INTRODUCTION

Scott Simms, DIRECTOR OF COMMUNICATIONS
## AGENDA

<table>
<thead>
<tr>
<th>Time</th>
<th>Presentation</th>
<th>Speaker</th>
</tr>
</thead>
</table>
| 9:00 a.m.  | Introductions                                         | Scott Simms  
*Director of Communications* |
| 9:01 a.m.  | State of the business including an update on the BP-20 Rate Case | Elliot Mainzer  
*Administrator* |
| 9:20 a.m.  | Finance update                                        | Michelle Manary  
*Chief financial officer* |
| 9:29 a.m.  | Power Services update                                 | Joel Cook  
*Senior VP of Power Services* |
| 9:38 a.m.  | Transmission Services update                          | Richard Shaheen  
*Senior VP of Transmission Services* |
| 9:47 a.m.  | FY 2019 preview                                       | Janet Herrin  
*Chief operating officer* |
| 9:51 a.m.  | Upcoming involvement opportunities                    | Scott Simms                                  |
| 9:53 a.m.  | Question and answer session                           |                                              |
STATE OF THE BUSINESS

Elliot Mainzer, ADMINISTRATOR AND CHIEF EXECUTIVE OFFICER
Incident frequency rate
Number of injuries and illnesses per 200,000 hours worked

- **2018**
- **Ceiling**

<table>
<thead>
<tr>
<th>Month</th>
<th>Incident Frequency Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct.</td>
<td>0.4</td>
</tr>
<tr>
<td>Nov.</td>
<td>0.9</td>
</tr>
<tr>
<td>Dec.</td>
<td>1.1</td>
</tr>
<tr>
<td>Jan.</td>
<td>1.1</td>
</tr>
<tr>
<td>Feb.</td>
<td>1.1</td>
</tr>
<tr>
<td>March</td>
<td>1.3</td>
</tr>
<tr>
<td>April</td>
<td>1.3</td>
</tr>
<tr>
<td>May</td>
<td>1.3</td>
</tr>
<tr>
<td>June</td>
<td>1.3</td>
</tr>
<tr>
<td>July</td>
<td>1.2</td>
</tr>
<tr>
<td>Aug.</td>
<td>1.3</td>
</tr>
<tr>
<td>Sept.</td>
<td>1.2</td>
</tr>
<tr>
<td>Overall</td>
<td>1.1</td>
</tr>
</tbody>
</table>

**KPI**

- **Good**
Power rate drivers in $ millions

- Energy Efficiency expense
- Secondary
- DSI sales
- Load loss
- FRP phase-in
- Other
- Reductions

Upward rate pressure: 61
Remove spill surcharge: 16
Debt management actions: 10
Corps, Reclamation and Columbia: 65
Energy Efficiency: 18
Generation inputs: 7
Internal operations: 11
Fish and Wildlife (net 4(h)10(c)): 22
Residual rate pressure: 61

Other: 10
IPR: 0
Load loss: 0
FRP phase-in: 0
Internal operations: 0
Corps, Reclamation and Columbia: 0
Energy Efficiency: 0
Generation inputs: 0
Bending the cost curve
Average annual program costs in billions of dollars and percentage of cost change by rate period
• 9.5 percent – average increase under initial proposal

• 4 percent average transmission rate increase under tariff settlement
  – Signed settlement deadline: Nov. 30
FISH ACCORDS EXTENDED

• Columbia Basin Fish Accords extended for up to four more years.
• $400 million for fish and wildlife mitigation and protection.
Financial Health Objectives

COST MANAGEMENT
Maintain low rates; enhance asset value and reliability

DEBT UTILIZATION
Reduce interest expense; maintain financial flexibility

DEBT CAPACITY
Maintain access to secure and low-cost debt financing

LIQUIDITY
Maintain financial reserves for solvency and stability
FCRPS net revenues
In millions of dollars
- BP-18 Rate Case
- Actuals

$26

$471

0
100
200
300
400
500
Federal Columbia River Power System
Total revenue and expense in millions of dollars

- BP-18 Rate Case
- Actuals

- Total expense: $3,627 (Actuals), $3,240 (BP-18 Rate Case)
- Total revenue: $3,653 (Actuals), $3,710 (BP-18 Rate Case)
FY 2018 FINANCIAL HIGHLIGHTS

- **Power Revenues**: $38 million more than expected
- **Transmission Revenues**: $52 million less than expected
- **Power Expenses**: $19 million less than expected
- **Transmission Expenses**: $35 million more than expected

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BONNEVILLE POWER ADMINISTRATION | QBR NOVEMBER 2018 | MICHELLE MANARY
The proportion of BPA’s revenue-generating assets that are financed through debt.

<table>
<thead>
<tr>
<th></th>
<th>Debt-to-asset ratio (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sept. 30, 2017</td>
</tr>
<tr>
<td>Agency</td>
<td>90</td>
</tr>
<tr>
<td>Power</td>
<td>98</td>
</tr>
<tr>
<td>Transmission</td>
<td>79</td>
</tr>
</tbody>
</table>

Moody’s top 50 utility average is 54 percent.
Borrowing authority as of Sept. 30, 2018
In billions of dollars

- Debt Outstanding
- Available
<table>
<thead>
<tr>
<th></th>
<th>BP-18 Rate Case</th>
<th>FY 2018 actuals</th>
</tr>
</thead>
<tbody>
<tr>
<td>EOY Reserves</td>
<td>170</td>
<td>468</td>
</tr>
</tbody>
</table>

*Reserves in millions of dollars*
Power Services total expense

Total expenses in millions of dollars

- BP-18 Rate Case
- Actuals

Total expense (in millions of dollars)

<table>
<thead>
<tr>
<th></th>
<th>BP-18 Rate Case</th>
<th>FY 2018 actuals</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2,629</td>
<td>2,450</td>
<td>(179)</td>
</tr>
</tbody>
</table>

Bar chart showing monthly expense from October to September, with a comparison between BP-18 Rate Case and Actuals, and a table summarizing the total expense for the BP-18 Rate Case and FY 2018 actuals with a variance of (179).
Power Services total revenues

Total revenues in millions of dollars

<table>
<thead>
<tr>
<th></th>
<th>BP-18 Rate Case</th>
<th>Actuals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct.</td>
<td>211</td>
<td></td>
</tr>
<tr>
<td>Nov.</td>
<td>221</td>
<td></td>
</tr>
<tr>
<td>Dec.</td>
<td>242</td>
<td></td>
</tr>
<tr>
<td>Jan.</td>
<td>286</td>
<td></td>
</tr>
<tr>
<td>Feb.</td>
<td>269</td>
<td></td>
</tr>
<tr>
<td>March</td>
<td>262</td>
<td></td>
</tr>
<tr>
<td>April</td>
<td>251</td>
<td></td>
</tr>
<tr>
<td>May</td>
<td>209</td>
<td></td>
</tr>
<tr>
<td>June</td>
<td>224</td>
<td></td>
</tr>
<tr>
<td>July</td>
<td>243</td>
<td></td>
</tr>
<tr>
<td>Aug.</td>
<td>245</td>
<td></td>
</tr>
<tr>
<td>Sept.</td>
<td>201</td>
<td></td>
</tr>
</tbody>
</table>

Total revenues (in millions of dollars)

<table>
<thead>
<tr>
<th></th>
<th>BP-18 Rate Case</th>
<th>FY 2018 actuals</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nov.</td>
<td>2,827</td>
<td>2,863</td>
<td>35</td>
</tr>
</tbody>
</table>
Henry Hub prices
In dollars per one million British thermal units

BP-18 avg.: $3.12
FY 2018 avg.: $2.93
Mid-C heavy load hour prices
In dollars per megawatt hour

BP-18 avg.: $25.23
FY 2018 avg.: $24.78
Net secondary revenue
In million of dollars

BP-18 (non-slice) FY 2018 actuals

<table>
<thead>
<tr>
<th>NSR (in millions of dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BP-18 Rate Case</td>
</tr>
<tr>
<td>282</td>
</tr>
</tbody>
</table>

Note: capital expenditure KPI includes only direct-funded federal hydropower capital.
Federal hydropower forced outage factor
Percentage of hours fed hydro projects are offline due to unplanned outages

FY 2018
Target

<table>
<thead>
<tr>
<th>Quarter</th>
<th>FY 2018</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>3.6</td>
<td></td>
</tr>
<tr>
<td>Q2</td>
<td>4.6</td>
<td></td>
</tr>
<tr>
<td>Q3</td>
<td>4.5</td>
<td></td>
</tr>
<tr>
<td>Q4</td>
<td>4.5</td>
<td></td>
</tr>
</tbody>
</table>
Columbia Generating Station availability factor
Percentage of time Columbia is available to serve demand

FY 2018
Target

93.5
95.6
95.3
95.3
94
96

Good

Q1
Q2
Q3
Q4
• 2018 Resource Program
• Portland General Electric capacity agreement
• River operations
TRANSMISSION SERVICES

Richard Shaheen, SENIOR VICE PRESIDENT OF TRANSMISSION SERVICES
Transmission Services total expense

Total expense in millions of dollars

- **BP-18 Rate Case**
- **Actuals**

<table>
<thead>
<tr>
<th>Month</th>
<th>Actuals</th>
<th>BP-18 Rate Case</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct.</td>
<td>78</td>
<td>78</td>
<td></td>
</tr>
<tr>
<td>Nov.</td>
<td>78</td>
<td>78</td>
<td></td>
</tr>
<tr>
<td>Dec.</td>
<td>77</td>
<td>77</td>
<td></td>
</tr>
<tr>
<td>Jan.</td>
<td>83</td>
<td>83</td>
<td></td>
</tr>
<tr>
<td>Feb.</td>
<td>77</td>
<td>77</td>
<td></td>
</tr>
<tr>
<td>March</td>
<td>91</td>
<td>91</td>
<td></td>
</tr>
<tr>
<td>April</td>
<td>86</td>
<td>86</td>
<td></td>
</tr>
<tr>
<td>May</td>
<td>93</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>June</td>
<td>82</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td>July</td>
<td>86</td>
<td>86</td>
<td></td>
</tr>
<tr>
<td>Aug.</td>
<td>92</td>
<td>92</td>
<td></td>
</tr>
<tr>
<td>Sept.</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

**Total expense (in millions of dollars)**

- **BP-18 Rate Case**: 1,043
- **FY 2018 actuals**: 1,024
- **Variance**: (19)
Transmission Services total revenues

Total revenues in millions of dollars

- BP-18 Rate Case
- Actuals

**Total revenues (in millions of dollars)**

<table>
<thead>
<tr>
<th></th>
<th>BP-18 Rate Case</th>
<th>FY 2018 actuals</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1,052</td>
<td>1,090</td>
<td>38</td>
</tr>
</tbody>
</table>

**Graph showing monthly revenues from October to September**

- October: 85 million dollars
- November: 88 million dollars
- December: 89 million dollars
- January: 91 million dollars
- February: 92 million dollars
- March: 99 million dollars
- April: 88 million dollars
- May: 102 million dollars
- June: 94 million dollars
- July: 85 million dollars
- August: 89 million dollars
- September: 88 million dollars
Capital expenditure and work completed
Tracks capital expenditure and percent of workplan completed

- **Planned assets**
- **Completed assets**
- **Actual $ millions FYTD**
- **Rate Case $ millions**

<table>
<thead>
<tr>
<th>Asset</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planned</td>
<td>$123.5</td>
<td>$220.2</td>
<td>$349.4</td>
<td>$537.0</td>
</tr>
<tr>
<td>Completed</td>
<td>$124.68</td>
<td>$207.8</td>
<td>$466.0</td>
<td>$505.0</td>
</tr>
<tr>
<td>Actual FYTD</td>
<td>$103</td>
<td>$182</td>
<td>$279</td>
<td>$411</td>
</tr>
<tr>
<td>Rate Case</td>
<td>$511</td>
<td>$411</td>
<td>$505</td>
<td>$511</td>
</tr>
</tbody>
</table>

$ millions

Q1, Q2, Q3, Q4

$ millions

0 100 200 300 400 500 600

Q1, Q2, Q3, Q4

0 100 200 300 400 500 600

KPI
System average interruption frequency index
Tracks frequency of unplanned outages

- Low voltage (< 200kV)
- High voltage (>= 200kV)
- Low voltage warning level
- High voltage warning level

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0.74</td>
<td>0.56</td>
<td>0.47</td>
<td>0.40</td>
</tr>
<tr>
<td>Condition</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
</tr>
</tbody>
</table>

- Good
System average interruption duration index
Tracks duration of unplanned outages

- Low voltage (< 200kV)
- High voltage (>= 200kV)
- Low voltage warning level
- High voltage warning level

Q1
Q2
Q3
Q4

Good

KPI
• Reliability coordinator services.

• TC-20 schedule and settlement discussions.

• Planning work:
  – Evolving demand.
FY 2019 PREVIEW

Janet Herrin, CHIEF OPERATING OFFICER
FCRPS net revenues
In millions of dollars

- BP-18 Rate Case
- FY 2019 start-of-year forecast

$120

$247
Federal Columbia River Power System
Total revenue and expense in millions of dollars

- BP-18 Rate Case
- FY 2019 start-of-year forecast

• Mission critical information technology
  – Modernize the systems necessary to do core power and transmission functions; the foundation to all other grid mod projects.
• Outage management projects
  – Improves outage coordination across agencies and reduces risk of non-compliance.
• Automatic generation control
  – Enables additional capacity marketing from hydro system.
PUBLIC ENGAGEMENT

Scott Simms, DIRECTOR OF COMMUNICATIONS
• **Nov. 14** – BPA energy imbalance market stakeholder meeting.

• **Dec. 7** – South of Allston bilateral redispatch pilot review.
COMMENT PERIODS

- **Nov. 13** – Nez Perce tribal hatchery operations and Snake River steelhead kelt reconditioning project.
- **Nov. 23** – Columbian white-tailed deer translocation project.
QUESTION AND ANSWER
The next QBR is scheduled for Jan. 29, 2019.

Strategic plan is available at www.bpa.gov/StrategicPlan.

Didn’t get your question answered? Email Communications@bpa.gov. Answers will be posted to www.bpa.gov/goto/QBR.
This information was publicly available on Nov. 7, 2018, and contains information not sourced directly from BPA financial statements.