
HP Heater Bled Steam Check Valves operational.	S/U	✓	✓	N/A
Start-up Desuperheater Steam & Water valving operation / position verified (Unit 3).	N/A	N/A	✓	N/A
Main Steam & Reheat Steam Desuperheater Spray Water Isolators & Control Valves operational.	S/U	✓	✓	N/A
Auxiliary Steam Desuperheater Spray Water Control Valve operational (Unit 3).	N/A	N/A	✓	N/A

**Low Pressure 'LP' Feedwater System:****Condenser:**

Condenser Hotwell Make-Up / Surplus Control Valves operation verified.	S/U	✓	✓	N/A
Condenser Hotwell Make-Up Motorized Isolating Valve operation verified (Unit 3).	N/A	N/A	✓	N/A
Condenser Dye test for leaks, as required.	✓	✓	✓	N/A

## 2016-17 Winter Readiness Report - Update

Status of Test			
Unit 1	Unit 2	Unit 3	BoP

**Ammonia & Control System:**

Adequate Supply in place.	✓	✓	✓	N/A
Pumps operational.	S/U	✓	✓	N/A
Control Instrumentation operational.	S/U	✓	✓	N/A

**Condensate Extraction Pumps:**

Condensate Extraction Pumps available.	✓	✓	✓	N/A
Condensate Extraction Pump Motors Bearing Oil Normal Operating Level.	✓	✓	✓	N/A
Condensate Extraction Pump Motor Cooling Water available (Unit 3).	N/A	N/A	✓	N/A

**Condensate Polishers:**

Resin integrity verified.	✓	✓	✓	N/A
Two (2) Polishers Rinsed and available.	✓	✓	✓	N/A
Valve Operation (Normal & Regenerating, etc.).	✓	✓	✓	N/A
Regeneration System Skids available (valving, pumps, blowers, tanks. Etc.).	✓	✓	✓	N/A
Condensate Polisher Bypass Control Valve operational.	S/U	✓	✓	N/A

**Low Pressure Heaters:**

Low Load Recirculation Control Valve operation.	S/U	✓	✓	N/A
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**Deaerator:**

Deaerator Normal Operating Level	S/U	✓	✓	N/A
Deaerator Steam Coil operational.	S/U	✓	✓	N/A
Deaerator Pegging Steam operational.	S/U	✓	✓	N/A
Deaerator Low Level Trip Test	✓	✓	✓	N/A

**Miscellaneous:**

Condenser Flash Tank Control Valve operation / position.	S/U	✓	✓	N/A
Turbine Low Pressure Exhaust Hood Spray Motorized Valve operation.	S/U	✓	✓	N/A
Start-up Desuperheater Steam & Water valving operational (Units 1 & 2).	S/U	✓	N/A	N/A
LP Heater Bled Steam Check Valves operational.	S/U	✓	✓	N/A

**Bled Steam and Heater Drains System:**

LP and HP Instrumentation and Control operational.	S/U	✓	✓	N/A
LP and HP Heater Level Control operational.	S/U	✓	✓	N/A
Low Pressure 'LP' Heater Condensate Drains Pumps operational.	S/U	✓	✓	N/A
#4 High Pressure 'HP' Heater Condensate Drains Pump operational.	S/U	✓	✓	N/A

## 2016-17 Winter Readiness Report - Update

Status of Test			
Unit 1	Unit 2	Unit 3	BoP

**Air and Flue Gas System:**

Instrumentation and Control operational.	S/U	✓	✓	N/A
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**Forced Draft 'FD' Fans and Air Dampers:**

Two (2) FD Fans available.	✓	✓	✓	N/A
Bearing Oil Normal Operating Level.	S/U	✓	✓	N/A
Cooling Water on to Fans.	S/U	✓	✓	N/A
Stroke Variable Inlet Vanes, 'VIVs'.	S/U	✓	✓	N/A
Stroke Discharge Dampers.	S/U	✓	✓	N/A
FD Fan Motor Variable Speed Drives operational.	S/U	✓	✓	N/A
All Burner Auxiliary Air Dampers/Positioners operation (Units 1 & 2).	S/U	✓	N/A	N/A
All Elevation Air Flow Dampers/ Positioners operation (Unit 3).	N/A	N/A	✓	N/A

**Rotary Air Heaters:**

Rotary Air Heaters operational.	S/U	✓	✓	N/A
Rotary Air Heaters Bearing Oil (Top & Bottom) Normal Operating Level.	S/U	✓	✓	N/A
Rotary Air Heaters Bearing Cooling Water On.	S/U	✓	✓	N/A
Rotary Air Heaters Electric Motor Drives operational.	S/U	✓	✓	N/A
Rotary Air Heaters Air Supply to Air Heater Air Motor Drives Open.	S/U	✓	✓	N/A
Rotary Air Heaters Start-up of Air Motor Drive upon loss of AC Power Supply to the normal operating Electric Drive Motor.	S/U	✓	✓	N/A
Rotary Air Heaters Steam Supply Control Valves operational. (*Note: Two Steam Supplies on (Units 1 & 2)).	S/U	✓	✓	N/A
Rotary Air Heaters Sootblowers operational.	S/U	✓	✓	N/A

**Boiler Sootblowing System:**

Sootblower Control Panel operational.	S/U	✓	✓	N/A
Sootblowers Steam Supply Control Valve operational.	S/U	✓	✓	N/A
Sootblowers Overhauled during Annual Outage Verify operation (e.g. Rotation, Travel Advancing/Retracting from Furnace, leaks, etc.) first time Unit is placed on Line.	✓	✓	✓	N/A

**Light Fuel Oil System:**

Hydro Pad operational.	S/U	✓	✓	N/A
Light Oil Pumps available.	✓	✓	✓	N/A
Pumps, Valves (including Control & Trip), lines, strainers, pressure (locally & UCB).	✓	✓	✓	N/A
Check Light Oil Supply & Return Lines to / from Plant respectively.	✓	✓	✓	N/A
Suction Strainers cleaned with covers secured.	✓	✓	✓	N/A
Ignitors cleaned, securely in place with associated lines securely fastened.	✓	✓	✓	N/A
Ignitors all checked for operation during Unit Start-up (e.g. Ignitor Control Box, Valve Operation, Lighting, etc.).	S/U	✓	✓	N/A

## 2016-17 Winter Readiness Report - Update

Status of Test			
Unit 1	Unit 2	Unit 3	BoP

**Fuel Oil Delivery System, Auxiliary Steam & Fuel Oil Piping System:**

Adequate Heavy Oil Storage.	N/A	N/A	N/A	✓
Heavy Oil Piping from Dock to Tankfarm, Tankfarm to Plant Day Tank and Day Tank to Heavy Oil Sets.	N/A	N/A	N/A	✓
Adequate Light Oil Storage.	N/A	N/A	N/A	✓
Light Oil Piping from Road Tanker Transfer Pump to Tanks and from Tanks to Light Oil Sets in Plant.	N/A	N/A	N/A	✓
All Storage Tanks Suction Heaters available when required.	N/A	N/A	N/A	✓
All Storage Tanks Flatform Heaters available when required.	N/A	N/A	N/A	✓
Auxiliary Steam for Suction Heaters available.	N/A	N/A	N/A	✓
Auxiliary Steam for Flatform Heaters available.	N/A	N/A	N/A	✓
Auxiliary Steam for Heat Tracing available.	N/A	N/A	N/A	✓
Electrical Heat Tracing for Fuel Oil Lines available.	N/A	N/A	N/A	✓
Day Tank Supply Line Trip Valve Tested.	N/A	N/A	N/A	✓
Day Tank available to receive oil.	N/A	N/A	N/A	✓
Day Tank steam coil available.	N/A	N/A	N/A	✓

**Fuel (Heavy) Oil System:**

Fuel Oil Heating Sets:	✓	✓	✓	N/A
Fuel Oil Heaters available.	✓	✓	✓	N/A
Fuel Oil Heaters cleaned and inspected.	✓	✓	✓	N/A
Steam Supply to Heavy Oil Set Heaters available as required.	✓	✓	✓	N/A
Fuel Oil Heaters Temperature Steam Control Valve operational.	S/U	✓	✓	N/A
Suction Strainers cleaned (including standby & extras) with covers secured.	S/U	✓	✓	N/A
Fuel Oil Accumulator operational.	S/U	✓	✓	N/A
Fuel Oil Pumps available.	✓	✓	✓	N/A
Pumps 'Auto-Start' check Off-Line.	✓	✓	✓	N/A
Header Pressure Control Valve operational.	S/U	✓	✓	N/A
Fuel Oil Meter operational.	S/U	✓	✓	N/A

**Fuel Oil Supply Control, Trip, Long & Short Recirculation Valves:**

Fuel Oil Supply Control Valve operational.	S/U	✓	✓	N/A
Fuel Oil Trip Valve operational.	S/U	✓	✓	N/A
Fuel Oil Long Recirculation Valve operational (Units 1 & 2).	S/U	✓	N/A	N/A
Fuel Oil Short Recirculation Valve operational (Units 1 & 2).	S/U	✓	N/A	N/A
Elevation Fuel Oil Trip Valves operational (Unit 3).	N/A	N/A	✓	N/A
Elevation Fuel Oil Minimum Supply Control Valves operational (Unit 3).	N/A	N/A	✓	N/A
Elevation Fuel Oil Supply Control Valves operational (Unit 3).	N/A	N/A	✓	N/A
Main Fuel Oil Recirculation Valve operational (Unit 3).	N/A	N/A	✓	N/A
Elevation Recirculation Valves operational (Unit 3).	N/A	N/A	✓	N/A

## 2016-17 Winter Readiness Report - Update

Status of Test			
Unit 1	Unit 2	Unit 3	BoP

**Burners:**

All Burners cleaned, securely in place with associated lines securely fastened.	✓	✓	✓	N/A
All Burners checked for operation during Unit Start-up (e.g. Advancing / Retracting, Valve Operation, Lighting, etc.).	S/U	✓	✓	N/A
All Burner Tilts checked for operation (Units 1 & 2).	S/U	✓	N/A	N/A

**General Service 'GS' System:**

GS Heat Exchangers Backwashed, cleaned, etc.	N/A	N/A	✓	N/A
Stage I GS Plate Cooler Strainers cleaned.	✓	✓	N/A	N/A
Stage I GS 'Auto-Clean' Strainer operational.	S/U	✓	N/A	N/A
Stage I GS Duplex Strainers cleaned.	✓	✓	N/A	N/A
GS Pump Suction Strainers cleaned.	✓	✓	✓	N/A
GS Pump Oil Normal Operating Level.	✓	✓	✓	N/A
GS Pumps available & tested for STBY 'Auto-Start'.	S/U	✓	✓	N/A

**Turbine / Generator 'TG' Auxiliary Cooling System:**

TG Head Tank Normal Operating Level.	S/U	✓	✓	N/A
Turbine Lube Oil Coolers operational.	S/U	✓	✓	N/A
TG Heat Exchangers Backwashed, cleaned, etc.	✓	✓	✓	N/A
TG Pump Oil Normal Operating Level.	✓	✓	✓	N/A
TG Pumps available & tested for STBY 'Auto-Start'.	S/U	✓	✓	N/A

**Turbine Generator 'TG' System:****Hydraulic System Units 1& 2:**

Hydraulic System Accumulators operational.	S/U	✓	N/A	N/A
Hydraulic System Storage Tank Normal Operating Level and checked for moisture content.	S/U	✓	N/A	N/A
Hydraulic System Storage Tank air purging of moisture in place.	S/U	✓	N/A	N/A
Hydraulic Set Primary, Secondary Filter indications ok.	✓	✓	N/A	N/A
Two (2) Hydraulic Fluid Pumps availability.	✓	✓	N/A	N/A
Hydraulic Pump Auto Start Testing.	S/U	✓	N/A	N/A
Two (2) Hydraulic Fluid Pump Coolers availability.	✓	✓	N/A	N/A

**Valves:**

Turbine Main Stop Valve Testing (Units 1 & 2).	S/U	✓	N/A	N/A
Turbine Two (2) Main Stop Valves Testing (Unit 3).	N/A	N/A	✓	N/A
Turbine 'Left-Hand' & 'Right Hand' Reheat Stop & Intercept Control Valve Testing verified.	S/U	✓	✓	N/A
Turbine Six (6) Main Control Valve operation (Units 1 & 2).	S/U	✓	N/A	N/A
Turbine Four (4) Main Control Valve operation (Unit 3).	N/A	N/A	✓	N/A
Turbine Blowdown Valve operation.	S/U	✓	✓	N/A

## 2016-17 Winter Readiness Report - Update

Status of Test			
Unit 1	Unit 2	Unit 3	BoP

**Lubricating System:**

Lube Oil Tank Normal Operating Level and checked for moisture content.	S/U	✓	✓	N/A
Lube Oil Tank Oil Centrifuge operational (Unit 3).	N/A	N/A	✓	N/A
Portable Centrifuge operational.	✓	✓	✓	N/A
Lube Oil Tank Vapor Extractor operation.	S/U	✓	✓	N/A
Bowser Oil Conditioner Vapor Extractor Operation (Units 1 & 2).	S/U	✓	N/A	N/A
Two (2) AC Lube Oil pumps available & tested for STBY 'Auto-Start' (Units 1 & 2)	S/U	✓	N/A	N/A
DC Pump Testing & Starting from UCB (Units 1 & 2).	S/U	✓	N/A	N/A
Verify Discharge Pressure of EACH AC Lube Oil Pumps (Locally & UCB) (Units 1 & 2).	S/U	✓	N/A	N/A
Verify Discharge Pressure of DC Lube Oil Pump (Locally & UCB) (Units 1 & 2).	S/U	✓	N/A	N/A
Jacking Oil Pump Testing & Starting from UCB (Unit 3).	N/A	N/A	✓	N/A
Verify Discharge Pressure of Jacking Oil Pump (Locally & UCB).	N/A	N/A	✓	N/A
Auxiliary Oil Pump 'AOP' Testing & Starting from UCB & Turbine Lube Oil Tank (Unit 3).	N/A	N/A	✓	N/A
Verify Discharge Pressure of AOP Pump (Locally & UCB) (Unit 3).	N/A	N/A	✓	N/A
AC Pump Testing & Starting from UCB & Turbine Lube Oil Tank (Unit 3).	N/A	N/A	✓	N/A
Verify Discharge Pressure of AC Flushing Oil Pump (Locally & UCB) (Unit 3).	N/A	N/A	✓	N/A
DC Pump Testing & Starting from UCB & Turbine Lube Oil Tank (Unit 3).	N/A	N/A	✓	N/A
Verify Discharge Pressure of DC Flushing Oil Pump (Locally & UCB) (Unit 3).	N/A	N/A	✓	N/A
Barring / Turning Gear Low Oil Pressure Trip Test.		✓	✓	N/A

**Barring / Turning Gear:**

Turning Gear operation verified.	S/U	✓	✓	N/A
Perform trip test of Turning Gear.	S/U	✓	✓	N/A

**Miscellaneous:**

Steam Seal Regulator operational.	S/U	✓	✓	N/A
Operational On-Line / Off-Line Overspeed Trip Tests.	✓	✓	✓	N/A

**Hydrogen 'H2' & Carbon Dioxide 'CO2' System:**

H2 and CO2 systems in operation.	N/A	N/A	N/A	✓
Adequate H2 Bulk Packs on hand.	N/A	N/A	N/A	✓
CO2 Adequate Bulk Packs on hand.	N/A	N/A	N/A	✓

## 2016-17 Winter Readiness Report - Update

Status of Test			
Unit 1	Unit 2	Unit 3	BoP

**Generator:**

Generator Exciter Operation checked Off & On Line.	S/U	✓	✓	N/A
Seal Oil System tested with 'Air' on Generator in preparation for Leak Testing.	S/U	✓	✓	N/A
Seal Oil Regulator operational.	S/U	✓	✓	N/A
AC Seal Oil pumps available & tested for STBY 'Auto-Start' (Units 1 & 2).	S/U	✓	N/A	N/A
AC Seal Oil Pump available (Unit 3).	N/A	N/A	✓	N/A
DC Seal Oil Pump available & tested for STBY 'Auto-Start'.	S/U	✓	✓	N/A
Seal Oil Vacuum Pumps available.	S/U	✓	✓	N/A
Vacuum Tank Level Control operational.	S/U	✓	✓	N/A
Leak Testing Performed prior to 'Gassing Up' Generator.	S/U	✓	✓	N/A
Purity, Dew Point, etc. Instrumentation operation verified.	S/U	✓	✓	N/A

**Powerhouse and Switchyard Single Line:****Plant 129V System:**

129 V Battery Banks checked Stage I & II.	✓	✓	✓	N/A
129V Battery Chargers checked Stage I & II.	✓	✓	✓	N/A

**Plant 258V System:**

258V Battery Banks checked Stage I & II.	✓	✓	✓	N/A
258V Battery Chargers checked Stage I & II.	✓	✓	✓	N/A

**Plant Uninterrupted Power Supplies 'UPS':**

Number's 1, 2, 3 & 4 'UPS' Power Supplies including Batteries, Cooling Fans, etc., checked.	✓	✓	✓	N/A
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**Emergency Diesel Generators:**

Stage I & II Emergency Diesel Generators Tested for Emergency Stop.	✓	✓	✓	N/A
Stage I & II Emergency Diesel Generators Tested for Manual & Auto-Start Operation along with Auto Breaker Closure as well as Emergency Manual Closing of Breakers.	✓	✓	✓	N/A
Diesel Bus Tie Breaker, 'DBT' operation verified.	✓	✓	✓	N/A

**Holyrood Main Powerhouse:**

Back-Up ECC and Guardhouse Propane Generator.	N/A	N/A	N/A	✓
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**Plant Air Conditioning System:**

Control & Relay Rooms.	N/A	N/A	N/A	✓
Uninterrupted Power Supply 'UPS' #1 Room.	N/A	N/A	N/A	✓
Generator Excitation and 'UPS' #s 2, 3 & 4 Room (Unit 3).	N/A	N/A	N/A	✓

**Plant Heating Steam:**

All Systems operational for when required.	N/A	N/A	N/A	✓
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## **APPENDIX C**

Status of Winter Readiness Testing of Plant and Equipment  
Hydraulic Generation  
As of October 22, 2016

## 2016-17 Winter Readiness Report - Update



Status of Test								
Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Bop PH 1	BoP PH 2

Following Annual outages, Unit is run up, Synchronized and all Systems verified before Operating Status determined, as per ECC, prior to coming Winter Operating Season to ensure preparedness. A Unit Load Test is performed at this time.	✓	✓	✓	✓	✓	✓	✓	N/A	N/A
Black Start Test of the black start systems is performed prior to the Winter Operating Season. Station service transfers alternate sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓	✓

**Spherical Valves:**

Turbine Main Stop Valve Testing	✓	✓	✓	✓	✓	✓	N/A	N/A	N/A
Turbine Main Stop Valve Operational	✓	✓	✓	✓	✓	✓	N/A	N/A	N/A

**Service Air , Instrument Air Systems Compressors:**

All Stationary Air Compressors available.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓	✓
Air Compressor operational checks performed (e.g. oil levels, cooling water, etc.)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓	✓
Air Compressor STBY / Sequencing capability./Lead Lag/Standby	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓	✓
HP compressors available	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓	✓
LP compressor available	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓	✓
Instrumentation Control and Alarms operational.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓	✓

**TG Cooling Water Systems:**

Cooling water pumps available	✓	✓	✓	✓	✓	✓	N/A	✓	N/A
Emergency Cooling water available Penstock Supply	✓	✓	✓	✓	✓	✓	N/A	✓	✓
Cooling water system available	✓	✓	✓	✓	✓	✓	✓	✓	✓
TG Pumps available & tested for Auto/manual Start.	✓	✓	✓	✓	✓	✓	N/A	✓	N/A
Shaft seal sytem available	✓	✓	✓	✓	✓	✓	✓	N/A	N/A
CW Pump Motorized discharge valves 'Manual' & 'Auto', 'Cracked' Position operation verified. GCI /Hlk	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Rotary Strainer inspected and available	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

## 2016-17 Winter Readiness Report - Update



Status of Test								
Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Bop PH 1	BoP PH 2

**Turbine Generator Governor System:**

Hydraulic System Accumulators operational.	✓	✓	✓	✓	✓	✓	✓	N/A	N/A
Governor System Testing	✓	✓	✓	✓	✓	✓	✓	N/A	N/A
Governor System Available	✓	✓	✓	✓	✓	✓	✓	N/A	N/A
Hydraulic pump(s) available	✓	✓	✓	✓	✓	✓	✓	N/A	N/A
Hydraulic Pump Gov Auto Start Testing.	✓	✓	✓	✓	✓	✓	✓	N/A	N/A

**Generator:**

Generator Exciter Operation checked Off & On Line.	✓	✓	✓	✓	✓	✓	✓	N/A	N/A
Generator Exciter Available.	✓	✓	✓	✓	✓	✓	✓	N/A	N/A

**Lubricating System:**

Portable Centrifuge operational.	✓	✓	✓	✓	✓	✓	✓	✓	✓
Portable oil Pump (Jacking)	✓	✓	✓	✓	✓	✓	✓	N/A	N/A
Oil level system generator metering available	✓	✓	✓	✓	✓	✓	✓	N/A	N/A
Oil level system turbine metering available	✓	✓	✓	✓	✓	✓	✓	N/A	N/A
AC High pressure Jacking Oil Pump available automatic	N/A	N/A	N/A	N/A	N/A	N/A	✓	N/A	N/A

**Switchyard /Terminal Station**

Breakers and Disconnects Operational	✓	✓	✓	✓	✓	✓	✓	N/A	N/A
Breaker & Disconnect Operation verified by Ops. Dept. & TRO Bishops Falls .	✓	✓	✓	✓	S/U	✓	✓	N/A	N/A

**Intake**

Water elevation	✓	✓	✓	✓	✓	✓	✓	N/A	N/A
Trashrack system	✓	✓	✓	✓	✓	✓	✓	N/A	N/A
Gate operation	✓	✓	✓	✓	✓	✓	✓	N/A	N/A

**Surge Tank**

Heating system	N/A	N/A	N/A	N/A	N/A	N/A	N/A	15-Nov	N/A
Alarm Systems	N/A	N/A	N/A	N/A	N/A	N/A	N/A	15-Nov	N/A

**Spillway**

Water elevation	✓	✓	✓	✓	✓	✓	✓	N/A	N/A
Gate Heating /Ice Away unit	N/A	N/A	N/A	N/A	N/A	N/A	N/A	15-Nov	N/A
Gate operation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓	N/A
Emergency(back-up) Diesel Generator	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A



Emergency lift operation and tested

### Battery Banks And Battery Chargers

#### Plant 129V System:

129 V Battery Banks checked	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓	✓
129 V Battery Chargers	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓	✓
129 V battery Banks Available	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓	✓

#### Plant 48V System:

48V Battery Banks checked	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓	N/A
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#### Plant Uninterrupted Power Supplies 'UPS':

'UPS' Power Supplies (Inverter NWS).	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓	N/A
--------------------------------------	-----	-----	-----	-----	-----	-----	-----	---	-----

#### Emergency Diesel Generators:

Emergency Diesel Generators Tested for Emergency Stop.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓	N/A
Emergency Diesel Generators Tested for Manual & Auto-Start Operation along with Auto Breaker Closure as well as Emergency Manual Closing of Breakers.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓	N/A
Alternate AC sources available	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓	✓
Station Services Available	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓	✓
Transfer alternate source	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓	✓

#### Plant Air Conditioning System:

Control Rooms.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Communications Rooms	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓	N/A

#### Plant Heating Steam:

All Systems operational for when required.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓	✓
--	-----	-----	-----	-----	-----	-----	-----	---	---

Status of Test								
Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Bop PH 1	BoP PH 2
N/A	N/A	N/A	N/A	N/A	N/A	N/A	✓	N/A



Status of Test											
Cat Arm			HLK		USL		GCL		PRV		
Unit 1	Unit 2	Bop PH	Unit 1	Bop	Unit 1	Bop	Unit 1	Bop	Unit 1	Bop	
✓	✓	N/A	11-Nov	✓	18-Nov	N/A	✓	N/A	✓	N/A	
✓	✓	✓	11-Nov	✓	✓	✓	✓	✓	✓	✓	
✓	✓	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
✓	✓	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

## 2016-17 Winter Readiness Report - Update



Status of Test										
Cat Arm			HLK		USL		GCL		PRV	
Unit 1	Unit 2	Bop PH	Unit 1	Bop	Unit 1	Bop	Unit 1	Bop	Unit 1	Bop

**TG Cooling Water Systems:**

Cooling water pumps available	✓	✓	✓	✓	✓	N/A	N/A	N/A	N/A	N/A	N/A
Emergency Cooling water available	✓	✓	✓	✓	✓	N/A	N/A	N/A	N/A	N/A	N/A
Penstock Supply	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cooling water system available	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
TG Pumps available & tested for Auto/manual Start.	✓	✓	✓	✓	✓	N/A	N/A	N/A	N/A	N/A	N/A
Shaft seal sytem available	N/A	N/A	N/A	✓	✓	✓	N/A	✓	✓	✓	✓
CW Pump Motorized discharge valves 'Manual' & 'Auto', 'Cracked' Position operation verified.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Rotary (Water)Strainer	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

**Turbine Generator Governor System:**

Hydraulic System Accumulators operational.	✓	✓	N/A	✓	N/A	✓	N/A	✓	N/A	✓	N/A
Governor System Testing	✓	✓	N/A	11-Nov	N/A	18-Nov	N/A	✓	N/A	✓	N/A
Governor System Available	✓	✓	N/A	11-Nov	N/A	18-Nov	N/A		N/A	✓	N/A
Hydraulic pump(s) availble	✓	✓	N/A	11-Nov	N/A	18-Nov	N/A	✓	N/A	✓	N/A
Hydraulic Pump Gov Auto Start Testing.	✓	✓	N/A	11-Nov	N/A	18-Nov	N/A	✓	N/A	✓	N/A

**Generator:**

Generator Exciter Operation checked Off & On Line.	✓	✓	N/A	11-Nov	N/A	18-Nov	N/A	✓	N/A	✓	N/A
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**Lubricating System:**

Portable Centrifuge operational.	✓	✓	N/A	✓	N/A	✓	N/A	✓	N/A	✓	N/A
Portable oil Pump (Jacking)	✓	✓	N/A	✓	N/A	✓	N/A	✓	N/A	✓	N/A
Oil level system generator metering	✓	✓	N/A	✓	N/A	✓	N/A	✓	N/A	✓	N/A
Oil level system turbine metering	✓	✓	N/A	✓	N/A	✓	N/A	✓	N/A	✓	N/A

## 2016-17 Winter Readiness Report - Update



Status of Test											
Cat Arm			HLK		USL		GCL		PRV		
Unit 1	Unit 2	Bop PH	Unit 1	Bop	Unit 1	Bop	Unit 1	Bop	Unit 1	Bop	
	✓	✓	N/A	11-Nov	N/A	18-Nov	N/A	✓	N/A	N/A	N/A
	✓	✓				18-Nov					
	✓	✓	✓	11-Nov	✓	18-Nov	✓	✓	✓	✓	✓
	N/A	N/A	N/A	N/A	✓	N/A	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	✓	N/A	N/A	N/A	N/A	N/A	N/A
	✓	✓	N/A	✓	N/A	✓	N/A	✓	N/A	✓	N/A
	✓	✓	N/A	✓	N/A	✓	N/A	✓	N/A	✓	N/A
	✓	✓	N/A	✓	N/A	✓	N/A	✓	N/A	✓	N/A
	N/A	N/A	N/A	N/A	✓	N/A	✓	N/A	✓	✓	N/A
	N/A	N/A	N/A	N/A	15-Nov	N/A	15-Nov	N/A	15-Nov	N/A	N/A
	N/A	N/A	N/A	N/A	✓	N/A	✓	N/A	✓	N/A	N/A
	N/A	N/A	N/A	N/A	✓	N/A	✓	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	✓	N/A	✓	N/A	N/A	N/A	N/A

	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓



Status of Test											
Cat Arm			HLK		USL		GCL		PRV		
Unit 1	Unit 2	Bop PH	Unit 1	Bop	Unit 1	Bop	Unit 1	Bop	Unit 1	Bop	
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
✓	✓	✓	✓	11-Nov	✓	15-Nov	✓	✓	✓	✓	
N/A	N/A	✓	N/A	✓	✓	15-Nov	N/A	✓	✓	✓	
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

## **APPENDIX D**

Master Generation Outage Schedule  
October 23 to December 31, 2016

## 2016-17 Winter Readiness Report - Update

2016 Planned Generation Outage Schedule*												
Unit	Month Week Starting	October		November				December				Scheduled Annual Maintenance Outages
		23	30	6	13	20	27	4	11	18	25	
Holyrood - G1	170											Sep 05 - Nov 01
Holyrood - G2	170											Jun 16 - Sep 14
Holyrood - G3	150											Apr 15 - Aug 11, Aug 26 - Oct 09
Bay d'Espoir - G1 <sup>1</sup>	76.5											Apr 03 - Jun 02
Bay d'Espoir - G2 <sup>1</sup>	76.5											Apr 03 - Apr 18, May 21 - Jun 02
Bay d'Espoir - G3	76.5											Jun 05 - Aug 10
Bay d'Espoir - G4	76.5											Jun 05 - Sep 13
Bay d'Espoir - G5	76.5											Apr 24 - May 09, Aug 29 - Oct 14
Bay d'Espoir - G6	76.5											May 10 - Jun 28
Bay d'Espoir - G7	154.4											Jun 30 - Aug 25
Upper Salmon <sup>2</sup>	84											
Granite Canal	40											Aug 14 - Aug 25, Nov 21 - Nov 24
Hinds Lake	75											Oct 30 - Nov 12
Cat Arm 1	67											Aug 31 - Oct 25
Cat Arm 2	67											Oct 16 - Oct 22
Paradise River <sup>3</sup>	8											Apr 24 - May 05, Sep 23 - Oct 01
Hardwoods GT <sup>4</sup>	50											Jul 18 - Aug 30
Stephenville GT <sup>5</sup>	50											Jun 06 - Aug 04
Holyrood CT	123.5											Nov 06 - Nov 19
Star Lake	18											Nov 13 - Nov 25
Exploits <sup>6,7,8,9</sup>	63											
CBPP CoGen	8											
NLH Diesels <sup>10</sup>	24.7											
Newfoundland Power <sup>11</sup>	117.9											
CBPP 60 Hz <sup>12</sup>	99.1											
Available Capacity <sup>13</sup>	1,999	1,554	1,536	1,582	1,657	1,771	1,836	2,009	2,009	2,009	2,009	
Forecasted Gross Island Peak Load		1,171	1,263	1,319	1,368	1,416	1,452	1,801	1,801	1,801	1,801	
Total Reserve <sup>14</sup>		383	287	277	305	370	400	308	308	308	308	
Largest Operating Unit		170	170	170	170	170	170	170	170	170	170	
N-1 Reserve		143	47	37	65	130	160	68	68	68	68	

Legend	
Unit Available	White
Unit Unavailable	Dark Blue
Unit Derated	Light Blue
Unplanned / Extension	Gray

Notes:

<sup>1</sup> Bay d'Espoir Units 1 and 2 unavailable due to a penstock leak (Reference PUB Advisory 2016-H-320-a). Expected return to service date is December 01, 2016.<sup>2</sup> As of current date, no planned annual outage.<sup>3</sup> Paradise River Unit unavailable due to an O-ring failure in the governor servo motor (Reference PUB Advisory 2016-H-348-a). Expected return to service date is October 28, 2016.<sup>4</sup> Hardwoods Gas Turbine End A derated to 38 MW due to a temporarily installed leased engine (Reference PUB Advisory 2015-H-057). Expected return to full capacity date is November 24, 2016.<sup>5</sup> Stephenville Gas Turbine End A unavailable due to a vibration issue (Reference PUB Advisory 2016-H-083-a). Expected return to full capacity date is November 29, 2016.<sup>6</sup> Nalcor Exploits Grand Falls Unit 4 unavailable for a major refurbishment (Reference PUB Advisory 2016-H-245-a).<sup>7</sup> Nalcor Exploits Grand Falls Unit 7 unavailable runner damage (Reference PUB Advisory 2016-H-012-a-(Rev 1) - Updated).<sup>8</sup> Nalcor Exploits Bishop's Falls Units 1,2,3,4,5,6 and 8 unavailable due to heavy rainfall damage from the remnants of hurricane Matthew (Reference PUB Advisory 2016-H-374-a).<sup>9</sup> Nalcor Exploits Bishop's Falls Units 7 and 9 unavailable due to turbine bearing repairs and failed turbine coupling respectively (Reference PUB Advisory 2016-H-288-a - Updated).<sup>10</sup> 24.7 MW include Hawke's Bay (5 MW), St. Anthony (9.7 MW), and Holyrood Diesels (10 MW).<sup>11</sup> NP Wesleyville Gas Turbine (10 MW) unavailable. Expected return to service date is December 01, 2016.<sup>12</sup> Deer Lake Power 60 Hz generation derated to 81 MW from October 24, 2016 to October 28, 2016 due to frequency converter outage from October 24, 2016 to October 29, 2016.<sup>13</sup> As of December 01, planned Vale Diesels capacity of 10.8 MW is included in Available Capacity. A pre-winter capacity test is required to prove capacity up to 10.8 MW.<sup>14</sup> December's Total Reserves reflect the planned agreements for CBPP Capacity Assistance (80 MW) and System Voltage Reduction (20 MW).

\* Preventative/Corrective Maintenance items that require short duration outages are not reflected in this chart. They are planned in conjunction with system operation for an appropriate time.

## **APPENDIX E**

### Critical Spares Status Listing – Thermal Generation

## 2016-17 Winter Readiness Report - Update

Asset				
System	Sub System	Asset	Defined Spares Parts	Status Update October 2016
Fire Protection System	Electrical Driven Pump	Pump	Pump	Repair Parts in Stock
Fuel Oil Delivery System Aux. Steam & Fuel Oil Piping	Valves	Day Tank Trip Valve	8" Butterfly Valve and Actuator	In Stock
Fuel Oil Delivery System Aux. Steam & Fuel Oil Piping		Day Tank Trip Valve	Actuator	In Process to Purchase
Fuel Oil Delivery System Aux. Steam & Fuel Oil Piping		Fuel Line Block Valve	16" Gate Valve	In Stock
Fuel Oil Delivery System Aux. Steam & Fuel Oil Piping		Day Tank Fill Line Control valve	6" Control Valve	In Stock
Fuel Oil Delivery System Aux. Steam & Fuel Oil Piping			Actuator	In Stock
Hydrogen Generation and Storage	Valves	Motorized Valves	1/2 " Valve	In Stock
Hydrogen Generation and Storage	Tubing		Tubing - See Parts List # COM - 1	In Stock
Powerhouse and Switchyard Single Line	129V DC System	Charger	Repair Parts	In Stock
Raw and Makeup Water System & Water Treatment Plant	Demineralization System	Instrumentation/Controls	Cation Valve - KV2205C	In Stock
Raw and Makeup Water System & Water Treatment Plant	Demineralization System	Instrumentation/Controls	Cation Valve - KV2206C	In Stock
Raw and Makeup Water System & Water Treatment Plant	Demineralization System	Instrumentation/Controls	Anion Valve - KV3205C	In Stock
Raw and Makeup Water System & Water Treatment Plant	Demineralization System	Instrumentation/Controls	Anion Valve - KV3206C	In Stock
Raw and Makeup Water System & Water Treatment Plant	Demineralization System	Instrumentation/Controls	Cation Valve - KV2203C	In Stock
Raw and Makeup Water System & Water Treatment Plant	Demineralization System	Instrumentation/Controls	Cation Valve - KV2207C	In Stock
Raw and Makeup Water System & Water Treatment Plant	Demineralization System	Instrumentation/Controls	Cation Valve - KV2202C	In Stock
Raw and Makeup Water System & Water Treatment Plant	Demineralization System	Instrumentation/Controls	Cation Valve - KV2208C	In Process to Purchase
Raw and Makeup Water System & Water Treatment Plant	Demineralization System	Instrumentation/Controls	Anion Valve - KV3203C	In Stock
Raw and Makeup Water System & Water Treatment Plant	Demineralization System	Instrumentation/Controls	Anion Valve - KV3207C	In Stock
Raw and Makeup Water System & Water Treatment Plant	Demineralization System	Instrumentation/Controls	Anion Valve - KV3202C	In Stock
Raw and Makeup Water System & Water Treatment Plant	Demineralization System	Instrumentation/Controls	Anion Valve - KV3208C	In Process to Purchase
Raw and Makeup Water System & Water Treatment Plant	Demineralization System	Instrumentation/Controls	Mixed Bed Valve - KV4003B	In Stock
Raw and Makeup Water System & Water Treatment Plant	Demineralization System	Instrumentation/Controls	Mixed Bed Valve - KV4004A	In Stock
Raw and Makeup Water System & Water Treatment Plant	Demineralization System	Instrumentation/Controls	Mixed Bed Valve - KV4005B	In Stock
Raw and Makeup Water System & Water Treatment Plant	Demineralization System	Instrumentation/Controls	Mixed Bed Valve - KV4006B	In Stock
Raw and Makeup Water System & Water Treatment Plant	Demineralization System	Instrumentation/Controls	Mixed Bed Valve - KV4007B	In Stock
Raw and Makeup Water System & Water Treatment Plant	Demineralization System	Instrumentation/Controls	Mixed Bed Valve - KV4008B	In Stock
Raw and Makeup Water System & Water Treatment Plant	Demineralization System	Instrumentation/Controls	Mixed Bed Valve - KV4009B	In Stock
Raw and Makeup Water System & Water Treatment Plant	Demineralization System	Instrumentation/Controls	Mixed Bed Valve - KV4010A	In Stock
Raw and Makeup Water System & Water Treatment Plant	Demineralization System	Instrumentation/Controls	Mixed Bed Valve - KV4011A	In Process to Purchase
Raw and Makeup Water System & Water Treatment Plant	Demineralization System	Instrumentation/Controls	Mixed Bed Valve - PCV4071	Non-Stock Used also in Non-Critical applications which can be 'borrowed' if required.
Raw and Makeup Water System & Water Treatment Plant	Demineralization System	Instrumentation/Controls	Sodium Monitor	Non-Stock Upgraded to Model 2111LLEN, Maintenance parts stocked, Used also in Non-Critical applications which can be 'borrowed' if required.
Raw and Makeup Water System & Water Treatment Plant	Clarifier	Agitator	Frequency Drive	In Stock
Raw and Makeup Water System & Water Treatment Plant	Clarifier	Agitator	Recirculator - Double Induction Speed Reducer - In Stock	In Stock
Fuel Oil Delivery System Aux. Steam & Fuel Oil Piping		Dock Quick Closing Valves	18 " Butterfly Valve	In Stock

## 2016-17 Winter Readiness Report - Update

Asset				
System	Sub System	Asset	Defined Spares Parts	Status Update October 2016
Fire Protection System	Electrical Driven Pump	Control Panel	Fire Pump Controller	Complete. A replacement panel is on site and is available in the event of any failure.
Powerhouse and Switchyard Single Line	129V DC System	Future 2015 129 VDC Panel - Unit 1, 2, 3, Common	Breakers	Complete - Installed Spares available

## 2016-17 Winter Readiness Report - Update

Asset				
System	Sub System	Asset	Defined Spares Parts	Status Update October 2016
Circulating Water and Screen Wash System	CW Discharge Valves	Butterfly Valve	36" Butterfly Valve	In Stock
Circulating Water and Screen Wash System	CW Discharge Valves	Butterfly Valve	Actuator	In Process to Purchase
Combustion Air & Gas Instruments	Burner Management	Burner Automation	Network Interface Modules	In Stock
Combustion Air & Gas Instruments	Burner Management	Burner Automation	Master Fuel Trip Relays	In Stock
Combustion Air & Gas Instruments	Burner Management	Burner Automation	DCS Control Processor	In Stock
Combustion Air & Gas Instruments	Burner Management	Flame Scanners	24Vdc Scanner Power Supply	In Stock
Combustion Air & Gas Instruments	Burner Management	Air Flow Transmitters	Transmitter	In Stock
Combustion Air & Gas Instruments	Burner Management	Oil Flow Transmitter	Transmitter - Unit 1	One spare F.O. Flow TX for both units
Combustion Air & Gas Instruments	Burner Management	Oil Flow Transmitter	Sensor - Unit 2	
Combustion Air & Gas Instruments	Burner Management	Oil Flow Transmitter	Transmitter - Unit 2	
Condenser Air Extraction System	Vacuum Breakers		6' Flanged	In Stock
Generator	Seal Oil System	Seals	See Parts List #U1&2 - 1 from Service Contractor	In Stock
Generator	Exciter	Bridges	See OEM Parts List #U1&2 - 2	Repair parts stocked
Generator	Exciter	Channels	See OEM Parts List	Repair parts stocked
Generator	Stator	PT Cubicle	Primary Contact for Generator P.T.	In Stock
Generator	Seal Oil System	Regulator	1.5" Regulating Valve	In Stock
Ignitor Light Oil and Air Supply	Light Oil	Trip Valve	1" Valve	In Stock
Ignitor Light Oil and Air Supply	Light Oil	Igniter Control Box	Ignition Transformer	In Stock
Ignitor Light Oil and Air Supply	Light Oil	Igniter Control Box	Sunspot	In Stock
Ignitor Light Oil and Air Supply	Light Oil	Igniter Control Box	Valve Assembly / Oil Igniter	In Stock
L.P. Feedwater System	L.P. Heater Controls (Water Induction Protection)		Level Transmitters	In Stock
L.P. Feedwater System	L.P. Heater Controls (Water Induction Protection)		Aquarian Alarm Modules	In Stock
L.P. Feedwater System	L.P. Heater Controls (Water Induction Protection)		Relays	In Stock
L.P. Feedwater System	L.P. Heater Controls (Water Induction Protection)		Solenoid	In Stock
L.P. Feedwater System	L.P. Heater Controls (Water Induction Protection)		Conductivity Probe	In Stock
L.P. Feedwater System	Deaerator System	Level Control	Level Switch	In Stock
L.P. Feedwater System	Deaerator System	Level Control	Level Transmitter	In Stock
L.P. Feedwater System	Deaerator System	Level Control	Relay	In Stock
L.P. Feedwater System	Ammonia System	Chemical Totes (x3)	Bulk Chemical	In Stock
L.P. Feedwater System	Deaerator System	NRV Valves (2)	Non-Return Valve	In Stock
L.P. Feedwater System	Deaerator System	NRV Valves (2)	Gaskets	In Stock
L.P. Feedwater System	Deaerator System	NRV Valves (2)	O-Rings	In Stock
L.P. Feedwater System	Deaerator System	NRV Valves (2)	Packing	In Stock
L.P. Feedwater System	Deaerator System	NRV Valves (2)	Seal washers	In Stock
L.P. Feedwater System	L.P. Heaters	NRV Valves	Non-Return Valve	In Stock
L.P. Feedwater System	L.P. Heaters	NRV Valves	Gaskets	In Stock
L.P. Feedwater System	L.P. Heaters	NRV Valves	o-Rings	In Stock
L.P. Feedwater System	L.P. Heaters	NRV Valves	Packing	In Stock

## 2016-17 Winter Readiness Report - Update

Asset				
System	Sub System	Asset	Defined Spares Parts	Status Update October 2016
L.P. Feedwater System	L.P. Heaters	NRV Valves	Seal washers	In Stock
L.P. Feedwater System	Polisher Bypass Valve		Valve	In Stock
L.P. Feedwater System	Condensate Polishers (Units 1, 2)	Valves	3" Valves	In Stock
L.P. Feedwater System	Condensate Polishers (Units 1, 2)	Valves	2" Valves	In Stock
Main Steam & Reheat Steam; Turbine Drains	Vacuum Trip Device		Pressure Transmitter - Unit 1	In Stock
Powerhouse and Switchyard Single Line	258V DC System	Unit 1 & 2 Field Breakers	Field Breaker	In Stock
Turbine Generator System Stage 1	Governor	Governor	Mark 5 System - cable assemblies	In Stock
Turbine Generator System Stage 1	Governor	Governor	Mark 5 System - 50 gal. Intercept Control Valve Servos	In Stock
Turbine Generator System Stage 1	Governor	Governor	Mark 5 System - 50 gal. Main Control Valve Servos	In Stock
Turbine Generator System Stage 1	Governor	Governor	Mark 5 System - 6 gal. Intercept Control Valve Servos (scram)	In Stock
Turbine Generator System Stage 1	Governor	Governor	Mark 5 System - 6 gal. Main Stop Valve Servos	In Stock
Turbine Generator System Stage 1	Governor	Governor	Linear Variable Differential Transducer for Intercept Control Valve & Main Control Valve	In Stock
Turbine Generator System Stage 1	Governor	Governor	Linear Variable Differential Transducers for 1 per Main Stop Valve	In Stock
Turbine Generator System Stage 1	Governor	Governor	Trip Manifold Assembly (TMA) - Unit 2 OEM \Parts list #U1&2 -4 List of OEM recommended	In Stock
Turbine Generator System Stage 1	Governor	Governor	Go Switch - Limit Switches	In Stock
Turbine Generator System Stage 1	Governor	Governor	Fluid Power Products	In Stock
Turbine Generator System Stage 1	Turbine Lube Oil System	DC Oil Pump	Pump	In Stock
Turbine Generator System Stage 1	Turbine Lube Oil System	DC Motor	Motor	In Stock
Turbine Generator System Stage 1	Turbine Lube Oil System	Pressure Switches	Switch	In Stock
Turbine Generator System Stage 1	Hydraulic Fluid System	Fluid Pumps	Pump	In Stock
Turbine Generator System Stage 1	Turbine Lube Oil System	AC Oil Pumps	Pump	Repair parts stocked
Turbine Generator System Stage 1	Turbine Lube Oil System	AC Motor	Motor	In Stock
Turbine Generator System Stage 1	Turbine Lube Oil System	Pressure Switch 2	Switch	In Stock
Turbine Generator System Stage 1	Steam Seal Regulator		Main Steam Valve - Actuator Repair Kit - Unit 1 & 2	Repair Parts Stocked
Turbine Generator System Stage 1	Steam Seal Regulator		Main Steam Control Valve - Repair Kit - Unit 1 & 2	Repair Parts Stocked
Turbine Generator System Stage 1	Steam Seal Regulator		Dump Control Valve - Actuator - Repair Kit - Unit 1 & 2	Repair Parts Stocked
Turbine Generator System Stage 1	Steam Seal Regulator		Dump Control Valve - Body - Repair Kit - Unit 1 & 2	Repair Parts Stocked
Turbine Generator System Stage 1	Steam Seal Regulator		Dump Control Valve - Body - Valve Cage - Unit 1 & 2	Repair Parts Stocked
Units 1 & 2 Air & Flue Gas	Furnace Pressure TX (Trip)		Pressure Transmittter	In Stock
Units 1 & 2 Air & Flue Gas	Rotary Air Heaters	Baskets	See OEM Parts List #U1&2- 6	Repair Parts Stocked
Units 1 & 2 Air & Flue Gas	Rotary Air Heaters	Rotating Element & Bearings	See OEM Parts List #U1&2- 6	Repair Parts Stocked

## 2016-17 Winter Readiness Report - Update

Asset				
System	Sub System	Asset	Defined Spares Parts	Status Update October 2016
Units 1 & 2 Air & Flue Gas	Rotary Air Heaters	Drive System	See OEM Parts List #U1&2- 6	Repair Parts Stocked
Units 1 & 2 Air & Flue Gas	Rotary Air Heaters	Soot Blowers	See OEM Parts List #U1&2- 6	Repair Parts Stocked
Units 1 & 2 Fuel Oil System	Combustion Control Valve	Combustion Control Valve	2" Flanged valv	In Stock
Units 1 & 2 Fuel Oil System	Atomizing Steam Valve	Atomizing Steam Valve	2" Flanged Valve	In Stock
Units 1 & 2 Fuel Oil System	Main Fuel Oil Trip Valve	Main Fuel Oil Trip Valve	Flanged Valve	In Stock
Units 1 & 2 Fuel Oil System	Header Pressure Control Valve	Header Pressure Control Valve	1 1/2 " Valve	Repair Parts Stocked
Units 1 & 2 Fuel Oil System	Fuel Oil Pumps	Fuel Oil Pumps	PUMP,IMO C324	In Stock
Units 1 & 2 Fuel Oil System	Mechanical Seal	Mechanical Seal	Seal	In Stock
Units 1 & 2 Fuel Oil System	Short Recirculation Valve	Short Recirculation Valve	Welded Flange	Repair Parts Stocked
Units 1 & 2 Fuel Oil System	Long Recirculatoin Valve	Long Recirculatoin Valve	Welded Valve	Repair Parts Stocked
Units 1 & 2 Fuel Oil System	Fuel Oil Heaters	Fuel Oil Heaters	Gaskets	In Stock
Units 1 & 2 Fuel Oil System	Fuel Oil Heaters	Fuel Oil Heaters	Tube Bundles	Annual Inspection plus online Check
Units 1 & 2 Fuel Oil System	Burners	Oil Valve	Oil, Steam & Scavange Valves - All Same	In Stock
Units 1 & 2 H.P. Feedwater System	Feed Water Flow Controls	Main Feed Water Control Valve - Unit 1	See Pats List #U1&2-8	Repair Parts Stocked
Units 1 & 2 H.P. Feedwater System	Boiler Feed	Boiler Feed Pumps - Unit 1 E & W	Pump or Parts	In Stock
Units 1 & 2 H.P. Feedwater System	Boiler Feed	Unit 2 E & W	Pump	In Stock
Units 1 & 2 H.P. Feedwater System	Boiler Feed	Pump Parts	Rotating Assembly	In Stock
Units 1 & 2 H.P. Feedwater System	Boiler Feed	Pump Parts	Volute casing for rotating assembly	In Stock
Units 1 & 2 H.P. Feedwater System	Boiler Feed	Pump Parts	Throttle bushing (2 req'd)	In Stock
Units 1 & 2 H.P. Feedwater System	Boiler Feed	Pump Parts	Sleeve bearing	In Stock
Units 1 & 2 H.P. Feedwater System	Boiler Feed	Pump Parts	Balance bushing	In Stock
Units 1 & 2 H.P. Feedwater System	Boiler Feed	Pump Parts	Thrust bearing	In Stock
Units 1 & 2 H.P. Feedwater System	Boiler Feed	Pump Parts	Gaskets	In Stock
Units 1 & 2 H.P. Feedwater System	Boiler Feed	Main Feedwater Low Load Control Valve	See Pasrts List #U1&2-9	Repair Parts Stocked
Units 1 & 2 H.P. Feedwater System	H.P. Heater Controls (Water Induction Protection)	Unit #1 - All HP Heaters	Level Transmitters	In Stock
Units 1 & 2 H.P. Feedwater System	H.P. Heater Controls (Water Induction Protection)	Unit # 2 - HP Heater # 4 & 6	Leve Transmitter	In Stock
Units 1 & 2 H.P. Feedwater System	H.P. Heater Controls (Water Induction Protection)	Unit # 2 -HP Heater # 5	Level Transmitter	In Stock
Units 1 & 2 H.P. Feedwater System	H.P. Heater Controls (Water Induction Protection)	Unit 1 - All HP Heaters	Aquarian Alarm Modules	In Stock
Units 1 & 2 H.P. Feedwater System	H.P. Heater Controls (Water Induction Protection)	Unit #2 - Heater # 4 & 6	Aquarian Alarm Modules	In Stock
Units 1 & 2 H.P. Feedwater System	H.P. Heater Controls (Water Induction Protection)	Unit # 2 -HP Heater # 5	Aquarian Alarm Modules	In Stock
Units 1 & 2 H.P. Feedwater System	H.P. Heater Controls (Water Induction Protection)	Unit 1 & 2 - All HP Heaters	Conductivity Probe	In Stock
Units 1 & 2 H.P. Feedwater System	H.P. Heater Controls (Water Induction Protection)	Unit # 1 & 2 - All HP Heaters	Relay	In Stock
Units 1 & 2 H.P. Feedwater System	H.P. Heater Controls (Water Induction Protection)	Unit 1 & 2	Solenoid	In Stock
Units 1 & 2 H.P. Feedwater System	Boiler Feed	Suction Valve Limit Switch	Oil Tight Limit Switch	In Stock

## 2016-17 Winter Readiness Report - Update

Asset				
System	Sub System	Asset	Defined Spares Parts	Status Update October 2016
Units 1 & 2 H.P. Feedwater System	Boiler Feed	Suction Valve	10" Valve	Repair Parts Stocked
Units 1 & 2 H.P. Feedwater System	H.P. Heaters	Motorized Bypass Valves	8" Valve	Repair Parts Stocked
Units 1 & 2 H.P. Feedwater System	H.P. Heaters	NRV Valves - Heater # 4	8"- 150#	Repair Parts Stocked
Units 1 & 2 H.P. Feedwater System	H.P. Heaters	NRV Valves - Heater # 5	8"- 300#	Repair Parts Stocked
Units 1 & 2 H.P. Feedwater System	H.P. Heaters	NRV Valves - Heater # 6	8"- 600#	Repair Parts Stocked
Units 1 & 2 H.P. Feedwater System	Steam Drum	Level Control Transmitters	Level Transmitter	In Stock
Units 1 & 2 H.P. Feedwater System	Boiler Feed	Suction Line Safety Valve	1/2" x 1" Valve	In Stock
Units 1 & 2 H.P. Feedwater System	Boiler Feed	Boiler Feed Recirculation Valve to DA	4" Valve	In Stock
Combustion Air & Gas Instruments	Burner Management	Positioner	2.5" x 5 "Pneumatic PowerPositioner (Hagan) In Stock	In Stock
L.P. Feedwater System	Condensate Extraction Pumps		See OEM Parts List -# U1&2 - 3	Repair Parts Stocked
Powerhouse and Switchyard Single Line	258V DC System	Cable		Available Locally
Turbine Generator System Stage 1	Governor	Governor	Mark 5 System - speed probes	In Stock
Turbine Generator System Stage 1	Turbine Lube Oil System	Pressure Switch 1	Switch	In Stock
Turbine Generator System Stage 1	Steam Seal Regulator		Main Steam Control Valve - Positioner - Unit 2	Repair Parts Stocked
Condenser Air Extraction System	Mechanical Vacuum Pumps	Motor	Motor	In Stock
Generator	Stator	PT Cubicle	Potential Transformer (PT)	In Stock
	Stator	Stand Off Insulators	Stand Off Insulator	In Progress
Turbine Generator System Stage 1	Governor	Governor	Truck V-Fast Cables	In Stock
Generator	Rotor	Rotor	Rotor	Status Quo
Generator	Rotor	Rotor Poles	Rotor Poles	Status Quo
Generator	Stator		Stator and Brush Rigging Assembly	Status Quo
Generator	Stator	Stator Poles	Stator Poles	Status Quo
Units 1 & 2 Air & Flue Gas	F.D. Fans	Unit 1& 2 - Fans	See Parts List #U1&2 - 5 - from OEM	Status Quo
Powerhouse and Switchyard Single Line	258V DC System	Panel	Breakers	Complete - Spares onsite
Powerhouse and Switchyard Single Line	258V DC System	Unit 1 & 2 - Rectifying Transformers	Rectifying Transformer	Transformers are installed. Capital spare purchase planned for 2017
Powerhouse and Switchyard Single Line	258V DC System	Charger	Breakers	Complete - Spares onsite
Powerhouse and Switchyard Single Line	258V DC System	Charger	Charger	Repair Parts Stocked

## 2016-17 Winter Readiness Report - Update

Asset				
System	Sub System	Asset	Defined Spares Parts	Status Update October 2016
Circulating Water and Screen Wash System	CW Discharge Valves	Valve	36 ' Butterfly Valve	Stocked
Circulating Water and Screen Wash System	CW Discharge Valves	Actuator	CW Butterfly Valve Actuator	In Process to Purchase
Combustion Air & Gas Instruments	Burner Management	Burner Automation	Network Interface Modules	Stocked
Combustion Air & Gas Instruments	Burner Management	Burner Automation	Master Fuel Trip Relays	Stocked
Combustion Air & Gas Instruments	Burner Management	Burner Automation	DCS Control Processor	Stocked
Combustion Air & Gas Instruments	Burner Management	Elevation Oil Flow Transmitter	Meter & Transmitter	Stocked
Combustion Air & Gas Instruments	Burner Management	Elevation Air Dampers	Positioner	Stocked
Condenser Air Extraction System	Vacuum Breakers		6" Flange Vacuum Breaker	Stocked
Generator	Rotor		Rotor	Predictive and preventative maintenance plus condition monitoring and condition assessments are used to maintain and extend the life of the generator.
Generator	Rotor	Rotor Poles		Predictive and preventative maintenance plus condition monitoring and condition assessments are used to maintain and extend the life of the generator.
Generator	Stator		Stator and Brush Rigging Assembly	Predictive and preventative maintenance plus condition monitoring and condition assessments are used to maintain and extend the life of the generator.
Generator	Stator		Stator and Brush Rigging Assembly	Predictive and preventative maintenance plus condition monitoring and condition assessments are used to maintain and extend the life of the generator.
Generator	Stator	Stator Poles		Predictive and preventative maintenance plus condition monitoring and condition assessments are used to maintain and extend the life of the generator.
Generator	Synchronous Condensor	Thrust Bearing	See Parts List & Estimate by Supplier - #U3-1	In Stock
Generator	Seal Oil System	Seals	Regulator	In Stock
Generator	Exciter	Bridges	See OEM Parts List -# U3- 2	In Stock
Generator	Exciter	Channels	See Above	In Stock
Generator	Stator	Stand Off Insulators		In Process to Purchase, PO Issued
Generator	Stator	PT Cubicle	Potential Transformer (PT)	In Stock
Generator	Stator	PT Cubicle	Fuse	In Stock

## 2016-17 Winter Readiness Report - Update

Asset				
System	Sub System	Asset	Defined Spares Parts	Status Update October 2016
Generator	Exciter	Rectifying Transformer	Rectifying Transformer	Predictive and preventative maintenance plus condition monitoring and condition assessments are used.
Generator	Exciter	Field Breaker	Field Breaker	In Stock
Ignitor Light Oil and Air Supply	Light Oil	Trip Valve	1" Ball Valve	In Stock
Ignitor Light Oil and Air Supply	Light Oil	Igniter Control Box	Light Oil / Air Supply Solenoid Valve	In Stock
Ignitor Light Oil and Air Supply		Igniter Control Box	Purge Solenoid Valve	In Stock
Ignitor Light Oil and Air Supply		Igniter Control Box	Pneumatic Actuator	In Stock
Ignitor Light Oil and Air Supply		Igniter Control Box	Ignition Transformer	In Stock
Ignitor Light Oil and Air Supply		Igniter Control Box	Relay	In Stock
Ignitor Light Oil and Air Supply		Igniter Control Box	Sunspot - Scanner	In Stock
Ignitor Light Oil and Air Supply		Igniter Control Box	Snap Action Switch	In Stock
Ignitor Light Oil and Air Supply		Igniter Control Box	1/4" Light Oil Air Ball Valves	In Stock
L.P. Feedwater System	L.P. Heater Controls (Water Induction Protection)		Level Transmitter LP Heater #1	In Stock
L.P. Feedwater System	L.P. Heater Controls (Water Induction Protection)		Aquarian Alarm Modules	In Stock
L.P. Feedwater System	L.P. Heater Controls (Water Induction Protection)		Solenoid	In Stock
L.P. Feedwater System	L.P. Heater Controls (Water Induction Protection)		Relay	In Stock
L.P. Feedwater System	L.P. Heater Controls (Water Induction Protection)		Conductivity Probe	In Stock
L.P. Feedwater System	Deaerator System	Deaerator	Gauge Glasses	In Stock
L.P. Feedwater System	Deaerator System	Level Control	Level Switch	In stock
L.P. Feedwater System	Deaerator System	Level Control	Solenoid	In stock
L.P. Feedwater System	Deaerator System	Level Control	Level Transmitter	in Stock
L.P. Feedwater System	Ammonia System		Bulk Chemical Tote Tank	In Stock
L.P. Feedwater System	Condensate Polishers (Units 1, 2, 3)	Control Valves	8" Valve	In Stock
L.P. Feedwater System	L.P. Heaters	NRV Valves - #2 - LP Heater	20" Dia	In Progress
L.P. Feedwater System	L.P. Heaters	NRV Valves - #1 LP Heater	24" Dia	In Progress
L.P. Feedwater System	Deaerator System	NRV Valves (2)	14" Dia on DA	In Progress
L.P. Feedwater System	Deaerator System	Safety Valves	6" Valves	In Stock
L.P. Feedwater System	Polisher Bypass Valve		Parts to Repair	In Stock
L.P. Feedwater System	Condensate Polishers (Units 1, 2, 3)	Valves	3" Valves	In Stock
L.P. Feedwater System	Condensate Polishers (Units 1, 2, 3)	Valves	2" Valves	In Stock
Main Steam & Reheat Steam; Turbine Drains	Vacuum Unloading Device		See OEM Pats List # U3-4	N/A
Powerhouse and Switchyard Single Line	258V DC System	Charger	Breaker	Panel Replaced - Spares onsite
Powerhouse and Switchyard Single Line	258V DC System		Charger	Repair Parts Stocked
Turbine Generator System Stage 2	Governor	Governor	See Hitachi Parts List # U3-5 for Governor Drive Assembly	In Stock

## 2016-17 Winter Readiness Report - Update

Asset				
System	Sub System	Asset	Defined Spares Parts	Status Update October 2016
Turbine Generator System Stage 2	Governor	Governor	See Hitachi Parts List # U3-18 for Speed Governor Assembly	In Stock
Turbine Generator System Stage 2	Governor		See Hitachi Parts List #U3-6 for Load Limit Handwheel Assembly	In Stock
Turbine Generator System Stage 2	Governor		See Hitachi Parts List #U3-7 for Speed Load Charger Assembly	In Stock
Turbine Generator System Stage 2	Governor	Electrical Trip Test Device	Solenoid Trip - See Hitachi OEM Parts list #U3-8	In Stock
Turbine Generator System Stage 2	Governor	Mechanical Overspeed Trip Device	See Emergency Governor OEM Parts List #U3-17	Not practical to have in stock as device requires calibration prior to replacement.
Turbine Generator System Stage 2	Turbine Lube Oil System	DC Lube (Flushing) Oil Pump Same for AC Pump	See Hitachi Parts List #U3-11 for pump - 2 Recommended Parts	Repair Parts stocked
Turbine Generator System Stage 2	Turbine Lube Oil System	DC Lube (Flushing) Oil Pump	Auto Start Pressure Switch	In Stock
Turbine Generator System Stage 2	Turbine Lube Oil System	DC Lube (Flushing) Oil Pump	Motor	Weekly Checks to Monitor Condition
Turbine Generator System Stage 2	Turbine Lube Oil System	Shaft Driven Oil Pump	See Hitachi Parts List #U3-9 for Pump - 6 recommended Parts	In Stock
Turbine Generator System Stage 2	Turbine Lube Oil System	Auxiliary Oil Pump	See Hitachi Parts List #U3-10 for Pump - 3 recommended Parts	In Stock
Turbine Generator System Stage 2	Main Steam Chest Assembly	Control Valve - Upper	See OEM list & Quote see list #U3-12	In Stock
Turbine Generator System Stage 2	Main Steam Chest Assembly	Control Valve - Lower	See OEM list & Quote see list #U3-13	In Stock
Turbine Generator System Stage 2	Main Steam Chest Assembly	Stop Valves	See 2 OEM lists & Quotes List #U3 -14	In Stock
Turbine Generator System Stage 2	Reheat Steam Chest Assembly	Reheat/ICV Valves	See 4 OEM lists & Quotes - List #U3-15	In Stock
Turbine Generator System Stage 2	Steam Seal Regulator		Pressure Transmitter - Unit 3	In Stock
Turbine Generator System Stage 2	Steam Seal Regulator		Main Steam Control Valve - Actuator - Unit 3	Repair Parts in Stock
Turbine Generator System Stage 2	Steam Seal Regulator		Main Steam Control Valve - Body - Unit 3	Repair Parts in Stock
Turbine Generator System Stage 2	Steam Seal Regulator		Main Steam Control Valve - Positioner - Unit 3	Repair Parts in Stock
Turbine Generator System Stage 2	Steam Seal Regulator		Aux Steam Control Valve - Actuator - Unit 3	Repair Parts in Stock
Turbine Generator System Stage 2	Steam Seal Regulator		Aux Steam Control Valve - Body - Unit 3	Repair Parts in Stock
Turbine Generator System Stage 2	Steam Seal Regulator		Dump Control Valve - Actuator - Repair Kit - Unit 3	Repair Parts in Stock
Turbine Generator System Stage 2	Steam Seal Regulator		Dump Control Valve - Body - Repair Kit - Unit 3	Repair Parts in Stock
Unit 3 Air & Flue Gas	F.D. Fans (EFD)		Series 8500 size 95 w/ 95" @ 100% width wheel	Repair materials in stock
Unit 3 Air & Flue Gas	F.D. Fans (EFD)		Series 8500size 95 w/ 95" @ 100%width Shaft	Repair materials in stock

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Asset				
System	Sub System	Asset	Defined Spares Parts	Status Update October 2016
Unit 3 Air & Flue Gas	F.D. Fans (EFD)		Drive side bearing	In Stock
Unit 3 Air & Flue Gas	F.D. Fans (EFD)		Opposite side bearing	In Stock
Unit 3 Air & Flue Gas	F.D. Fans (EFD)		2 - Temperature probes installed in bearings	N/A
Unit 3 Air & Flue Gas	F.D. Fans (EFD)		Falk Steelflex coupling	In Stock
Unit 3 Air & Flue Gas	F.D. Fans (EFD)		2 - Independent bearing pedestals	N/A
Unit 3 Air & Flue Gas	F.D. Fans (EFD)		2 - bearing sole plates	N/A
Unit 3 Air & Flue Gas	F.D. Fans (EFD)		outlet damper	Repair materials in stock
Unit 3 Air & Flue Gas	F.D. Fans (EFD)		variable inlet vanes	Repair materials in stock
Unit 3 Air & Flue Gas	F.D. Fans (EFD)		Inlet Silencer	Repair materials in stock
Unit 3 Air & Flue Gas	Rotary Air Heaters	Gearbox	Gearbox	In Stock
Unit 3 Air & Flue Gas	Rotary Air Heaters	Pneumatic Drive System	Air Drive Motor	In Stock
Unit 3 Air & Flue Gas	O2 Analyzers		Analyzer - In Stock	In Stock
Unit 3 Air & Flue Gas	O2 Analyzers		Probe - In Stock	In Stock
Unit 3 Fuel Oil System		Main Fuel Oil Trip Valve	4" Type ET Class 300	Repair Parts Stocked
Unit 3 Fuel Oil System		Combustion Control Valves	1 1/2 " flanged valve w/ actuator	Repair Parts Stocked
Unit 3 Fuel Oil System		Atomizing Steam Valve	2" Typw ED Class 300	Repair Parts Stocked
Unit 3 Fuel Oil System		Level Fuel Oil Trip Valves (3)	2-1/2" Flanged (?) Ball Valve cw/ Actuator	Repair Parts Stocked
Unit 3 Fuel Oil System		Header Pressure Control Valve	1-1/2" - Welded Flanged	Repair Parts Stocked
Unit 3 Fuel Oil System		Fuel Oil Pumps	Pump	Repair Parts Stocked
Unit 3 Fuel Oil System		Main Fuel Oil Recirculation Valve	1" Welded Flange Valve w/ Actuator	Repair Parts Stocked
Unit 3 Fuel Oil System		Level Fuel Oil Recirculation Valves	3/4" Welded Valve w/ Actuator	Repair Parts Stocked
Unit 3 Fuel Oil System	Burners	Oil Valve	1/2"Ball Valve	Repair Parts Stocked
Unit 3 Fuel Oil System	Burners	Steam Valve	1" Valve	Repair Parts Stocked
Unit 3 Fuel Oil System	Burners	Scavenge Valve	1" Valve	Repair Parts Stocked
Unit 3 H.P. Feedwater System	Boiler Feed	Boiler Feed Pumps	Rotating Assembly	In Stock
Unit 3 H.P. Feedwater System	Boiler Feed	Boiler Feed Pumps	Volute casing for rotating assembly	In Stock
Unit 3 H.P. Feedwater System	Boiler Feed	Boiler Feed Pumps	Throttle bushing [(2 req'd)	In Stock
Unit 3 H.P. Feedwater System	Boiler Feed	Boiler Feed Pumps	Sleeve bearing (2 req'd)	In Stock
Unit 3 H.P. Feedwater System	Boiler Feed	Boiler Feed Pumps	Balance bushing	In Stock
Unit 3 H.P. Feedwater System	Boiler Feed	Boiler Feed Pumps	Thrust bearing	In Stock
Unit 3 H.P. Feedwater System	Boiler Feed	Boiler Feed Pumps	Gaskets	In Stock
Unit 3 H.P. Feedwater System	Feed Water Flow Controls	Main Feed Water Control Valve	6" - EHT valve 1500lb - Welded	In Stock
Unit 3 H.P. Feedwater System	Feed Water Flow Controls	Main Feed Water Control Valve	1 - 10A5411X022 -Seal Ring	In Stock
Unit 3 H.P. Feedwater System	Feed Water Flow Controls	Main Feed Water Control Valve	1 - 13A5599X052 - O-Ring	In Stock

## 2016-17 Winter Readiness Report - Update

Asset				
System	Sub System	Asset	Defined Spares Parts	Status Update October 2016
Unit 3 H.P. Feedwater System	Feed Water Flow Controls	Main Feed Water Control Valve	1 - 26A52990X52 - Seat Ring Retainer	In Stock
Unit 3 H.P. Feedwater System	Feed Water Flow Controls	Main Feed Water Control Valve	1 - 27A2798X042 - Seat Ring, O-Ring	In Stock
Unit 3 H.P. Feedwater System	Feed Water Flow Controls	Main Feed Water Control Valve	1 - 42B3570X012 - Cage, Eq%	In Stock
Unit 3 H.P. Feedwater System	Feed Water Flow Controls	Main Feed Water Control Valve	1 - 36A5366X062 - Plug/Stem Bal	In Stock
Unit 3 H.P. Feedwater System	Feed Water Flow Controls	Main Feed Water Control Valve	2 - 26A5314X012 - Gasket	In Stock
Unit 3 H.P. Feedwater System	Feed Water Flow Controls	Main Feed Water Control Valve	1 - 1J872906332 - Upper Wiper	In Stock
Unit 3 H.P. Feedwater System	Feed Water Flow Controls	Main Feed Water Control Valve	1 - 1J873435072 - Packing Box Ring	In Stock
Unit 3 H.P. Feedwater System	Feed Water Flow Controls	Main Feed Water Control Valve	1 - 1R290601012 - Packing Set	In Stock
Unit 3 H.P. Feedwater System	Feed Water Flow Controls	Main Feed Water Control Valve	1 - 1H7441X0022 - Bushing Seal	In Stock
Unit 3 H.P. Feedwater System	Feed Water Flow Controls	Main Feed Water Control Valve	1 - 2R6376X0082 - Diaphragm	In Stock
Unit 3 H.P. Feedwater System	Feed Water Flow Controls	Main Feed Water Control Valve	1 - R667X000802 - Repair Kit	In Stock
Unit 3 H.P. Feedwater System	H.P. Heater Controls (Water Induction Protection)	All HP Heaters	Conductivity Probe	In Stock
Unit 3 H.P. Feedwater System	H.P. Heater Controls (Water Induction Protection)		Aquarian Alarm Module	In Stock
Unit 3 H.P. Feedwater System	H.P. Heater Controls (Water Induction Protection)		Level Transmitter	In Stock
Unit 3 H.P. Feedwater System	H.P. Heater Controls (Water Induction Protection)		Relay	In Stock
Unit 3 H.P. Feedwater System	H.P. Heater Controls (Water Induction Protection)		Solenoid	In Stock
Unit 3 H.P. Feedwater System	H.P. Heaters	Motorized Bypass Valves	10" Dia	In Stock
Unit 3 H.P. Feedwater System	H.P. Heaters	NRV Valves - #6 HP Heater	6" Dia	In Progress
Unit 3 H.P. Feedwater System	H.P. Heaters	NRV Valves - #5 HP Heater	8" Dia	In Progress
Unit 3 H.P. Feedwater System	H.P. Heaters	NRV Valves - #4 HP Heater	10" Dia	In Progress
Unit 3 H.P. Feedwater System	Boiler Feed	Motorized Discharge Valves	8" Dia Valve	In Stock
Unit 3 H.P. Feedwater System	Steam Drum	Level Control Transmitters	Transmitter	On Order
Unit 3 H.P. Feedwater System	Feed Water Flow Controls	LL Control Valve	Valve	Repair Parts Available
Unit 3 H.P. Feedwater System	Boiler Feed	Suction Line Safety Valve	1/2" Dia	In Stock
Unit 3 H.P. Feedwater System	Boiler Feed	DA Recirculation Block Valve	4" Gate Valve	N/A
Unit 3 H.P. Feedwater System	Boiler Feed	DA Recirculation Block Valve	Actuator	N/A

## 2016-17 Winter Readiness Report - Update

Asset				
System	Sub System	Asset	Defined Spares Parts	Status Update October 2016
Station Board SB12 (SSB1)	Aux Transformer ATC - SSB3	Power Center C SAB12 (C1)	Feeder to MCC E1 - breaker C4	In Stock
Station Board SB12 (SSB1)	Aux Transformer ATC - SSB3	Power Center C SAB12 (C1)	Feeder to MCC C12 - breaker C7	In Stock
Station Board SB12 (SSB1)	Aux Transformer ATC - SSB3	Power Center C SAB12 (C1) (Alternate Feed Tie Breaker to Transfer Bus C15)	Feeder to Power Centre - breaker C14	In Stock
Station Board SB12 (SSB1)	Aux Transformer ATC - SSB3	Power Center C SAB12 (C1) (Alternate Feed Tie Breaker to Transfer Bus C15)	Feeder to Power Centre - breaker C15	In Stock
Station Board SB12 (SSB1)	Aux Transformer ATC - SSB3	Power Center C SAB12 (C1) (Alternate Feed Tie Breaker to Transfer Bus C15)	breaker C3	In Stock
Station Board SB12 (SSB1)	Aux Transformer ATC - SSB3	Power Center C SAB12 (C1) (Alternate Feed Tie Breaker to Transfer Bus C15)	breaker C5	In Stock
Station Board SB12 (SSB1)	Aux Transformer ATC - SSB3	Power Center C SAB12 (C1) (Alternate Feed Tie Breaker to Transfer Bus C15)	breaker C6	In Stock
Station Board SB12 (SSB1)	Aux Transformer ATC - SSB3	Power Center C SAB12 (C1) (Alternate Feed Tie Breaker to Transfer Bus C15)	breaker C8	In Stock
Station Board SB12 (SSB1)	Aux Transformer ATC - SSB3	Power Center C SAB12 (C1) (Alternate Feed Tie Breaker to Transfer Bus C15)	breaker C9	In Stock
Station Board SB12 (SSB1)	Aux Transformer ATC - SSB3	Power Center C SAB12 (C1) (Alternate Feed Tie Breaker to Transfer Bus C15)	breaker C10	In Stock
Station Board SB12 (SSB1)	Aux Transformer ATC - SSB3	Power Center C SAB12 (C1) (Alternate Feed Tie Breaker to Transfer Bus C15)	breaker C11	In Stock

## 2016-17 Winter Readiness Report - Update

Asset				
System	Sub System	Asset	Defined Spares Parts	Status Update October 2016
Station Board SB12 (SSB1)	Aux Transformer ATC - SSB3	Power Center C SAB12 (C1) (Alternate Feed Tie Breaker to Transfer Bus C15)	breaker C12	In Stock
Station Board SB12 (SSB1)	Aux Transformer ATC - SSB3	Power Center C SAB12 (C1) (Alternate Feed Tie Breaker to Transfer Bus C15)	breaker C13	In Stock
Station Board SB12 (SSB1)	Aux Transformer ATC - SSB3	Power Center C SAB12 (C1)	Circuit Breaker to Bus - breaker C16	In Stock
Station Board SB12 (SSB1)	Aux Transformer ATC - SSB3	Power Center C SAB12 (C1)	Circuit Breaker to Bus - breaker C17	In Stock
Station Board SB12 (SSB1)	Aux Transformer ATC - SSB3	Power Center C SAB12 (C1)	Feeder to MCC - breaker C18	In Stock
Station Board SB12 (SSB1)	Aux Transformer ATC - SSB3	Power Center C SAB12 (C1)	Circuit Breaker to Bus - breaker C19	In Stock
Station Board SB12 (SSB1)			SSB-3 Relay	In Stock
Station Board SB12 (SSB1)	Aux Transformer ATC - SSB3	Power Center C SAB12 (C1) (Alternate Feed Tie Breaker to Transfer Bus C15)	Relays	In Stock
Station Board SB12 (SSB1)	Aux Transformer ATC - SSB3	Power Center C SAB12 (C1) (Alternate Feed Tie Breaker to Transfer Bus C15)	Relays	In Stock
Station Board SB12 (SSB1)			Feeder to transformer ATC - breaker SSB-3	In Stock
Station Board SB12 (SSB1)			SSB-4 Relay	In Stock
Station Board SB12 (SSB1)			SSB-4 Relay	In Stock
Station Board SB12 (SSB1)			Feeder to Station Board - breaker SSB-2	In Stock
Station Board SB12 (SSB1)			Feeder to Station Board - breaker SSB-4	In Stock
Station Board SB34 (ST34)	Station Aux Transformer (SAT34)	Station Aux Board (SAB34)	Feeder to Boiler Area MCC BAB3 - breaker SDB-34	In Stock
Station Board SB34 (ST34)	Station Aux Transformer (SAT34)	Station Aux Board (SAB34)	GPB34	In Stock

## 2016-17 Winter Readiness Report - Update

Asset				
System	Sub System	Asset	Defined Spares Parts	Status Update October 2016
Station Board SB34 (ST34)	Station Aux Transformer (SAT34)	Station Aux Board (SAB34)	AC34	In Stock
Station Board SB34 (ST34)	Station Aux Transformer (SAT34)	Station Aux Board (SAB34)	CWP34	In Stock
Station Board SB34 (ST34)	Station Aux Transformer (SAT34)	Station Aux Board (SAB34)	LDP34	In Stock
Station Board SB34 (ST34)	Station Aux Transformer (SAT34)	Station Aux Board (SAB34)	WTP34	In Stock
Station Board SB34 (ST34)	Station Aux Transformer (SAT34)	Station Aux Board (SAB34)	Feeder to Diesel Bus DB34 - Breaker DB34	In Stock
Station Board SB34 (ST34)	Station Aux Transformer (SAT34)	Station Aux Board (SAB34)	Feeder to Diesel Bus - D2	In Stock
Station Board SB34 (ST34)	Station Aux Transformer (SAT34)	Station Aux Board (SAB34)	Feeder to Diesel Bus - DBT	In Stock
Station Board SB34 (ST34)			breaker ST34 relays	In Stock
Station Board SB34 (ST34)			breaker ST34 relays	In Stock
Station Board SB34 (ST34)			breaker TB12 relays	In Stock
Station Board SB34 (ST34)			breaker TB12 relays	In Stock
Station Board SB34 (ST34)			breaker SAT34 relays	In Stock
Station Board SB34 (ST34)			breaker SAT34 relays	In Stock
Station Board SB34 (ST34)	TB3 (Tie Breaker Between Station Board SB34 & Unit Board UB3)		TB3 relays	In Stock
Station Board SB34 (ST34)	TB3 (Tie Breaker Between Station Board SB34 & Unit Board UB3)		TB3 relays	In Stock
Station Board SB34 (ST34)			Feeder to Station Board - breaker ST34 & relays	In Stock
Station Board SB34 (ST34)			Feeder to Station Board - breaker TB12 & relays	In Stock
Station Board SB34 (ST34)	TB3 (Tie Breaker Between Station Board SB34 & Unit Board UB3)		Circuit Breaker TB3	In Stock
Station Board SB34 (ST34)			breaker PSM3 & relay	In Stock

## 2016-17 Winter Readiness Report - Update

Asset				
System	Sub System	Asset	Defined Spares Parts	Status Update October 2016
Station Board SB34 (ST34)			breaker TB12 relays	In Stock
Station Board SB34 (ST34)			breaker TB12 relays	In Stock
Station Board SB34 (ST34)	TB3 (Tie Breaker Between Station Board SB34 & Unit Board UB3)		TB3 relays	In Stock
Station Board SB34 (ST34)	TB3 (Tie Breaker Between Station Board SB34 & Unit Board UB3)		TB3 relays	In Stock
UB1-1 (Tie Breaker Between Station Board SB12 & Unit Board UB1)			Circuit Breaker UB1-1	In Stock
UB1-1 (Tie Breaker Between Station Board SB12 & Unit Board UB1)			UB1-1 Relay	In Stock
UB1-1 (Tie Breaker Between Station Board SB12 & Unit Board UB1)			UB1-1 Relay	In Stock
UB1-1 (Tie Breaker Between Station Board SB12 & Unit Board UB1)			UB1-1 Relay	In Stock
UB2-12 (Tie Breaker Between Unit Board UB2 & Station Board SB12)			Circuit Breaker UB2-12	In Stock
UB2-12 (Tie Breaker Between Unit Board UB2 & Station Board SB12)			UB2-12 Relay	In Stock
UB2-12 (Tie Breaker Between Unit Board UB2 & Station Board SB12)			UB2-12 Relay	In Stock
UB2-12 (Tie Breaker Between Unit Board UB2 & Station Board SB12)			UB2-12 Relay	In Stock
UB2-12 (Tie Breaker Between Unit Board UB2 & Station Board SB12)			UB2-12 Relay	In Stock
Unit Board UB1 (UB1-2)	UB13 (Aux Transformer ATA)	Power Center A UAB1 (A1) (Alternate Feed Transfer Bus A9)	Feeder to Power Centre A - A1	In Stock
Unit Board UB1 (UB1-2)	UB13 (Aux Transformer ATA)	Power Center A UAB1 (A1) (Alternate Feed Transfer Bus A9)	Feeder to Power Centre A - A9	In Stock
Unit Board UB1 (UB1-2)	UB13 (Aux Transformer ATA)	Power Center A UAB1 (A1)	Feeder to transformer LT-A - breaker A3	In Stock
Unit Board UB1 (UB1-2)	UB13 (Aux Transformer ATA)	Power Center A UAB1 (A1)	Feeder to MCC A1 - breaker A4	In Stock
Unit Board UB1 (UB1-2)	UB13 (Aux Transformer ATA)	Power Center A UAB1 (A1)	A5	In Stock
Unit Board UB1 (UB1-2)	UB13 (Aux Transformer ATA)	Power Center A UAB1 (A1)	A6	In Stock
Unit Board UB1 (UB1-2)	UB13 (Aux Transformer ATA)	Power Center A UAB1 (A1)	A7	In Stock
Unit Board UB1 (UB1-2)			UB1-4 relay	In Stock

## 2016-17 Winter Readiness Report - Update

Asset				
System	Sub System	Asset	Defined Spares Parts	Status Update October 2016
Unit Board UB1 (UB1-2)			UB1-9 relay	In Stock
Unit Board UB1 (UB1-2)			UB1-11 relay	In Stock
Unit Board UB1 (UB1-2)			UB1-2 relays	In Stock
Unit Board UB1 (UB1-2)			UB1-2 relays	In Stock
Unit Board UB1 (UB1-2)			UB1-3 relays	In Stock
Unit Board UB1 (UB1-2)			UB1-3 relays	In Stock
Unit Board UB1 (UB1-2)	UB13 (Aux Transformer ATA)	Power Center A UAB1 (A1) (Alternate Feed Transfer Bus A9)	Relays	In Stock
Unit Board UB1 (UB1-2)			Feeder to Unit Board UB1 - breaker UB1-2	In Stock
Unit Board UB1 (UB1-2)			Feeder to transformer ATA - breaker UB1-3	In Stock
Unit Board UB1 (UB1-2)			breaker UB1-4	In Stock
Unit Board UB1 (UB1-2)			breaker UB1-5	In Stock
Unit Board UB1 (UB1-2)			breaker UB1-6	In Stock
Unit Board UB1 (UB1-2)			breaker UB1-7	In Stock
Unit Board UB1 (UB1-2)			breaker UB1-8	In Stock
Unit Board UB1 (UB1-2)			breaker UB1-9	In Stock
Unit Board UB1 (UB1-2)			breaker UB1-10	In Stock
Unit Board UB1 (UB1-2)			breaker UB1-11	In Stock
Unit Board UB1 (UB1-2)			UB1-2 relays	In Stock
Unit Board UB2 (UB2-1)	Aux Transformer ATB (UB22)	Power Center B UAB2 (B1)	Feeder to Power Centre B - breaker B1	In Stock
Unit Board UB2 (UB2-1)	Aux Transformer ATB (UB22)	Power Center B UAB2 (B1)	Feeder to transformer LT-B - breaker B4	In Stock
Unit Board UB2 (UB2-1)	Aux Transformer ATB (UB22)	Power Center B UAB2 (B1)	Feeder to MCC B1 - breaker B5	In Stock
Unit Board UB2 (UB2-1)	Aux Transformer ATB (UB22)	Power Center B UAB2 (B1)	B2	In Stock
Unit Board UB2 (UB2-1)	Aux Transformer ATB (UB22)	Power Center B UAB2 (B1)	B6	In Stock
Unit Board UB2 (UB2-1)	Aux Transformer ATB (UB22)	Power Center B UAB2 (B1)	B7	In Stock

## 2016-17 Winter Readiness Report - Update

Asset				
System	Sub System	Asset	Defined Spares Parts	Status Update October 2016
Unit Board UB2 (UB2-1)	Aux Transformer ATB (UB22)	Power Center B UAB2 (B1)	B8	In Stock
Unit Board UB2 (UB2-1)			UB2-3 relay	In Stock
Unit Board UB2 (UB2-1)			UB2-4 relay	In Stock
Unit Board UB2 (UB2-1)			UB2-9 relay	In Stock
Unit Board UB2 (UB2-1)			UB2-10 relay	In Stock
Unit Board UB2 (UB2-1)			UB2-1 relays	In Stock
Unit Board UB2 (UB2-1)			UB2-1 relays	In Stock
Unit Board UB2 (UB2-1)			UB2-2 relays	In Stock
Unit Board UB2 (UB2-1)			UB2-2 relays	In Stock
Unit Board UB2 (UB2-1)			Feeder to Unit Board - breaker UB2-1 & relays	In Stock
Unit Board UB2 (UB2-1)			Feeder to Transformer ATB, breaker UB2-2	In Stock
Unit Board UB2 (UB2-1)			UB2-3	In Stock
Unit Board UB2 (UB2-1)			UB2-4	In Stock
Unit Board UB2 (UB2-1)			UB2-5	In Stock
Unit Board UB2 (UB2-1)			UB2-6	In Stock
Unit Board UB2 (UB2-1)			UB2-7	In Stock
Unit Board UB2 (UB2-1)			UB2-8	In Stock
Unit Board UB2 (UB2-1)			UB2-9	In Stock
Unit Board UB2 (UB2-1)			UB2-10	In Stock
Unit Board UB2 (UB2-1)			UB2-1 relays	In Stock
Unit Board UB2 (UB2-1)	Aux Transformer ATB (UB22)	Power Center B UAB2 (B1)	Relays	In Stock
Unit Board UB2 (UB2-1)	Aux Transformer ATB (UB22)	Power Center B UAB2 (B1)	Relays	In Stock
Unit Board UB3 (UT3)	Unit Aux Transformer (UAT3)	Aux Board UAB3 (UAB3)	Feeder to Aux Board - breaker UAB-3	In Stock
Unit Board UB3 (UT3)	Unit Aux Transformer (UAT3)	Aux Board UAB3 (UAB3)	Feeder to transformer LDP-3 - breaker LDP-3	In Stock

## 2016-17 Winter Readiness Report - Update

Asset				
System	Sub System	Asset	Defined Spares Parts	Status Update October 2016
Unit Board UB3 (UT3)	Unit Aux Transformer (UAT3)	Aux Board UAB3 (UAB3)	Feeder to MCC BAB3 - breaker BAB-3	In Stock
Unit Board UB3 (UT3)	Unit Aux Transformer (UAT3)	Aux Board UAB3 (UAB3)	AOP3	In Stock
Unit Board UB3 (UT3)	Unit Aux Transformer (UAT3)	Aux Board UAB3 (UAB3)	TAB3	In Stock
Unit Board UB3 (UT3)	Unit Aux Transformer (UAT3)	Aux Board UAB3 (UAB3)	AC12	In Stock
Unit Board UB3 (UT3)	Unit Aux Transformer (UAT3)	Aux Board UAB3 (UAB3)	Tie Breaker to Station Board - breaker ATB3	In Stock
Unit Board UB3 (UT3)	Unit Aux Transformer (UAT3)	Aux Board UAB3 (UAB3)	Relays	In Stock
Unit Board UB3 (UT3)			UT3 relays	In Stock
Unit Board UB3 (UT3)			UT3 relays	In Stock
Unit Board UB3 (UT3)			UAT3 Relays	In Stock
Unit Board UB3 (UT3)			UAT3 Relays	In Stock
Unit Board UB3 (UT3)	Unit Aux Transformer (UAT3)	Aux Board UAB3 (UAB3)	Relays	In Stock
Unit Board UB3 (UT3)			Feeder to Unit Board - breaker UT3	In Stock
Unit Board UB3 (UT3)			Feeder to transformer UAT3 - breaker UAT3	In Stock
Unit Board UB3 (UT3)			BFE3	In Stock
Unit Board UB3 (UT3)			BFW3	In Stock
Unit Board UB3 (UT3)			FDE3	In Stock
Unit Board UB3 (UT3)			FDW3	In Stock
Unit Board UB3 (UT3)			CEN3	In Stock
Unit Board UB3 (UT3)			CES3	In Stock
Unit Board UB3 (UT3)			CWE3	In Stock
Unit Board UB3 (UT3)			CWW3	In Stock
Unit Board UB3 (UT3)			UT3 relays	In Stock
Unit Board UB3 (UT3)	Unit Aux Transformer (UAT3)	Aux Board UAB3 (UAB3)	Relays	In Stock

## 2016-17 Winter Readiness Report - Update

Asset				
System	Sub System	Asset	Defined Spares Parts	Status Update October 2016
Station Board SB12 (SSB1)			SSB-3 Relay	In Stock
Station Board SB12 (SSB1)	Aux Transformer ATC - SSB3	Power Center C SAB12 (C1) (Alternate Feed Tie Breaker to Transfer Bus C15)	Relays	In Stock
Station Board SB12 (SSB1)			Feeder to Station Board - breaker SSB-1 & Relays	In Stock
Station Board SB12 (SSB1)			SSB-1 Relay	In Stock
Station Board SB12 (SSB1)			SSB-1 Relay	In Stock
Station Board SB12 (SSB1)			SSB-1 Relay	In Stock
Station Board SB34 (ST34)			breaker PSM3 relay	In Stock
Unit Board UB1 (UB1-2)			UB1-5 relay	In Stock
Unit Board UB1 (UB1-2)			UB1-6 relay	In Stock
Unit Board UB1 (UB1-2)			UB1-7 relay	In Stock
Unit Board UB1 (UB1-2)			UB1-8 relay	In Stock
Unit Board UB1 (UB1-2)			UB1-10 relay	In Stock
Unit Board UB2 (UB2-1)			UB2-5 relay	In Stock
Unit Board UB2 (UB2-1)			UB2-6 relay	In Stock
Unit Board UB2 (UB2-1)			UB2-7 relay	In Stock
Unit Board UB2 (UB2-1)			UB2-8 relay	In Stock
Unit Board UB3 (UT3)			BFE3 relay	In Stock
Unit Board UB3 (UT3)			BFW3 relay	In Stock
Unit Board UB3 (UT3)			FDE3 relay	In Stock
Unit Board UB3 (UT3)			FDW3 relay	In Stock
Unit Board UB3 (UT3)			CEN3 relay	In Stock
Unit Board UB3 (UT3)			CES3 relay	In Stock
Unit Board UB3 (UT3)			CWE3 relay	In Stock
Unit Board UB3 (UT3)			CWW3 relay	In Stock
Unit Board UB3 (UT3)	Unit Aux Transformer (UAT3)	Aux Board UAB3 (UAB3)	Relays	In Stock
Station Board SB12 (SSB1)	Aux Transformer ATC - SSB3	Power Center C SAB12 (C1) (Alternate Feed Tie Breaker to Transfer Bus C15)	Feeder to Power Centre - breaker C1	In Stock
Station Board SB12 (SSB1)	Aux Transformer ATC - SSB3	Power Center C SAB12 (C1)	Feeder to MCC C1 - breaker C2	In Stock
Station Board SB34 (ST34)			Feeder to transformer SAT34 - breaker SAT34 & relays	In Stock
Station Board SB34 (ST34)	Station Aux Transformer (SAT34)	Station Aux Board (SAB34)	Feeder to Station Board - breaker SAB34	In Stock
Station Board SB34 (ST34)	Station Aux Transformer (SAT34)	Station Aux Board (SAB34)	Feeder to Station Board - breaker ATB12	In Stock
Station Board SB34 (ST34)	Station Aux Transformer (SAT34)	Station Aux Board (SAB34)	WAM34	In Stock

## 2016-17 Winter Readiness Report - Update

Asset				
System	Sub System	Asset	Defined Spares Parts	Status Update October 2016
Unit Board UB1 (UB1-2)	UB13 (Aux Transformer ATA)	Power Center A UAB1 (A1) (Alternate Feed Transfer Bus A9)	Relays	In Stock
Unit Board UB1 (UB1-2)	UB13 (Aux Transformer ATA)	Power Center A UAB1 (A1) (Alternate Feed Transfer Bus A9)	Relays	In Stock
Unit Board UB2 (UB2-1)	Aux Transformer ATB (UB22)	Power Center B UAB2 (B1)	Relays	In Stock
Station Board SB12 (SSB1)	Aux Transformer ATC - SSB3		Transformer	N/A
Station Board SB12 (SSB1)	Aux Transformer ATC - SSB3	Power Center C SAB12 (C1) (Alternate Feed Tie Breaker to Transfer Bus C15)	Relays	N/A
Station Board SB12 (SSB1)	Aux Transformer ATC - SSB3	Power Center C SAB12 (C1)	Motor Control Centre Unit	N/A
Station Board SB12 (SSB1)	Aux Transformer ATC - SSB3	Power Center C SAB12 (C1)	MCC	N/A
Station Board SB12 (SSB1)	Aux Transformer ATC - SSB3	Power Center C SAB12 (C1)	MCC	N/A
Station Board SB12 (SSB1)	Aux Transformer ATC - SSB3	Power Center C SAB12 (C1)	MCC	N/A
Station Board SB34 (ST34)	Station Aux Transformer (SAT34)		Transformer	N/A
Station Board SB34 (ST34)	Station Aux Transformer (SAT34)	Station Aux Board (SAB34)	MCC	N/A
Unit Board UB1 (UB1-2)	UB13 (Aux Transformer ATA)	Power Center A UAB1 (A1)	Transformer	N/A
Unit Board UB1 (UB1-2)	UB13 (Aux Transformer ATA)	Power Center A UAB1 (A1)	MCC	N/A
Unit Board UB1 (UB1-2)	UB13 (Aux Transformer ATA)	Power Center A UAB1 (A1)	MCC	N/A
Unit Board UB2 (UB2-1)	Aux Transformer ATB (UB22)	Power Center B UAB2 (B1)	MCC	N/A
Unit Board UB2 (UB2-1)	Aux Transformer ATB (UB22)	Power Center B UAB2 (B1)	MCC	N/A
Unit Board UB3 (UT3)			UAT3 Relays	N/A
Unit Board UB3 (UT3)	Unit Aux Transformer (UAT3)	Aux Board UAB3 (UAB3)	Transformer	N/A
Unit Board UB3 (UT3)	Unit Aux Transformer (UAT3)	Aux Board UAB3 (UAB3)	MCC	N/A
Unit Board UB3 (UT3)	Unit Aux Transformer (UAT3)	Aux Board UAB3 (UAB3)	MCC	N/A
Unit Board UB1 (UB1-2)	UB1-3 (Aux Transformer ATA)		Transformer	N/A
Unit Board UB2 (UB2-1)	Aux Transformer ATB (UB22)		Transformer	N/A
Unit Board UB2 (UB2-1)	Aux Transformer ATB (UB22)	Power Center B UAB2 (B1)	Transformer	N/A
Unit Board UB3 (UT3)	Unit Aux Transformer (UAT3)		Transformer	N/A

## **APPENDIX F**

### Critical Spares Status Listing – Combustion Turbines

**Appendix F**  
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**2016-17 Winter Readiness Report**

Hardwoods and Stephenville		September 23, 2016 Update		
Recommended Component	Risk Score	Updated Stock Status	Expected Delivery Date	Exposure for winter 2016/2017 based on current plan
High Energy Ignition Unit, Gas Generator, Prime Mover Systems	High	In Stock	N/A	Med
Fire Fuel Shutoff Valve (LF-8), Liquid Fuel System, Auxiliary Systems	Low	In Stock	N/A	Low
Bearing (494047), Power Turbine Model CT2, Prime Mover Systems	Medium	In Stock	N/A	Low
Bearing (494056), Power Turbine Model CT2, Prime Mover Systems	Medium	In Stock	N/A	Low
Vibration Transducer, Gas Generator, Prime Mover Systems	Medium	In Stock	N/A	Low
Jacking Oil Pump, Main Lube Oil System, Auxiliary Systems	High	In Stock	N/A	Low
Fuel Filter, Gas Generator, Prime Mover Systems	Medium	In Stock	N/A	Low
Oil Filter Unit - Complete (B.108506), Gas Generator, Prime Mover Systems	Medium	In Stock	N/A	Low
Filter (494064), Power Turbine Model CT2, Prime Mover Systems	Medium	In Stock	N/A	Low
Proximity Switch, Clutch, Prime Mover Systems	Medium	In Stock	N/A	Low
Altair Quick Shutoff Valve (AV-LF-1), Liquid Fuel System, Auxiliary Systems	High	In Stock	N/A	Low
Fuel Valve (FC-LF-1), Liquid Fuel System, Auxiliary Systems	High	In Stock	N/A	Low
Fuel Recirculation Solenoid Valve (LF-7), Liquid Fuel System, Auxiliary Systems	Medium	In Stock	N/A	Low
Fuel Regulator (LF-4), Liquid Fuel System, Auxiliary Systems	Medium	In Stock	N/A	Low
Jacking Oil Permissive Pressure Switch, Main Lube Oil System, Auxiliary Systems	High	In Stock	N/A	Low
Clutch Control Solenoid Valve (LO-6), Main Lube Oil System, Auxiliary Systems, HWD GT	Medium	In Stock	N/A	Low
Valve (181536), Power Turbine Model CT2, Prime Mover Systems	Low	In Stock	N/A	Low
Primary Ratchet Ring, Clutch, Prime Mover Systems; A side	High	In Stock	N/A	Low
Primary Ratchet Ring, Clutch, Prime Mover Systems; B side	High	In Stock	N/A	Low
Secondary Ratchet Ring, Clutch, Prime Mover Systems; A side	High	In Stock	N/A	Low
Secondary Ratchet Ring, Clutch, Prime Mover Systems; B side	High	In Stock	N/A	Low
Ring that the Primary Pawl and spring are installed	Medium	In Stock	N/A	Low
Primary Pawl Spring, Clutch, Prime Mover Systems	High	In Stock	N/A	Low
Primary Pawl, Clutch, Prime Mover Systems	High	In Stock	N/A	Low
Secondary Pawl, Clutch, Prime Mover Systems	Medium	In Stock	N/A	Low
Limit Switch, Snow Door Assembly, Exhaust, Prime Mover Systems, SVL GT	Medium	In Stock	N/A	Low
NC Solenoid Valve (SV-CA-2), Gas Generator Air Starter System, Auxiliary Systems	High	In Stock	N/A	Low
NO Solenoid Valve (SV-CA-1), Gas Generator Air Starter System, Auxiliary Systems	High	In Stock	N/A	Low
Starter Control Valve (CA-17), Gas Generator Air Starter System, Auxiliary Systems	High	In Stock	N/A	Low
3-Way Thermostatic Valve (GL-2), MLO/Glycol Cooling System, Auxiliary Systems	Medium	In Stock	N/A	Low
Thermocouple (181398N1), Power Turbine Model CT2, Prime Mover Systems	Medium	In Stock	N/A	Low
Speed Pickup (181487), Power Turbine Model CT2, Prime Mover Systems	High	In Stock	N/A	Low
Vibration Pickup (181571), Power Turbine Model CT2, Prime Mover Systems	Medium	In Stock	N/A	Low
Thermocouple (181397), Power Turbine Model CT2, Prime Mover Systems	Medium	In Stock	N/A	Low
Thermocouple (181398N2), Power Turbine Model CT2, Prime Mover Systems	Medium	In Stock	N/A	Low
Probe (181414N1), Power Turbine Model CT2, Prime Mover Systems	Medium	In Stock	N/A	Low
Probe (181414N2), Power Turbine Model CT2, Prime Mover Systems	Medium	In Stock	N/A	Low
Thermocouple (184847), Power Turbine Model CT2, Prime Mover Systems	High	In Stock	N/A	Low
Motor Operated Tank Shutoff Valve (LF-38), Liquid Fuel System, Auxiliary Systems, HWD GT	High	In Stock	N/A	Med
Final Fuel Filter (F-LF-1), Liquid Fuel System, Auxiliary Systems	Medium	In Stock	N/A	Low
Heater Filter Coalescer, Liquid Fuel System, Auxiliary Systems	Medium	In Stock	N/A	Low
Prefilter, Liquid Fuel System, Auxiliary Systems	Medium	In Stock	N/A	Low
Supplemental Fuel Filter (F-LF-5), Liquid Fuel System, Auxiliary Systems	Medium	In Stock	N/A	Low
High Efficiency Farr HP-100 Filter (2'x2'x2"), Filter Box - Curtiss Wright, Prime Mover Systems	Medium	In Stock	N/A	Low

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Hardwoods and Stephenville		September 23, 2016 Update		
Recommended Component	Risk Score	Updated Stock Status	Expected Delivery Date	Exposure for winter 2016/2017 based on current plan
Filter (F-GGLO-1), Gas Generator Lube Oil System, Auxiliary Systems	High	In Stock	N/A	Low
Unloading Filter, Liquid Fuel System, Auxiliary Systems, SVL GT	Medium	In Stock	N/A	Low
Duplex 25u Filter (F-LO-1), Main Lube Oil System, Auxiliary Systems	Medium	In Stock	N/A	Low
Filter/Coalescer Heater (HTR-LF-1), Liquid Fuel System, Auxiliary Systems, HWD GT		In Stock	N/A	Low
P3 Pressure Transducer (PT-P3-1), Liquid Fuel System, Auxiliary Systems	High	In Stock	N/A	Low
Common Drain Clutch A Thermocouple (TC-LO-3), Main Lube Oil System, Auxiliary Systems, SVL GT	Medium	In Stock	N/A	Low
Fuel Supply Thermocouple (TC-LF-1), Liquid Fuel System, Auxiliary Systems, SVL GT	Medium	In Stock	N/A	Low
Alternator Bearing Drain Oil Thermocouple (TC-LO-3), Main Lube Oil System, Auxiliary Systems, HWD GT	Medium	In Stock	N/A	Low
Alternator Cooling Air Temperature Thermocouple (TC-A-1), Alternator Cooling System, Auxiliary Systems, SVL GT	Medium	In Stock	N/A	Low
Common Drain Clutch B Thermocouple (TC-LO-11), Main Lube Oil System, Auxiliary Systems, SVL GT	Medium	In Stock	N/A	Low
Compressor Start-Stop Pressure Switch (PS-CA-1), Gas Generator Air Starter System, Auxiliary Systems	High	In Stock	N/A	Low
Compressor Start-Stop Pressure Switch (PS-CA-2), Gas Generator Air Starter System, Auxiliary Systems	High	In Stock	N/A	Low
Oil Drain Alternator Clutch Bearing 1 Thermocouple (TC-LO-4), Main Lube Oil System, Auxiliary Systems, SVL GT	Medium	In Stock	N/A	Low
Oil Drain Alternator Clutch Bearing 2 Thermocouple (TC-LO-5), Main Lube Oil System, Auxiliary Systems, SVL GT	Medium	In Stock	N/A	Low
Oil Drain Alternator Clutch Bearing 3 Thermocouple (TC-LO-6), Main Lube Oil System, Auxiliary Systems, SVL GT	Medium	In Stock	N/A	Low
Oil Drain Alternator Clutch Bearing 4 Thermocouple (TC-LO-7), Main Lube Oil System, Auxiliary Systems, SVL GT	Medium	In Stock	N/A	Low
Oil Drain Alternator Clutch Bearing 5 Thermocouple (TC-LO-8), Main Lube Oil System, Auxiliary Systems, SVL GT	Medium	In Stock	N/A	Low
Oil Drain Alternator Clutch Bearing 6 Thermocouple (TC-LO-9), Main Lube Oil System, Auxiliary Systems, SVL GT	Medium	In Stock	N/A	Low
Oil Drain Exciter Bearing 7 Thermocouple (TC-LO-10), Main Lube Oil System, Auxiliary Systems, SVL GT	Medium	In Stock	N/A	Low
Oil Drain Thermocouple (TC-LO-2), Main Lube Oil System, Auxiliary Systems, HWD GT	Medium	In Stock	N/A	Low
Oil Supply Thermocouple (TC-GGLO-1), Gas Generator Lube Oil System, Auxiliary Systems	Medium	In Stock	N/A	Low
Oil Supply Thermocouple (TC-LO-1), Main Lube Oil System, Auxiliary Systems	Medium	In Stock	N/A	Low
Anti-Icing Hot Air Valve - Complete (810-501-0747), Gas Generator, Prime Mover Systems	Low	In Stock	N/A	Low
Gas Generator Permissive Start Pressure Switch, Gas Generator Air Starter System, Auxiliary Systems	High	In Stock	N/A	Low
Starter Overpressure Pressure Switch (PS-CA-3), Gas Generator Air Starter System, Auxiliary Systems	High	In Stock	N/A	Low
Pressure Regulating Valve (LO-8), Main Lube Oil System, Auxiliary Systems	Medium	In Stock	N/A	Low
Inlet Temperature Thermocouple, Gas Generator Enclosure with Septum Doors, Prime Mover Systems	Medium	In Stock	N/A	Low
Resistance Temperature Detector Probe, Gas Generator Enclosure with Septum Doors, Prime Mover Systems	Medium	In Stock	N/A	Low
NC Solenoid Valve (SV-CA-3), Gas Generator Air Starter System, Auxiliary Systems	High	In Stock	N/A	Low
Fuel Temperature Sensor (TS-LF-1), Liquid Fuel System, Auxiliary Systems	Medium	In Stock	N/A	Low
Combustion Chamber, Gas Generator, Prime Mover Systems	Medium	In Stock	N/A	Low
Lower Fuel Pump Assembly, Gas Generator, Prime Mover Systems	Medium	In Stock	N/A	Low
Outer Fuel Pump Drive Assembly (BDA.7591), Gas Generator, Prime Mover Systems	Medium	In Stock	N/A	Low
Upper Fuel Pump Assembly, Gas Generator, Prime Mover Systems	Medium	In Stock	N/A	Low
Exciter Bearing, 63MVA 50MW Generator, Power Generation Systems	High	In Stock	N/A	Low
Rotor Bearing, 63MVA 50MW Generator, Power Generation Systems	High	In Stock	N/A	Low
Bearing (181413 or 181332), Power Turbine Model CT2, Prime Mover Systems	Medium	In Stock	N/A	Low
Fuel Pump Servo Valve (SV-LF-1), Liquid Fuel System, Auxiliary Systems	Medium	In Stock	N/A	Low
Low Trip Pressure Switch (PS-LO-7), Main Lube Oil System, Auxiliary Systems	High	In Stock	N/A	Low
Start Permissive Pressure Switch (PS-LO-6), Main Lube Oil System, Auxiliary Systems, SVL GT	High	In Stock	N/A	Low
Pressure Switch, Permissive Start - Low Pressure Alarm (PS-LF-2), Liquid Fuel System, Auxiliary Systems	High	In Stock	N/A	Low
Pressure Switch, Trip - Low Fuel Pressure (PS-LF-3), Liquid Fuel System, Auxiliary Systems	High	In Stock	N/A	Low
Low Oil Pressure Switch (PS-GGLO-1), Gas Generator Lube Oil System, Auxiliary Systems	High	In Stock	N/A	Low
Filter Differential Pressure Switch (PSD-LO-1), Main Lube Oil System, Auxiliary Systems	Medium	In Stock	N/A	Low

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Recommended Component	Risk Score	Updated Stock Status	Expected Delivery Date	Exposure for winter 2016/2017 based on current plan
Filter Upstream Pressure Switch (PS-GGLO-3), Gas Generator Lube Oil System, Auxiliary Systems	High	In Stock	N/A	Low
Pre-filter Differential Pressure Switch (PSD-LF-2), Liquid Fuel System, Auxiliary Systems, HWD GT	Medium	In Stock	N/A	Low
AC Pump Discharge Fuel Pressure Switch (PS-LF-4), Liquid Fuel System, Auxiliary Systems, HWD GT	Medium	In Stock	N/A	Low
DC Pump Start Pressure Switch (PS-LO-1), Main Lube Oil System, Auxiliary Systems, SVL GT	Medium	In Stock	N/A	Low
DC Pump Start Pressure Switch (PS-LO-2), Main Lube Oil System, Auxiliary Systems, SVL GT	Medium	In Stock	N/A	Low
DC Pump Start Pressure Switch (PS-LO-3), Main Lube Oil System, Auxiliary Systems, HWD GT	Medium	In Stock	N/A	Low
Low Oil Pressure Switch (PS-GGLO-2), Gas Generator Lube Oil System, Auxiliary Systems	High	In Stock	N/A	Low
Pressure Switch (PS-HO-1), Liquid Fuel System, Auxiliary Systems	Medium	In Stock	N/A	Low
Inertial Filter Element, Filter Box - Curtiss Wright, Prime Mover Systems	Medium	In Stock	N/A	Low
Oil to Clutch A Pressure Transducer (PT-LO-1), Main Lube Oil System, Auxiliary Systems, SVL GT	High	In Stock	N/A	Low
Oil to Clutch B Pressure Transducer (PT-LO-2), Main Lube Oil System, Auxiliary Systems, SVL GT	High	In Stock	N/A	Low
Fuel Pressure Transducer (PT-LF-1), Liquid Fuel System, Auxiliary Systems	Medium	In Stock	N/A	Low
Liquid Fuel Burner - Complete (BDC.3026), Gas Generator, Prime Mover Systems	Medium	In Stock	N/A	Low
Oil Pump - Complete, Gas Generator, Prime Mover Systems	Medium	In Stock	N/A	Low
Outer Oil Pump Drive Assembly (47-1-1-006409), Gas Generator, Prime Mover Systems	Medium	In Stock	N/A	Low
Outer Starter Drive Assembly (BDA.1153), Gas Generator, Prime Mover Systems	Medium	In Stock	N/A	Low
Scavenge Pump Assembly (47-1-1-006418), Gas Generator, Prime Mover Systems	Medium	In Stock	N/A	Low
HP Compressor Magnetic Pickup, Gas Generator, Prime Mover Systems	Low	In Stock	N/A	Low
LP Compressor Magnetic Pickup, Gas Generator, Prime Mover Systems	Low	In Stock	N/A	Low
Low Liquid Level Alarm Switch (LL-GL-1), MLO/Glycol Cooling System, Auxiliary Systems	Medium	In Stock	N/A	Low
Level Switch (LS-GGLO-1), Gas Generator Lube Oil System, Auxiliary Systems	High	In Stock	N/A	Low
Heater Control Temperature Switch (TS-GGLO-1), Gas Generator Lube Oil System, Auxiliary Systems	Medium	In Stock	N/A	Low
Heater Control Temperature Switch (TS-LO-1), Main Lube Oil System, Auxiliary Systems	Medium	In Stock	N/A	Low
Final Fuel Filter Differential Pressure Switch (PSD-LF-1), Liquid Fuel System, Auxiliary Systems	Medium	In Stock	N/A	Low
Inlet Pressure Transducer, Gas Generator Enclosure with Septum Doors, Prime Mover Systems	Medium	In Stock	N/A	Low
Clutch Control Solenoid Valve (LO-6), Main Lube Oil System, Auxiliary Systems, SVL GT	Medium	Procurement in progress	TBD	Low
Proximity Switch, Snow Door Assembly, Exhaust, Prime Mover Systems, HWD GT	Low	Procurement in progress	Nov-16	Low

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Part No.	Description	Recommended Component	Stock Status	Quantity on Hand	Risk Score	Lead Time	Expected Delivery	Comments
60101152	ACTUATOR,PNEUMATIC	DOUBLE ACTING PNEUMATIC ACTUATOR, KEYSTONE MORIN, TYCO:MRP 004	In Stock	1			N/A	
58400786	AFTER-FILTER,AIR DRYER	AIR DRYER AFTER FILTER, PN 25-178-50C, PARKER FILTER CARTRIDGE # 10C10-050	In Stock	4			N/A	
54900162	ANALYZER,DEW POINT	INST AIR DEW POINT ANALYZER, MICHELL INSTRUMENTS:EA-XP-TX-EX1-C1-D1-E2-F1-G1-H1	In Stock	1			N/A	
22900028	BELT,POLYBAND	BELT, 1320-BLT-B-EHX07-1250 3R 5VX1250, POLYBAND DODGE OR EQUAL	In Stock	6			N/A	
42100313	BELT,V	INGERSOLL RAND 95100178	In Stock	6			N/A	
58000077	BELT, 1320-BLT-S-EHX19-90	BELT, ECODYNE:1320-BLT-S-EHX19-90	In Stock	6			N/A	
65000436	BRUSH,CARBON MOTOR	1 SET = 2 PIECES, ABB: GPFX052143P0098	In Stock	1			N/A	
60101092	CABLE,SOLAR,IGNITER	CENTAUR:919340C2	In Stock	1			N/A	
58400799	CARTRIDGE,DESICCANT	PNEUMATIC PRODUCTS:3153517	In Stock	1			N/A	
54900175	COIL,MAGNETIC SPEED PICK-UP	TORQUE CONVERTER MAGNETIC SPEED PICK-UP COIL, KOENIG:9501W14	In Stock	1			N/A	
54900174	COIL,OVERSPEED TRIP	ELECTRONIC OVERSPEED TRIP, 9501W38	In Stock	1			N/A	
70000484	CONTACTOR,50A 120VAC	42CF35AF	In Stock	2			N/A	
60101075	CONTROLLER,LIMIT (0-2502-F)	LIMIT CONTROLLER (0-2502-F), SA100LKA3-MN-4*NN-D1/Y	In Stock	1			N/A	
60101074	CONTROLLER,STEP LIFO	8 STAGES, SCL4000-8	In Stock	1			N/A	
60101076	CONTROLLER,STEP LIFO (4 STAGE)	STEP CONTROLLER LIFO (4 STAGES), SCL4000-4	In Stock	1			N/A	
25900063	COUPLING,FISHER	COUPLING, FISHER:17A8307X012	In Stock	1			N/A	
58101229	COUPLING,PUMP-MOTOR	COUPLING, REXNORD-OMEGA: REX ELASTOMER-ES-4(STANDARD ORANGE),PUMP-MOTOR	In Stock	1			N/A	
58101230	COUPLING,PUMP-MOTOR	COUPLING, REXNORD-OMEGA: ELASTOMER-ES-5 (STANDARD ORANGE) PUMP-MOTOR	In Stock	1			N/A	
58101224	COUPLING,PUMP/MOTOR	JOHN CRANE:A045-3S78-1270, 1-1/2" - 2-3/8", ROUGH BORE	In Stock	1			N/A	
65900004	COUPLING,PUMP/MOTOR	SIZE 1040T20, FLEXIBLE GRID TYPE, VERTICAL ORIENTATION, MANUFACTURER:FALK	In Stock	1			N/A	
68601093	CUT-OUT,AUTO	AUTO CUT-OUT, CHROMOLOX:168-053169-1 05	In Stock	3			N/A	
92000260	DESICCANT,4-8 GRADE D	INGERSOLL RAND 50# BAG	In Stock	2			N/A	
98200197	DETECTOR,SMOKE	SMOKEDETECTOR, NOTIFIER:FSI-851	In Stock	2			N/A	
98200194	DETECTOR,THERMAL	ELECTRICAL PACKAGE THERMAL DETECTOR, KIDDE-FENWAL:27121-160	In Stock	2			N/A	
98200195	DETECTOR,THERMAL	TURBINE EXHAUST TUNNEL - THERMAL DETECTOR, KIDDE-FENWAL:12-H27121-020-08	In Stock	2			N/A	
98200196	DETECTOR,THERMAL	MECHANICAL PACKAGE THERMAL DETECTOR, KIDDE-FENWAL:27121-225	In Stock	1			N/A	
98200200	DETECTOR,THERMAL	TURBINE ENCLOSURE THERMAL DETECTOR, KIDDE-FENWAL:27121-325	In Stock	4			N/A	
61100469	DIVIDER,FLOW	FLOW DIVIDER, JAHNS HYDRAULIK:MTQ-2-5-G	In Stock	1			N/A	
60101077	DRYER,INSTRUMENT AIR	INSTRUMENT AIR DRYER DIFFERENTIAL PRESSURE, DIFFERENTIAL PRESSURE TRANSMITTER, ROSEMOUNT:3051S2CD3A2A11A1A1L12L4M5Q4	In Stock	1			N/A	
58400788	ELEMENT,POST FILTER	POST FILTER ELEMENT 105 SCFM, INGERSOLL RAND 85565661	In Stock	6			N/A	
58400766	ELEMENT,PRE-FILTER	PRE-FILTER ELEMENT 105 SCFM, INGERSOLL RAND 85565679	In Stock	6			N/A	
58400762	ELEMENT,0180MA0003BN	ELEMENT 0180MA0003BN (3µm), P/N 2059438, SPIN ON ELEMENT, MANUFACTURER:HYDAC	In Stock	1			N/A	
56500206	FILL KIT,SF6	ABB BREAKER SF6 FILL KIT, (HECS 80S), S/N 1HC211015861	In Stock	1			N/A	
58400772	FILTER KIT,FUEL	LOW PRESSURE FUEL FILTER REPLACEMENT KIT, CENTAUR:912555C3	In Stock	1			N/A	
58400764	FILTER,AIR (ELEMENT)	INGERSOLL RAND 32012957	In Stock	20			N/A	
58400802	FILTER,AIR 4P0710S	AIR FILTER, CAT: 4P0710	In Stock	2			N/A	
58400797	FILTER,FLOW CONTROL	FILTER AUTOMATIC FLOW CONTROL, 4"FNPT, MODEL:ST-400-25, 240GPM, PENTAIR:LWT 3949	In Stock	1			N/A	
58400798	FILTER,FLOW CONTROL	FILTER AUTOMATIC BACKWASH FLOW CONTROL, 4" FNPT, MODEL:ST-400-25, 245GPM, MODULAR PIPING SUPPLY INC: LWT5430	In Stock	1			N/A	
58400780	FILTER,FUEL BOOST KIT	LOW PRESSURE, 912343C1	In Stock	1			N/A	
58400504	FILTER,FUEL CAT 1R0749	FOR USE ON STAGE I AND II, EMERGENCY DIESEL MANUAL PRIMING PUMPS, CATERPILLAR #1R-0749	In Stock	10			N/A	
58400782	FILTER,IGV ACTUATOR	MOOG:B64567-1V	In Stock	6			N/A	
58400791	FILTER,LUBE OIL	LUBE OIL FILTER, CLARKE RELIANCE:A2200A4, NFS:2200A4	In Stock	20			N/A	
58400801	FILTER,OIL 275-2604	OIL FILTER, CAT:275-2604	In Stock	6			N/A	
58400787	FILTER,PRESSURE	PALL: ELEMENT HC9600FCP4H	In Stock	4			N/A	
58400783	FILTER,TMP-95 FINAL	PNEUMAFIL:S52538B1, V-CELL STMPM16 STATIC BARRIER FILTER, 24"X24"X12", INJECTION MOLDED PLASTIC FRAME, 100% SYNTHETIC MEDIA, NEOPRENE SPONGE RUBBER GASKET - DOWN STEAM SIDE	In Stock	55			N/A	
54800069	FILTER,WATER	CLARK RELIANCE 2500PW	In Stock	24			N/A	
58400778	FILTER,.961131C1 FUEL	CENTAUR:912555C1 (ELEMENT & GASKET KIT)	In Stock	6			N/A	
54900194	FLOAT,SURESITE	FLOAT, SURESITE:88111	In Stock	1			N/A	

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61100434	FLOWMETER,MAGNETIC	RAW WATER FLOW MAGNETIC FLOWMETER, ROSEMOUNT:8705TSA060C1W0N0G1	In Stock	1			N/A	
70000486	FUSE,AC 25A	ATOR25	In Stock	4			N/A	
70000370	FUSE,AGC 1A 250V	AGC 1	In Stock	10			N/A	
70000373	FUSE,AGC 3A 250V		In Stock	10			N/A	
70000485	FUSE,PANEL HEATER 4.5A	PANEL HEATER FUSE 4.5A, ATQR4.5	In Stock	3			N/A	
70000481	FUSE,POWER CLASS J 45A	A4J45	In Stock	10			N/A	
70000482	FUSE,PRIMARY 20A	ATQR20	In Stock	4			N/A	
70000483	FUSE,SECONDARY 8A	ATQR8	In Stock	4			N/A	
70000490	FUSE,1.0A	BUSSMAN:LP-CC-1	In Stock	10			N/A	
70000507	FUSE,1.25A GMC-1.25A	FUSE 1.25 AMP, GMC-1.25-A, BUSSMANN:LWT9119	In Stock	10			N/A	
70000488	FUSE,15.0A	BUSSMAN:LP-CC-15.0	In Stock	10			N/A	
70000491	FUSE,2.0A 300 VDC	BUSSMAN:LP-CC-2	In Stock	10			N/A	
70000500	FUSE,2AMP	FUSE 2 AMP, GMC-2-A, BUSSMAN:GMC-2-A	In Stock	10			N/A	
70000492	FUSE,3.0A	BUSSMAN:LP-CC-3.0	In Stock	20			N/A	
70000501	FUSE,3AMP GMC-R	FUSE 3AMP, BUSSMAN:GMC-3-R	In Stock	10			N/A	
70000489	FUSE,5.0A	BUSSMAN:LP-CC-5.0	In Stock	20			N/A	
70000506	FUSE,6A GMC-6A	6AMP, GMC-6A, BUSSMANN:LWT7345	In Stock	10			N/A	
56200364	GASKET,FILTER HOUSING	GASKET,CLARK RELIANCE:A10137455, NFS# 10117455	In Stock	6			N/A	
60101083	GAUGE,PRESSURE	FUEL UNLOADING PUMPS OUTLET PRESURE/GAUGE PRESSURE TRANSMITTER, ROSEMOUNT:3051S2TG3A2E11A1AB4K6M5Q4	In Stock	1			N/A	
61100426	GAUGE,PRESSURE	ATOMIZING AIR HEADER PRESSURE GAUGE, PRESSURE TRANSMITTER, ROSEMOUNT:3051S2TG3A2A11A1AM5Q4	In Stock	1			N/A	
61100436	GAUGE,PRESSURE	RAW WATER PUMP 1 & 2, DISCHARGE GAUGE, PRESSURE TRANSMITTER, ROSEMOUNT: 3051S2TG2A2A11A1AB4M5Q4	In Stock	1			N/A	
03900023	HEATER,400W PANEL	PANEL HEATER 120V 60HZ 400W, PH40011	In Stock	1			N/A	
37900016	IGNITER,SPARK PLUG	SOLAR SPARK PLUG IGNITER, CENTAUR:903316C1	In Stock	2			N/A	
61100427	INDICATOR,BLUE MOISTURE	BLUE MOISTURE INDICATOR, INGERSOLL RAND 705001-SP	In Stock	1			N/A	
60101138	INDICATOR,LEVEL	HYD FLUID RESERVOIR LEVEL INDICATOR, REXROTH:CS3615-244910	In Stock	1			N/A	
61100432	INDICTATOR,DISCHG PRESS	HYDRUALIC FLUID PUMP #1 - DISCHARGE PRESSURE INDICTATOR, REXROTH:2-1/2/1500PUA31-10A-4 JIC	In Stock	1			N/A	
61100452	INDICTATOR,PRESSURE	INTAKE AIR STATIC FINAL-FILTER - DIFFERENTIAL PRESSURE INDICTATOR, DWYER INSTRUMENTS:4006	In Stock	1			N/A	
61100453	INDICTATOR,PRESSURE	INTAKE AIR STATIC PRE-FILTER - DIFFERENTIAL PRESSURE INDICTATOR, DWYER INSTRUMENTS:4002	In Stock	1			N/A	
60101155	INPUT CARD,PLC	ANALOG INPUT CARD FOR PLC, VARIOUS SKIDS, AUTOMATION DIRECT:F0-04AS1	In Stock	1			N/A	
58400792	KIT,SOFT PARTS	SOFT PARTS KIT, CLARKE RELIANCE:A10400107, NFS:10400107	In Stock	1			N/A	
60101085	LEVEL SWITCH,DAY TANK	FUEL OIL TANK HIGH LEVEL SWITCH, ULTRASONIC GAP LEVEL SWITCH, MAGNETROL:961-2DA0-030 C/W 9A1-A43A-018	In Stock	1			N/A	
60101088	LEVEL TRANSMITTER,LEVEL	FUEL OIL DAY TANK LEVEL RADAR LEVEL TRANSMITTER, ROSEMOUNT:5402AH1E64PNACAM1C1	In Stock	1			N/A	
61100423	MANIFOLD,PRESSURE TRANSMITTER	ROSEMOUNT 0305RC22B11	In Stock	1			N/A	
74600106	MODULE,ABSOLUTE SHAFT	SHAFT ABSOLUTE I/O MODULE WITH - EXTERNAL TERMINATIONS, BENTLY NEVADA:138700-01	In Stock	1			N/A	
74600111	MODULE,DISCRETE I/O	DISCRETE I/O MODULE WITH - EXTERNAL TERMINATIONS, BENTLY NEVADA:133434-01	In Stock	1			N/A	
74600105	MODULE,I/O	I/O MODULE WITH INTERNAL BARRIERS - (INTERNAL TERMINATIONS) (4 X VELOMITER), BENTLY NEVADA:135489-03	In Stock	1			N/A	
74600108	MODULE,I/O	I/O MODULE WITH INTERNAL BARRIERS - (INTERNAL TERMINATIONS), (2 X PROX/ACCEL + 2 X VELOMITER), BENTLY NEVADA:135489-02	In Stock	1			N/A	
60101173	MODULE,POWER SWITCH	LEVEL SWITCH MODULES, SURESITE: 87480	In Stock	1			N/A	
74600104	MODULE,PROX/SEISMIC	PROX/SEISMIC I/O MODULE WITH EXTERNAL TERMINATIONS, BENTLY NEVADA:128240-01	In Stock	1			N/A	
74600107	MODULE,PROX/SEISMIC	PROX/SEISMIC I/O MODULE WITH INTERNAL TERMINATIONS, BENTLY NEVADA:128229-01	In Stock	1			N/A	
74600110	MODULE,PROX/SEISMIC	3500/42M PROXIMITOR/SEISMIC MONITOR, BENTLY NEVADA:140734-02	In Stock	1			N/A	
74600101	MODULE,PROX/VELOM I/O	PROX/VELOM I/O MODULE WITH INTERNAL TERMINATIONS, BENTLY NEVADA:140471-01	In Stock	1			N/A	
74600102	MODULE,PROX/VELOM I/O	PROX/VELOM I/O MODULE WITH EXTERNAL TERMINATIONS, BENTLY NEVADA:140482-01	In Stock	1			N/A	
74600103	MODULE,SHAFT ABSOLUTE	SHAFT ABSOLUTE I/O MODULE WITH EXTERNAL TERMINATIONS, BENTLY NEVADA:138708-01	In Stock	1			N/A	
74600112	MODULE,SIGNAL OUTPUT	3500 BUFFERED SIGNAL OUTPUT MODULE, BENTLY NEVADA:147364-01	In Stock	1			N/A	
74600100	MODULE,TMR I/O	PROX/SEISMIC TMR I/O WITH EXTERNAL TERMINATIONS, BENTLY NEVADA:126632-01	In Stock	1			N/A	
74600115	MODULE,3500/50	3500/50 MODULE, BENTLY NEVADA:133388-02	In Stock	1			N/A	
65000442	MOTOR,BALDOR	BALDOR:VEM3770T NEMA	In Stock	1			N/A	
65000439	MOTOR,10 HP DC TURNING GEAR	KOENIG: DG6711A	In Stock	1			N/A	

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56400183	O-RING,FISHER	O-RING, FISHER:T1205106562	In Stock	1		N/A
88600152	OIL,COMPRESSOR	ALL SEASON SELECT OIL, INGERSOLL RAND 38436721	In Stock	2		N/A
89200233	OIL,LUBE	TURBOFLOXL32, MANUFACTURER: PETRO CANADA	In Stock	2		N/A
60101094	PICKUP,MAGNETIC	CENTAUR:P/N 190430-1	In Stock	1		N/A
74600097	PILOT LIGHT ASSEMBLY,AMBER	PILOT LIGHT ASSEMBLY AMBER 120VAC, A13200-05	In Stock	6		N/A
58400785	PRE-FILTER,PARKER AIR DRYER	PARKER AIR DRYER PRE-FILTER, PARKER FILTER CARTRIDGE# 6C10-050	In Stock	8		N/A
58400784	PRE-FILTER,Z-100	PNEUMAFIL:S52709C1, PRE-FILTER PANEL, 24"X24"X4"73 (FT2) SYNTHETIC MEDIA, PLASTIC FRAME FOR HIGHER PERFORMANCE AND LOWER PRESSURE DROP	In Stock	130		N/A
42900001	PUMP,CONVERTER CHARGING	TORQUE CONVERTER CHARGING PUMP, KOENIG:X216228-J	In Stock	1		N/A
54900163	RACK & PINION,PNEUMATIC	ACTUATOR, TYPE PNEUMATIC RACK & PINION, FLOWSERVE:20E39SWZ24D	In Stock	1		N/A
61100437	REGULATOR,SIGNAL PRESSURE	STAGE 2 TEMPERATURE CONTROL VALVE - AIR SIGNAL PRESSURE REGULATOR, FISHER:67CF-1663-38656	In Stock	1		N/A
68601089	RELAY,DPDT 120VAC	RCP8002 120AC	In Stock	1		N/A
60101179	RELAY,SINGLE POLE	SINGLE POLE RELAYS - VARIOUS SKIDS, AUTOMATION DIRECT:781-1C-120A	In Stock	2		N/A
68601090	RELAY,TPDT 120VAC	RCP1103 120AC	In Stock	1		N/A
58101231	REPAIR KIT,INJ. PUMP	CHEMICAL INJECTION PUMP REPAIR KIT, GRAINGER:K4PTC1	In Stock	1		N/A
42900002	REPAIR KIT,SSS CLUTCH MINOR	KOENIG:SL17998MNKT	In Stock	1		N/A
60101123	RTD,#1 PRIMARY SIGNAL	INLET SCROLL RTD #1 PRIMARY SIGNAL, ROSEMOUNT:0078-N-25-N-00-A-060-T26-XA	In Stock	1		N/A
60101087	RTD,HEATER DISCHARGE TEMP.	FUEL OIL INLINE HEATER DISCHARGE TEMPERATURE RTD, ROSEMOUNT:68 SERIES/0068D21C30A020T26	In Stock	1		N/A
60101117	SENSOR,#1 OVERSPEED TRIP	OVERSPEED TRIP SENSOR #1, ELECTRO CORP:3090A35	In Stock	2		N/A
60900049	SENSOR,CONDUCTIVITY	CONDUCTIVITY SENSOR - RO, RYAN HERCO:5926-200	In Stock	1		N/A
61100439	SOLENOID,BLEED VALVE	LP COMPRESSOR BLEED VALVE SOLENOID, ASCO:JKC8316G034V	In Stock	1		N/A
60101090	SWITCH ASSEMBLY,LIMIT	MICROSWITCH # LSA2B	In Stock	2		N/A
60101126	SWITCH, LOW ALARM PRESSURE	INSTR.AIR COMPRESSOR RECEIVER - LOW PRESSURE ALARM SWITCH, UNITED ELECTRIC CONTROLS: H122-274	In Stock	1		N/A
60101149	SWITCH,CHLORINE FLOW	CHLORINE INJECTION FLOW SWITCH, DWYER INSTRUMENTS:FS2	In Stock	1		N/A
60101191	SWITCH,DIFF PRESSURE	IGV ACT HYD FLUID FILTER- DIFF PRESS HIGH SWITCH, MOOG:G4444-2	In Stock	1		N/A
61100433	SWITCH,DIFF PRESSURE	HYDRAULIC FLUID CONDITIONING LOOP - FILTER DIFFERENTIAL PRESSURE SWITCH, PALL:RC0113CZ090H	In Stock	1		N/A
60101143	SWITCH,DIFF. PRESSURE	HYD FLUID SUPPLY FILTER - DIFFERENTIAL PRESSURE SWITCH, PALL:RC0113CZ097H	In Stock	1		N/A
60101120	SWITCH,DIFFERENTIAL PRESS	DIFFERENTIAL PRESSURE SWITCH, PNEUMAFIL:552033-B1	In Stock	2		N/A
60101121	SWITCH,DIFFERENTIAL PRESSURE	INTAKE AIR STATIC FILTER DIFFERENTIAL- PRESSURE SWITCH, SOR:107AL-K12-P1-F1A	In Stock	1		N/A
60101135	SWITCH,DISCH PRESSURE	HYD FLUID PUMP #1 DISCHARGE - PRESSURE SWITCH, REXROTH:HED 3 OAEX/63/12	In Stock	1		N/A
60101089	SWITCH,DISPLACER LEVEL	FUEL OIL TANK HIGH LEVEL SWITCH, DISPLACER LEVEL SWITCH, MAGNETROL MODEL # A15-1E2B-HM3, SERIAL # 744243-01-001	In Stock	1		N/A
60101082	SWITCH,HEATER SUPPLY FLOW	FUEL OIL INLINE HEATER SUPPLY FLOW SWITCH, MAGNETROL TD2-7D01-0G0 C/W TEA-A110-004, THERMAL DISPERSION FLOW SWITCH	In Stock	1		N/A
60101119	SWITCH,MANIFOLD PRESSURE	INLET AIR MANIFOLD PRESSURE SWITCH, UNITED ELECTRIC CONTROLS: J400K-455-1520	In Stock	1		N/A
60101095	SWITCH,OVERSPEED	CENTAUR KIT P/N1071653-2600	In Stock	1		N/A
60101079	SWITCH,PRESSURE	DIFFERENTIAL PRESSURE SWITCH,JOHNSON CONTROLS:JCI P 233 A-10-AAC	In Stock	1		N/A
60101107	SWITCH,PRESSURE	BEARING LUBE OIL HEADER PRESS#1 LOW, PRESSURE SWITCH, UNITED ELECTRIC CONTROLS: J402-146-1521	In Stock	1		N/A
60101110	SWITCH,PRESSURE	EMERGENCY LUBE OIL PUMP DISCHARGE - PRESSURE SWITCH, UNITED ELECTRIC CONTROLS - J400-146-1521	In Stock	1		N/A
60101115	SWITCH,PRESSURE	MAIN LUBE OIL PUMP #1 - DISCHARGE PRESSURE SWITCH, UNITED ELECTRIC CONTROLS: J402-164-1521	In Stock	1		N/A
60101171	SWITCH,PRESSURE	PRESSURE SWITCH, BARKSDALE:X1T-4100-25	In Stock	1		N/A
60101172	SWITCH,PRESSURE	PRESSURE SWITCH, DRUCKSCHALTER: D1 TM80 SS	In Stock	1		N/A
60101072	SWITCH,PUMP DISCHARGE PRESS.	PUMP DISCHARGE PRESSURE SWITCH, CCS 646GZEM5	In Stock	1		N/A
60101069	SWITCH,PUMP SUPPLY PRESSURE	PUMP SUPPLY PRESSURE SWITCH, CCS 646GZEM1	In Stock	1		N/A
60101114	SWITCH,TEMPERATURE	LUBE OIL RESERVOIR TEMPERATURE SWITCH, HONEYWELL:T775A2009	In Stock	1		N/A
61100429	THERMOCOUPLE,SHELL	SIEMENS:MQ 0206-PVDF8 3XTC(K), INSTALLATION LENGTH 375MM, HAN 8D	In Stock	1		N/A
60101175	THERMOSTAT,VENTILATION	MECHANICAL PACKAGE - VENTILATION THERMOSTAT, T631C1012	In Stock	1		N/A
60101086	TRANSMITTER,HEATER DISCHARGE	FUEL OIL INLINE HEATER DISCHARGE TEMPERATURE TRANSMITTER, ROSEMOUNT:644HAK6J6M4	In Stock	1		N/A
58400790	TRANSMITTER,PRESSURE	ROSEMOUNT:3051S2TG3A2A11A1AM5Q4	In Stock	1		N/A
60101139	TRANSMITTER,PRESSURE	HYD FLUID HEADER SUPPLY - PRESSURE TRANSMITTER, ROSEMOUNT: 3051TG4A2A21AM5Q4	In Stock	1		N/A
60101153	TRANSMITTER,PRESSURE	0-500 PRESSURE TRANSMITTER - RO SKID, AUTOMATION DIRECT: PTD25-20-0500H	In Stock	1		N/A

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60101154	TRANSMITTER,PRESSURE	PRESSURE TRANSMITTER, AUTOMATION DIRECT:PTD25-20-0100H, 0-100 PSI - VARIOUS SKIDS	In Stock	3		N/A	
60101084	TRANSMITTER,RADAR LEVEL	FUEL OIL TANK 1 LEVEL RADAR LEVEL TRANSMITTER, ROSEMOUNT:5402AH1E64SPVDAM1C1S3	In Stock	1		N/A	
61100435	TRANSMITTER,TANK LEVEL	RAW WATER STORAGE TANK LEVEL RADAR - LEVEL TRANSMITTER, ROSEMOUNT:5402AH1E64SPVCAM1C1S3	In Stock	1		N/A	
60101071	VALVE,ACTUATED THROTTLE	PNEUMATICALLY ACTUATED THROTTLE VALVE, FISHER ET-677-DVC-6200	In Stock	1		N/A	
60101134	VALVE,AIR BLEED	HYD FLUID AIR BLEED VALVE, HYDAC:AEV6/5 00230023	In Stock	1		N/A	
54900169	VALVE,AIR FILTER DRAIN	COOLING AIR FILTER BLEED DRAIN VALVE, 1", WORCHESTER:B4446 XG SW	In Stock	1		N/A	
54900166	VALVE,AUTO SHUT-OFF	MODEL ASV-1 AUTOMATIC - SHUT-OFF VALVE, TYCO:92-343-1-021	In Stock	2		N/A	
54900165	VALVE,AUTOMATIC DRAIN	MODEL AD-1 AUTOMATIC DRAIN VALVE, TYCO:52-793-2-004	In Stock	2		N/A	
60101162	VALVE,BALL	1.5", STAINLESS STEEL, MCMMASTER CARR: 45995K84	In Stock	1		N/A	
54100208	VALVE,CHECK	CHECK VALVE, SUN HYDRAULICS:CXDA-XAN	In Stock	1		N/A	
54300750	VALVE,FUEL BYPASS	MANUFACTURER:FISHER, MODEL:1008 HANDWHEEL ACTUATOR W/LOCKING MECHANISM, SIZE 40, TRAVEL LENGHT:3/4", CAPABLE OF GIVING PRECISE MANUAL - THROTTLING CONTROL, TRAVEL INDICTATOR MOUNTED ON ACTUATOR - YOKE FOR VISUAL VALVE PLUG POSITION	In Stock	1		N/A	
54100206	VALVE,FUEL CHECK	FUEL LINE CHECK VALVE, PARKER:10A-CBG8L-10-PF-SS, VOGT:SW9871T	In Stock	3		N/A	
54900176	VALVE,NEEDLE	1 SERIES NEEDLE VALVE, SWAGELock:B-1VM4-S4/SS-1VM4-S4	In Stock	1		N/A	
54400332	VALVE,PRESSURE CONTROL	PRESSURE CONTROL VALVE, SUN HYDRAULICS:RDBA-LAN	In Stock	1		N/A	
54400326	VALVE,PRESSURE RELIEF	HYDRAULIC FLUID PRESS RELIEF VALVE, REXROTH:R900341066	In Stock	1		N/A	
54400327	VALVE,PRESSURE RELIEF	PUMP DISCHARGE - PRESSURE RELIEF VALVE, REXROTH:R900420276	In Stock	1		N/A	
54400328	VALVE,PRESSURE RELIEF	VALVE MANIFOLD PRESSURE RELIEF VALVE, REXROTH:R900423723	In Stock	1		N/A	
54400329	VALVE,PRESSURE RELIEF	MAIN PUMP DISCHARGE - PRESSURE RELIEF VALVE, REXROTH:R900424147	In Stock	1		N/A	
54100209	VALVE,SOLENOID	SOLENOID VALVE, SUN HYDRAULICS:DLDA-MCN	In Stock	1		N/A	
54500437	VALVE,SOLENOID	SOLENOID VALVE, TYCO: 52-287-10-024	In Stock	2		N/A	
54500511	VALVE,SOLENOID	AIR CONTROL SOLENOID VALVE, 24VDC MINI, INGERSOLL RAND 633658	In Stock	1		N/A	
60101101	VALVE,SOLENOID	RAC FILTER DRAIN SOLENOID VALVE, PARKER:H2223N	In Stock	1		N/A	
65000438	VALVE,SOLENOID	GENERATOR JACKING OIL - SOLENOID VALVE, SUN HYDRAULICS:DLDA-MCN	In Stock	1		N/A	
54100203	VALVE,SS POPPET CHECK	SS POPPET CHECK VALVE, SWAGELock:SS-6C-1	In Stock	1		N/A	
54800068	VALVE,STOP	FISHER 3", 560lit-TH66 QS1600-4 DXP-L21GNEB	In Stock	1		N/A	
54900197	VALVE,THROTTLE	THROTTLE VALVE, NFBC-LCN	In Stock	1		N/A	
54900178	VALVE,6Z-PR4-BNT-SS	PARKER VALVE, MODEL# 6Z-PR4-BNT-SS	In Stock	1		N/A	
58400768	FILTER, AIR	GEN AIR FILTERS, COMPACT FILTER G4/F7 287 X 292 X 300, SIEMENS	In stock	8		TBD	
42100315	BELT,RADIATOR FAN	RADIATOR FAN BELT GROUP 1, CAT:7W5228	In stock	0		TBD	
58400763	FILTER,LIQUID FUEL	CLARK RELIANCE 2200A3	In Stock	25		TBD	
54300751	REPAIR KIT,BYPASS VALVE	REPAIR KIT FOR FUEL START-UP BYPASS VALVE, MANUFACTURER:FISHER, MODEL:EZ, SIZE:1", TRIM:1/4" M-FORM, USED FOR THROTTLING ON-OFF CONTROL OF LIQUID OR GASES, SINGLE PORT, GLOBE-STYLE BODY FOR - QUICK CHANGE TRIM & POST GUIDED UNBALANCED VALVE PLUG	In Stock	1		TBD	
54900190	VALVE ASSY,PILOT	PILOT VALVE ASSEMBLY, CLIPPARD FV-SP W/MPA-3P, CLIPPARD:LWT3732	In Stock	0		TBD	
61900223	TRANSMITTER,DEW POINT -100F	-40F AND -100F, INGERSOLL RAND P/N 23182603	On Order	0		TBD	
81200812	R-DIODE	SIEMENS PG:840C411F04	On Order	0		TBD	
81200813	F-DIODE	SIEMENS PG:840C411F03	On Order	0		TBD	
61100458	GAUGE,PRESSURE	PRESSURE GAUGE - FOR INSTR AIR COMPRESSOR, ASHCROFT:45-13772204b, RANGE:0-200 PSI	On Order	0		TBD	
61100454	GAUGE,CAPSULELIC	CAPSULELIC GOUGE 0-2" W.C., PNEUMAFIL:S51646-B6	On Order	0		TBD	
61100455	TRANSMITTER,PRESSURE	PRESSURE TRANSMITTER 0-300 PSI 4-20MA, ROSEMOUNT:3051TA3A2B21AES	On Order	0		TBD	
61100456	REGULATOR,PRESSURE	PRESSURE REGULATOR - AIR SUPPLY FROM INST AIR COMPRESSOR, FISHER:FS64-29	On Order	0		TBD	
61100457	GAUGE,PRESSURE	INSTR. AIR COMPRESSOR PRESSURE GAUGE, AIR CENTERS OF FLORIDA:5ZP76	On Order	0		TBD	
61100460	GAUGE,PRESS REGULATING	PRESSURE REGULATING GAUGE - AIR SUPPLY FROM INSTR AIR COMPRESSOR, FAIRCHILD:4066AT	On Order	0		TBD	
61100463	GAUGE,PRESSURE	PRESSURE GAUGE 0-160PSI, LIQUID FILLED BACK MOUNT, STAINLESS STEEL, AUTOMATION DIRECT:G25-SL160-4LB	On Order	0		TBD	
61100464	GAUGE,PRESSURE	PRESSURE GAUGE 0-100PSI, LIQUID FILLED LOWER MOUNTED, STAINLESS STEEL, AUTOMATION DIRECT:G25-SD100-4LS	On Order	0		TBD	
61100465	GAUGE,PRESSURE	PRESSURE GAUGE 0-100PSI, LIQUID FILLED BACK MOUNTED, STAINLESS STEEL, AUTOMATION DIRECT:G25-SD100-4CS	On Order	0		TBD	

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61100466	PRESSURE GUAGE 0-500PSI	PREESSURE GUAGE 0-500PSI, LIQUID FILLED BACK MOUNTED, STAINLESS STEEL, DWYER INSTRUMENTS:SGY-D11142N-GF	On Order	0			TBD	
61100467	GAUGE,PRESSURE 0-500PSI	PRESSURE GAUGE 0-500 PSI, LIQUID FILLED LOWER MOUNTED, STAINLESS STEEL, DWYER INSTRUMENTS:SGY-D11122N-GF	On Order	0			TBD	
54100202	VALVE,CHECK 3"	3MB60-6047-WR	On Order	0			TBD	
81200814	CAPACITOR ASSEMBLY,RC	SIEMENS PG:153C684	On Order	0			TBD	
61900225	MONITOR,GROUND VERIFICATION	TRUCK UPLOADING GROUND VERIFICATION MONITOR, 8030-120 GROUND VERIFICATION MONITOR, CIVACON	On Order	0			TBD	
58400769	FILTER, AIR	GEN AIR FILTERS, COMPACT FILTER, G4/F7 592 X 292 X 300, SIEMENS	On Order	0			TBD	
54400323	VALVE,PUMP DISCHARGE	PUMP DISCHARGE PRESSURE REGULATING VALVE, MOOG/FISHER:ET-657-DVC-6200, SERIAL # F000642304, TYPE:ET CAV 111, SIZE 1-1/2, PORT SIZE:1-5/16, RATING:CL600/1500 PSI CWP, PLUG:SST, STEM:SST, BODY:STL, SEAT:SST	On Order	0			TBD	
60101183	METER,30-199.9 MV	E-CELL 30-199.9 MV METER, GENERAL ELECTRIC: 3038073	On Order	0			TBD	
60101144	THERMOCOUPLE,RESERVOIR	HYD FLUID RESERVOIR THERMOCOUPLE, OMEGA:NB1-CASS-14U-12" DUAL	On Order	0			TBD	
60101174	ACTUATOR,LOUVER	ELECTRICAL PACKAGE LOUVER ACTUATOR, ML4115B1008	On Order	0			TBD	
60101178	KIT,STACK FITTINGS	E-CELL STACK FITTINGS KIT, GENERAL ELECTRIC:3019638	On Order	0			TBD	
54900188	VALVE,GLOBE	GLOBE VALVE, STEEL, VOGT:SW9871T, LUBE OIL FILTER TOWER #1 VENT VALVE	On Order	0			TBD	
54900164	VALVE,AIR INLET	ATOMIZING AIR RECEIVER INLET VALVE, WORCESTER:5166TT150	On Order	0			TBD	
60101132	SWITCH,OIL FLOW	GENERATOR TURBINE END BEARING - JACKING OIL FLOW SWITCH, MEISTER:DKM/A-1/10	On Order	0			TBD	
60101148	SPEED CONTROL,NUMATICS	SPEED CONTROL, BRONZE, NUMATICS A1MN, EMERSON:LWT21254	On Order	0			TBD	
60101161	VALVE,ACTUATOR	ACTUATOR, VALWORX:561055A, ELECT FOR RO INLET VALVE & RINSE VALVE -RO SKID	On Order	0			TBD	
60101177	SENSOR,INLINE FLOW	E-CELL INLINE FLOW SENSOR, BURKERT: 3059466	On Order	0			TBD	
60101181	SENSOR,E-CELL FLOW	E-CELL FLOW SENSOR 8020 SHORT, BURKERT:3033067	On Order	0			TBD	
60101182	ANALYZER,CONDUCTIVITY	E-CELL CONDUCTIVITY ANALYZER, BURKERT:3059495	On Order	0			TBD	
60101186	TRANSMITTER,PRESSURE	E-CELL PRESSURE TRANSMITTER, BURKERT:3059497	On Order	0			TBD	
70000504	FUSE,2A E-CELL	E-CELL FUSE 2A, BUSSMANN:3060755	On Order	0			TBD	
70000503	FUSE,25A E-CELL	E-CELL FUSE 25A, BUSSMANN:1154697	On Order	0			TBD	
70000502	FUSE,3A E-CELL	E-CELL FUSE 3A, BUSSMAN:3060756	On Order	0			TBD	
70000508	FUSE,8A E-CELL	E-CELL FUSE 8A, MERSEN ELECTRIC POWER:3060752	On Order	0			TBD	
54900177	VALVE,FEMALE NEEDLE	FEMALE NEEDLE VALVE, MCMMASTER CARR:4644K33, 3/8"NPT	On Order	0			TBD	
54900172	VALVE,COMPRESSOR BLEED	HP COMPRESSOR BLEED VALVE, 14", FISHER:A31A-1031/33082 SR80	Capital	0			TBD	
54900171	VALVE,COMPRESSOR BLEED	LP COMPRESSOR BLEED VALVE, 18", METSO AUTOMATION:815W 11 22HB XZC VA	Capital	0			TBD	
65000437	ACTUATOR,AUMA	ACTUATOR, AUMA, MODEL:SA10.2-216/GS200.3/GZ200.3	In procurement process	0			TBD	
60101192	ACTUATOR,DEMAND CONTROL	INLET GUIDE VALVE HYD DEMAND CONTROL - ACTUATOR, MOOG:85-616C101	In procurement process	0			TBD	
58400773	AIR FILTER,SOLAR FINAL	CENTAUR:AAF 515-564-002	In procurement process	0			TBD	
98200199	ALARM,PANEL DISCHARGE	FIRE CONTROL PANEL DISCHARGE -ALARM TO DCS, NOTIFIER:AFP-300	In procurement process	0			TBD	
98200198	ALARM,TROUBLE	FIRE CONTROL PANEL TROUBLE ALARM TO DCS, DET-TRONICS:U9500A	In procurement process	0			TBD	
65900003	BRUSH SET,TURNING MOTOR GEAR	TURNING GEAR MOTOR BRUSH SET, 419904-51AC	In procurement process	0			TBD	
80900088	BULB,TEMP A DRY	WEATHER STATION DRY BULB TEMP A, VAISALA: HMT3301A0B101CGAB200B01CABAA1	In procurement process	0			TBD	
56400184	BUSHING ASSY,FISHER POT	POT/BUSHING ASSEMBLY, FISHER:27B6208X012	In procurement process	0			TBD	
37900015	CABLE,TITAN IGNITER	TITAN IGNITER CABLE, CENTAUR:115352-1	In procurement process	0			TBD	
74201105	CONTACT,BRUSH	TWO LAYER CONTACT BRUSH, SIEMENS:EMT 513-005, 20X8X32 EG5U/AG20	In procurement process	0			TBD	
74201106	CONTACT,1NC BLK	CONTACT BLK 1NC, SIEMENS:52BAK	In procurement process	0			TBD	
60101185	CONTACTOR,E-CELL 32A	E-CELL 32A CONTACTOR, GENERAL ELECTRIC:3060877	In procurement process	0			TBD	
43900018	DAMPER,VACUUM CONTROL	LUBE OIL RESERVOIR - VACUUM CONTROL DAMPER, INTEGRAL WITH BLOWER HOUSING, 4"	In procurement process	0			TBD	
03900028	ELEMENT,CHROMOLOX	ELEMENT, CHROMOLOX:118-305471-112	In procurement process	0			TBD	
58400781	FILTER,HIGH PRESSURE FUEL	CENTAUR:1125423	In procurement process	0			TBD	
58400789	FILTER,LUBE OIL	TURBOHYDRAULIC START LUBE OIL FILTER, CENTAUR FAUCET: 038062 10M	In procurement process	0			TBD	
58400779	FILTER,TITAN FUEL	CENTAUR:11246882	In procurement process	0			TBD	
58400777	FILTER,TITAN LUBE OIL	CENTAUR:38062	In procurement process	0			TBD	
61100431	FLOWMETER,TURBINE	FUEL OIL UNLOADING FLOW LIQUID TURBINE FLOWMETER, HOFFER FLOW CONTROLS: HO SERIES/6X6-75-1250-CB-1M/XE2-F1CS-EXP	In procurement process	0			TBD	
70000509	FUSE,AC PIM	REPLACEMENT FUSE FOR AC PIMS, BENTLY NEVADA:1720025	In procurement process	0			TBD	
60101156	FUSE,LOW VOLTAGE DC	REPLACEMENT FUSE (LOW VOLTAGE DC PIM), BENTLY NEVADA: 1720045	In procurement process	0			TBD	

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70000487	FUSE,SIEMENS PG	SIEMENS PG 840C208FO1	In procurement process	0			TBD	
70000493	FUSE,12A	FUSE 12A, SIEMENS:S00232012	In procurement process	0			TBD	
56200363	GASKET,CENTAUR	GASKET, CENTAUR:946933C1	In procurement process	0			TBD	
56200362	GASKET,FLANGE	ROTOR COOLING AIR FILTER COVER - FLANGE GASKET, NATIONAL FILTRATION SYSTEMS:10300002	In procurement process	0			TBD	
61100451	GAUGE,CAPSUHELIC	CAPSUHELIC GUAGE 0-6" W.C., PNEUMAFIL:551646-B1	In procurement process	0			TBD	
61100450	GAUGE,CONVERTER PRESSURE	STARTING PACKAGE TORQUE CONVERTER PRESSURE GAUGE, KOENIG:BAC-160-25	In procurement process	0			TBD	
61100442	GAUGE,DIAL PRESSURE	DIAL PRESSURE GAUGE, ECODYNE:2172-1067	In procurement process	0			TBD	
60101106	GAUGE,OIL TEMPERATURE	LUBE OIL COOLER OUTLET TEMP GAUGE, ASHCROFT:600B-01-CEXSG	In procurement process	0			TBD	
61100459	GAUGE,PRESSURE	DIFFERENTIAL PRESSURE GAUGE - COMPRESSOR INSTR AIR COALESCING FILTER, HEADLINE FILTERS:DPP-975	In procurement process	0			TBD	
03900029	HEATER,CHROMOLOX	HEATER, CHROMOLOX:1281537	In procurement process	0			TBD	
03900025	HEATER,12KW OPEN COIL	12KW OPEN COIL HEATER, CHROMOLOX:OCE-12120-210-480V	In procurement process	0			TBD	
03900026	HEATER,3PH COMFORT	5KW/3PH/480V COMFORT HEATER, CHROMOLOX:HD3D-500 (PCN#520153)	In procurement process	0			TBD	
60101136	INDICATOR,LOOP PRESSURE	HYD FLUID CONDITIONING LOOP - PRESSURE INDICATOR, 2-1/2", REXROTH/400PUA31-10A-4 JIC	In procurement process	0			TBD	
61100447	INDICATOR,OIL LEVEL	LUBE OIL RESERVOIR LEVEL INDICATOR, GEMS:806601	In procurement process	0			TBD	
60101111	INDICATOR,VACUUM PRESSURE	LUBE OIL RESERVOIR VACUUM - PRESSURE INDICATOR, ASHCROFT:45-11877SS-04B	In procurement process	0			TBD	
60101129	INDICATOR,LOW OIL LEVEL	INSTRUMENT AIR COMPRESSOR LOW - OIL LEVEL INDICATOR, INGERSOLL RAND:22102388	In procurement process	0			TBD	
54900189	INDICATOR,SIGHT	1-1/2", JACOBY:100-S(NF)	In procurement process	0			TBD	
58400775	KIT,OIL FILTER & O-RING	LUBE OIL FILTER & O-RING KIT, CENTAUR:9161283C1	In procurement process	0			TBD	
74600114	LAMP,115VAC PILOT	115VAC PILOT LAMP - VARIOUS SKIDS, RADWELL INTERNATIONAL:D5N130	In procurement process	0			TBD	
60101160	MANUAL,POWER SUPPLY MODULE	POWER SUPPLY MODULE, MANUAL, BENTLY NEVADA:129767-01	In procurement process	0			TBD	
60101067	METER,FLOW	ROSEMOUNT:3051SFC1CS030N065-T33EA1A5Q4E6M5	In procurement process	0			TBD	
60101073	METER,FLOW	ROSEMOUNT:3051SFC1CS030NXT33DA1A5DQ4E6M5	In procurement process	0			TBD	
58400796	MICROSWITCH ASSY,FILTER	MICROSWITCH ASSEMBLY- FILTER SKIDS & SOFTENER, PENTAIR:LWT3215	In procurement process	0			TBD	
60101157	MODULE,DC POWER SUPPLY	HIGH VOLTAGE DC POWER SUPPLY MODULE, BENTLY NEVADA:129486-01	In procurement process	0			TBD	
74600113	MODULE,DISCRETE I/O	DISCRETE I/O MODULE WITH - INTERNAL TERMINATIONS, BENTLY NEVADA:133422-01	In procurement process	0			TBD	
74600109	MODULE,I/O	DISCRETE INTERNAL BARRIERS I/O MODULE WITH INTERNAL TERMINATIONS, BENTLY NEVADA:136703-01	In procurement process	0			TBD	
60101159	MODULE,POWER INPUT	LOW VOLTAGE DC POWER INPUT MODULE (PIM), BENTLY NEVADA:133300-01	In procurement process	0			TBD	
60101158	MODULE,POWER SUPPLY	LOW VOLTAGE DC POWER SUPPLY MODULE, BENTLY NEVADA:133292-01	In procurement process	0			TBD	
74600099	MODULE,TMR I/O	I/O MODULE WITH INTERNAL BARRIERS - (INTERNAL TERMINATIONS)(4 X PROX/ACCEL)	In procurement process	0			TBD	
60800395	MONITOR,MULTIFUNCTION	MULTIFUNCTION MONITOR - ORP OR CONDUCTIVITY, RYAN HERCO:5924-562	In procurement process	0			TBD	
65000435	MOTOR,FLAP ACTUATOR	JOHNSON CONTROLS, JCI M9132-GGA-1	In procurement process	0			TBD	
56400182	O-RING,BUNA	HEAD TO BOWL O-RING BUNA, PALL:UK19672	In procurement process	0			TBD	
60101116	PICK UP,GENERATOR SPEED	TURBINE GENERATOR SPEED PICK UP, BRAUN:A5S08T165C0.5	In procurement process	0			TBD	
60101118	PICK UP,TORQUE CONVERTER SP	TORQUE CONVERTER SPEED PICK UP, ELECTRO CORP:725833	In procurement process	0			TBD	
60800396	POWER SUPPLY,24VDC	24VDC POWER SUPPLY, AUTOMATION DIRECT:PSB24-060D	In procurement process	0			TBD	
58400776	PRE-FILTER,SOLAR	CENTAUR AMERKLEEN M-80 FILTER	In procurement process	0			TBD	
60800398	PREAMPLIFIER,ORP	ORP PREAMPLIFIER, RYAN HERCO:5905-273	In procurement process	0			TBD	
58101225	PUMP,GEAR	DANFOSS:BERENDEN FLUID POWER SNP 2/11	In procurement process	0			TBD	
54900195	REPAIR KIT,SOLENOID	PURGE SOLENOID REPAIR KIT, SURESITE:3153515	In procurement process	0			TBD	
61100430	RTD,AIR TEMPERATURE	GENERATOR EXCITER END COLD AIR TEMPERATURE RTD, 100 OHM PLATINUM, TMG GERABERG	In procurement process	0			TBD	
56500208	SEAL,MECHANICAL	MECHANICAL SEAL, EAGLE:ABPN Q1Q1VMG	In procurement process	0			TBD	
60800397	SENSOR,ORP	ORP SENSOR, RYAN HERCO:5909-751, RAW WATER PUMP - VARIOUS SKIDS	In procurement process	0			TBD	
60101080	SENSOR,TEMPERATURE	JCI TS-9103-8324	In procurement process	0			TBD	
60101164	SENSOR,VIBRATION	GENERATOR TURBINE END VIBRATION X, BENTLY NEVADA: 3300 SERIES	In procurement process	0			TBD	
60101170	SENSOR,VIBRATION	TURBINE EXHAUST END VIBRATION X - RELATIVE SENSOR, BENTLY NEVADA: 3500 SERIES	In procurement process	0			TBD	
42100314	SHAFT,FISHER	SHAFT, FISHER:7000400800	In procurement process	0			TBD	
74600098	SWITCH,AUXILIARY	AUX SWITCH, SIEMENS:A01JLD64	In procurement process	0			TBD	
60101180	SWITCH,E-CELL PRESSURE	E-CELL PRESSURE SWITCH, AUTOMATION DIRECT:3039305	In procurement process	0			TBD	
60101145	SWITCH,FLUID LOW LEVEL	HYD FLUID RESERVOIR LOW LEVEL SWITCH, REXROTH:500PUA31-05 2 SW	In procurement process	0			TBD	
60101104	SWITCH,HIGH PRESSURE	LUBE OIL FILTER DELTA HIGH PRESS SWITCH, MIDWEST:120-AA-09-0-CZ	In procurement process	0			TBD	

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60101150	SWITCH,INSULATOR #58-PA	MICRO SWITCH INSULATOR #58-PA, PENTAIR:LWT7696	In procurement process	0			TBD	
60101130	SWITCH,OIL PUMP PRESSURE	GENERATOR MAIN JACKING OIL PUMP - PRESSURE SWITCH, BARKSDALE:B1T-H32	In procurement process	0			TBD	
60101131	SWITCH,OIL PUMP PRESSURE	GENERATOR MAIN JACKING OIL PUMP - PRESSURE SWITCH, BARKSDALE:B1T-H04	In procurement process	0			TBD	
60101125	SWITCH,PRESSURE	INSTRUMENT AIR SYSTEM PRESSURE SWITCH, UNITED ELECTRIC CONTROLS: H122-184, MFG PN 0409-007	In procurement process	0			TBD	
60101151	SWITCH,STAGER 48-03	STAGER (110V) SERIES 48-03 - W/HOMING SWITCH, OSMONICS: 48-03	In procurement process	0			TBD	
60101128	SWITCH,START STOP PRESSURE	INSTR.AIR COMPRESSOR START STOP, PRESSURE SWITCH, HUBBELL INDUSTRIAL CONTROL: 69HA109779U	In procurement process	0			TBD	
58608460	SWITCH,TEMPERATURE	BARKESDALE HEATER CONTROL TEMPERATURE SWITCH, MODEL # T1X-S154-A, STAINLESS STEEL	In procurement process	0			TBD	
60101142	SWITCH,TEMPERATURE	HYD FLUID RESERVOIR HEATER - TEMPERATURE SWITCH, UNITED ELECTRIC CONTROLS: C402-120-1070-M202 73/86F	In procurement process	0			TBD	
60101176	SWITCH,TEMPERATURE	ELECTRICAL PACKAGE TEMPERATURE SWITCH, SERIES 54	In procurement process	0			TBD	
60101140	SWITCH,TEMPERATURE (OFF)	HYD FLUID COOLER FAN MOTOR - TEMPERATURE SWITCH (OFF), UNITED ELECTRIC CONTROLS: C402-120-1070-M202 135/120F	In procurement process	0			TBD	
60101141	SWITCH,TEMPERATURE (ON)	HYD FLUID COOLER FAN MOTOR - TEMPERATURE SWITCH (ON), UNITED ELECTRIC CONTROLS: C402-120-1070-M202 135/120F	In procurement process	0			TBD	
60101097	SWITCH,VALVE OPEN LIMIT	HP BLEED VALVE OPEN LIMIT SWITCH, WESTLOCK:2007XBY/4SPDT	In procurement process	0			TBD	
60101100	SWITCH,VALVE OPEN LIMIT	LP BLEED VALVE OPEN LIMIT SWITCH, WESTLOCK:2007XBY/6SPDT	In procurement process	0			TBD	
61100424	THERMOCOUPLE ASSEMBLY TYPE J	THERMOCOUPLE ASSEMBLY TYPE J, C11637-07-001	In procurement process	0			TBD	
61100440	THERMOCOUPLE,BLADE PATH	COMPRESSOR BLADE PATH THERMOCOUPLE, DUPLEX TYPE K	In procurement process	0			TBD	
61100441	THERMOCOUPLE,DISC CAVITY	DISC CAVITY THERMOCOUPLE, PYCO:DUPLEX TYPE K	In procurement process	0			TBD	
61100438	THERMOCOUPLE,EXHAUST	TURBINE EXHAUST END BEARING - THERMOCOUPLE, DUPLEX TYPE K	In procurement process	0			TBD	
60101108	THERMOCOUPLE,LUBE OIL TEMP	BEARING LUBE OIL SUPPLY TEMPERATURE - THERMOCOUPLE, PYCO:02-3174 W/16-0049 (TYPE K)	In procurement process	0			TBD	
54900167	THERMOCOUPLE,TEMPERATURE	COMBUSTOR SHELL DISCHARGE - TEMPERATURE THERMOCOUPLE DUPLEX TYPE K	In procurement process	0			TBD	
61100448	THERMOCOUPLE,TEMPERATURE	STARTING PACKAGE MOTOR STATOR - TEMPERATURE THERMOCOUPLE, S102629PD-120T305Z96	In procurement process	0			TBD	
61100449	THERMOCOUPLE,TEMPERATURE	STARTING PACKAGE MOTOR FORWARD - BEARING TEMPERATURE T/C, S16820PD-300Z96	In procurement process	0			TBD	
61100425	THERMOCOUPLE,TYPE K	K316G316-0-60-120-1ASP	In procurement process	0			TBD	
61100428	THERMOMETER,RESISTANCE	SIEMENS:WQ 0233 2XPT100, INSTALLATION LENGTH 250MM, HAN 8D	In procurement process	0			TBD	
03900024	THERMOSTAT KIT,WR-90	WR-90 THERMOSTAT KIT, CHROMOLOX:WR-90 KIT	In procurement process	0			TBD	
61100468	THERMOSTAT,AC#1	ELECTRICAL PACKAGE AC#1 THERMOSTAT, HH01AD045	In procurement process	0			TBD	
60101105	TOWER,LUBE OIL FILTER	LUBE OIL FILTER TOWER #1 PRESS, MARSH:J4652	In procurement process	0			TBD	
60101184	TRANSDUCER,55A CURRENT	E-CELL 55A CURRENT TRANSDUCER, PHOENIX CONTACT:3062518	In procurement process	0			TBD	
60101078	TRANSMITTER,GROUND FAULT	SIEMENS PG:153C691G02	In procurement process	0			TBD	
60101099	TRANSMITTER,GUIDE POSITION	INLET GUIDE VANE POSITION TRANSMITTER, FISHER:4200 SERIES (4200)	In procurement process	0			TBD	
60101137	TRANSMITTER,LEVEL	HYD FLUID RESERVOIR - LEVEL TRANSMITTER, GEMS:XT-800	In procurement process	0			TBD	
60101068	TRANSMITTER,LIQUID FUEL TEMP	LIQUID FUEL TEMPERATURE TRANSMITTER, ROSEMOUNT 644HAK6M5Q4J6	In procurement process	0			TBD	
61100445	TRANSMITTER,OIL PRESSURE	BEARING OIL PRESSURE TRANSMITTER, SIEMENS: 7MF4033-1CA10-1AC7-Z+B21+A02+Y01+Y21+Y15+Y16	In procurement process	0			TBD	
60101124	TRANSMITTER,PRESSURE	INLET FILTER HOUSE BAROMETRIC - PRESSURE TRANSMITTER, SIEMENS: 7MF4233-1FA10-1AC1-Z+B21+Y01+Y15	In procurement process	0			TBD	
60101193	TRANSMITTER,PRESSURE	COMBUSTOR SHELL PRESS TRANSMITTER, SIEMENS:7MF4233-1HA10-1AC1-Z+B21+Y01+Y15	In procurement process	0			TBD	
60101070	TRANSMITTER,PUMP DISCHARGE	PUMP DISCHARGE PRESSURE TRANSMITTER, ROSEMOUNT 3051CG5A22A1AS5B4C6M5Q4	In procurement process	0			TBD	
60101122	TRANSMITTER,31 TEMPERATURE	INLET SCROLL TEMPERATURE TRANSMITTER #1, YOKAGAWA:YTA320-EA2NN/FU1/D2/Z	In procurement process	0			TBD	
54600160	VALVE 2" NPT BALL	FEMALE 316 SS FULL PORT BALL VALVE, 2"NPT, MCM:46495K86	In procurement process	0			TBD	
54400324	VALVE,AIR RELIEF	INST AIR HEADER RELIEF VALVE, PARKER:6M-6M-RL4A-VTSSMNKD	In procurement process	0			TBD	
54800070	VALVE,BUTTERFLY	BUTTERFLY VALVE, GEAR OPERATED, VELAN TOURQUESEAL: L16-1CP02-ACAA C/W MODEL M15	In procurement process	0			TBD	
54100205	VALVE,CHECK	CHECK VALVE, MODEL 210, 4"	In procurement process	0			TBD	
60101096	VALVE,COMPRESSOR SOLENOID	HP COMPRESSOR BLEED VALVE SOLENOID, ASCO:JKC8316G74V	In procurement process	0			TBD	
54900161	VALVE,CONTINUOUS PURGE	3", QS0600-4 DXP-L21GNEB EFHC8321G1	In procurement process	0			TBD	
61100443	VALVE,CONTROL	STAGE 3 TEMPERATURE CONTROL VALVE - I/P W/POSITIONER, FISHER:DVC5030	In procurement process	0			TBD	
61100444	VALVE,CONTROL	STAGE 2 TEMPERATURE CONTROL VALVE - I/P W/POSITIONER, VRC:VE700GT1	In procurement process	0			TBD	
54900193	VALVE,INLET SHUFFLE	INLET SHUTTLE VALVE, SURESITE:4010031	In procurement process	0			TBD	
54900173	VALVE,PRESS REGULATING	LO BEARING PRESSURE REGULATING VALVE, FISHER:44 ACTUATOR 4 BODY 655ED	In procurement process	0			TBD	
60101109	VALVE,PRESSURE CONTROL	BEARING LUBE OIL PRESSURE CONTROL VALVE, FISHER:ED-655	In procurement process	0			TBD	

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54400325	VALVE,PRESSURE RELIEF	POLISHING LOOP PRESSURE RELIEF VALVE, REXROTH:RR00347261	In procurement process	0			TBD	
54400330	VALVE,PRESSURE RELIEF	POLISHING LOOP PRESSURE RELIEF VALVE, REXROTH:HH8670A20KPRBV	In procurement process	0			TBD	
54100207	VALVE,PVC CHECK	PVC Y-PATTERN CHECK VALVE, 3", UNITED STATES PLASTIC CORP:5132-030	In procurement process	0			TBD	
54900160	VALVE,SHUTDOWN PURGE	1", QS0065-4 DXP-L21GNEB JBHC8327G041-125VDC	In procurement process	0			TBD	
54500434	VALVE,SOLENOID	MECHANICAL PACKAGE LOUVER - SOLENOID VALVE, ASCO:WPKP8320A89MS	In procurement process	0			TBD	
54500436	VALVE,SOLENOID	E-CELL SOLENOID VALVE, EMERSON:3022390	In procurement process	0			TBD	
60101127	VALVE,SOLENOID	INST AIR SYSTEM ISOLATION SOLENOID VALVE, ASCO:HCL8316G66MB	In procurement process	0			TBD	
54900196	VALVE,SUPPLY FILTER	HYD FLUID SUPPLY FILTER SELECTION VALVE, PALL:1319232	In procurement process	0			TBD	
54900168	VALVE,TEMP CONTROL	STAGE #3 DISC CAVITY TEMPERATURE - CONTROL VALVE, 3", FISHER:A41-1032425AS	In procurement process	0			TBD	
54900170	VALVE,TEMP CONTROL	STAGE #2 DISC CAVITY TEMPERATURE - CONTROL VALVE, 4", FISHER:A41-1032425SR	In procurement process	0			TBD	
54600159	VALVE,1" SW BALL	1" SW BALL VALVE, WORCESTER:K466TSW	In procurement process	0			TBD	
54100204	VALVE,150# CHECK	150# CHECK VALVE, MODEL 210, 6"	In procurement process	0			TBD	
54600163	VALVE,2" PVC BALL	TRUE UNION BALL VALVES, 2", PVC, INDELCO:2TUBV	In procurement process	0			TBD	
54600161	VALVE,3/8" THD BALL	3/8" THD BALL VALVE, APOLLO:76-102-01	In procurement process	0			TBD	

## **APPENDIX G**

### Critical Spares Status Listing – Hydraulic Generation

## 2016-17 Winter Readiness Report - Update

Critical Spare Component	Stock Status	Risk Score	Spare Cost >\$50,000	Comments
BDE - INTAKE STRUCTURE NO. 1 - TRANSMITTER,PRESS 0-6MH20	In Stock	MEDIUM	NO	
BDE - PENSTOCK NO. 1 - TRANSMITTER,PRESS 0-375	In Stock	MEDIUM	NO	
BDE - PENSTOCK NO. 2 - TRANSMITTER,PRESS 0-375	In Stock	MEDIUM	NO	
BDE - PENSTOCK NO. 3 - TRANSMITTER,PRESS 0-375	In Stock	MEDIUM	NO	
BDE - PENSTOCK NO. 4 - TRANSMITTER,PRESS 0-375	In Stock	MEDIUM	NO	
BDE - TURBINE - Turbine Carbon Seal (Units 1 to 4)	In Stock	HIGH	NO	
BDE - TURBINE - Turbine Carbon Seal (Units 5 & 6)	In Stock	HIGH	NO	
BDE - WICKET GATES AND LINKAGES - Shear Pins	In Stock	MEDIUM	NO	
BDE - WICKET GATES AND LINKAGES - PACKING,V TYPE 2-EASY	In Stock	MEDIUM	NO	
BDE - WICKET GATES AND LINKAGES - PIN,ECCENTRIC	In Stock	MEDIUM	NO	
BDE - WICKET GATES AND LINKAGES - RING,PISTON SERVO MOTOR 18"OD	In Stock	HIGH	NO	
BDE - ISOLATED PHASE BUS - XFMR,CT 13.8KV	In Stock	HIGH	NO	
BDE - ISOLATED PHASE BUS - XFMR,CT 1000:	In Stock	HIGH	NO	
BDE - ISOLATED PHASE BUS - XFMR,PT 14400KV	In Stock	HIGH	NO	
BDE - ISOLATED PHASE BUS - XFMR,CT 3032313	In Stock	HIGH	NO	
BDE - ISOLATED PHASE BUS - XFMR,CT 800:5	In Stock	HIGH	NO	
BDE - ISOLATED PHASE BUS - CT 50/51	In Stock	HIGH	NO	
BDE - GATE HOIST - BAY D'ESPOIR - ST - Remote I/O Adapter	In Stock	MEDIUM	NO	
BDE - HEADCOVER ASSEMBLY - UNIT 1 - BUSHING,UPPER HEAD COVER P003	In Stock	HIGH	NO	
BDE - HEADCOVER ASSEMBLY - UNIT 1 - BUSHING,UPPER WICKET	In Stock	HIGH	NO	
BDE - RUNNER - UNIT 1 - BOLT,SHAFT TO RUNNER	In Stock	HIGH	NO	
BDE - PLC, Model Quantum- Modicon - MODULE,ANALOG QUANTUM	In Stock	MEDIUM	NO	
BDE - PLC, Model Quantum- Modicon - MODULE,CPU MODICON	In Stock	MEDIUM	NO	
BDE - PLC, Model Quantum- Modicon - MODULE,DISCRETE IN	In Stock	MEDIUM	NO	
BDE - PLC, Model Quantum- Modicon - MODULE,DISCRETE OUT	In Stock	MEDIUM	NO	
BDE - PLC, Model Quantum- Modicon - MODULE,ETHERNET QUANTUM	In Stock	MEDIUM	NO	
BDE - PLC, Model Quantum- Modicon - MODULE,GPS QUANTUM	In Stock	MEDIUM	NO	
BDE - PLC, Model Quantum- Modicon - MODULE,HOT STANDBY	In Stock	MEDIUM	NO	
BDE - PLC, Model Quantum- Modicon - MODULE,INTERFACE PLC	In Stock	MEDIUM	NO	
BDE - PLC, Model Quantum- Modicon - MODULE,RACK FILLER	In Stock	MEDIUM	NO	
BDE - PLC, Model Quantum- Modicon - MODULE,RELAY OUT	In Stock	MEDIUM	NO	
BDE - PLC, Model Quantum- Modicon - POWER SUPPLY, 125-24 VDC	In Stock	MEDIUM	NO	
BDE - PLC, Model Quantum- Modicon - POWER SUPPLY,125 VDC	In Stock	MEDIUM	NO	
BDE - PLC, Model Quantum- Modicon - POWER SUPPLY,125VDC 8A	In Stock	MEDIUM	NO	
BDE - PLC, Model Quantum- Modicon - POWER SUPPLY,24 VDC	In Stock	MEDIUM	NO	
BDE - PLC, Model Quantum- Modicon - REMOTE I/O HEAD,MODICON	In Stock	MEDIUM	NO	
BDE - PLC, Model Quantum- Modicon - ADAPTER,REMOTE I/O	In Stock	MEDIUM	NO	

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Critical Spare Component	Stock Status	Risk Score	Spare Cost >\$50,000	Comments
BDE - PLC, Model Quantum- Modicon - BACKPLANE,10 SLOT MODICON	In Stock	MEDIUM	NO	
BDE - STATION SERVICE - BDE PH1 - ACB	In Stock	HIGH	NO	
BDE - STATION SERVICE - BDE PH1 - Trip Unit - Breaker control device	In Stock	HIGH	NO	
BDE - ROTOR SHAFT - Rotating Ring	In Stock	HIGH	TBD	
BDE - STATOR ASSEMBLY - BAR,COPPER 1/2"X2"X10'	In Stock	HIGH	NO	
BDE - STATOR ASSEMBLY - BAR,ROTOR CONNECTION	In Stock	HIGH	NO	
BDE - STATOR ASSEMBLY - BAR,ROTOR CONNECTION	In Stock	HIGH	NO	
BDE - STATOR ASSEMBLY - BAR,STATOR	In Stock	HIGH	TBD	
BDE - STATOR ASSEMBLY - BAR,STATOR	In Stock	HIGH	TBD	
BDE - SPILLWAY #1-SALMON RIVE - Lift gearboxes/nuts	In Stock	HIGH	NO	
BDE - INTAKE GATE - BACKPLANE,6 SLOT MODICON	In Stock	MEDIUM	NO	
BDE - DISCONNECT SWITCH 29-1 - Complete Unit	In Stock	HIGH	YES	
BDE - Generator SLIPRING/BRUSH RIGGING - Carbon Brushes	In Stock	MEDIUM	NO	
BDE - Generator SLIPRING/BRUSH RIGGING - Brush Holders	In Stock	MEDIUM	NO	
BDE - Generator SLIPRING/BRUSH RIGGING - Slip Ring	In Stock	HIGH	YES	
BDE - TURBINE GUIDE BEARING - Bearing	In Stock	HIGH	YES	
BDE - EXCITATION CONTROLS - CARD,ABB HIEE200130R0001	In Stock	HIGH	NO	
BDE - EXCITATION CONTROLS - CARD,ABB HIEE205011R0001	In Stock	HIGH	NO	
BDE - EXCITATION CONTROLS - CARD,ABB HIEE205012R0001	In Stock	HIGH	NO	
BDE - EXCITATION CONTROLS - CARD,ABB HIEE205014R0001	In Stock	HIGH	NO	
BDE - EXCITATION CONTROLS - CARD,ABB HIEE300661R0001	In Stock	HIGH	NO	
BDE - EXCITATION CONTROLS - CARD,ABB HIEE300686R0001	In Stock	HIGH	NO	
BDE - EXCITATION CONTROLS - CARD,ABB HIEE300690R0001	In Stock	HIGH	NO	
BDE - EXCITATION CONTROLS - CARD,ABB HIEE300698R0001	In Stock	HIGH	NO	
BDE - EXCITATION CONTROLS - CARD,ABB HIEE300766R0001	In Stock	HIGH	NO	
BDE - EXCITATION CONTROLS - CARD,ABB HIEE305043R0001	In Stock	HIGH	NO	
BDE - EXCITATION CONTROLS - CARD,ABB HIEE305069R0001	In Stock	HIGH	NO	
BDE - EXCITATION CONTROLS - CARD,ABB HIEE30598R1	In Stock	HIGH	NO	
BDE - EXCITATION CONTROLS - CARD,ABB HIEE401481RD001	In Stock	HIGH	NO	
BDE - EXCITATION CONTROLS - COIL,ABB HIER464920P1	In Stock	HIGH	NO	
BDE - EXCITATION CONTROLS - MAINBOARD,ABB HIER465176R22	In Stock	HIGH	NO	
BDE - EXCITATION CONTROLS - POWER SUPPLY,TRACO HIER46651-	In Stock	HIGH	NO	
BDE - EXCITATION CONTROLS - POWER SUPPLY,TRACO HIER46651-	In Stock	HIGH	NO	
BDE - EXCITATION CONTROLS - RESISTOR,FIELD DISCHARGE	In Stock	HIGH	NO	
BDE - EXCITATION CONTROLS - SHUNT,ABB UXAB269330R909	In Stock	HIGH	NO	
BDE - EXCITATION CONTROLS - VARISTOR,ABB 3ACD5245A003	In Stock	HIGH	NO	
BDE - FIELD BREAKER QO2 - PANEL EE - BREAKER,ABB HIER466757P2331 (entire unit)	In Stock	HIGH	NO	

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Critical Spare Component	Stock Status	Risk Score	Spare Cost >\$50,000	Comments
BDE - FIELD BREAKER QO2 - PANEL EE - SHUNT,ABB UXAB269350R909	In Stock	HIGH	NO	
BDE - FIELD BREAKER QO2 - PANEL EE - CONTACT,ABB UXAB239Z60R002	In Stock	HIGH	NO	
BDE - FIELD BREAKER QO2 - PANEL EE - CONTACT,ABB UXAB239299R0003	In Stock	HIGH	NO	
BDE - FIELD BREAKER QO2 - PANEL EE - CONTACT,ABB UXAB269399R032	In Stock	HIGH	NO	
BDE - FIELD BREAKER QO2 - PANEL EE - ARC-CHUTE,ABB UXAB269399R012	In Stock	HIGH	NO	
BDE - GENERATOR - CREEP DETECTOR ASSY,129 VCD	In Stock	HIGH	NO	
BDE - GENERATOR - PLATES,BRAKE (24 PER SET)	In Stock	HIGH	NO	
BDE - GENERATOR - SWITCH,WOODWARD 8935-139	In Stock	HIGH	NO	
BDE - Exciter POWER ELECTRONICS - Pulse Transformers	In Stock	MEDIUM	NO	
BDE - Exciter POWER ELECTRONICS - BRIDGE,ABB S00772	In Stock	HIGH	NO	
BDE - Exciter POWER ELECTRONICS - FUSE,ABB 6,6URD32TTF0800	In Stock	MEDIUM	NO	
BDE - Exciter POWER ELECTRONICS - FAN ASSY,ABB 500773	In Stock	HIGH	NO	
BDE - Exciter POWER ELECTRONICS - THYRISTOR,ABB 5STP27F1200	In Stock	HIGH	NO	
BDE - RECTIFYING TRANSFORMER - Full Unit	In Stock	HIGH	YES	
BDE - SURFACE AIR COOLERS - SAC Unit	In Stock	MEDIUM	TBD	
BDE - SURFACE AIR COOLERS - Tubes	In Stock	MEDIUM	NO	
BDE - THRUST/GUIDE BEARING COOLERS - Cooler	In Stock	HIGH	YES	
BDE - ROTOR POLES - Pole	In Stock	HIGH	TBD	
BDE - STATOR WINDINGS - UNIT 1 - CONNECTOR,STATOR CU	In Stock	HIGH	NO	
BDE - STATOR WINDINGS - UNIT 1 to 4 - Coils	In Stock	HIGH	TBD	
BDE - THRUST/GUIDE BEARING ASSEMBLY - Springs	In Stock	HIGH	NO	
BDE - THRUST/GUIDE BEARING ASSEMBLY - Oil	In Stock	MEDIUM	NO	
BDE - THRUST/GUIDE BEARING ASSEMBLY - TRANSMITTER,DIFF	In Stock	MEDIUM	NO	
BDE - GOVERNOR - BEARING,DASHPOT LINK	In Stock	HIGH	NO	
BDE - GOVERNOR - BRACKET,WOODWARD 11002-57	In Stock	HIGH	NO	
BDE - GOVERNOR - BRACKET,WOODWARD 91588	In Stock	HIGH	NO	
BDE - GOVERNOR - BUSHING,PILOT VALVE	In Stock	HIGH	NO	
BDE - GOVERNOR - BUSHING,SNAP ACTION	In Stock	HIGH	NO	
BDE - GOVERNOR - BUSHING,WW 11002-65	In Stock	HIGH	NO	
BDE - GOVERNOR - BUSHING, DASHPOT - SMALL	In Stock	HIGH	NO	
BDE - GOVERNOR - BUSHING, DASHPOT - LARGE	In Stock	HIGH	NO	
BDE - GOVERNOR - CABLE,AIRCRAFT 1/4 187083	In Stock	HIGH	NO	
BDE - GOVERNOR - CLIP,WW 11002-16	In Stock	HIGH	NO	
BDE - GOVERNOR - COIL,DASHPOT	In Stock	HIGH	NO	
BDE - GOVERNOR - COIL,PARTIAL SHUTDOWN RESET	In Stock	HIGH	NO	
BDE - GOVERNOR - COIL,SHUTDOWN SOLENOID	In Stock	HIGH	NO	
BDE - GOVERNOR - COIL,SHUTDOWN SOLENOID 65SD	In Stock	HIGH	NO	

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Critical Spare Component	Stock Status	Risk Score	Spare Cost >\$50,000	Comments
BDE - GOVERNOR - COIL,WW 202132	In Stock	HIGH	NO	
BDE - GOVERNOR - CONTACT,CONTACTOR-TYPE DG-	In Stock	HIGH	NO	
BDE - GOVERNOR - DASHPOT,WW 161314	In Stock	HIGH	NO	
BDE - GOVERNOR - DIODE,WW 202891	In Stock	HIGH	NO	
BDE - GOVERNOR - DISC,RELIEF VALVE	In Stock	HIGH	NO	
BDE - GOVERNOR - DISC,UNLOADER	In Stock	HIGH	NO	
BDE - GOVERNOR - GASKET KIT,WOODWARD 8926-137	In Stock	HIGH	NO	
BDE - GOVERNOR - GASKET,WOODWARD 1327-816	In Stock	HIGH	NO	
BDE - GOVERNOR - GASKET,WOODWARD 206317	In Stock	HIGH	NO	
BDE - GOVERNOR - LEVER,CONNECTING LOWER	In Stock	HIGH	NO	
BDE - GOVERNOR - LEVER,LOWER FLOATING	In Stock	HIGH	NO	
BDE - GOVERNOR - LEVER,UPPER FLOATING	In Stock	HIGH	NO	
BDE - GOVERNOR - LINK,WOODWARD 070346	In Stock	HIGH	NO	
BDE - GOVERNOR - LOCKWASHER,BEARING	In Stock	HIGH	NO	
BDE - GOVERNOR - MOTOR ASSY,C/W SHAFT & GEAR	In Stock	HIGH	NO	
BDE - GOVERNOR - MOTOR ASSY,GATE LIMIT	In Stock	HIGH	NO	
BDE - GOVERNOR - MOTOR,GOVERNOR SPEED 28 VOLT	In Stock	HIGH	NO	
BDE - GOVERNOR - MOTOR,SYNCHRONIZING	In Stock	HIGH	NO	
BDE - GOVERNOR - MOTOR, VIBRATING OIL	In Stock	HIGH	NO	
BDE - GOVERNOR - FILTER,HYD 932633Q	In Stock	HIGH	NO	
BDE - GOVERNOR - PIN,BALLARM	In Stock	HIGH	NO	
BDE - GOVERNOR - PIN,DASHPOT	In Stock	HIGH	NO	
BDE - GOVERNOR - PIN,LOWER DRIVE	In Stock	HIGH	NO	
BDE - GOVERNOR - PIN,PIVOT	In Stock	HIGH	NO	
BDE - GOVERNOR - PIN,WOODWARD 11002-71	In Stock	HIGH	NO	
BDE - GOVERNOR - PIN,WOODWARD 11002-75	In Stock	HIGH	NO	
BDE - GOVERNOR - PLUNGER,SNAP ACTION	In Stock	HIGH	NO	
BDE - GOVERNOR - POTENTIOMETER,1250OH 0.24A	In Stock	HIGH	NO	
BDE - GOVERNOR - PUMP,OIL IMO A3DB-275	In Stock	HIGH	NO	
BDE - GOVERNOR - RETAINER,SWITCH	In Stock	HIGH	NO	
BDE - GOVERNOR - RING,SNAP (PILOT SERVO PLUG)	In Stock	HIGH	NO	
BDE - GOVERNOR - ROTOR,BALL HEAD MOTOR	In Stock	HIGH	NO	
BDE - GOVERNOR - SOLENOID,125 V DC	In Stock	HIGH	NO	
BDE - GOVERNOR - SOLENOID,125VDC 211E	In Stock	HIGH	NO	
BDE - GOVERNOR - SPRING,PILOT VALVE LINK	In Stock	HIGH	NO	
BDE - GOVERNOR - SPRING,RELIEF	In Stock	HIGH	NO	
BDE - GOVERNOR - SPRING,UNLOADER	In Stock	HIGH	NO	

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Critical Spare Component	Stock Status	Risk Score	Spare Cost >\$50,000	Comments
BDE - GOVERNOR - STATOR,BALL HEAD MOTOR	In Stock	HIGH	NO	
BDE - GOVERNOR - SWITCH,PRESS OIL ALARM	In Stock	HIGH	NO	
BDE - GOVERNOR SPEED GENERATOR - BEARING,SPEED SIGNAL	In Stock	MEDIUM	NO	
BDE - GOVERNOR SPEED GENERATOR - BUSHING, OILITE OVERSPEED SWITCH ASSEMBLY	In Stock	HIGH	NO	
BDE - GOVERNOR SPEED GENERATOR - PIN,DOWEL - SPEED SWITCH	In Stock	MEDIUM	NO	
BDE - GOVERNOR SPEED GENERATOR - PLATE,MOUNTING - MERCURY	In Stock	HIGH	NO	
BDE - GOVERNOR SPEED GENERATOR - RING,ROTOR	In Stock	HIGH	NO	
BDE - GOVERNOR SPEED GENERATOR - PIN,ROCKER ARM	In Stock	HIGH	NO	
BDE - GOVERNOR SPEED GENERATOR - BEARING,WW 1800125	In Stock	MEDIUM	NO	
BDE - GOVERNOR SPEED GENERATOR - BEARING,WW 111006	In Stock	MEDIUM	NO	
BDE - GOVERNOR SPEED GENERATOR - BEARING,PMG P/N Z995205	In Stock	MEDIUM	NO	
BDE - GOVERNOR SPEED GENERATOR - PIN,BALLARM	In Stock	HIGH	NO	
BDE - GOVERNOR SPEED GENERATOR - BUSHING,URETHANE UPPER D	In Stock	MEDIUM	NO	
BDE - GOVERNOR SPEED GENERATOR - BUSHING,URETHANE LOWER D	In Stock	MEDIUM	NO	
BDE - GOVERNOR SPEED GENERATOR - BALLARM,SPEED SWITCH	In Stock	HIGH	NO	
BDE - GOVERNOR SPEED GENERATOR - PIN,TAPERED	In Stock	MEDIUM	NO	
BDE - GOVERNOR SPEED GENERATOR - SPRING,SPEED SWITCH	In Stock	HIGH	NO	
BDE - GOVERNOR SPEED GENERATOR - STATOR,P.M.G.	In Stock	HIGH	NO	
BDE - GUIDE BEARING SEGMENTS - Bearing segments,	In Stock	HIGH	YES	
BDE - THRUST BEARING SEGMENTS - Bearing segments,	In Stock	HIGH	YES	
BDE - UNIT 7 GOVERNOR - FILTER,HYD 932633Q	In Stock	HIGH	N/A	
BDE - UNIT 7 GOVERNOR - PIN,BALLARM	In Stock	HIGH	N/A	
BDE - UNIT 7 GOVERNOR - PIN,DASHPOT	In Stock	HIGH	N/A	
BDE - UNIT 7 GOVERNOR - PIN,LOWER DRIVE	In Stock	HIGH	N/A	
BDE - UNIT 7 GOVERNOR - PIN,PIVOT	In Stock	HIGH	N/A	
BDE - UNIT 7 GOVERNOR - PIN,ROCKER ARM	In Stock	HIGH	N/A	
BDE - UNIT 7 GOVERNOR - PIN,WOODWARD 11002-71	In Stock	HIGH	N/A	
BDE - UNIT 7 GOVERNOR - PIN,WOODWARD 11002-75	In Stock	HIGH	N/A	
BDE - UNIT 7 GOVERNOR - PLUNGER,SNAP ACTION	In Stock	HIGH	N/A	
BDE - UNIT 7 GOVERNOR - POTENTIOMETER,1250OH 0.24A	In Stock	HIGH	N/A	
BDE - UNIT 7 GOVERNOR - PUMP,OIL IMO A3DB-275	In Stock	HIGH	N/A	
BDE - UNIT 7 GOVERNOR - RETAINER,SWITCH	In Stock	MEDIUM	N/A	
BDE - UNIT 7 GOVERNOR - RING,SNAP (PILOT SERVO PLUG)	In Stock	HIGH	N/A	
BDE - UNIT 7 GOVERNOR - ROTOR,BALL HEAD MOTOR	In Stock	HIGH	N/A	
BDE - UNIT 7 GOVERNOR - SENSOR,LOAD GOVERNOR	In Stock	HIGH	N/A	
BDE - UNIT 7 GOVERNOR - SOLENOID,125 V DC	In Stock	HIGH	N/A	
BDE - UNIT 7 GOVERNOR - SOLENOID,125VDC 211E	In Stock	HIGH	N/A	

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Critical Spare Component	Stock Status	Risk Score	Spare Cost >\$50,000	Comments
BDE - UNIT 7 GOVERNOR - SPRING,PILOT VALVE LINK	In Stock	HIGH	N/A	
BDE - UNIT 7 GOVERNOR - STATOR,BALL HEAD MOTOR	In Stock	HIGH	N/A	
BDE - UNIT 7 GOVERNOR - SWITCH,PRESS OIL ALARM	In Stock	HIGH	N/A	
BDE - UNIT 7 GOVERNOR - STATOR,PERMANENT MAGNET	In Stock	HIGH	N/A	
BDE - UNIT 7 GOVERNOR - SPRING,SPEED SWITCH	In Stock	HIGH	N/A	
BDE - UNIT 7 TURBINE - Carbon Seal	In Stock	HIGH	N/A	
BDE - UNIT 7 TURBINE - Wicket gate	In Stock	HIGH	N/A	
BDE - UNIT 7 TURBINE - Turbine bearing	In Stock	HIGH	N/A	
BDE - Unit 7 DRAFT TUBE-TURBINE - Water Level Probe	In Stock	MEDIUM	N/A	
BDE - Unit 7 HEADCOVER ASSEMBLY - BOTTOM RING P001 bushing	In Stock	HIGH	N/A	
BDE - Unit 7 HEADCOVER ASSEMBLY - BUSHING,LOWER HEAD COVER P001	In Stock	HIGH	N/A	
BDE - Unit 7 HEADCOVER ASSEMBLY - PACKING,V-TYPE 3/8 EASY	In Stock	MEDIUM	N/A	
BDE - Unit 7 OPERATING RING - Linkage	In Stock	HIGH	N/A	
BDE - Unit 7 OPERATING RING - BUSHING,LINK PIN	In Stock	MEDIUM	N/A	
BDE - Unit 7 OPERATING RING - CAP,SHEARPIN	In Stock	MEDIUM	N/A	
BDE - Unit 7 OPERATING RING - PIN,ECCENTRIC P005	In Stock	MEDIUM	N/A	
BDE - Unit 7 OPERATING RING - PIN,LINK P006	In Stock	MEDIUM	N/A	
BDE - Unit 7 OPERATING RING - PIN,ROD SHEARPIN	In Stock	MEDIUM	N/A	
BDE - Unit 7 OPERATING RING - PIN,UPPER DRIVE	In Stock	MEDIUM	N/A	
BDE - Unit 7 OPERATING RING - LEVER,WICKET GATE	In Stock	HIGH	N/A	
BDE - Unit 7 ROTOR ASSEMBLY - POLE	In Stock	HIGH	N/A	
BDE - Unit 7 RUNNER - TURBINE - CARBON SEAL	In Stock	HIGH	N/A	
BDE - Unit 7 SERVOMOTOR # 1 - Piston Ring	In Stock	HIGH	N/A	
BDE - Unit 7 SERVOMOTOR # 1 - PACKING,SERVOMOTOR	In Stock	MEDIUM	N/A	
BDE - Unit 7 SERVOMOTOR # 1 - PACKING,V TYPE 2-EASY	In Stock	MEDIUM	N/A	
BDE - Unit 7 SERVOMOTOR # 1 - PACKING,V-TYPE 9"X8"ID	In Stock	MEDIUM	N/A	
BDE - UNIT 7 EXCITER - BOARD,DIGITAL I/O	In Stock	MEDIUM	N/A	
BDE - UNIT 7 EXCITER - BOARD,I/O ANALOG	In Stock	MEDIUM	N/A	
BDE - UNIT 7 EXCITER - BOARD,MEASURING ABB	In Stock	MEDIUM	N/A	
BDE - UNIT 7 EXCITER - BOARD,POWER SYSTEM STABI	In Stock	MEDIUM	N/A	
BDE - UNIT 7 EXCITER - CAPACITOR,20 MF +-10% 150 V	In Stock	MEDIUM	N/A	
BDE - UNIT 7 EXCITER - COMPONENT, INTEG CCT	In Stock	MEDIUM	N/A	
BDE - UNIT 7 EXCITER - INTEG CCT	In Stock	MEDIUM	N/A	
BDE - UNIT 7 EXCITER - CONTACT,ISOLATING	In Stock	MEDIUM	N/A	
BDE - UNIT 7 EXCITER - MODULE,ABB DCS500B200361	In Stock	MEDIUM	N/A	
BDE - UNIT 7 EXCITER - PANEL,CONTROL	In Stock	MEDIUM	N/A	
BDE - UNIT 7 EXCITER - POWER SUPPLY,ABB 3BHE013940R00	In Stock	MEDIUM	N/A	

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Critical Spare Component	Stock Status	Risk Score	Spare Cost >\$50,000	Comments
BDE - UNIT 7 EXCITER - RELAY,GROUND VOLTAGE	In Stock	MEDIUM	N/A	
BDE - Unit 7 Generator Field Breaker - Main Moving Contacts	In Stock	MEDIUM	N/A	
BDE - Unit 7 Generator Field Breaker - Main Fixed Contacts	In Stock	MEDIUM	N/A	
BDE - Unit 7 Generator Field Breaker - COIL,SHUNT CLOSING	In Stock	MEDIUM	N/A	
BDE - Unit 7 Generator Field Breaker - COIL,SHUNT OPENING	In Stock	MEDIUM	N/A	
BDE - Unit 7 Generator Field Breaker - Charging Motor	In Stock	MEDIUM	N/A	
BDE - Unit 7 Generator Field Breaker - BREAKER,ABB EZNE1600MS4-B1	In Stock	HIGH	N/A	
BDE - Unit 7 Generator Field Breaker - ARC CHUTE,ABB UXAB289199215	In Stock	MEDIUM	N/A	
BDE - Unit 7 Generator Field Breaker - MOTOR,CHARGING	In Stock	MEDIUM	N/A	
BDE - Unit 7 Generator Field Breaker - CONTACT,ABB UXAB239Z60R0	In Stock	MEDIUM	N/A	
BDE - Unit 7 Control Board - BOARD,CONTROL	In Stock	MEDIUM	N/A	
BDE - UNIT 7 HYDRAULIC GENERATOR - coolers	In Stock	HIGH	N/A	
BDE - Unit 7 PMG - BEARING,SPEED SIGNAL	In Stock	MEDIUM	N/A	
BDE - Unit 7 PMG - BUSHING, OILITE OVERSPEED SWITCH ASSEMBLY	In Stock	HIGH	N/A	
BDE - Unit 7 PMG - PIN,DOWEL - SPEED SWITCH	In Stock	MEDIUM	N/A	
BDE - Unit 7 PMG - PLATE,MOUNTING - MERCURY	In Stock	HIGH	N/A	
BDE - Unit 7 PMG - RING,ROTOR	In Stock	HIGH	N/A	
BDE - Unit 7 PMG - PIN,ROCKER ARM	In Stock	HIGH	N/A	
BDE - Unit 7 PMG - BEARING,WW 1800125	In Stock	MEDIUM	N/A	
BDE - Unit 7 PMG - BEARING,WW 111006	In Stock	MEDIUM	N/A	
BDE - Unit 7 PMG - BEARING,PMG P/N Z995205	In Stock	MEDIUM	N/A	
BDE - Unit 7 PMG - PIN,BALLARM	In Stock	HIGH	N/A	
BDE - Unit 7 PMG - BUSHING,URETHANE UPPER D	In Stock	MEDIUM	N/A	
BDE - Unit 7 PMG - BUSHING,URETHANE LOWER D	In Stock	MEDIUM	N/A	
BDE - Unit 7 PMG - BALLARM,SPEED SWITCH	In Stock	HIGH	N/A	
BDE - Unit 7 PMG - PIN,TAPERED	In Stock	MEDIUM	N/A	
BDE - Unit 7 PMG - SPRING,SPEED SWITCH	In Stock	HIGH	N/A	
BDE - Unit 7 PMG - STATOR,P.M.G.	In Stock	HIGH	N/A	
BDE - Unit 7 VIBRATION MONITORING - PICK-UP,NON-CONTACT	In Stock	MEDIUM	N/A	
BDE - Unit 7 VIBRATION MONITORING - PICK-UP,SPEED SENSING	In Stock	MEDIUM	N/A	
BDE - Unit 7 VIBRATION MONITORING - POWER SUPPLY,IRD PCB 29128	In Stock	HIGH	N/A	
BDE - Unit 7 GENERATOR COOLING WATER SYSTEM - TRANSMITTER,DIFF	In Stock	MEDIUM	N/A	
BDE - Unit 7 WICKET GATES - GATE, WICKET	In Stock	HIGH	N/A	
BDE - Unit 7 SLIPRING/BRUSH RIGGING - Collector rings	In Stock	HIGH	N/A	
BDE - Unit 7 SLIPRING/BRUSH RIGGING - Brushes	In Stock	MEDIUM	N/A	
BDE - Unit 7 SURFACE AIR COOLERS - Tubes	In Stock	MEDIUM	N/A	
BDE - Unit 7 THRUST/GUIDE BEARING COOLERS - Coolers	In Stock	HIGH	YES	New Ordered

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Critical Spare Component	Stock Status	Risk Score	Spare Cost >\$50,000	Comments
BDE - Unit 7 NEUTRAL GROUND TRANSFORMER - transformer	In Stock	MEDIUM	N/A	
BDE - Unit 7 ROTOR - Pole	In Stock	HIGH	N/A	
BDE - Unit 7 STATOR WINDINGS - Stator Bars	In Stock	HIGH	N/A	
BDE - Unit 7 STATOR WINDINGS - Wedges	In Stock	HIGH	N/A	
BDE - Unit 7 TURBINE GUIDE BEARING - bearing	In Stock	HIGH	YES	New Ordered
BDE - Unit 7 GENERATOR GUIDE BEARING - segments	In Stock	HIGH	N/A	
BDE - Unit 7 THRUST BEARING - Thrust Pads	In Stock	HIGH	N/A	
BDE - Unit 7 THRUST BEARING - Rotating Ring	In Stock	HIGH	N/A	
BDE - PANEL STATION SERVICE - PH #2 - ACB	In Stock	HIGH	YES	
CAT - ACCUMULATOR TANK - COIL AUTO AIR CHARGING SOLND	In Stock	HIGH	N/A	
CAT - Governor Control System - CABLE DEFLECTOR FDBK AMP	In Stock	HIGH	N/A	
CAT - Governor Control System - CABLE FEEDBACK 20'	In Stock	HIGH	N/A	
CAT - Governor Control System - CABLE FEEDBACK 200'	In Stock	HIGH	N/A	
CAT - Governor Control System - CABLE FEEDBACK 50'	In Stock	HIGH	N/A	
CAT - Governor Control System - CABLE,NEEDLE FDBK AMP,	In Stock	HIGH	N/A	
CAT - Governor Control System - CABLE PROPORTIONAL VLV	In Stock	HIGH	N/A	
CAT - Governor Control System - CABLE90 DEG.5' ZVPU,	In Stock	HIGH	N/A	
CAT - Governor Control System - Power Supply	In Stock	MEDIUM	N/A	
CAT - Governor Control System - Power Supply 24V	In Stock	MEDIUM	N/A	
CAT - Governor - JOINT,UNIVERSAL SSG #1787058	In Stock	HIGH	N/A	
CAT - NEEDLE VALVE ASS (6) - Tip	In Stock	HIGH	N/A	
CAT - NEEDLE VALVE ASS (6) - Shuttle Valve	In Stock	HIGH	N/A	
CAT - NEEDLE VALVE ASS (6) - CONNECTOR, MINIATURE CHAIN	In Stock	HIGH	N/A	
CAT - NEEDLE VALVE ASS (6) - Casing guide U/S	In Stock	HIGH	N/A	
CAT - NEEDLE VALVE ASS (6) - Casing guide D/S	In Stock	HIGH	N/A	
CAT - NEEDLE VALVE ASS (6) - Needle seat	In Stock	HIGH	N/A	
CAT - NEEDLE VALVE ASS (6) - BUSHING NOZZLE 374527007/P001	In Stock	HIGH	N/A	
CAT - NEEDLE VALVE ASS (6) - CABLE AIRCRAFT,	In Stock	MEDIUM	N/A	
CAT - NEEDLE VALVE ASS (6) - CABLE AIRCRAFT 20,	In Stock	MEDIUM	N/A	
CAT - NEEDLE VALVE ASS (6) - CHAIN,DBS FCS-A1-15	In Stock	HIGH	N/A	
CAT - NEEDLE VALVE ASS (6) - CONTROL DEVICE,NEEDLE	In Stock	HIGH	N/A	
CAT - NEEDLE VALVE ASS (6) - CONNECTOR, MINIATURE CHAIN	In Stock	HIGH	N/A	
CAT - NEEDLE VALVE ASS (6) - Amplifier/proportional	In Stock	HIGH	N/A	
CAT - NEEDLE VALVE ASS (6) - seal piston ring	In Stock	MEDIUM	N/A	
CAT - NEEDLE VALVE ASS (6) - Seal	In Stock	MEDIUM	N/A	
CAT - Electronic Governor - BUSHING CABLE PROP VLV,	In Stock	HIGH	N/A	
CAT - Electronic Governor - CONNECTOR,MLDT ROD BALL	In Stock	HIGH	N/A	

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Critical Spare Component	Stock Status	Risk Score	Spare Cost >\$50,000	Comments
CAT - Electronic Governor - CONVERTER,SERIAL/ETHERNET	In Stock	HIGH	N/A	
CAT - Electronic Governor - HOLDER,CIRCUIT BREAKER	In Stock	HIGH	N/A	
CAT - Electronic Governor - INTERFACE,ETHERNET VERSA	In Stock	HIGH	N/A	
CAT - Electronic Governor - MODULE,GE AMPLIFIER	In Stock	HIGH	N/A	
CAT - Electronic Governor - MODULE,GE PT INTERFACE	In Stock	HIGH	N/A	
CAT - Electronic Governor - MODULE,PLUG-IN DIODE	In Stock	HIGH	N/A	
CAT - Electronic Governor - MODULE,VERSAMAX 16 PT	In Stock	HIGH	N/A	
CAT - Electronic Governor - MODULE,VERSAMAX 32 PT	In Stock	HIGH	N/A	
CAT - Electronic Governor - MODULE,VERSAMAX 4 AO	In Stock	HIGH	N/A	
CAT - Electronic Governor - PC,ATLAS VX WORKS	In Stock	HIGH	N/A	
CAT - Electronic Governor - VERSAMAX power supply	In Stock	HIGH	N/A	
CAT - Electronic Governor - PROBE,SPEED ZVPU	In Stock	HIGH	N/A	
CAT - Electronic Governor - RELAY,14 PIN PLUG 24VDC	In Stock	HIGH	N/A	
CAT - Electronic Governor - LVDT deflector	In Stock	HIGH	N/A	
CAT - Electronic Governor - Pos.Xducer	In Stock	HIGH	N/A	
CAT - Electronic Governor - POs.Xducer	In Stock	HIGH	N/A	
CAT - Electronic Governor - Deflector proportional	In Stock	HIGH	N/A	
CAT - Electronic Governor - Rod deflector	In Stock	HIGH	N/A	
CAT - Electronic Governor - PC, Atlas 2	In Stock	HIGH	N/A	
CAT - Electronic Governor - Guide Ball Slide	In Stock	HIGH	N/A	
CAT - Governor Hydraulics - ELEMENT,FILTER SM 10	In Stock	MEDIUM	N/A	
CAT - Governor Hydraulics - ELEMENT,FILTER SM 25	In Stock	MEDIUM	N/A	
CAT - Governor Hydraulics - DEFLECTOR,SERVOMOTOR	In Stock	HIGH	YES	New Ordered
CAT - Governor Hydraulics - PLUG,C/V 010168-390-163	In Stock	HIGH	N/A	
CAT - Governor Hydraulics - PLUG,C/V 021002-281-208	In Stock	HIGH	N/A	
CAT - Governor Hydraulics - PLUG,ESCHER WYSS	In Stock	HIGH	N/A	
CAT - Governor Hydraulics - Deflector valve	In Stock	HIGH	N/A	
CAT - Governor Hydraulics - Piston seal 725X8 X3/8	In Stock	MEDIUM	N/A	
CAT - Governor Hydraulics - Piston seal 9X8X1/2	In Stock	MEDIUM	N/A	
CAT - Governor Hydraulics - Seal	In Stock	MEDIUM	N/A	
CAT - Governor Hydraulics - Pressure Switch	In Stock	MEDIUM	N/A	
CAT - Governor Hydraulics - OIL,TURBINE 46 (205L)	In Stock	MEDIUM	N/A	
CAT - POWER TUNNEL (ROCKCUT) - Seal, Adit Door	In Stock	HIGH	N/A	
CAT - ROTOR - GENERATOR - Pole	In Stock	HIGH	N/A	
CAT - Turbine - Runner	In Stock	HIGH	N/A	
CAT - GENERATOR - MODULE,TYP 1CD 108 M 2-02 vibro-meter	In Stock	MEDIUM	N/A	
CAT - GENERATOR - OVERCURRENT relay	In Stock	MEDIUM	N/A	

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Critical Spare Component	Stock Status	Risk Score	Spare Cost >\$50,000	Comments
CAT - GENERATOR - RELAY,TIME DELAY .6 - 1.0	In Stock	MEDIUM	N/A	
CAT - GENERATOR - rotating ring	In Stock	HIGH	N/A	
CAT - GENERATOR - INSLTR,SLIP RING	In Stock	MEDIUM	N/A	
CAT - GENERATOR - Brake ring	In Stock	HIGH	N/A	
CAT - GENERATOR - Brake valve	In Stock	HIGH	N/A	
CAT - GENERATOR - Brake Solenoid	In Stock	HIGH	N/A	
CAT - Isolated Phase Bus - PT fuse	In Stock	MEDIUM	N/A	
CAT - STATION SERVICE SYSTEM - COIL,CLOSING 129 V DC	In Stock	HIGH	N/A	
CAT - STATION SERVICE SYSTEM - Arc Chute	In Stock	HIGH	N/A	
CAT - STATION SERVICE SYSTEM - Trip Coil	In Stock	HIGH	N/A	
CAT - STATION SERVICE SYSTEM - Main Drawout Contact	In Stock	HIGH	N/A	
CAT - STATION SERVICE SYSTEM - Contact Moving Arc	In Stock	HIGH	N/A	
CAT - STATION SERVICE SYSTEM - Contact Stationary Arc	In Stock	HIGH	N/A	
CAT - STATION SERVICE SYSTEM - Undervoltage Coil	In Stock	HIGH	N/A	
CAT - STATION SERVICE SYSTEM - Contact 1600Amp	In Stock	HIGH	N/A	
CAT - STATION SERVICE SYSTEM - CT 400-800	In Stock	HIGH	N/A	
CAT - STATION SERVICE SYSTEM - CT 800-1600	In Stock	HIGH	N/A	
CAT - SURFACE AIR COOLERS - Surface Air Cooler	In Stock	HIGH	N/A	
CAT - Generator Bearing - Cooler	In Stock	HIGH	YES	New Ordered
CAT - Stator Assembly - BAR STATOR BOTTOM,	In Stock	HIGH	N/A	
CAT - Stator Assembly - BAR STATOR TOP,	In Stock	HIGH	N/A	
CAT - Stator Assembly - CAP STATOR WINDING END,	In Stock	HIGH	N/A	
CAT - Stator Assembly - JUMPER,STATOR ASM 105	In Stock	HIGH	N/A	
CAT - Stator Assembly - JUMPER,STATOR ASM 107	In Stock	HIGH	N/A	
CAT - Stator Assembly - JUMPER,STATOR ASM 108	In Stock	HIGH	N/A	
CAT - Stator Assembly - JUMPER,STATOR ASM 109	In Stock	HIGH	N/A	
CAT - Stator Assembly - JUMPER,STATOR WINDING	In Stock	HIGH	N/A	
CAT - Stator Assembly - JUMPER,STATOR WINDING	In Stock	HIGH	N/A	
CAT - Stator Assembly - JUMPER,STATOR WINDING	In Stock	HIGH	N/A	
CAT - Stator Assembly - Wedge	In Stock	HIGH	N/A	
CAT - Stator Assembly - Wedge	In Stock	HIGH	N/A	
CAT - Stator Assembly - Connector	In Stock	HIGH	N/A	
CAT - Stator Assembly - Slider	In Stock	HIGH	N/A	
CAT - Stator Assembly - Slider	In Stock	HIGH	N/A	
CAT - Stator Assembly - Slider	In Stock	HIGH	N/A	
CAT - Exciter # 1 - COIL,SHUNT CLOSING	In Stock	HIGH	N/A	
CAT - Exciter # 1 - COIL,SHUNT OPENING	In Stock	HIGH	N/A	

## 2016-17 Winter Readiness Report - Update

Critical Spare Component	Stock Status	Risk Score	Spare Cost >\$50,000	Comments
CAT - Exciter # 1 - CONTACT,ISOLATING	In Stock	HIGH	N/A	
CAT - Exciter # 1 - MODULE,THYRISTOR BRIDGE	In Stock	HIGH	N/A	
CAT - Exciter # 1 - SUPPLY,110-220 VOLT	In Stock	HIGH	N/A	
CAT - Exciter # 1 - Breaker	In Stock	HIGH	N/A	
CAT - Exciter # 1 - Arc Chute	In Stock	HIGH	N/A	
CAT - Exciter # 1 - Control Board	In Stock	HIGH	N/A	
CAT - Exciter # 1 - I/O ANALOG BOARD CONTROL,	In Stock	HIGH	N/A	
CAT - Exciter # 1 - DIGITAL I/O BOARD,	In Stock	HIGH	N/A	
CAT - Exciter # 1 - PANEL,CONTROL	In Stock	HIGH	N/A	
CAT - Exciter # 1 - BOARD POWER SYSTEM STABI,	In Stock	HIGH	N/A	
CAT - Exciter # 1 - BOARD MEASURING,	In Stock	HIGH	N/A	
CAT - Exciter # 1 - MOTOR,CHARGING	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - CONTROL BOARD,	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - CARD ABB HIER319619R2,	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - CARD ABB KX9170A V1,	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - CARD ABB UN 2010B-P,	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - CARD ABB UNC001D-E,	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - CARD ABB UNS0026A-P,	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - CARD\ ABB UN0014B-P,	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - CARD ABB UN0016A-P,	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - CARD ABB UN0025A-P,	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - CARD ABB UN0026A-P,	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - CARD ABB UN0027A-P,	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - CARD ABB UN0031A-P,	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - CARD ABB UN004A-P,	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - CARD ABB UN0079A-P,	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - CARD ABB UN0083A-P,	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - CARD ABB UN0089A-P,	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - CARD ABB UN0091A-P,CARD ABB UN0093A-P,	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - CARD ABB UN0503A-P,	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - Unitrol Card	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - Thyristor	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - Transformer	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - Field Voltage Transducer	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - Shunt Voltage Transducer	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - Analog Input Transducer	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - Fuse 600Amp	In Stock	HIGH	N/A	

## 2016-17 Winter Readiness Report - Update

Critical Spare Component	Stock Status	Risk Score	Spare Cost >\$50,000	Comments
CAT - EXCITER NO. 2 - CARD ABB UN0510C-9,	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - CARD ABB UN0516A,	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - CARD ABB UN0900B-P,	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - CARD ABB UN0901B-P,	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - CARD ABB UN1001C-P,	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - CARD ABB UN1004A-P,	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - COIL,SHUNT CLOSING	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - COIL,125 VOLT 60HZ	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - CARD\ ABB UN1004A-P,	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - CARD ABB UN1024C-P,	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - CARD ABB 1WX 174-2,	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - CARD BBC UN0077AP,	In Stock	HIGH	N/A	
CAT - EXCITER NO. 2 - CARD,BBC UN2001F-P	In Stock	HIGH	N/A	
CAT - BREAKERS BY BROWN BOVERI, 600V - spare field breaker in used spare exciter	In Stock	HIGH	N/A	
CAT - Slipring/brush Rigging Assembly - Ring, Collector Assembly	In Stock	HIGH	N/A	
CAT - Slipring/brush Rigging Assembly - Brushes	In Stock	MEDIUM	N/A	
CAT - Slipring/brush Rigging Assembly - Brush Holder	In Stock	HIGH	N/A	
CAT - Slipring/brush Rigging Assembly - Insulator	In Stock	HIGH	N/A	
CAT - Governor Pumps - Pump	In Stock	HIGH	N/A	
CAT - Governor Pumps - INSERT,CURVED JAW SPIDER	In Stock	HIGH	N/A	
CAT - Rotor Poles - Entire Pole	In Stock	HIGH	N/A	
CAT - Stator Windings - JUMPER,STATOR ASM 105	In Stock	HIGH	N/A	
CAT - Stator Windings - JUMPER,STATOR ASM 107	In Stock	HIGH	N/A	
CAT - Stator Windings - JUMPER,STATOR ASM 108	In Stock	HIGH	N/A	
CAT - Stator Windings - JUMPER,STATOR ASM 109	In Stock	HIGH	N/A	
CAT - Stator Windings - JUMPER,STATOR WINDING	In Stock	HIGH	N/A	
CAT - Stator Windings - JUMPER,STATOR WINDING	In Stock	HIGH	N/A	
CAT - Stator Windings - JUMPER,STATOR WINDING	In Stock	HIGH	N/A	
CAT - THRUST BEARING - thrust pads	In Stock	HIGH	N/A	
CAT - Turbine Guide Bearing - Bearing	In Stock	HIGH	N/A	
CAT - Guide Bearing Segments - Bearing	In Stock	HIGH	N/A	
CAT - Thrust Bearing Segments - Segments	In Stock	HIGH	N/A	
HLK - GOVERNOR HYDRAULIC SYSTEM - PUMP UNLOADER,	In Stock	HIGH	N/A	
HLK - GOVERNOR HYDRAULIC SYSTEM - COILDASHPOT,	In Stock	HIGH	N/A	
HLK - GOVERNOR HYDRAULIC SYSTEM - COIL OIL PUMP UNLOADER SOLND. ,	In Stock	HIGH	N/A	
HLK - GOVERNOR HYDRAULIC SYSTEM - COIL PARTIAL SHUTDOWN RESET ,	In Stock	HIGH	N/A	
HLK - GOVERNOR HYDRAULIC SYSTEM - COIL SHUTDOWN SOLENOID 65SD ,	In Stock	HIGH	N/A	

## 2016-17 Winter Readiness Report - Update

Critical Spare Component	Stock Status	Risk Score	Spare Cost >\$50,000	Comments
HLK - GOVERNOR HYDRAULIC SYSTEM - COIL RESET SOLENOID ,	In Stock	HIGH	N/A	
HLK - GOVERNOR HYDRAULIC SYSTEM - WOODWARD 1447- 634,motor	In Stock	HIGH	N/A	
HLK - GOVERNOR HYDRAULIC SYSTEM - WOODWARD 1447-640,MOTOR	In Stock	HIGH	N/A	
HLK - GOVERNOR HYDRAULIC SYSTEM - GATE LIMIT,ROD,	In Stock	HIGH	N/A	
HLK - GOVERNOR HYDRAULIC SYSTEM - UNLOADER PISTON,	In Stock	HIGH	N/A	
HLK - GOVERNOR HYDRAULIC SYSTEM - filter	In Stock	HIGH	N/A	
HLK - GOVERNOR ACCUMULATOR TANK - SWITCH PRESS OIL ALARM,	In Stock	HIGH	N/A	
HLK - GOVERNOR ACCUMULATOR TANK - Air admission solenoid	In Stock	HIGH	N/A	
HLK - GOVERNOR SPEED GENERATOR - GEAR,WOODWARD 1447-640	In Stock	HIGH	N/A	
HLK - GOVERNOR SPEED GENERATOR - gear drive	In Stock	HIGH	N/A	
HLK - MECHANICAL GOVERNOR CONTROLS - Motor limit	In Stock	HIGH	N/A	
HLK - MECHANICAL GOVERNOR CONTROLS - Motor speeder	In Stock	HIGH	N/A	
HLK - MECHANICAL GOVERNOR CONTROLS - Unloader timing valve	In Stock	HIGH	N/A	
HLK - OPERATING RING - Bearing pads	In Stock	HIGH	N/A	
HLK - SERVOMOTOR #1 - servomotor repair kit	In Stock	HIGH	N/A	
HLK - SERVOMOTOR ASSEMBLY - shear pins	In Stock	HIGH	N/A	
HLK - Rotor Assembly - HLK Generator - Rotor pole	In Stock	HIGH	N/A	
HLK - TURBINE - Carbon seal,	In Stock	HIGH	N/A	
HLK - TURBINE - BEARING SEGMENT TURBINE,	In Stock	HIGH	N/A	
HLK - TURBINE - PLATE BEARING,	In Stock	HIGH	N/A	
HLK - TURBINE - SEAL TURBINE,	In Stock	HIGH	N/A	
HLK - TURBINE - Wicket gate lever	In Stock	HIGH	N/A	
HLK - TURBINE - Friction hub	In Stock	HIGH	N/A	
HLK - TURBINE - Friction hub	In Stock	HIGH	N/A	
HLK - TURBINE - Packing box	In Stock	HIGH	N/A	
HLK - TURBINE - link thin	In Stock	HIGH	N/A	
HLK - TURBINE - link thick	In Stock	HIGH	N/A	
HLK - TURBINE - wicket gate seal	In Stock	HIGH	N/A	
HLK - TURBINE - Dowel	In Stock	HIGH	N/A	
HLK - TURBINE - Link pin	In Stock	HIGH	N/A	
HLK - TURBINE - Eccentric pin	In Stock	HIGH	N/A	
HLK - WICKET GATES - wicket gate	In Stock	HIGH	N/A	
HLK - GENERATOR - brake shoes	In Stock	HIGH	N/A	
HLK - GENERATOR - SOLENOID,GENERATOR AIR VALVE,	In Stock	HIGH	N/A	
HLK - GENERATOR - Generator air valve	In Stock	HIGH	N/A	
HLK - HEADCOVER ASSEMBLY - SEAL TURBINE,	In Stock	HIGH	N/A	
HLK - HEADCOVER ASSEMBLY - SEALWICKET GATE,	In Stock	HIGH	N/A	

## 2016-17 Winter Readiness Report - Update

Critical Spare Component	Stock Status	Risk Score	Spare Cost >\$50,000	Comments
HLK - HEADCOVER ASSEMBLY - BUSHING 60X75 MM,	In Stock	HIGH	N/A	
HLK - HEADCOVER ASSEMBLY - BUSHING GATE STEM - LOWER,	In Stock	HIGH	N/A	
HLK - HEADCOVER ASSEMBLY - BUSHING GATE STEM - UPPER,	In Stock	HIGH	N/A	
HLK - HEADCOVER ASSEMBLY - Bushing upper	In Stock	HIGH	N/A	
HLK - INTAKE HEADGATE AND HOIST EQUIP - Pressure druk	In Stock	MEDIUM	N/A	
HLK - STATION SERVICE SWITCHGEAR - Breaker (EATON)	In Stock	HIGH	N/A	
HLK - Thrust/Guide Bearing Coolers - Hi pressure lift pump	In Stock	HIGH	N/A	
HLK - ISOLATED PHASE BUS - PT fuse	In Stock	HIGH	N/A	
HLK - STATOR ASSEMBLY - Stator connection caps	In Stock	HIGH	N/A	
HLK - STATOR ASSEMBLY - Stator bars	In Stock	HIGH	N/A	
HLK - EXCITATION - Bridge (entire module)	In Stock	HIGH	N/A	
HLK - Slipring /Brush Rigging - Carbon brush	In Stock	MEDIUM	N/A	
HLK - Slipring /Brush Rigging - Brush holder	In Stock	HIGH	N/A	
HLK - Rotor - Pole	In Stock	HIGH	N/A	
HLK - STATOR WINDINGS - UNIT 1 - robel bars	In Stock	HIGH	N/A	
HLK - TURBINE GUIDE BEARING - BEARING, Segment TURBINE	In Stock	HIGH	N/A	
HLK - GUIDE BEARING SEGMENTS (SET) - BEARING,SEGMENT	In Stock	HIGH	N/A	
HLK - HD-1N - HINDS LAKE INTAKE - TRANSMITTER,PRESS 0-375	In Stock	MEDIUM	N/A	
HLK - THRUST BEARING SEGMENTS (SET) - Thrust Bearing Segments	In Stock	HIGH	N/A	
HLK - UPPER GUIDE BEARING SEGMENTS - Upper Guide Bearing Segments	In Stock	HIGH	N/A	
HLK - IN FRAZIL ICE SYS - INTAKE - TRANSMITTER,TEMPERATURE	In Stock	MEDIUM	N/A	
HLK - GOVERNOR SPEED GENERATOR - Speed switch bracket	In Stock	HIGH	NO	
GCL - Governor Control System - Pressure Switch	In Stock	MEDIUM	N/A	
GCL - Governor Control System - POWER SUPPLY,18-32VDC	In Stock	MEDIUM	N/A	
GCL - Governor Control System - TRANSMITTER,PRESS 0-2000	In Stock	MEDIUM	N/A	
GCL - Governor Control System - TRANSMITTER,TEMP 4-20 MA	In Stock	MEDIUM	N/A	
GCL - Governor Hydraulic System - Filter, Element NS-7	In Stock	MEDIUM	N/A	
GCL - Governor Hydraulic System - Joint, Shaft Parker	In Stock	MEDIUM	N/A	
GCL - Governor Hydraulic System - Pump, Vane Vick	In Stock	HIGH	N/A	
GCL - Governor Hydraulic System - Seal, Polypak "U" Cup	In Stock	MEDIUM	N/A	
GCL - Governor Hydraulic System - Valve, Relief	In Stock	HIGH	N/A	
GCL - Governor Hydraulic System - Valve, Check 1 6000 psi	In Stock	MEDIUM	N/A	
GCL - Governor Hydraulic System - Valve, Proportional	In Stock	HIGH	N/A	
GCL - Operating Ring - Washer, Ring Seal	In Stock	MEDIUM	N/A	
GCL - Operating Ring - BUSHING,GE 226043126X015	In Stock	MEDIUM	N/A	
GCL - Servomotor - Rod, Seal H254-918	In Stock	MEDIUM	N/A	
GCL - Servomotor - Rod, Seal H092-730	In Stock	MEDIUM	N/A	

## 2016-17 Winter Readiness Report - Update

Critical Spare Component	Stock Status	Risk Score	Spare Cost >\$50,000	Comments
GCL - Servomotor Assembly - Ring, Piston GE	In Stock	HIGH	N/A	
GCL - Speed Signal Generator - Pickup, Zero Velocity	In Stock	HIGH	N/A	
GCL - Turbine Assembly - Packing Ring, Segment	In Stock	MEDIUM	N/A	
GCL - Turbine Assembly - Pad, Stop GE	In Stock	HIGH	N/A	
GCL - Turbine Assembly - Seal, Inflatable	In Stock	HIGH	N/A	
GCL - Turbine Assembly - Transmitter, Pressure GE	In Stock	MEDIUM	N/A	
GCL - Turbine Assembly - Transmitter, Pressure -5TO55	In Stock	MEDIUM	N/A	
GCL - Turbine Assembly - Transmitter, Pressure 0-90 PSIG	In Stock	MEDIUM	N/A	
GCL - Turbine Assembly - Transmitter, Diff Pressure	In Stock	MEDIUM	N/A	
GCL - Turbine Assembly - Ring, Rotating GE	In Stock	HIGH	N/A	
GCL - Turbine Assembly - Ring, Sealing C/W Spring	In Stock	HIGH	N/A	
GCL - Turbine Assembly - Ring, Wear	In Stock	HIGH	N/A	
GCL - Turbine Assembly - Valve, Check Wafer 12"D	In Stock	MEDIUM	N/A	
GCL - Wicket Gates - Bushing, GE 226043126X015	In Stock	MEDIUM	N/A	
GCL - Wicket Gates - Gate, Wicket GE	In Stock	HIGH	N/A	
GCL - Wicket Gates - Level, Gate GE	In Stock	HIGH	N/A	
GCL - Wicket Gates - Lever, Shear GE	In Stock	HIGH	N/A	
GCL - Wicket Gates - Liner, Gate Operating	In Stock	HIGH	N/A	
GCL - Wicket Gates - Link, GE	In Stock	HIGH	N/A	
GCL - Wicket Gates - Pin, Eccentric	In Stock	HIGH	N/A	
GCL - Wicket Gates - Pin, Shear GE	In Stock	HIGH	N/A	
GCL - Wicket Gates - Pin, Taper GE	In Stock	HIGH	N/A	
GCL - Wicket Gates - Plate, Retaining GE	In Stock	HIGH	N/A	
GCL - Wicket Gates - Plate, Top GE	In Stock	HIGH	N/A	
GCL - Wicket Gates - Shim, Laminum	In Stock	MEDIUM	N/A	
GCL - Wicket Gates - Sleeve, BRS 210mm	In Stock	MEDIUM	N/A	
GCL - Wicket Gates - Spacer	In Stock	MEDIUM	N/A	
GCL - Generator - Top Stator Bars (36)	In Stock	HIGH	N/A	
GCL - Generator - Bottom Stator Bars (18)	In Stock	HIGH	N/A	
GCL - Generator - Guide Bearing, GE	In Stock	HIGH	N/A	
GCL - Generator - Converter, RTD Temperature	In Stock	HIGH	N/A	
GCL - Generator - Converter, RTD Universal	In Stock	HIGH	N/A	
GCL - Generator - Creep Detector ASSY, 129 V	In Stock	HIGH	N/A	
GCL - Generator - Device, Surge Suppression	In Stock	MEDIUM	N/A	
GCL - Generator - Fuse, TEMP Limiter	In Stock	MEDIUM	N/A	
GCL - Generator - Fuse, Voltage XFMR	In Stock	MEDIUM	N/A	
GCL - Generator - Jumper, Pole ASM #1	In Stock	HIGH	N/A	

## 2016-17 Winter Readiness Report - Update

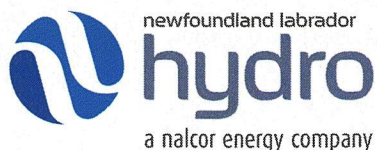
Critical Spare Component	Stock Status	Risk Score	Spare Cost >\$50,000	Comments
GCL - Generator - Jumper Pole ASM #2	In Stock	HIGH	N/A	
GCL - Generator - Jumper Pole ASM #3	In Stock	HIGH	N/A	
GCL - Generator - Jumper Pole ASM #4	In Stock	HIGH	N/A	
GCL - Generator - Level, Indicator Magnetic	In Stock	HIGH	N/A	
GCL - Generator - Oil, Turbine 46 (205L)	In Stock	MEDIUM	N/A	
GCL - Generator - Packing, V-Type GE	In Stock	MEDIUM	N/A	
GCL - Generator - Pin, Taper 25MM x 90MM	In Stock	MEDIUM	N/A	
GCL - Generator - Plate, Brake GE	In Stock	HIGH	N/A	
GCL - Generator - Plate, Locating Pivoted	In Stock	HIGH	N/A	
GCL - Generator - Pole, Wound GE	In Stock	HIGH	N/A	
GCL - Generator - Probe, 741 GE	In Stock	HIGH	N/A	
GCL - Generator - RTD, 12.5" -50-550 DEG	In Stock	HIGH	N/A	
GCL - Generator - RTD, 17" -50-550 DEG C	In Stock	HIGH	N/A	
GCL - Transmitter, PFM	In Stock	MEDIUM	N/A	
GCL - Transmitter, Temp 4-20 MA	In Stock	MEDIUM	N/A	
GCL - Switch, Press 200 PSI 15A	In Stock	MEDIUM	N/A	
GCL - Switch, 20-160 ABB 104-324-46	In Stock	MEDIUM	N/A	
GCL - Thermometer, ADJ 0-55	In Stock	MEDIUM	N/A	
GCL - Transducer, Balluff Track	In Stock	HIGH	N/A	
GCL - Shim, GE 007	In Stock	MEDIUM	N/A	
GCL - Shim, GE 008	In Stock	MEDIUM	N/A	
GCL - Shoe, brake GE 6201B6815L005	In Stock	HIGH	N/A	
GCL - Spring, GE	In Stock	MEDIUM	N/A	
GCL - Valve, Purge GE	In Stock	HIGH	N/A	
GCL - Washer, Brake Plate	In Stock	MEDIUM	N/A	
GCL - Washer, GE 105000100	In Stock	MEDIUM	N/A	
GCL - Ring Assy, Collector	In Stock	HIGH	N/A	
GCL - Stick, Joint Horz	In Stock	MEDIUM	N/A	
GCL - Stick, Joint Vert	In Stock	MEDIUM	N/A	
GCL - Switch, Press Actuated	In Stock	MEDIUM	N/A	
GCL - Switch, Press Gran 20W	In Stock	MEDIUM	N/A	
GCL - Seal, Top Guide Bearing	In Stock	MEDIUM	N/A	
GCL - Runner - Seal, 770mm x 730mm x 25mm	In Stock	MEDIUM	N/A	
GCL - Surface Air Coolers - Cooler, Surface Air	In Stock	HIGH	N/A	
GCL - Thrust/Guide Bearing Coolers - Coil, Cooling GE	In Stock	HIGH	YES	
BDE - RECTIFYING TRANSFORMER - Insulating Fluid	In Stock	MEDIUM	NO	
BDE - ISOLATED PHASE BUS - Surge Capacitor	In Stock	HIGH	NO	

## 2016-17 Winter Readiness Report - Update

Critical Spare Component	Stock Status	Risk Score	Spare Cost >\$50,000	Comments
BDE - EXCITATION CONTROLS - Field Flashing Resistor	In Stock	HIGH	NO	
BDE - UNIT 7 GOVERNOR - Unloader/Relief Valve	In Stock	HIGH	NO	
CAT - ACCUMULATOR TANK - Air Admission Valve	In Stock	HIGH	NO	
HLK - GOVERNOR ACCUMULATOR TANK - Solenoid valve	In Stock	HIGH	NO	
BDE - ISOLATED PHASE BUS - Surge Capacitor	In Stock	HIGH	NO	
BDE - EXCITATION CONTROLS - Field Flashing Resistor	In Stock	HIGH	NO	
BDE - UNIT 7 GOVERNOR - Unloader/Relief Valve	In Stock	HIGH	NO	
BDE - TURBINE GUIDE BEARING - oil cooler	In Stock	HIGH	NO	
HLK - CIRCUIT BREAKER - Primary disconnect	In Stock	HIGH	NO	Item #68001594
HLK - CIRCUIT BREAKER - Charging motor	In Stock	HIGH	NO	Item #58608396
HLK - CIRCUIT BREAKER - Motor brush kit	In Stock	HIGH	NO	Item #65300060
HLK - CIRCUIT BREAKER - Spring release coil	In Stock	HIGH	NO	Item #68001592
HLK - CIRCUIT BREAKER - Shunt trip coil	In Stock	HIGH	NO	Item #68001591
HLK - CIRCUIT BREAKER - Anti-pump relay	In Stock	HIGH	NO	Item #60101058
CAT - Governor Hydraulics - Cooler	In Stock	HIGH	NO	
CAT - BRAKING JET ASSEMBLY - Control Valve	In Stock	HIGH	TBD	Item #58800486
HLK - EXCITER FIELD BREAKER - Entire unit	In Stock	HIGH	TBD	Item #68001626

## **APPENDIX H**

Allowance for Unforeseen Notification Letter  
Bay d’Espoir Penstock 1 Refurbishment



Hydro Place, 500 Columbus Drive.  
P.O. Box 12400, St. John's, NL  
Canada A1B 4K7  
t. 709.737.1400 f. 709.737.1800  
[www.nlh.nl.ca](http://www.nlh.nl.ca)

October 14, 2016

Board of Commissioners of Public Utilities  
Prince Charles Building  
120 Torbay Road, P.O. Box 21040  
St. John's, NL A1A 5B2

**Attention: Ms. Cheryl Blundon**  
**Director of Corporate Services & Board Secretary**

Dear Ms. Blundon:

**Re: Bay d'Espoir Penstock 1 Refurbishment**  
**Allowance for Unforeseen Notification**

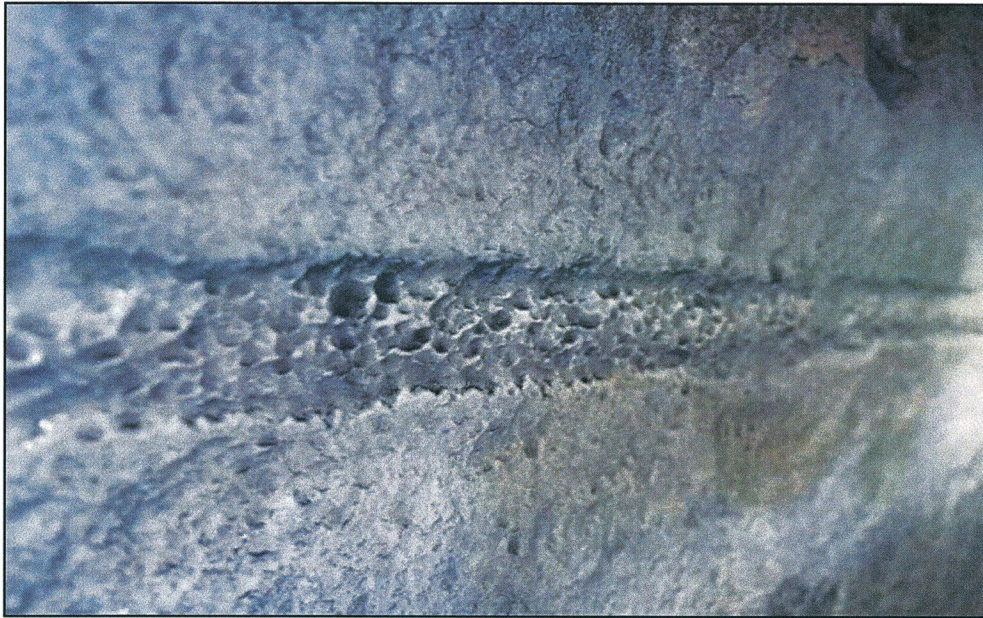
On September 14, 2016, water was observed running down the side of Bay d'Espoir Penstock 1 due to a leak in the penstock. Bay d'Espoir Units 1 and 2 (total generation capacity of 153MW) was removed from service to isolate the leak and investigate.

This leak occurred approximately 5 meters upstream of a previous leak that was identified in Penstock 1 on May 21, 2016. At the time of the first leak, expert evaluation concluded that the crack in the penstock was a localized weakness due to workmanship when the penstock was fabricated. A weld repair was performed on the leak in May, and the penstock was returned to service.

With the occurrence of the second crack, the question arose if the issue was actually localized or indeed more widespread. As such, an investigation guided by an outside consultant, began on the cause of the cracks. A methodical inspection process began in the vicinity of the two cracks and as unacceptable welds continued to be discovered, the inspection expanded accordingly until the extent of unacceptable welds was found. Where the welds were found to be unacceptable, the welds contained cracks, had porous surfaces, and were eroded below the level of the base material. These welds have to be replaced to ensure sufficient strength for reliable penstock operation. The total length of substandard welds that are required to be rehabilitated is approximately 700 linear meters. The photo (below) shows an example of an unacceptable weld.

Ms. Cheryl Blundon  
Public Utilities Board

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As a result of the unacceptable welds, Bay d'Espoir Units 1 and 2 are not available for generation until the work to rehabilitate the welds can be completed. An expedited and aggressive project schedule has been developed to enable a return to reliable operation in time for the winter operating season.

The Bay d'Espoir Penstock 1 Refurbishment is of an urgent and unforeseen nature, and is required to enable Hydro to provide reliable service to customers. Hydro is therefore initiating a project under Allowance for Unforeseen Items account. It is estimated that the total cost of the work will be approximately \$12.9 million.

Hydro recognizes this level of expenditure is above the Allowance for Unforeseen Items allocation and will therefore be applying to top up the Allowance for Unforeseen Items account.

Should you have any questions, please contact the undersigned.

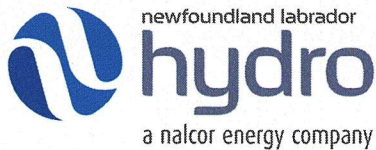
Yours truly,

**NEWFOUNDLAND AND LABRADOR HYDRO**

Geoffrey P. Young  
Corporate Secretary and General Counsel  
GPY/bs

## **APPENDIX I**

Allowance for Unforeseen Notification Letter  
Bay d'Espoir Access Roads Refurbishment



Hydro Place, 500 Columbus Drive,  
P.O. Box 12400, St. John's, NL  
Canada A1B 4K7  
t. 709.737.1400 f. 709.737.1800  
www.nlh.nl.ca

October 14, 2016

Board of Commissioners of Public Utilities  
Prince Charles Building  
120 Torbay Road, P.O. Box 21040  
St. John's, NL A1A 5B2

**Attention: Ms. Cheryl Blundon**  
**Director of Corporate Services & Board Secretary**

Dear Ms. Blundon:

**Re: Bay d'Espoir Access Roads Refurbishment**  
**Allowance for Unforeseen Notification**

On October 10, 2016, Hurricane Matthew tracked over the South Coast of Newfoundland. During this storm, more than 200mm of rain was deposited in the area. The Bay d'Espoir Generating Station recorded 207mm during this event. Most of the rain fell in a short period of time, causing rivers and streams to rise quickly, overflow their banks, and move large amounts of earth and trees. Culverts in many areas were not able to keep up with the excessive volume of flowing water which resulted in water flowing across roads.

Fortunately, there was no damage to the reservoir infrastructure and all dams are intact.

Over 400km of gravel roads connect the generating stations in the system and provide access to reservoirs and water control structures. After the rain stopped, an inspection via helicopter identified 24 extensive wash-outs in the Bay d'Espoir and Upper Salmon access roads in addition to areas with less extensive damage that will also require attention to return the access road to service.

The photographs below give an indication of the storm damage. Photo #1 (below) shows a section of the road to the Upper Salmon Generating Station where the road was washed out and requires extensive rehabilitation work. Photo #2 shows a road washout between the Bay D'Espoir Generating Station and the Surge tanks. Photo #3 shows culverts that were displaced well downstream from a washout location.





These access roads are regularly used by Hydro employees to travel to Hydro's remote generating stations, structures and dams to perform maintenance and operations activities. Bay d'Espoir and Upper Salmon are two critical hydraulic generating stations on the island of Newfoundland and thus need to be accessible to ensure reliable service for Island Interconnected customers.

The work to reinstate these access roads requires culverts and fill, in large quantities. Preliminary information obtained by Hydro suggests that timely ordering of replacement culverts is critical to delivery of the culverts due to the competing requests coming from across the island as a result of significant damage to other roads throughout the province caused by the same rain event. Further, any delay in commencing the project can push the execution of the road reestablishing into the colder temperatures when road fill can be come frozen and hard to obtain and therefore place in the washed out road ways.

The Bay d'Espoir Access Roads Refurbishment project is of an urgent and unforeseen nature, and is required to enable Hydro to provide reliable service to customers, and safe operation of the reservoirs. Hydro is therefore proposing to execute this work using its Allowance for Unforeseen Items account. The preliminary estimate for this work is \$4.6 million.

Hydro recognizes this level of expenditure is above the Allowance for Unforeseen Items allocation and will therefore be applying to top up the Allowance for Unforeseen Items account.

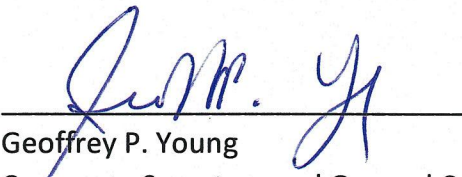
Ms. Cheryl Blundon  
Public Utilities Board

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Should you have any questions, please contact the undersigned.

Yours truly,

**NEWFOUNDLAND AND LABRADOR HYDRO**

  
\_\_\_\_\_  
Geoffrey P. Young  
Corporate Secretary and General Counsel

GPY/bs