WUTC DOCKET: 190334
EXHIBIT: JRT-5
ADMIT ☑ W/D ☐ REJECT ☐

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DOCKET NO. UE-19_____

EXHIBIT JRT-5

JASON R. THACKSTON

REPRESENTING AVISTA CORPORATION

Index for Business Case Justification Narratives Related to Major Generation Capital Projects for 2017 and 2018		
ER #	Business Case – ER Description	Exh. JRT-5 Page #
4140	Nine Mile Redevelopment	2
4152	Little Falls Powerhouse Redevelopment	6

1 GENERAL INFORMATION

Requested Spend Amount	$ 116,720,831
Requesting Organization/Department	Generation Production and Substation Support
Business Case Owner	Jacob Reidt
Business Case Sponsor	Andy Vickers
Sponsor Organization/Department	Generation Production and Substation Support
Category	Project
Driver	Failed Plant & Operations

1.1 Steering Committee or Advisory Group Information

The Steering Committee for the Nine Mile Rehabilitation governs the scope, schedule, and budget requests made by the stakeholder group when creating the deliverables and requirements for any sub projects. Each project may have the same, partial, or different members as selected by the Program Steering Committee. In general, Power Supply is represented by its Direction, Generation is represented by its Director, and Hydro Licensing & Environmental is represented by its Director.

2 BUSINESS PROBLEM

Both Units 1 and 2 at Nine Mile have mechanically failed, and are no longer able to generate electricity per our FERC license. These issues are a result of aging equipment, reservoir sedimentation, and damage to submerged equipment from the sediment. A FERC license amendment has been received to replace these units. In addition to the loss of generation for customers, failure to return the units to service may put the existing Spokane River License at risk. Requirements for Renewable Energy Credits (RECs) as part of Avista's Resource portfolio make this an opportune time increase REC availability, restore the powerhouse to full capacity and rehabilitate the surrounding facility.

3 PROPOSAL AND RECOMMENDED SOLUTION

Following the failure of Unit 1, Unit 2, and the subsequent turbine failure in Unit 4, an assessment of the Spokane River Plants was performed to establish the prudency of work within the Spokane River, prior to commencing work at Nine Mile. Many alternatives were generated, including:

- Rehabilitation or new construction of powerhouse at Post Falls
- Construction of new powerhouse at Upper Fall
- Construction of new powerhouse or spillway modification at Monroe Street
- Rehabilitation or new construction of powerhouse at Nine Mile
- Rehabilitation or new construction of powerhouse at Long Lake

A Likert Scale was developed by the team to evaluate each alterative against the following criteria.

- Alternative Development
- Financial
- Energy
- Regulatory Influences
- Operation and Maintenance
- Transmission System Impact
- Stakeholders
- Risk Identification
- Customer and Community Impact

Following the group evaluation of all proposed alternatives, the Project Team determined the only plant that warranted further evaluation at that time was Nine Mile due to the failed equipment, and ongoing operational and maintenance issues at the 100 year old facility. Focusing on the Nine Mile plant allowed for further evaluation of and reduced the number of fully evaluated alternatives to two:

Option	Cost	Start	Complete
Do nothing	$ 0		
Replace Units 1 and 2, rehabilitate Units 3 and 4, and modify the Sediment Bypass System	$ 70.8	2012	2019
A new five-unit 60 MW powerhouse located on the same footprint as the existing powerhouse, which would be demolished.	$ 192.7	2012	2027

Based on the criteria used by the Project Team to evaluate the Nine Mile Alternatives, Replacement of Units 1 and 2, rehabilitation of Units 3 and 4, and modify the Sediment Bypass System received the best score primarily due to project economics and likelihood of regulatory agency approval. Do nothing was eliminated due to the risk to our licenses.

The recommended alternative consists of a series of steps or phases, beginning in November 2012 and continuing through 2021. The key elements are:

Unit 1 and 2 Upgrade to Seagull Turbines:

- Units, including Turbines, Bulkheads, Generators, Switchgear
- Control and Protection Package including Excitation and Governors
- Powerhouse including Station Service, Ventilation, Intakes
- Substation and Communications work
- Site Work including cottages and warehouse
- Rehabilitate Intake Gates and Trash Rack

Unit 3 and 4 Overhaul:

- Overhaul including Runners, Thrust Bearings, Switchgear
- Control and Protection Package including Excitation and Governors
- Rehabilitate Intake Gates and Trash Rack

Plant Rehab

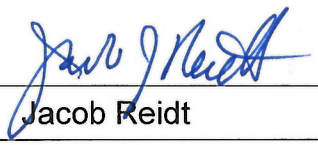
- Sediment Bypass and Debris Handling System
- Rehabilitation of the existing 100 year old Powerhouse Building

At completion, the powerhouse production capacity will be increased, units will experience less outages and reduced damaged from the sediment, and the failing control components will be replaced. Spending is expected to occur between 2012 and 2021.

A complete evaluation of this alternative's review, the analysis process, and the risks associated with the each is available in the attached material. Construction of a new powerhouse was eliminated due to lengthy permitting efforts, and increased risk surrounding unknown construction efforts.

4 APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the Nine Mile Rehabilitation Business Case and agree with the approach it presents and that it has been approved by the steering committee or other governance body identified in Section 1.1. The undersigned also acknowledge that significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:		Date:	20170728
Print Name:	Jacob Reidt		
Title:	Mgr Contract & Project Mgmt		
Role:	Business Case Owner		
Signature:		Date:	7/28/2017
Print Name:	Andy Vickers		
Title:	Dir Gen Prod Sub Support		
Role:	Business Case Sponsor		

5 VERSION HISTORY

Version	Implemented By	Revision Date	Approved By	Approval Date	Reason
1.0	Nathan Fletcher	03/28/17	Steve Wenke	04/07/2017	Initial version
1.1	Nathan Fletcher	6/27/17	Jacob Reidt	06/27/2017	Align with 2018+ Budget

Template Version: 02/24/2017

1 GENERAL INFORMATION

Requested Spend Amount	$56,100,000
Requesting Organization/Department	Generation Production and Substation Support
Business Case Owner	Jacob Reidt
Business Case Sponsor	Andy Vickers
Sponsor Organization/Department	Generation Production and Substation Support
Category	Project
Driver	Asset Condition

1.1 Steering Committee or Advisory Group Information

This program is comprised of two layers of Steering Committee Oversight. One layer of oversight is at the program level and the other layer is at the project level.

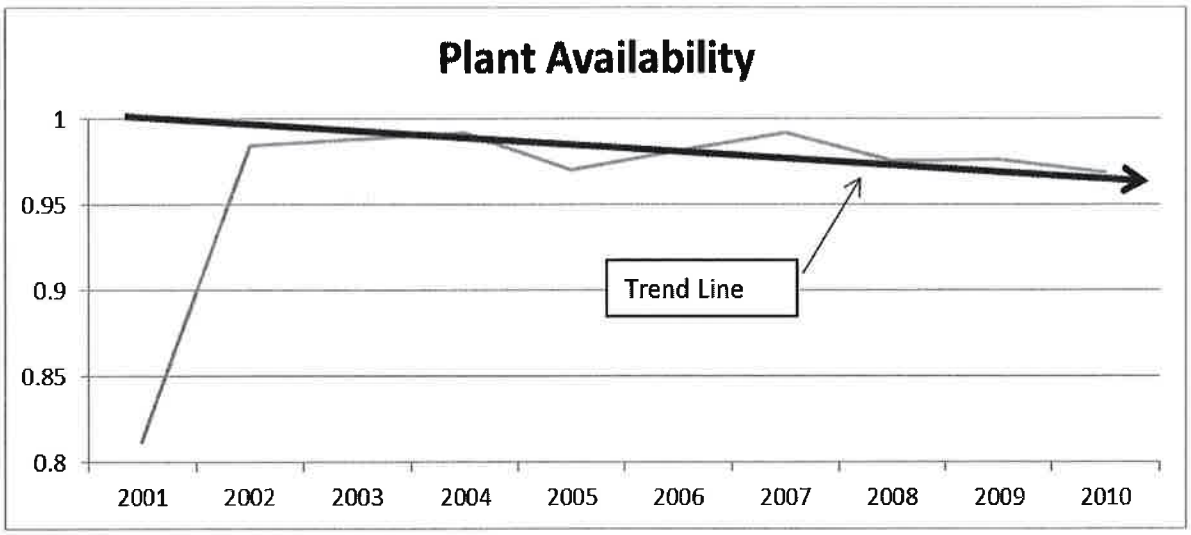
The Program Steering Committee is responsible for vetting and approving the objective, scope and priority of the program. The deliverables for the program are then reviewed with the Program Steering Committee on a semi-annual basis. Any significant changes to the program's scope, budget or schedule will be approved by the Program Steering Committee. The Program Steering Committee is composed of the Director of GPSS and the Director of Power Supply. This committee meets semi-annually or as major events create a change order request.

The Project Steering Committee oversees the deliverables of the individual projects. Each member of the steering committee represents a major stakeholder in the project. The members are dependent on the respective project but will include representatives from hydro operations, central shops and engineering. The Project Steering Committee will approve and changes to the schedule, scope and budget of the individual project. They also are responsible for approving the necessary personnel for the completion of the project. This group is engaged on a quarterly basis.

2 BUSINESS PROBLEM

The existing Little Falls equipment ranges in age from 60 to more than 100 years old. Little Falls experienced an increase in forced outages over the past six years, increasing from about 20 hours in 2004 to several hundred hours in the past several years, due to equipment failures on a number of different pieces of equipment.

The major drivers for the Little Falls Plant Upgrade are available and reliability. See the graph below that illustrates the trend line for availability at Little Falls.



Once the business case is complete, a study of forced outages at the plant over a 5 year period could be taken and measured against the pre-construction outage numbers to determine if plant availability has increased and the business case objective met.

3 PROPOSAL AND RECOMMENDED SOLUTION

Below is a breakdown of the capital construction cost associated with each alternative and any ongoing maintenance costs associated with each alternative.

	Capital Cost	O&M Cost
Status Quo	$0	$150,000/yr +
Alternative 1	$5,000,000	$20,000/yr +
Alternative 2	$83,000,000	$0
Proposed Alternative	$56,100,000	$0

Summary of alternatives:

Status Quo: Forced outages and emergency repairs would continue to increase, reducing the reliability of the plant. Each time a generator goes down for an emergency repair, Avista is forced to replace this energy from the open market which leads to higher energy costs.

It is expected that the O&M costs would continue to climb as more failures occurred. This may also require personnel to be placed back in the plant to man the plant 24/7 in order to respond to failures. Again, increasing expenses for the project with no benefit in performance.

Alternative 1: Replace Switchgear and Exciter: This would replace the two items that are currently responsible for the majority of the forced outages, and then continue to use the remaining equipment.

This alternative is a temporary fix. One of the generators has a splice and is expected to fail in the next few years. If this generator fails before a new generator is ordered, this generator will be out of service for 2 years. The control system is a vintage system and is on the verge of a total failure and spare parts are not available (a few minor system failures occurred in the past 2 years). If a total system failure is encountered, it is expected the plant to be down for a year as the control system is designed, procured and installed.

Alternative 2: Replace all generating units with larger, vertical units capable of additional output. Avista's Power Supply group evaluated the present value of larger, vertical units at Little Falls. The increase in present value from larger units was $20M over a 30 year analysis. The capital construction cost increase from in-kind replacement to vertical units was $27M.

This present value calculation of benefit did not include risk. Installing new vertical units would require modification of the powerhouse foundation and presents serious construction risk. Due to the high construction costs, high risk, and low payoff NPV, this alternative was abandoned.

Alternative 3 and Proposed Alternative: Replace nearly all of the older and less reliable equipment with new equipment. This includes replacing two of the turbines, all four generators, all generator breakers, three of the four governors, all of the AVR's, removing all four generator exciters, replacing the unit controls, replacing the unit protection system, and replacing and modernizing the station service. All major equipment would be procured through a competitive bid process to help keep construction costs low. Equipment would also be purchased for all four units at once to help keep costs down.

Additional Justification for Proposed Alternative:

Because of the age and condition of all of the equipment at the plant, all of the equipment has been qualified as obsolete in accordance with the obsolescence criteria tool. The Asset Management tool has been applied to Little Falls and also supports this project. The Asset Management studies that have been done to date are still subject to further refinements, but the general conclusions support this project. There are many items in this 100 year old facility which do not meet modern design standards, codes, and expectations. This project will bring Little Falls to a place where it can be relied on for another 50 to 100 years. Finally, this project will need to be worked in coordination with our Indian Relations group as the Little Falls project is part of a settlement agreement with the Spokane Tribe.

Milestone Schedule:

January 2010	Program Begins
March 2012	Exciter & Generator Breaker Replacement Complete
January 2014	Warehouse Construction Complete
January 2014	Bridge Crane Overhaul Complete

February 2015	Station Service Replacement Complete
February 2016	Unit 3 Modernization Complete
April 2017	Unit 1 Modernization Complete
October 2017	Backup Generator Install Complete
May 2018	Unit 2 Modernization Complete
May 2019	Unit 4 Modernization Complete
October 2019	Headgate Replacement Complete

Yearly Transfer to Plant:

2013	$3,100,000
2014	$2,000,000
2015	$4,000,000
2016	$16,300,000
2017	$10,400,000
2018	$9,000,000
2019	$13,000,000
Total	$57,800,000

Strategic Alignment:

The Little Falls Plant Upgrade aligns with the Safe and Reliable Infrastructure company strategy. The program will address safety and reliability issues while looking for innovative, economical ways to deliver the projects.

Customers and Stakeholders:

Mike Magruder	Manager, Hydro Operations and Maintenance
Alexis Alexander	Manager, Spokane River Hydro Operations
Kevin Powell	Chief Operator, Long Lake and Little Falls HED

4 APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the Little Falls Plant Upgrade Business Case and agree with the approach it presents and that it has been approved by the steering committee or other governance body identified in Section 1.1. The undersigned also acknowledge that significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature:		Date:	20170417
Print Name:	Jacob Reidt		
Title:	Mgr Contract & Project Mgmt		
Role:	Business Case Owner		

Signature:		Date:	4/19/2017
Print Name:	Andy Vickers		
Title:	Dir Gen Prod Sub Support		
Role:	Business Case Sponsor		

5 VERSION HISTORY

Version	Implemented By	Revision Date	Approved By	Approval Date	Reason
1.0	Brian Vandenburg	02/14/2017	Steve Wenke	04/10/2017	Initial Creation

Template Version: 02/24/2017

Index for Business Case Justification Narratives Related to 2019 Pro Forma Generation Capital Projects		
ER #	Business Case – ER Description	Exh. JRT-5 Page #
4178	Cabinet Gorge Gantry Crane	12
4152	Little Falls Powerhouse Redevelopment	6

1 GENERAL INFORMATION

Requested Spend Amount	$3,530,000
Requesting Organization/Department	Generation Production and Substation Support
Business Case Owner	Jacob Reidt
Business Case Sponsors	Andy Vickers
Sponsor Organization/Department	Generation Production and Substation Support
Category	Project
Investment Driver	Asset Condition

1.1 Steering Committee or Advisory Group Information

Steering Committee members are comprised of: Director – GPSS, Manager, Hydro Operations & Maintenance and Manager - Project Delivery. Steering Committee members are provided a monthly project status report but, meet only in the event a decision point is needed.

Other key stakeholders include: Manager, Clark Fork River Hydro; Manager, Mechanical Engineering. Additional Cabinet Gorge Hydro Electrical Development mechanical staff that more directly represent the interests of the plant itself are consulted regularly.

2 BUSINESS PROBLEM

The gantry crane at Cabinet Gorge Hydro Electrical Development was used in the original construction of the plant in 1952-53. The crane is rated at 275 tons but can perform lifts as heavy as 330 tons on an occasional basis given that a certified test has been performed. As the asset has aged, various upgrades and updates have been made to prolong the crane's usefulness. However, it has become apparent that the crane is unable to perform the duties required of it in a dependable manner.

The gantry crane is of the only means of moving the large machinery found at Cabinet Gorge Hydro Electric Development such as moving/placing transformers, tailgates and generators. It is also the only way other equipment can be moved into and out of the plant. Its inability to function reliably impacts the work that is able to be performed at the plant and presents a safety risk to personnel if the crane fails to control the load. There is also a risk of not being able to accomplish repairs in the event of an emergency related to any one of the four generating units. In essence, the gantry crane is a bottle neck preventing both annual maintenance work and capital improvements alike.

The crane has a long history of breakdowns and operational problems. Most recently, during the Cabinet Gorge Unit #1 rehabilitation project spanning from 2014 to 2016, problems with the crane caused significant delays. Some examples include:

Relay/Contactor control problem – approx. 6 days

Gear/bearing problem – approx. 3 weeks

Brake problem – approx. 2 days

Additional problems experienced with the crane during the Unit #1 rehabilitation are documented in a memo by Ryan Bean, dated November 13, 2015, attached as Appendix A below.

Inspections performed by Professional Crane Inspections in the years 2010, 2012, 2015 and 2016 each give the crane an overall condition level 3 indicating that "Minor to moderate performance issues exist. PCI recommends repair or adjustment as soon as practical." Copies of these inspection reports can be made available upon request. A summarized list of foreman reports dating back to 1966 can be found in Appendix B below.

The successful outcome of this project would be to deliver a state-of-the-art crane capable of safely and reliably providing rated lifting capabilities for the likes of draft tube bulkheads, Generation Step-Up transformers and any one of the four generators.

A properly functioning crane at Cabinet Gorge Hydro Electric Development enables Avista to tend to the aging assets and maintenance needs of plant machinery to ensure that they run safely and reliably.

Customers benefit in the ability to adequately and safely maintain this equipment to continue to provide low cost and reliable energy.

3 PROPOSAL AND RECOMMENDED SOLUTION

Option	Estimated Capital Cost	Start	Complete
Do nothing	$0		
Alternative 1: Full Replacement	$5,308,449	03/2017	12/2018
Alternative 2: Replacement w/extended reach	$7,272,000	03/2017	12/2018
Alternative 3: Refurbishment	$3,894,173	03/2017	12/2018

Do Nothing: doing nothing is an option however, given the criticality of this asset, doing nothing would leave the plant at risk should an emergency arise necessitating the crane's use

Alternative #1: Full Replacement. Advantages of this option include new structure designed and rated for 330T from conception, modernized controls utilizing current technology, reduced maintenance costs, elimination of as-building the existing crane structure, full archived drawing and product data set and removal of any lead-based paint and asbestos contamination risks.

Alternative #2: Replacement w/Extended Reach. This alternative expands on alternative #1 by utilizing extended reach to enable reach to the transformers and leg pass-through design enabling access to the draft tube bulkheads. Replacement with extended reach represents a modest increase (comparatively)

in price but will provide savings in terms of usability for the foreseeable future in terms of lifting capability. The estimated capital cost of $7,272,000 represents a very high level estimate at this point.

Alternative #3: Refurbishment. Advantages of refurbishment included lower up-front costs resulting from retaining the majority of the steel structure and a reduced level of demolition and installation work. However, this alternative would require lead-based paint and asbestos abatement and without X-ray examination of each rivet, it would be impossible to accurately and definitively assess the true condition of the structure.

A final decision has yet been made with regard to selection of Alternatives 1, 2, or 3. However, with any option we anticipate construction will take upwards of four months, following dismantling of the existing crane. Due to weather conditions inherent in north Idaho, it would be optimal to construct the new crane during the months of June to September. Given the long lead time expected in the manufacturing of a new crane (upwards of twelve months), we anticipate that all construction will be completed and the project placed in service no later than December 31, 2018.

4 APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the Cabinet Gorge Gantry Crane Replacement Business Case and agree with the approach it presents and that it has been approved by the steering committee or other governance body identified in Section 1.1. The undersigned also acknowledge that significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature: _____ Date: 20170417

Print Name: JACOB REIDT

Title: MGR CONTRACTS & PM

Role: Business Case Owner

Signature: _____ Date: 4/19/2017

Print Name: Andrew Vickers

Title: Director GPSS

Role: Business Case Sponsor

VERSION HISTORY

Version	Implemented By	Revision Date	Approved By	Approval Date	Reason
1.0	Terri Echegoyen	4/14/2017	Steve Wenke	4/14/2017	Initial version

Template Version: 03/07/2017

APPENDIX A

DATE: NOVEMBER 13TH, 2015

TO: FILE, JACOB REIDT, RANDY PEIRCE, BOB WEISBECK, MIKE SHOFF

FROM: RYAN BEAN

SUBJECT: CABINET GORGE UNIT 1 – GANTRY CRANE ROTOR PICK PROBLEMS

Background

The scope of work during the Unit 1 rehabilitation included two picks of the generator rotor complete with field poles installed. The first pick removed the rotor from the stator and placed it in the shop for field pole removal. The rotor was then moved to the rotor storage building until the field poles were returned after being refurbished by RPR Hydro (subcontractor to GE). The field poles were reinstalled in the rotor storage building and the rotor was then placed back in the stator.

An Engineered Pick Plan was produced in accordance with ASME Code Section B30.2-3.1.7 that allows for occasional picks for loads exceeding rated limits up to 125% of the nameplate rating. The crane nameplate is 275 tons with an occasional pick of up to 343.8 tons. The rotor with lifting device weighs approx 330 tons. The cranes ability to lift this load was confirmed by Bedford Crane during the initial installation. The code allows an occasional pick not to exceed two occurrences in a 12 month period provided the crane manufacturer or other qualified person has reviewed the crane design to handle the load.

Inconsistencies During Operation

During the initial removal of the rotor from the stator, the micro drive and main hoist motor were used. The micro drive operated as expected, however the main hoist motor appeared to struggle when initially engaged. While returning the rotor to the stator on September 22nd, 2015, an issue was experienced where the main hoist did not operate as expected during raising. This was a repeatability issue with the main hoist where the hoist may raise, stall, or lower the rotor when the control lever was taken back into the same notch repeatedly. The lift was stopped and an investigation followed.

Investigation and Troubleshooting

With assistance from PCI and K&N Electric, an investigation and troubleshooting of the power and control systems followed. Components checked included the control lever, overloads, contactors, resistors, motor currents, brakes, and micro-drive operation. Everything appeared to be operating correctly, albeit in an overloaded condition due to the above nameplate load. The micro-drive operated reliably throughout testing. This lead us to believe the problem resides downstream of the control system, potentially with either the motor output or mechanical drive system. The gear train was visually inspected via available access ports and appeared to be in good shape and operated smoothly.

Original records of the hoist motor test data indicate the existing hoist motor reaches its nameplate current of 160 amps at a load of approximately 205 tons. This limits the service cycle at 240 amps with a load of approx. 320 amps to approximately one to two minutes without overheating resistor banks. This would require several lifting and cooling off periods to complete the lift. This reflects

what we experienced in the field with tripping of the overload relays during sustained lifting at approx. 250 amps.

The crane micro-drive arrangement was also inspected, which consists of an additional motor and speed reducer that can be clutched in or out as necessary. The arrangement utilizes the same main hoist drivetrain and brakes (with an additional motor brake) without using the main hoist motor. Per Mark Oney's crane evaluation dated May 10, 1994 and design drawings, the micro-drive is rated for continuous duty without overheating. Hoisting speed is reduced during operation to slightly less than 0.5 feet per minute.

Conclusion

This has historically been a difficult pick for this crane and the system appears to have reached an impasse where the main hoist is no longer capable of producing the power to function at 100%. We suspect the issue lies in either the motor output, which has been operated above its nameplate current a number of times in the past, or due to an increase in mechanical drag in the gear train.

Per the results of our initial investigation and a stakeholder meeting on October 5th, 2015, (Ryan Bean, Andy Vickers, Mike Gonnella, Bob Weisbeck, Brand McNamara, Rob Selby, and Jeremy Winkle in attendance) and in agreement with the project Foreman Mike Shoff, the rotor pick was completed using the installed micro-drive system, without the use of the main hoist motor.

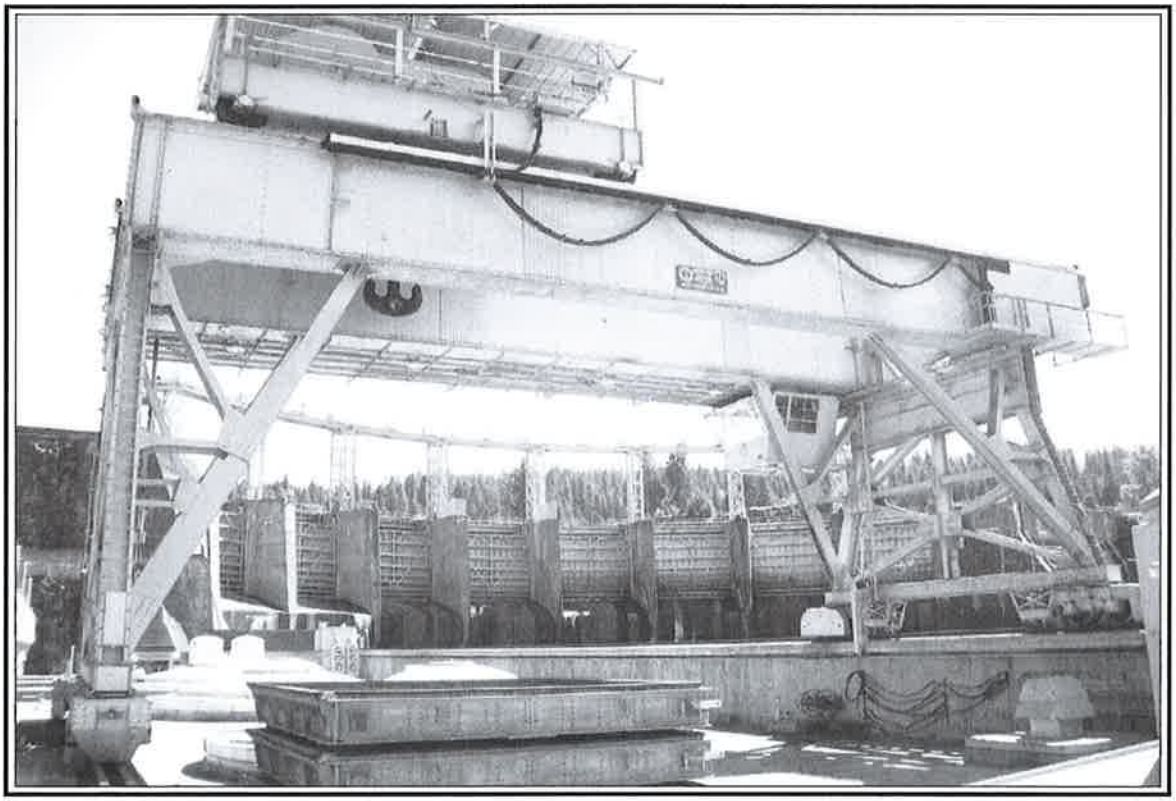
References

1. CG 1 Rotor Pick Plan Oct 2015 Rev1
2. ASME Crane code for CG1
3. Crane Report by Mark Oney, May 10 994
4. D-15701s001c1952 – Gantry Clearance Diagram with notes
5. 304E-25-040-01-01, 02, 03, 04, 05, 08 – Micro Drive Arrangement Drawings
6. 1952 Load Test Data
7. 1993 Load Test Data

APPENDIX B: SUMMARIZED FOREMAN REPORTS

Job Title	Begin date	End date	Description
Gantry Crane - Mechanical Maintenance	5/23/1966	7/1/1966	Replaced sheaves and greased bearings on large hook. Applied oil to bearings on trolley. Drained and cleaned gear cases. Checked brakes.
Repair Gantry Crane	3/31/1969	4/9/1969	Large bevel gear was removed. New bushing was installed and the drive reassembled. Wheel guards were repaired and installed.
Re-reeve Gantry Crane Main Hook - Cabinet Gorge Station	12/2/1976	12/14/1976	Old cable was removed and new cable added to the drums.
Crane Maintenance	11/14/1988	11/14/1988	Main hoist gear box inspected. Friction brake assembly was seized together.
Redo Crane Track Splices	4/5/1993	5/13/1993	Weld holding rails together were repaired.
Gantry Crane - Bridge Drive Motor	1/23/1997	2/11/1997	The bridge drive motor on the Gantry Crane was removed and sent in for repair. Report includes repair details.
Crane Maintenance	6/28/1999	7/29/1999	The bridge motor, brake and gearbox were inspected. Trolley motor removed and sent to K&N for maintenance.
Annual Safety Inspection for Gantry Crane	7/12/2000	7/12/2000	Mechanical and Electrical inspection of crane components.
Crane Maintenance	5/1/2000	7/13/2000	Crane was pressure washed. Full structural inspection completed. Rusting areas noted. The main and auxiliary hoists were load tested.
Gantry Crane Maintenance "03"	6/16/2003	8/26/2003	Replaced all races and several bearings, and repaired sheaves of the main hoist block. Replumbed bridge brake system and repaired/replaced several brake components. Maintained the trolley controller (electricians), main and auxiliary hoist cables, and open

Job Title	Begin date	End date	Description
275 Ton Gantry Crane Load Test	6/5/2006	6/8/2006	Components of the main hoist had been modified necessitating a load test (Report from load test on the 275 ton gantry cane).
Crane Maintenance 2010	9/15/2010	9/15/2010	Abbreviated maintenance on the gantry crane. See report for details.
Gantry Crane Oil Analysis	4/19/2011	4/19/2011	Oil Analysis results for Gantry Crane components.
Gantry Crane Maintenance 2011	4/11/2011	4/20/2011	Report includes details on maintenance of the gantry crane, checklist included. Report state the crane in in dire need of a paint job.
Annual Maintenance Gantry Crane	4/9/2012	5/3/2012	Crane condition regarding many items is not satisfactory, see report for details
detailed Foreman reports can be found here > c01m114/G://Foremanreports.accdb			



Index for Business Case Justification Narrative Related to 2017-2019 Colstrip Capital Additions (System)		
ER #	Business Case – ER Description	Exh. JRT-5 Page #
4116	Colstrip Capital Additions	21

1 GENERAL INFORMATION

Requested Spend Amount	$10-$20 Million per year
Requesting Organization/Department	Generation Production and Substation Support
Business Case Owner	Thomas C Dempsey
Business Case Sponsor	Andy Vickers
Sponsor Organization/Department	Generation Production and Substation Support
Category	Program
Driver	Asset Condition

1.1 Steering Committee or Advisory Group Information

This Business Case request is for Colstrip 3&4 capital projects. Avista does not operate the facility nor does it prepare the annual capital budget plan. The current operator provides the annual business plan and capital budgets to the owner group every September. They also provide individual project summaries which characterize the work using categories similar in concept the Avista business case drivers. Avista reviews these individual projects. Some of them are reclassified to O&M if the work does not conform to our own capitalization policy. Avista does not have a "line item veto" capability for individual projects but it can present concerns during the September owners' meeting. Ultimately, the business plan is approved in accordance with the Ownership and Operation Agreement for units 3&4 that six companies are party too. This Business case represents the final approved budget after subtracting items that we will expense instead of charging to capital.

2 BUSINESS PROBLEM

This Business Case represents the entire body of capital work performed in a calendar year at Colstrip. This includes a variety of types of projects that Talen (current operator) characterizes using the following categories:

- ENVMD- Environmental Must Do
- Sustenance
- Regulatory
- Reliability Must Do

3 PROPOSAL AND RECOMMENDED SOLUTION

Option	Capital Cost	Start	Complete	Risk Mitigation
Ongoing Operations (Yes/No Vote)	$10-$20M	N/A		

Colstrip Capital is required as part of ongoing operations of the facility.

- *The operator (Talon) reviews each proposed project. Discretionary items are reviewed in a hurdle rate analysis.*
- *The operator reviews the risk mitigation for each alternative using the business risk worksheet as well as describe the nature of the risks for each alternative.*
- *Those that meet the criteria are submitted as part of an overall budget to the owner committee,*
- *This process is repeated annually*
- *The annual business plan is available on request.*
- *Although alternatives are not available for consideration at this level, individual projects are reviewed and considered by all the joint owners. Projects may be delayed and changed per committee recommendation to the operator of the facility.*

4 APPROVAL AND AUTHORIZATION

The undersigned acknowledge they have reviewed the Colstrip 3&4 Capital Projects Business Case and agree with the approach it presents and that it has been approved by the steering committee or other governance body identified in Section 1.1. The undersigned also acknowledge that significant changes to this will be coordinated with and approved by the undersigned or their designated representatives.

Signature: _____ Date: 4/21/2017
Print Name: _____
Title: _____
Role: Business Case Owner

Signature: _____ Date: 4/19/2017
Print Name: Andrew Vickers
Title: Director, GPSS
Role: Business Case Sponsor

5 VERSION HISTORY

Version	Implemented By	Revision Date	Approved By	Approval Date	Reason
1.0	Mike Mecham	04/17/2017	Steve Wenke	04/17/2017	Initial version

Template Version: 02/24/2017