

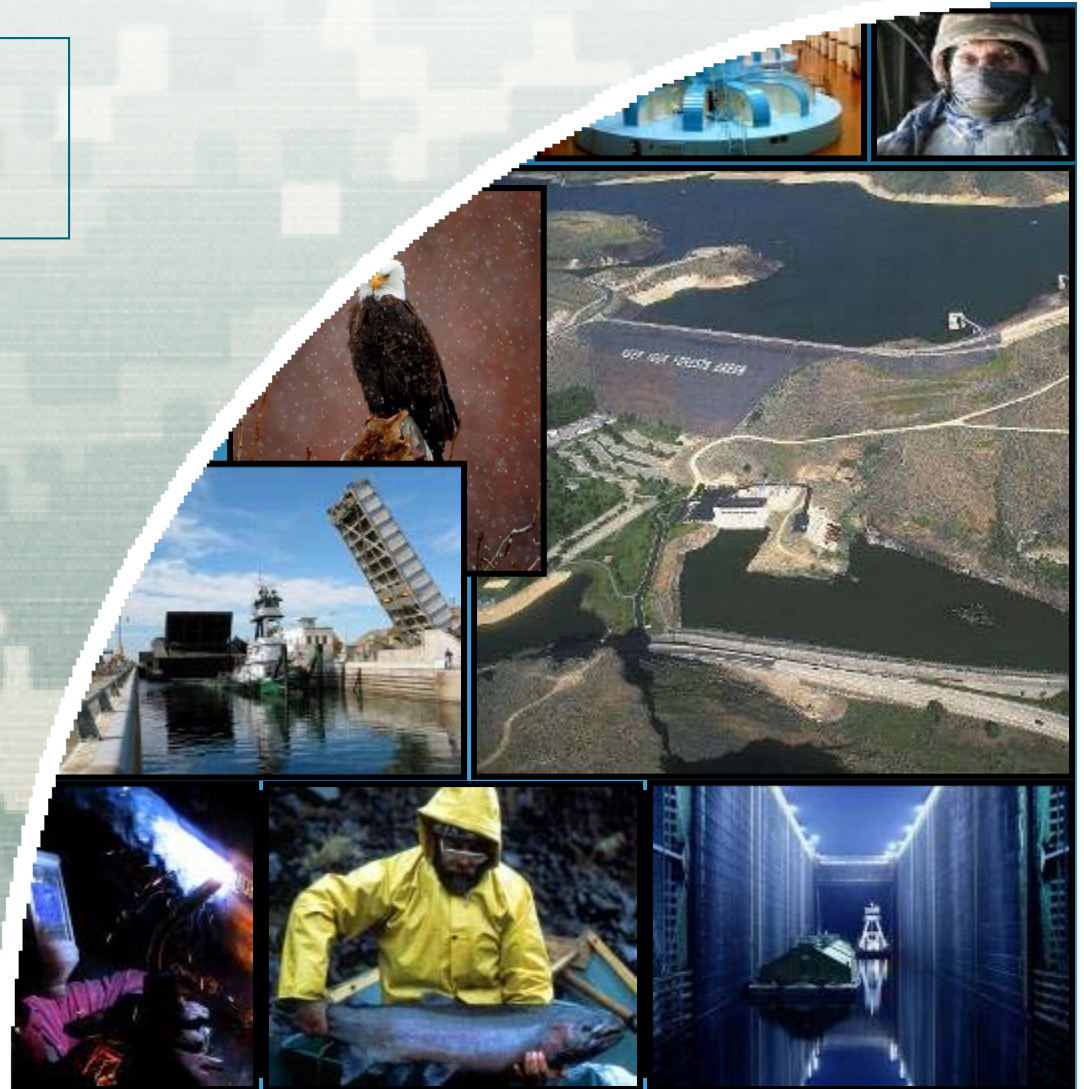
Temperature Control Augmentation FY15 Operations Review

Stephen Hall, P.E., PMP

Water Management Program
Manager, CENWW



US Army Corps of Engineers
BUILDING STRONG.



LOWER GRANITE LOCK & DAM



LGNW
TDG STATION

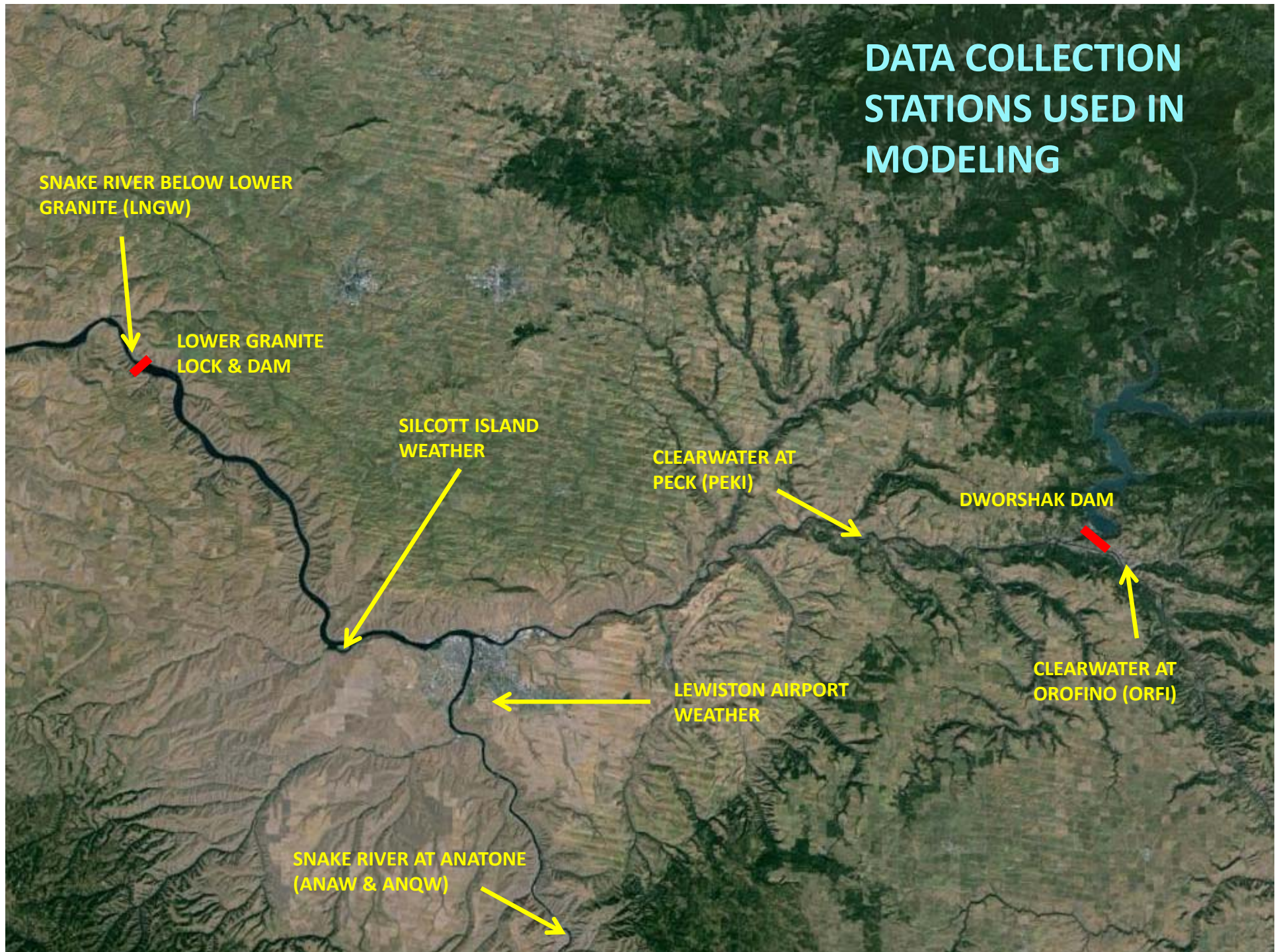


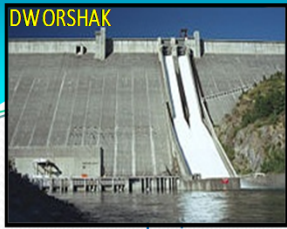
THERMISTER
STRING

| |
|-------------|
| > 68.0 |
| 66.0 - 68.0 |
| 65.0 - 66.0 |
| 60.0 - 65.0 |
| < 60.0 |



DATA COLLECTION STATIONS USED IN MODELING



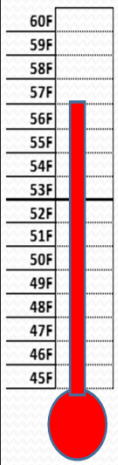


DWORSHAK

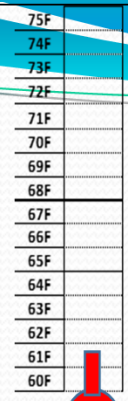
FLOW
1.5
kCfs
DWR TOTAL FLOW

1597.4
DWR ELEVATION

1-Jun-2015



PEKI



ANQW

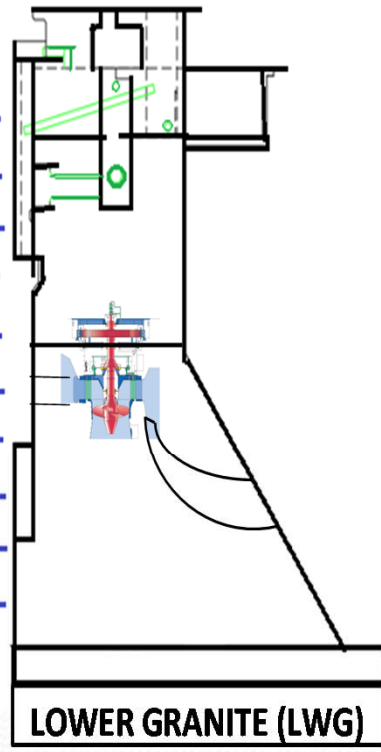
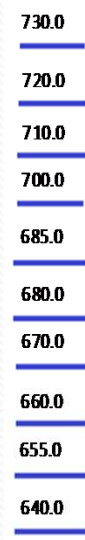
FLOW
42.3
kCfs
FLOW ANAW



HELLS CANYON

MAX POOL EL 746.5
NORMAL POOL EL 738.0
MOP EL 733.0

62.3
62.1
61.7
60.3

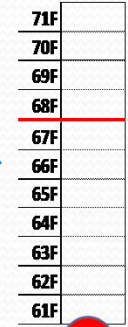


LOWER GRANITE (LWG)

59.3
58.9
58.7
58.6
58.2

FOREBAY
THERMISTER
STRING

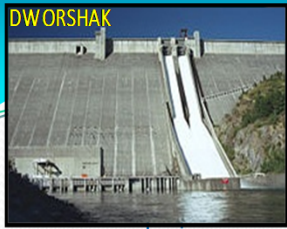
FLOW
20.3
kCfs
SPILL



FLOW
40.3
kCfs
POWERHOUSE

LGNW





DWORSHAK

FLOW
2.2
kCfs
DWR TOTAL FLOW

1599.4
DWR ELEVATION

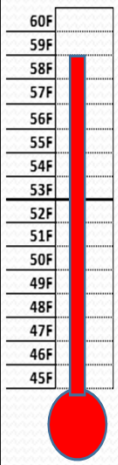
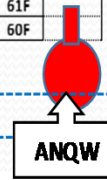
6-Jun-2015



HELLSCANYON

FLOW
37.9
kCfs
FLOW ANAW

- 75F
- 74F
- 73F
- 72F
- 71F
- 70F
- 69F
- 68F
- 67F
- 66F
- 65F
- 64F
- 63F
- 62F
- 61F
- 60F

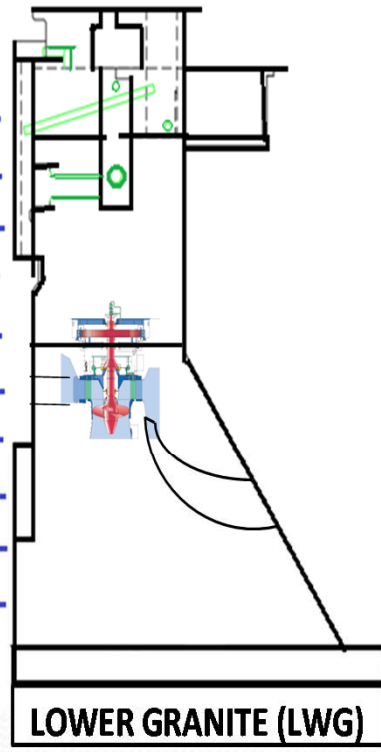


PEKI

MAX POOL EL 746.5
NORMAL POOL EL 738.0
MOP EL 733.0

- 68.5
- 63.5
- 62.4
- 61.2

- 730.0
- 720.0
- 710.0
- 700.0
- 685.0
- 680.0
- 670.0
- 660.0
- 655.0
- 640.0

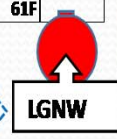


60.7
60.4
60.3
60.3
60.0
FOREBAY THERMISTER STRING

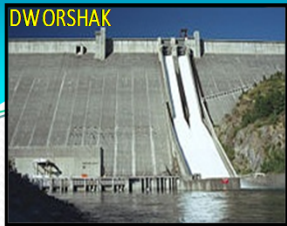
FLOW
20.1
kCfs
SPILL

- 71F
- 70F
- 69F
- 68F
- 67F
- 66F
- 65F
- 64F
- 63F
- 62F
- 61F

FLOW
35.2
kCfs
POWERHOUSE

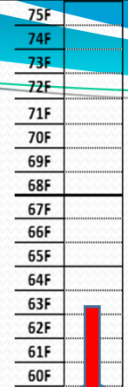


7-Jun-2015

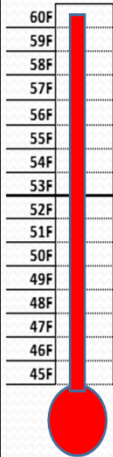


FLOW
2.2
kCfs
DWR TOTAL FLOW

1599.7
DWR ELEVATION



FLOW
34.9
kCfs
FLOW ANAW



PEKI

ANQW

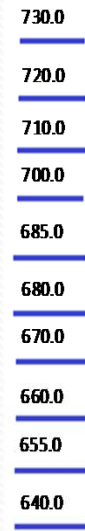
MAX POOL EL 746.5
NORMAL POOL EL 738.0
MOP EL 733.0

71.7

66.1

64.0

61.9



60.8

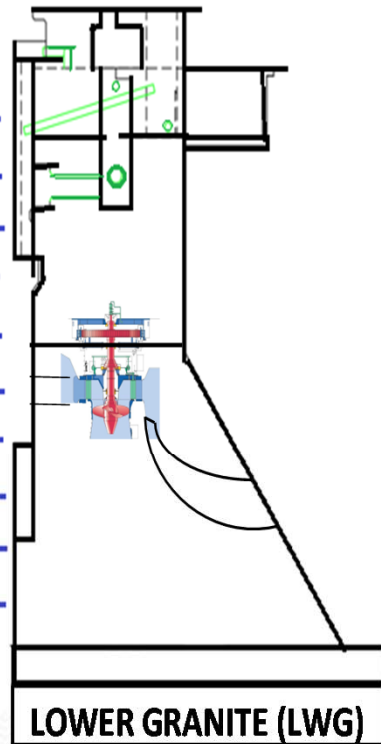
60.1

59.9

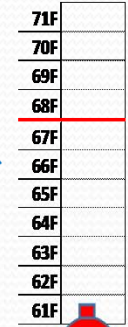
59.8

59.5

FOREBAY THERMISTER STRING



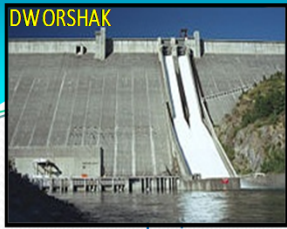
FLOW
20.3
kCfs
SPILL



FLOW
30.1
kCfs
POWERHOUSE

LGNW



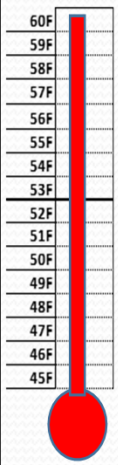


DWORSHAK

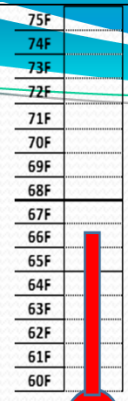
FLOW
4.5
kCfs
DWR TOTAL FLOW

1599.9
DWR ELEVATION

9-Jun-2015



PEKI



FLOW
36.3
kCfs
FLOW ANAW

ANQW

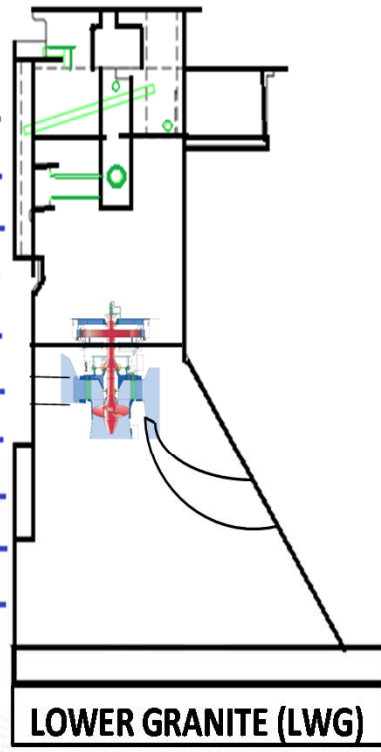


HELLSCANYON

MAX POOL EL 746.5
NORMAL POOL EL 738.0
MOP EL 733.0

- 68.7
- 66.7
- 65.3
- 63.2

- 730.0
- 720.0
- 710.0
- 700.0
- 685.0
- 680.0
- 670.0
- 660.0
- 655.0
- 640.0



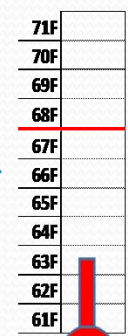
LOWER GRANITE (LWG)

- 62.2
- 61.4
- 60.9
- 60.3
- 59.9

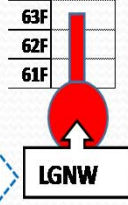
FOREBAY
THERMISTER
STRING

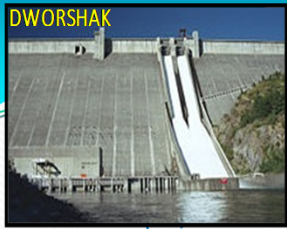
Dworshak max. elevation
1,599.9 ft m.s.l.

FLOW
20.2
kCfs
SPILL



FLOW
32.8
kCfs
POWERHOUSE



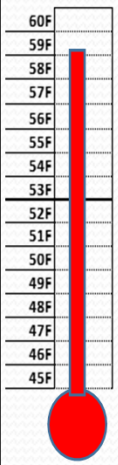


DWORSHAK

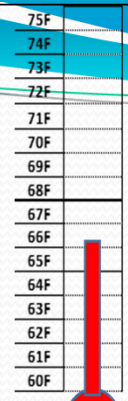
FLOW
3.0
kCfs
DWR TOTAL FLOW

1599.7
DWR ELEVATION

16-Jun-2015



PEKI



ANQW

FLOW
25.3
kCfs
FLOW ANAW



HELLS CANYON

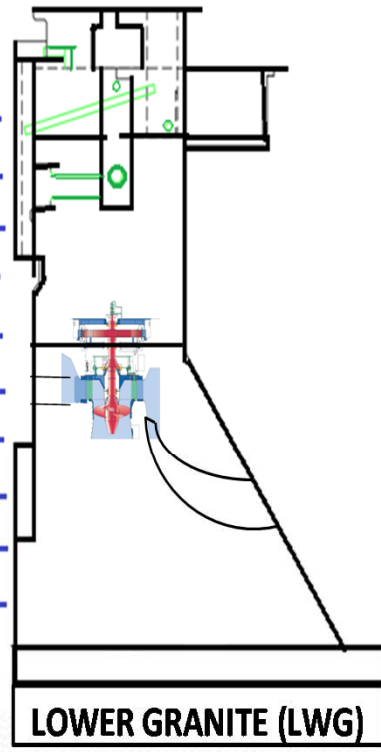
MAX POOL EL 746.5
NORMAL POOL EL 738.0
MOP EL 733.0

71.5
69.2
68.5
67.6

67.2
66.6
66.3
65.0
62.4

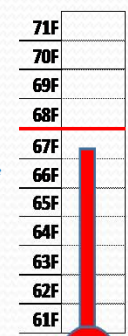
FOREBAY
THERMISTER
STRING

730.0
720.0
710.0
700.0
685.0
680.0
670.0
660.0
655.0
640.0



LOWER GRANITE (LWG)

FLOW
20.4
kCfs
SPILL



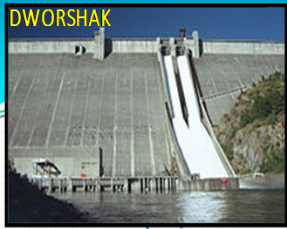
SPILL

FLOW
13.7
kCfs
POWERHOUSE

POWERHOUSE

LGNW



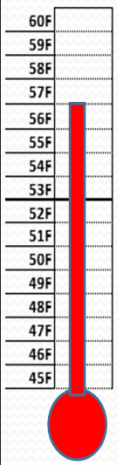


DWORSHAK

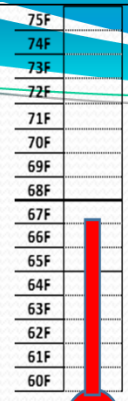
FLOW
3.0
kCfs
DWR TOTAL FLOW

1599.6
DWR ELEVATION

17-Jun-2015



PEKI



FLOW
23.6
kCfs
FLOW ANAW

ANQW



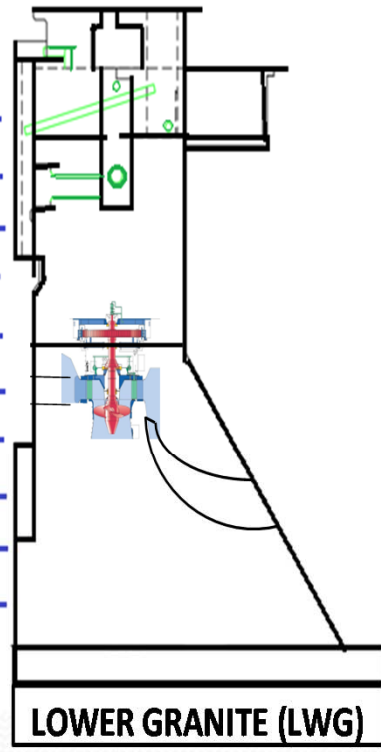
HELLS CANYON

MAX POOL EL 746.5
NORMAL POOL EL 738.0
MOP EL 733.0

- 69.4
- 68.4
- 67.8
- 67.3
- 66.8
- 66.3
- 65.8
- 64.9
- 63.6

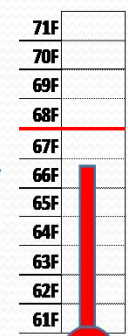
FOREBAY THERMISTER STRING

- 730.0
- 720.0
- 710.0
- 700.0
- 685.0
- 680.0
- 670.0
- 660.0
- 655.0
- 640.0



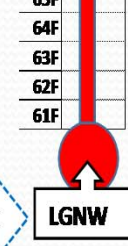
LOWER GRANITE (LWG)

FLOW
20.6
kCfs
SPILL



SPILL

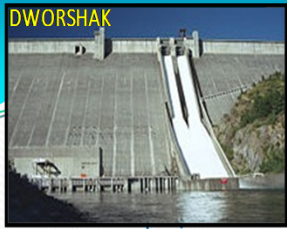
FLOW
14.4
kCfs
POWERHOUSE



POWERHOUSE



Lower Granite max spill 20.6 kCfs

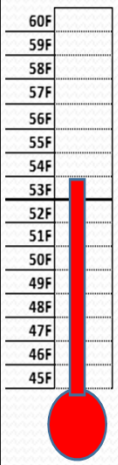


DWORSHAK

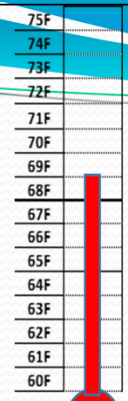
FLOW
5.3
kCfs
DWR TOTAL FLOW

1597.5
DWR ELEVATION

23-Jun-2015



PEKI



ANQW

FLOW
19.5
kCfs
FLOW ANAW



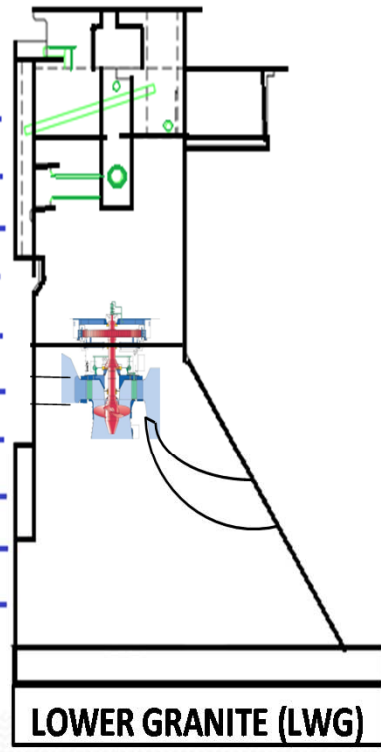
HELLS CANYON

MAX POOL EL 746.5
NORMAL POOL EL 738.0
MOP EL 733.0

- 70.3
- 69.4
- 68.3
- 67.1
- 66.4
- 65.8
- 65.7
- 65.4
- 65.2

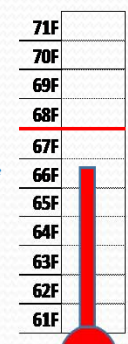
FOREBAY
THERMISTER
STRING

- 730.0
- 720.0
- 710.0
- 700.0
- 685.0
- 680.0
- 670.0
- 660.0
- 655.0
- 640.0



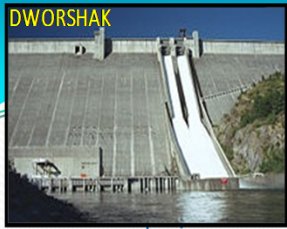
FLOW
17.7
kCfs
SPILL

FLOW
12.6
kCfs
POWERHOUSE



LGNW



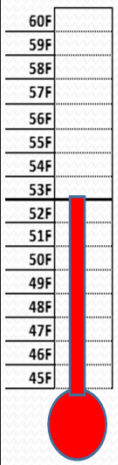


DWORSHAK

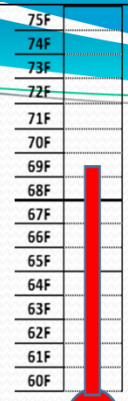
FLOW
7.4
kCfs
DWR TOTAL FLOW

1597.0
DWR ELEVATION

24-Jun-2015



PEKI



FLOW
19.3
kCfs
FLOW ANAW

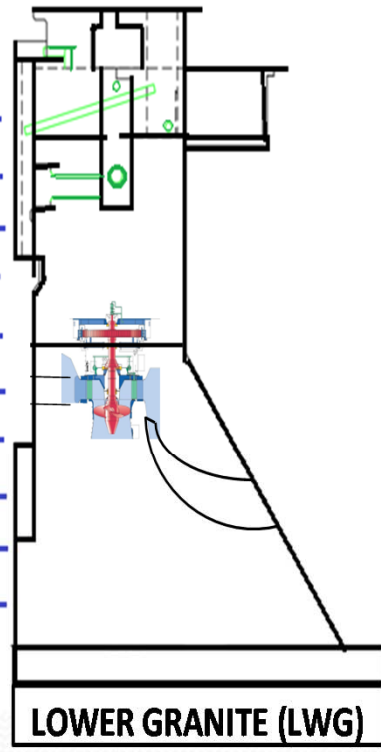


HELLS CANYON

MAX POOL EL 746.5
NORMAL POOL EL 738.0
MOP EL 733.0

70.4
68.9
68.3
67.3

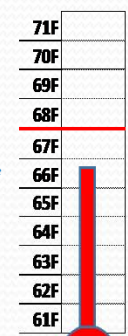
730.0
720.0
710.0
700.0
685.0
680.0
670.0
660.0
655.0
640.0



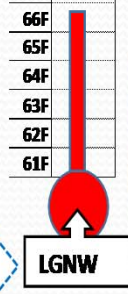
LOWER GRANITE (LWG)

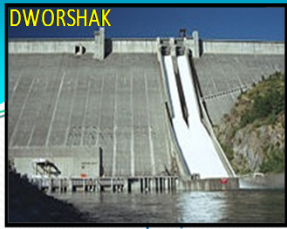
66.3
65.7
65.6
65.4
65.2
FOREBAY THERMISTER STRING

FLOW
17.4
kCfs
SPILL



FLOW
12.4
kCfs
POWERHOUSE



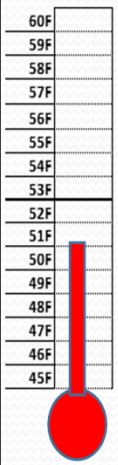


DWORSHAK

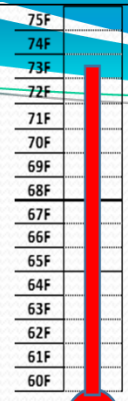
FLOW
13.2
kCfs
DWR TOTAL FLOW

1592.3
DWR ELEVATION

29-Jun-2015



PEKI



FLOW
17.7
kCfs
FLOW ANAW



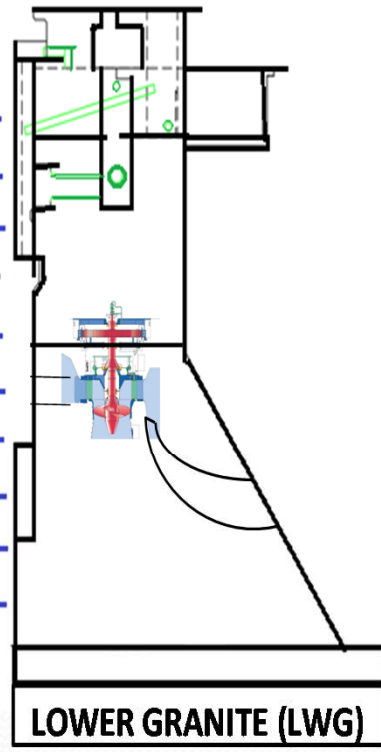
HELLS CANYON

ANQW

MAX POOL EL 746.5
NORMAL POOL EL 738.0
MOP EL 733.0

76.9
73.1
70.4
67.8

730.0
720.0
710.0
700.0
685.0
680.0
670.0
660.0
655.0
640.0

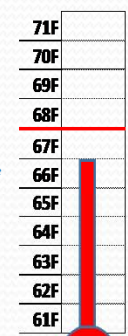


66.1
64.9
64.6
64.5
64.3

FOREBAY THERMISTER STRING

FLOW
18.1
kCfs
SPILL

FLOW
18.1
kCfs
POWERHOUSE

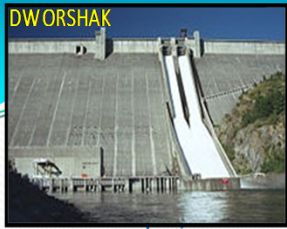


LGNW



Dworshak max. release of 13.2 kCfs

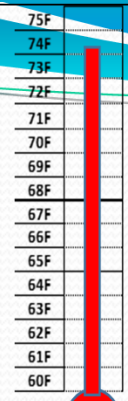
1-Jul-2015



DWORSHAK

FLOW
9.6
kCfs
DWR TOTAL FLOW

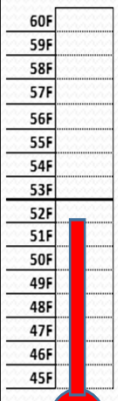
1590.0
DWR ELEVATION



FLOW
17.6
kCfs
FLOW ANAW



HELLS CANYON

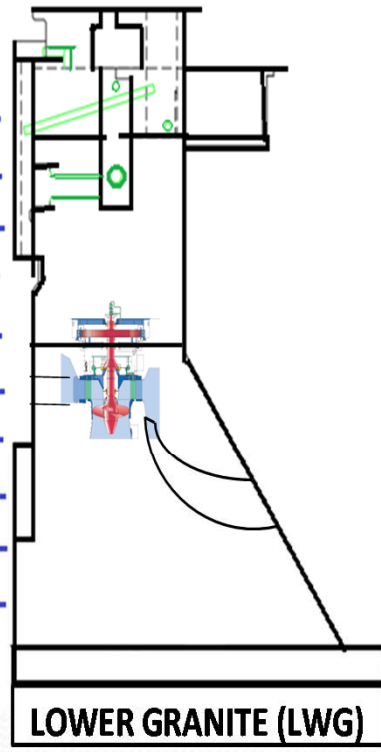


PEKI

ANQW

MAX POOL EL 746.5
NORMAL POOL EL 738.0
MOP EL 733.0

73.3
69.6
68.5
67.1

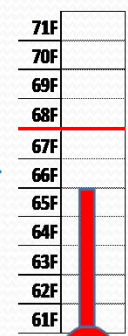


LOWER GRANITE (LWG)

65.5
63.9
63.6
63.5
63.3

FOREBAY THERMISTER STRING

FLOW
18.0
kCfs
SPILL

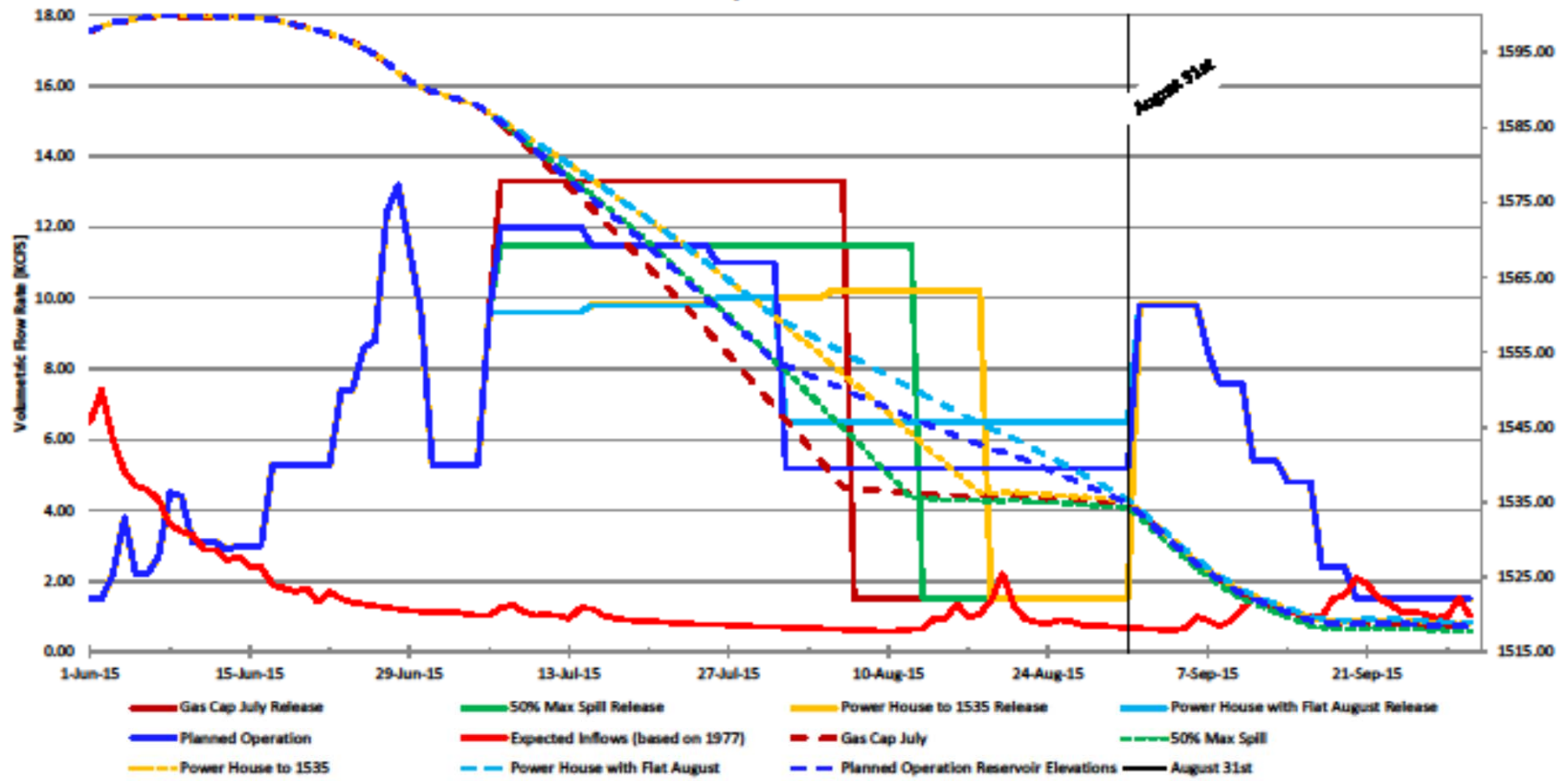


FLOW
12.2
kCfs
POWERHOUSE

LGNW

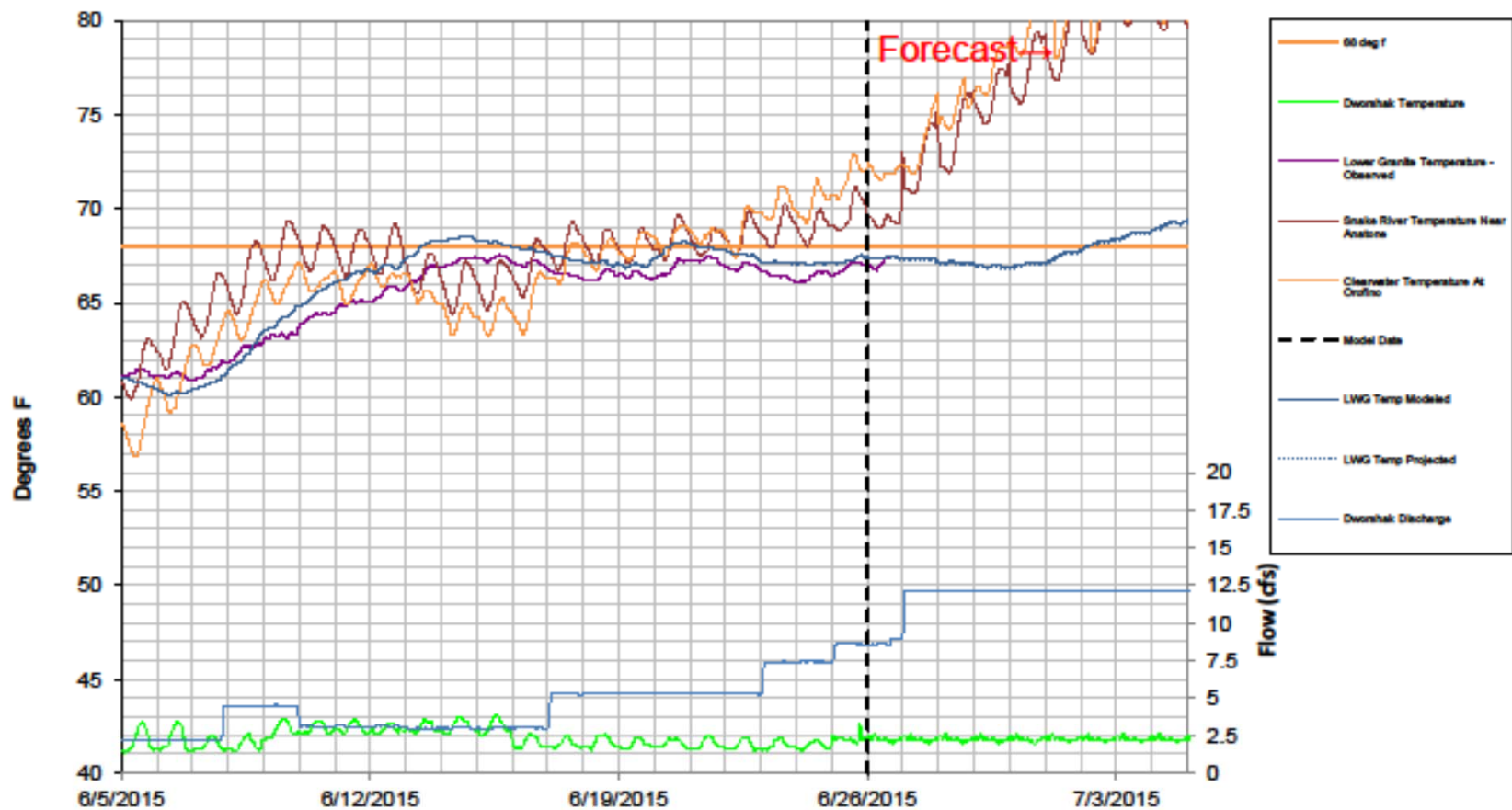


DWR Summer 2015 Augmentation Volumes Potential Operational Scenarios

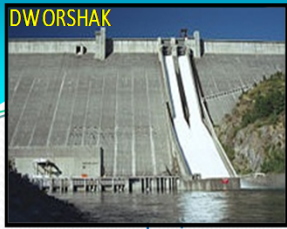


Analog Year 2013 - Modified

Water Temperature Comparisons Model from 6/5/2015 to 7/5/2015 Observed Data to 6/26/2015

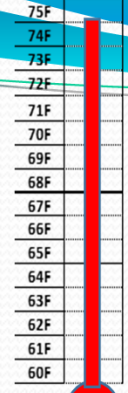


6-Jul-2015

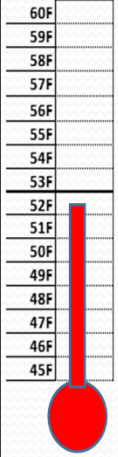


FLOW
5.4
kCfs
DWR TOTAL FLOW

1586.7
DWR ELEVATION



FLOW
15.9
kCfs
FLOW ANAW



PEKI

ANQW

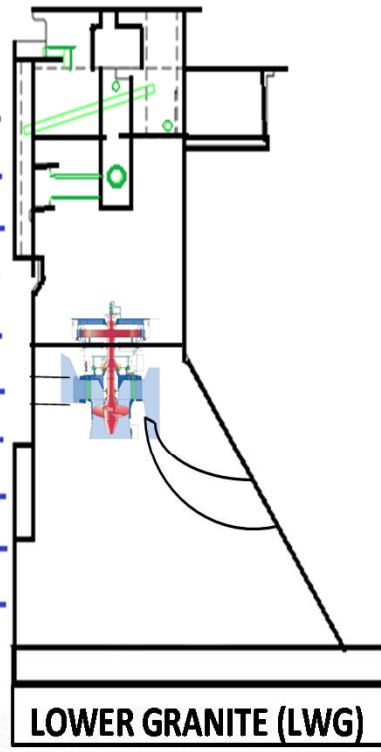
MAX POOL EL 746.5
NORMAL POOL EL 738.0
MOP EL 733.0

76.7
74.3
73.2
70.6

730.0
720.0
710.0
700.0
685.0
680.0
670.0
660.0
655.0
640.0

68.4
66.3
63.8
63.0
62.7

FOREBAY
THERMISTER
STRING

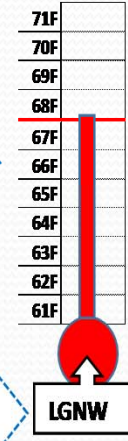


LOWER GRANITE (LWG)

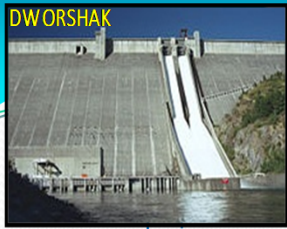
FLOW
10.1
kCfs
SPILL

FLOW
12.4
kCfs
POWERHOUSE

Warming up

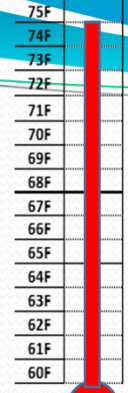


7-Jul-2015

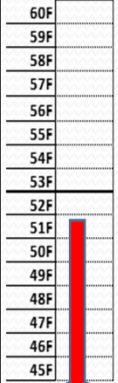


FLOW
7.5
kCfs
DWR TOTAL FLOW

1586.1
DWR ELEVATION



FLOW
14.8
kCfs
FLOW ANAW

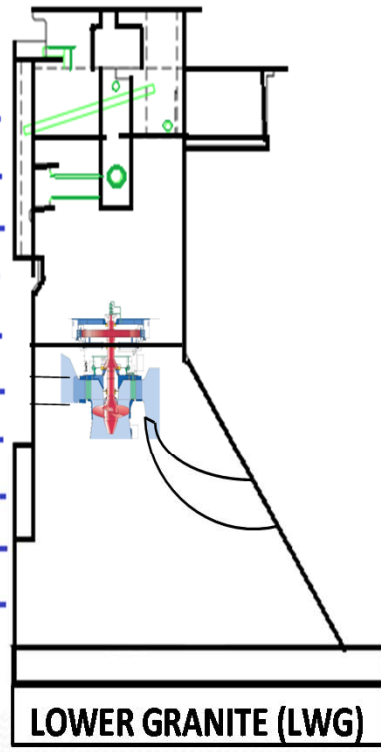
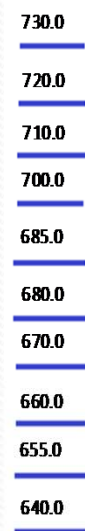


PEKI

ANQW

MAX POOL EL 746.5
NORMAL POOL EL 738.0
MOP EL 733.0

77.9
77.2
75.7
72.0



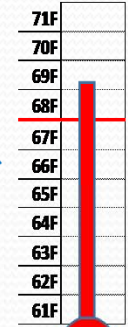
LOWER GRANITE (LWG)

69.5
67.5
64.5
63.2
63.0

FOREBAY THERMISTER STRING

Exceeded St. of Washington's temp. standard

FLOW
11.9
kCfs
SPILL

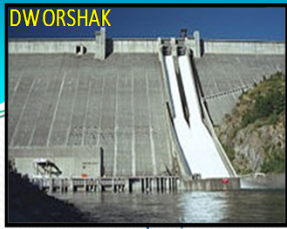


FLOW
12.4
kCfs
POWERHOUSE

LGNW

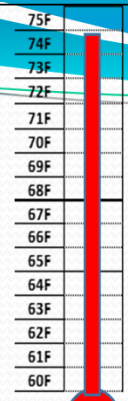


8-Jul-2015

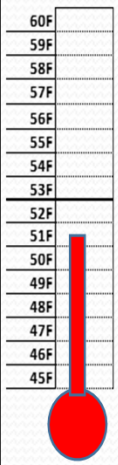


FLOW
7.5
kCfs
DWR TOTAL FLOW

1585.3
DWR ELEVATION



FLOW
15.5
kCfs
FLOW ANAW



PEKI

ANQW

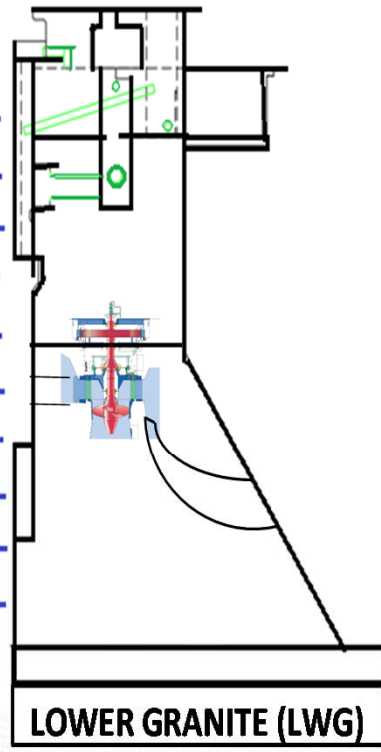
MAX POOL EL 746.5
NORMAL POOL EL 738.0
MOP EL 733.0

78.6
76.7
75.7
72.8

730.0
720.0
710.0
700.0
685.0
680.0
670.0
660.0
655.0
640.0

70.0
68.2
65.2
63.7
63.3

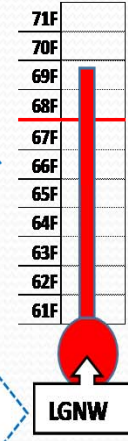
FOREBAY THERMISTER STRING

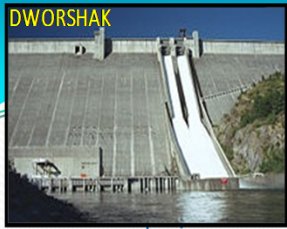


Exceeded St. of Washington's temp. standard

FLOW
12.0
kCfs
SPILL

FLOW
12.4
kCfs
POWERHOUSE



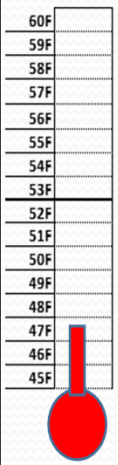


DWORSHAK

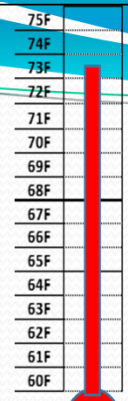
FLOW
12.5
kCfs
DWR TOTAL FLOW

1582.4
DWR ELEVATION

11-Jul-2015



PEKI



FLOW
15.3
kCfs
FLOW ANAW



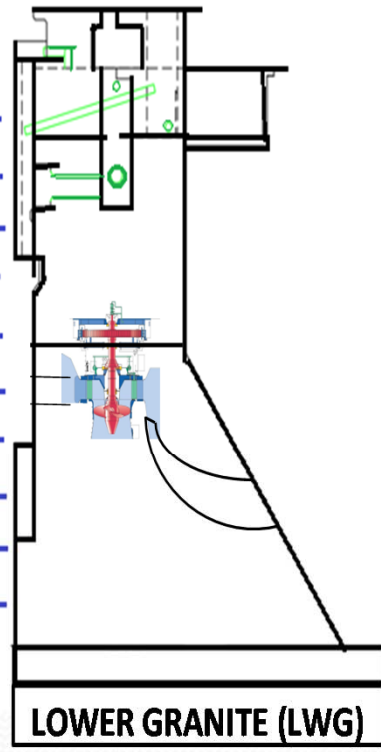
HELLS CANYON

ANQW

MAX POOL EL 746.5
NORMAL POOL EL 738.0
MOP EL 733.0

78.4
78.3
77.1
72.2

730.0
720.0
710.0
700.0
685.0
680.0
670.0
660.0
655.0
640.0



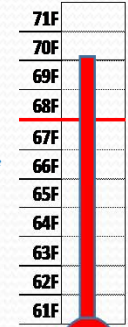
LOWER GRANITE (LWG)

70.2
67.7
65.9
65.3
64.7

FOREBAY THERMISTER STRING

Exceeded St. of Washington's temp. standard

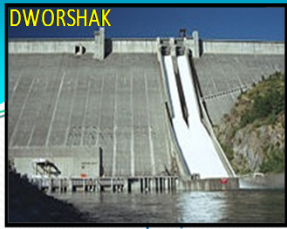
FLOW
18.0
kCfs
SPILL



FLOW
13.5
kCfs
POWERHOUSE

LGNW



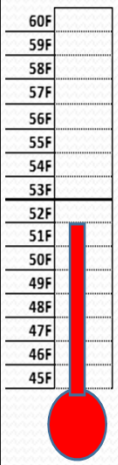


DWORSHAK

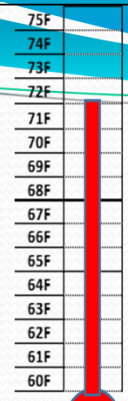
FLOW
7.5
kCfs
DWR TOTAL FLOW

1577.5
DWR ELEVATION

15-Jul-2015



PEKI



FLOW
14.7
kCfs
FLOW ANAW



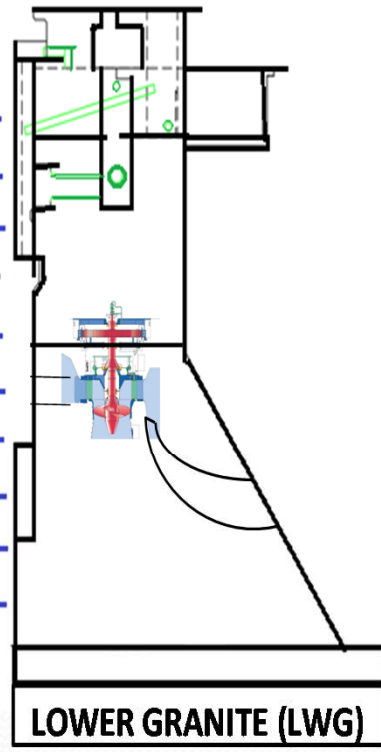
HELLS CANYON

ANQW

MAX POOL EL 746.5
NORMAL POOL EL 738.0
MOP EL 733.0

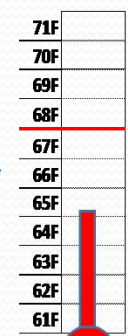
76.3
75.0
73.3
68.4

730.0
720.0
710.0
700.0
685.0
680.0
670.0
660.0
655.0
640.0



65.5
62.6
61.5
61.5
61.7
FOREBAY THERMISTER STRING

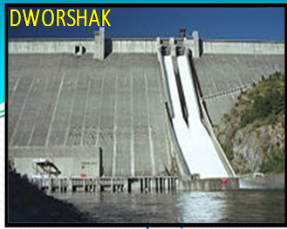
FLOW
8.1
kCfs
SPILL



FLOW
18.3
kCfs
POWERHOUSE

LGNW



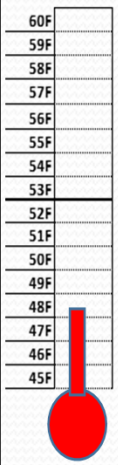


DWORSHAK

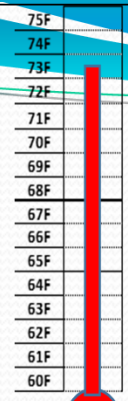
FLOW
9.9
kCfs
DWR TOTAL FLOW

1570.0
DWR ELEVATION

22-Jul-2015



PEKI



FLOW
17.3
kCfs
FLOW ANAW



HELLS CANYON

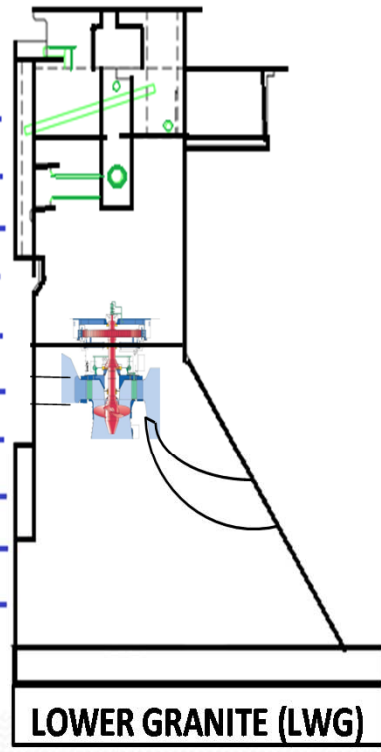
ANQW

MAX POOL EL 746.5
NORMAL POOL EL 738.0
MOP EL 733.0

- 70.6
- 70.4
- 70.0
- 68.5

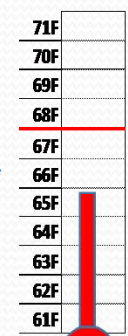
- 730.0
- 720.0
- 710.0
- 700.0
- 685.0
- 680.0
- 670.0
- 660.0
- 655.0
- 640.0

- 66.0
 - 63.4
 - 62.9
 - 62.7
 - 62.5
- FOREBAY THERMISTER STRING



LOWER GRANITE (LWG)

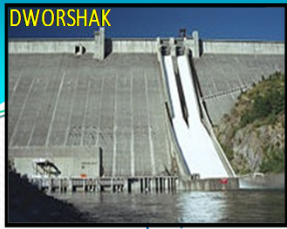
FLOW
11.2
kCfs
SPILL



FLOW
18.2
kCfs
POWERHOUSE

LGNW



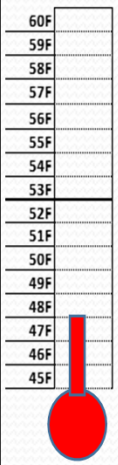


DWORSHAK

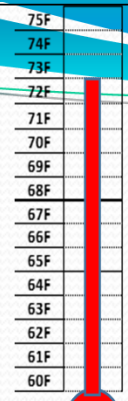
FLOW
9.9
kCfs
DWR TOTAL FLOW

1568.8
DWR ELEVATION

23-Jul-2015



PEKI



FLOW
20.0
kCfs
FLOW ANAW



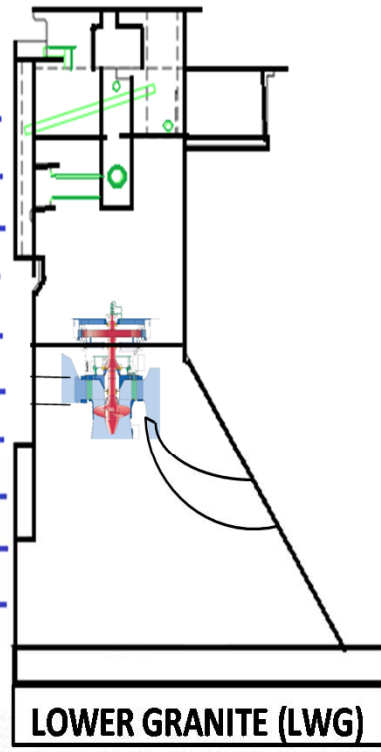
HELLS CANYON

ANQW

MAX POOL EL 746.5
NORMAL POOL EL 738.0
MOP EL 733.0

71.3
71.1
70.7
69.5

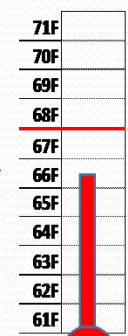
730.0
720.0
710.0
700.0
685.0
680.0
670.0
660.0
655.0
640.0



LOWER GRANITE (LWG)

67.0
64.0
63.2
62.9
62.8
FOREBAY THERMISTER STRING

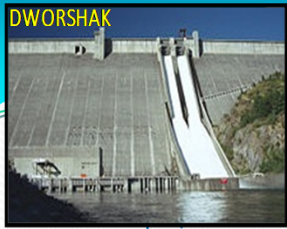
FLOW
13.8
kCfs
SPILL



FLOW
18.2
kCfs
POWERHOUSE

LGNW





DWORSHAK

FLOW
9.9
kCfs
DWR TOTAL FLOW

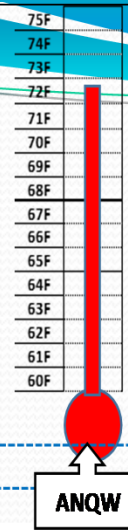
1567.6
DWR ELEVATION

24-Jul-2015

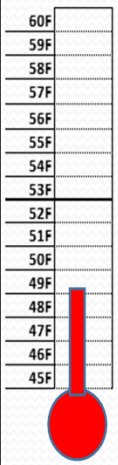


HELLS CANYON

FLOW
18.4
kCfs
FLOW ANAW



ANQW



PEKI

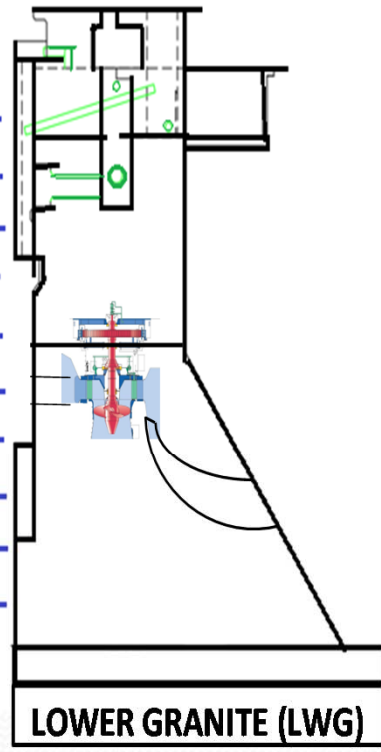
MAX POOL EL 746.5
NORMAL POOL EL 738.0
MOP EL 733.0

- 71.2
- 71.1
- 70.8
- 69.0

- 730.0
- 720.0
- 710.0
- 700.0
- 685.0
- 680.0
- 670.0
- 660.0
- 655.0
- 640.0

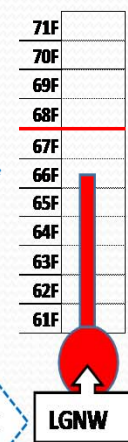
- 66.8
- 64.2
- 63.4
- 63.1
- 62.9

FOREBAY
THERMISTER
STRING



LOWER GRANITE (LWG)

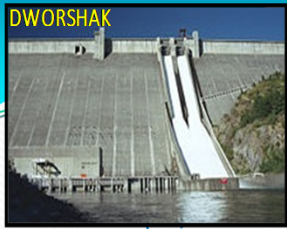
FLOW
12.5
kCfs
SPILL



LGNW

FLOW
18.3
kCfs
POWERHOUSE



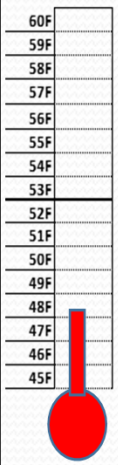


DWORSHAK

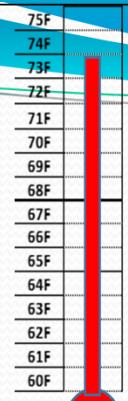
FLOW
7.8
kCfs
DWR TOTAL FLOW

1565.6
DWR ELEVATION

26-Jul-2015



PEKI



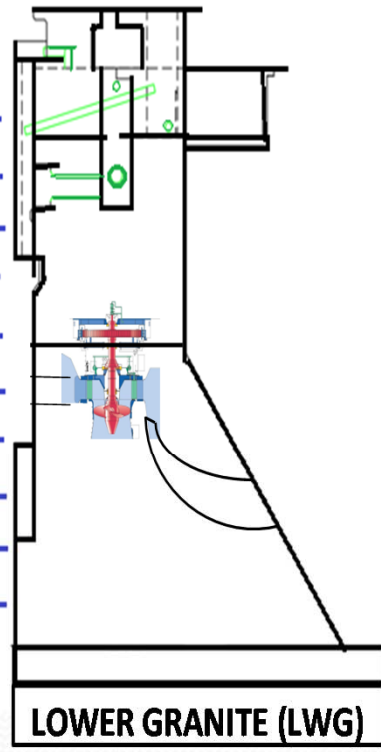
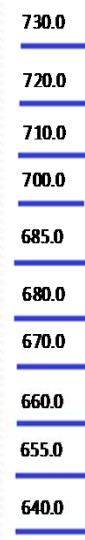
FLOW
16.0
kCfs
FLOW ANAW



HELLS CANYON

MAX POOL EL 746.5
NORMAL POOL EL 738.0
MOP EL 733.0

70.4
70.4
70.1
68.8

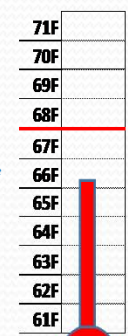


LOWER GRANITE (LWG)

66.5
64.3
63.8
63.5
63.3

FOREBAY
THERMISTER
STRING

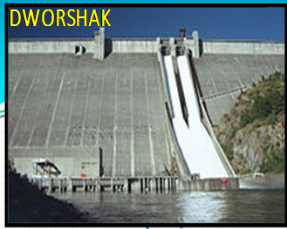
FLOW
8.6
kCfs
SPILL



FLOW
18.3
kCfs
POWERHOUSE

LGNW



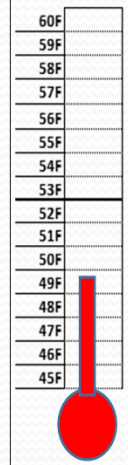


DWORSHAK

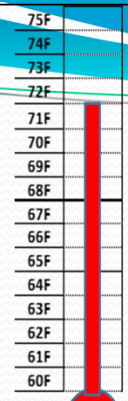
FLOW
10.0
kCfs
DWR TOTAL FLOW

1562.1
DWR ELEVATION

29-Jul-2015



PEKI



FLOW
14.4
kCfs
FLOW ANAW



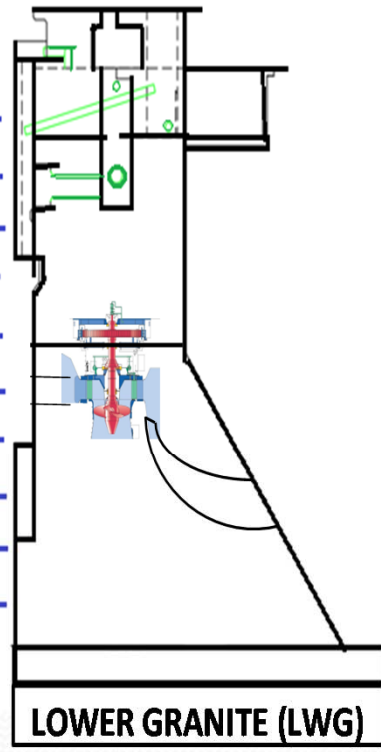
HELLS CANYON

ANQW

MAX POOL EL 746.5
NORMAL POOL EL 738.0
MOP EL 733.0

72.3
70.5
70.1
69.2

730.0
720.0
710.0
700.0
685.0
680.0
670.0
660.0
655.0
640.0

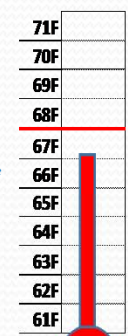


LOWER GRANITE (LWG)

67.7
65.3
64.3
64.0
63.9

FOREBAY
THERMISTER
STRING

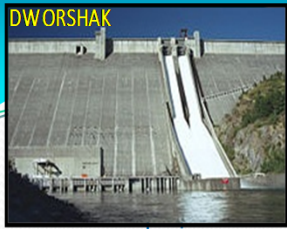
FLOW
8.9
kCfs
SPILL



FLOW
18.2
kCfs
POWERHOUSE

LGNW





DWORSHAK

FLOW
7.6
kCfs
DWR TOTAL FLOW

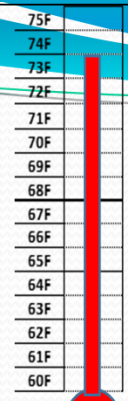
1554.5
DWR ELEVATION

5-Aug-2015

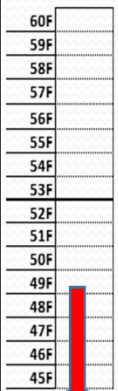


HELLS CANYON

FLOW
16.7
kCfs
FLOW ANAW



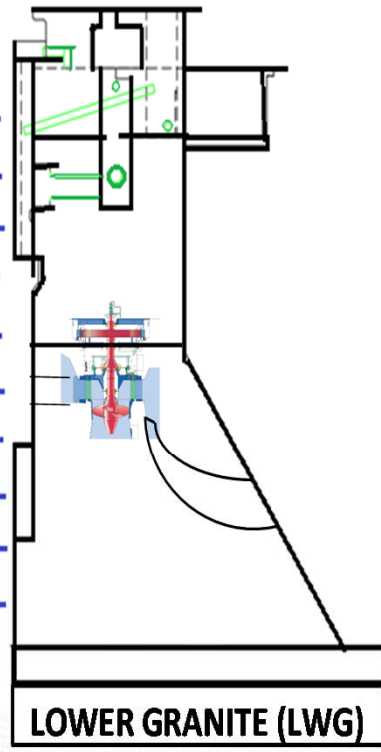
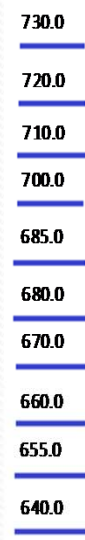
ANQW



PEKI

MAX POOL EL 746.5
NORMAL POOL EL 738.0
MOP EL 733.0

70.1
69.8
69.5
68.3

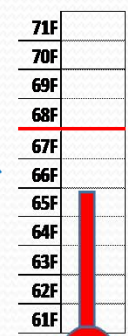


LOWER GRANITE (LWG)

67.3
64.5
62.7
62.3
62.0

FOREBAY THERMISTER STRING

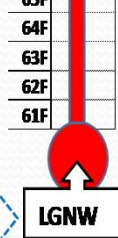
FLOW
12.9
kCfs
SPILL



SPILL

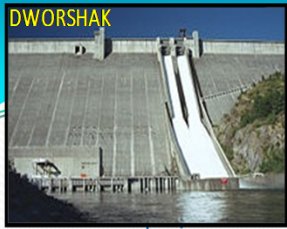
FLOW
12.4
kCfs
POWERHOUSE

POWERHOUSE



LGNW





DWORSHAK

FLOW
5.7
kCfs
DWR TOTAL FLOW

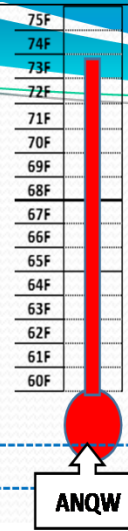
1549.7
DWR ELEVATION

11-Aug-2015

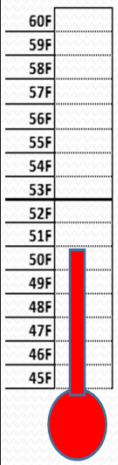


HELLS CANYON

FLOW
11.6
kCfs
FLOW ANAW



ANQW

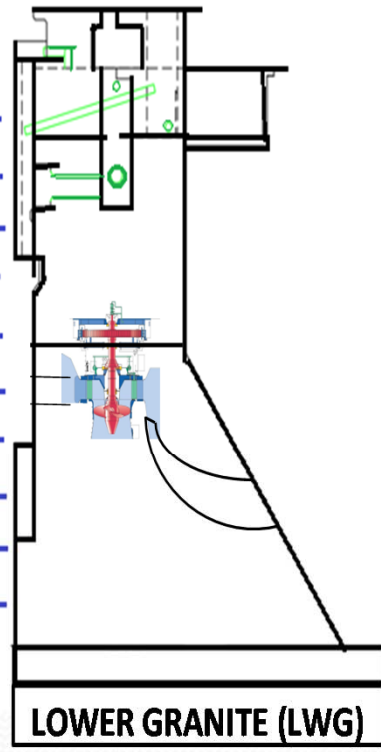


PEKI

MAX POOL EL 746.5
NORMAL POOL EL 738.0
MOP EL 733.0

72.5
71.4
71.0
70.1

730.0
720.0
710.0
700.0
685.0
680.0
670.0
660.0
655.0
640.0

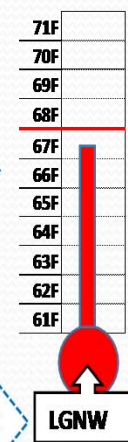


LOWER GRANITE (LWG)

68.9
66.7
64.5
64.0
63.8

FOREBAY THERMISTER STRING

FLOW
9.6
kCfs
SPILL



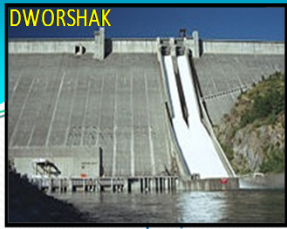
SPILL

FLOW
8.8
kCfs
POWERHOUSE

POWERHOUSE



LGNW



DWORSHAK

FLOW
5.7
kCfs
DWR TOTAL FLOW

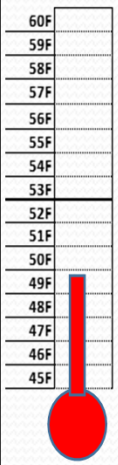
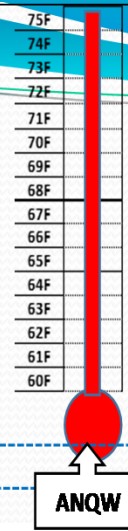
1547.6
DWR ELEVATION

14-Aug-2015



HELLS CANYON

FLOW
14.2
kCfs
FLOW ANAW



PEKI

ANQW

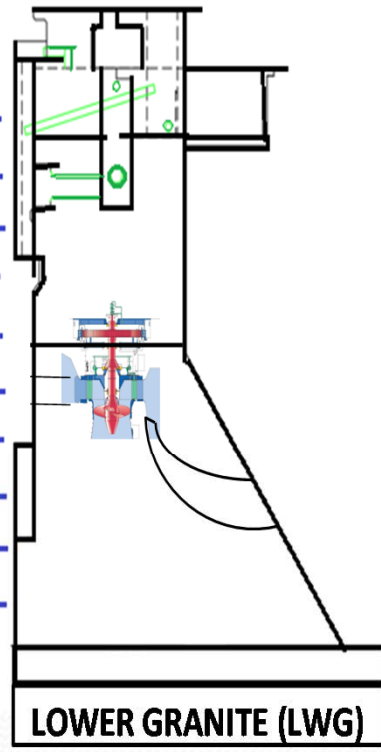
MAX POOL EL 746.5
NORMAL POOL EL 738.0
MOP EL 733.0

74.9
73.2
71.9
70.5

730.0
720.0
710.0
700.0
685.0
680.0
670.0
660.0
655.0
640.0

69.2
67.0
64.0
63.3
63.3

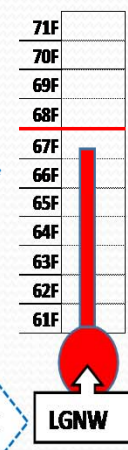
FOREBAY THERMISTER STRING



LOWER GRANITE (LWG)

FLOW
13.2
kCfs
SPILL

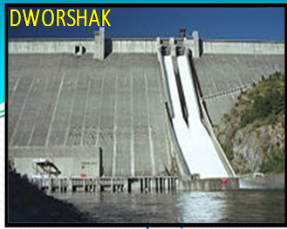
FLOW
8.7
kCfs
POWERHOUSE



LGNW



Anatone max. temp. 75. °F



DWORSHAK

FLOW
5.7
kCfs
DWR TOTAL FLOW

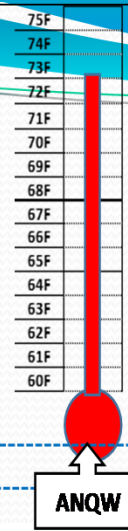
1543.4
DWR ELEVATION

19-Aug-2015

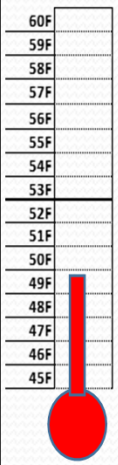


HELLS CANYON

FLOW
11.5
kCfs
FLOW ANAW



ANQW

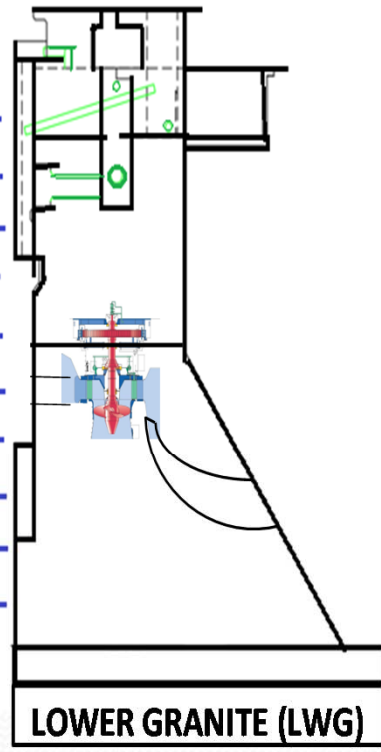


PEKI

MAX POOL EL 746.5
NORMAL POOL EL 738.0
MOP EL 733.0

73.6
72.3
71.9
71.2

730.0
720.0
710.0
700.0
685.0
680.0
670.0
660.0
655.0
640.0



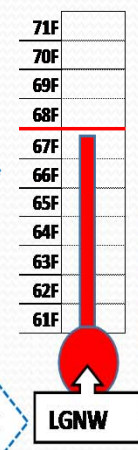
LOWER GRANITE (LWG)

69.5
67.5
64.8
64.5
64.3

FOREBAY THERMISTER STRING

FLOW
6.4
kCfs
SPILL

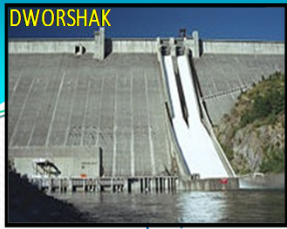
Warming up



LGNW

FLOW
12.6
kCfs
POWERHOUSE



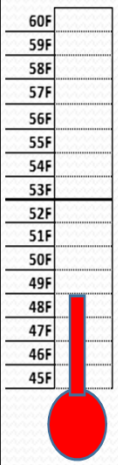


DWORSHAK

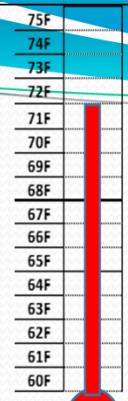
FLOW
5.7
kCfs
DWR TOTAL FLOW

1540.4
DWR ELEVATION

23-Aug-2015



PEKI



ANQW

FLOW
11.3
kCfs
FLOW ANAW



HELLS CANYON

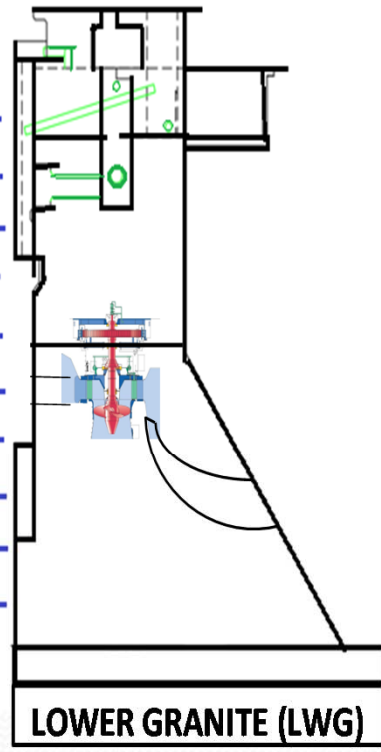
MAX POOL EL 746.5
NORMAL POOL EL 738.0
MOP EL 733.0

71.2
71.1
71.0
70.7

730.0
720.0
710.0
700.0
685.0
680.0
670.0
660.0
655.0
640.0

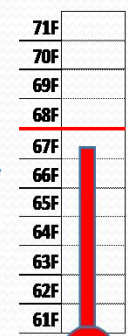
70.5
67.9
64.3
63.8
63.6

FOREBAY
THERMISTER
STRING



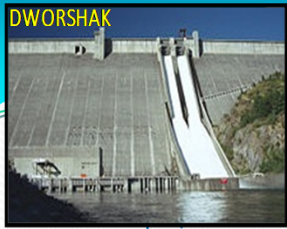
FLOW
4.8
kCfs
SPILL

FLOW
12.3
kCfs
POWERHOUSE



LGNW



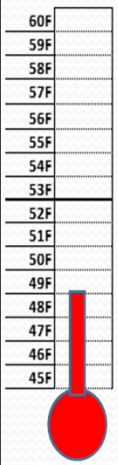


DWORSHAK

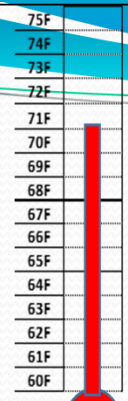
FLOW
4.6
kCfs
DWR TOTAL FLOW

1538.3
DWR ELEVATION

26-Aug-2015



PEKI



ANQW

FLOW
11.1
kCfs
FLOW ANAW

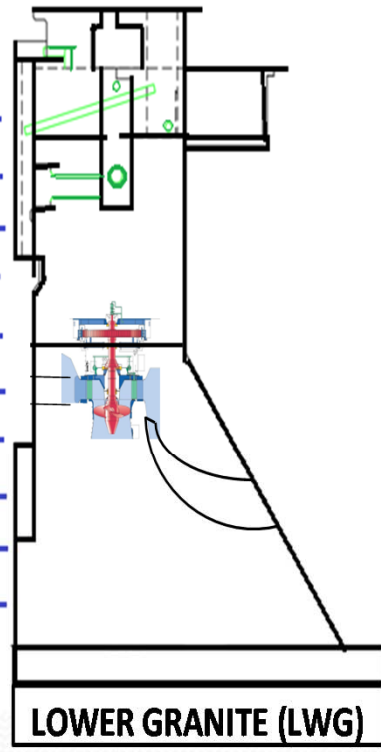


HELLS CANYON

MAX POOL EL 746.5
NORMAL POOL EL 738.0
MOP EL 733.0

72.4
71.1
71.0
70.6

730.0
720.0
710.0
700.0
685.0
680.0
670.0
660.0
655.0
640.0

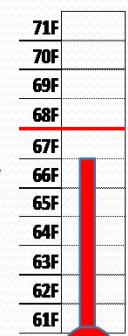


LOWER GRANITE (LWG)

69.1
66.3
64.0
63.8
63.5

FOREBAY THERMISTER STRING

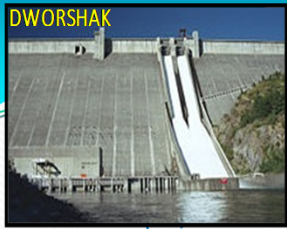
FLOW
4.0
kCfs
SPILL



FLOW
12.2
kCfs
POWERHOUSE

LGNW



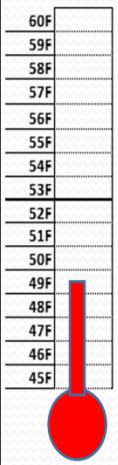


DWORSHAK

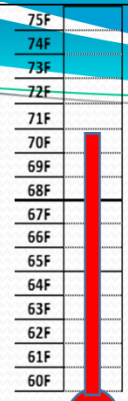
FLOW
5.8
kCfs
DWR TOTAL FLOW

1534.5
DWR ELEVATION

31-Aug-2015



PEKI



ANQW

FLOW
11.5
kCfs
FLOW ANAW

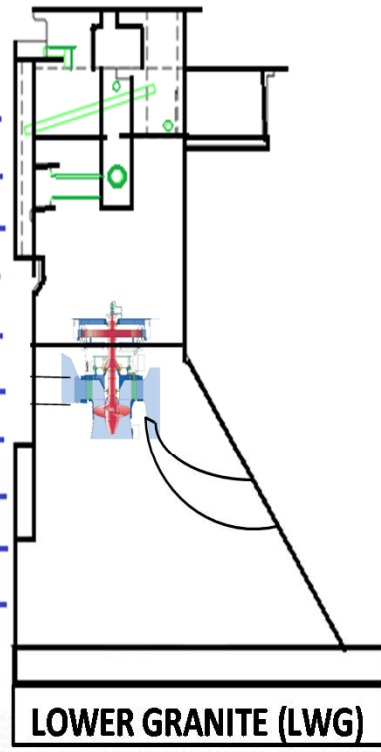


HELLS CANYON

MAX POOL EL 746.5
NORMAL POOL EL 738.0
MOP EL 733.0

70.3
70.3
70.1
68.7

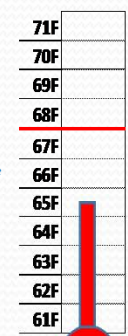
730.0
720.0
710.0
700.0
685.0
680.0
670.0
660.0
655.0
640.0



LOWER GRANITE (LWG)

67.5
64.3
62.4
62.1
62.1
FOREBAY THERMISTER STRING

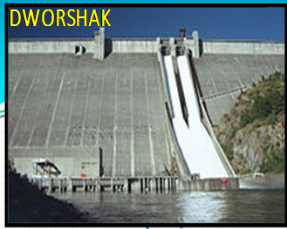
FLOW
6.3
kCfs
SPILL



FLOW
12.3
kCfs
POWERHOUSE

LGNW



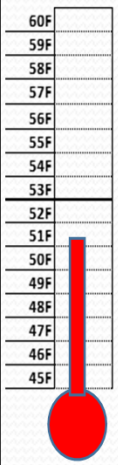


DWORSHAK

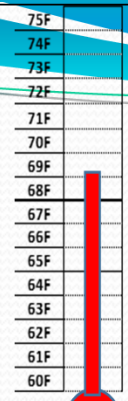
FLOW
5.9
kCfs
DWR TOTAL FLOW

1522.9
DWR ELEVATION

15-Sep-2015



PEKI



ANQW

FLOW
13.4
kCfs
FLOW ANAW

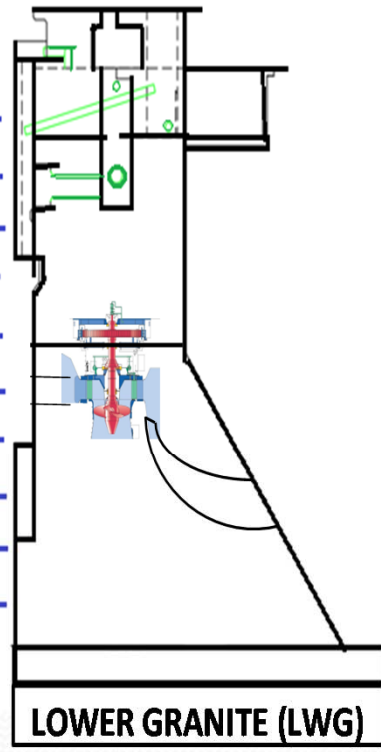


HELLS CANYON

MAX POOL EL 746.5
NORMAL POOL EL 738.0
MOP EL 733.0

65.8
65.8
65.7
65.2

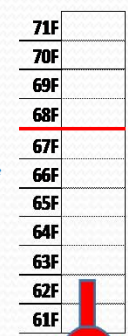
730.0
720.0
710.0
700.0
685.0
680.0
670.0
660.0
655.0
640.0



LOWER GRANITE (LWG)

64.2
63.1
60.6
59.8
59.7
FOREBAY THERMISTER STRING

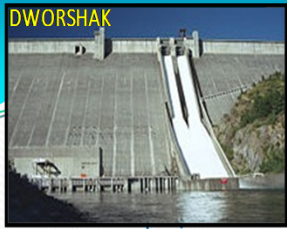
FLOW
0.0
kCfs
SPILL



FLOW
21.7
kCfs
POWERHOUSE

LGNW



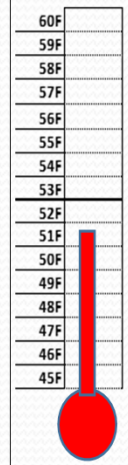


DWORSHAK

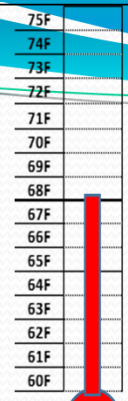
FLOW
4.9
kCfs
DWR TOTAL FLOW

1522.2
DWR ELEVATION

16-Sep-2015



PEKI



FLOW
13.6
kCfs
FLOW ANAW

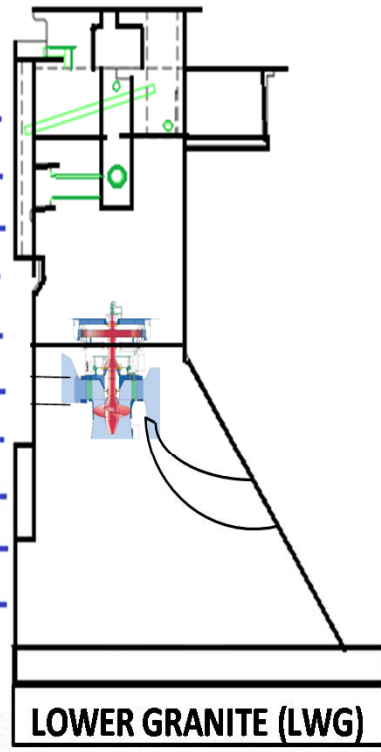


HELLS CANYON

MAX POOL EL 746.5
NORMAL POOL EL 738.0
MOP EL 733.0

65.7
65.5
65.4
65.3

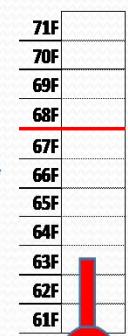
730.0
720.0
710.0
700.0
685.0
680.0
670.0
660.0
655.0
640.0



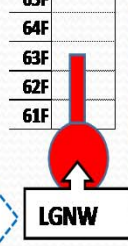
LOWER GRANITE (LWG)

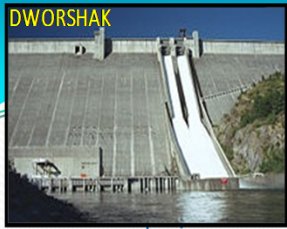
65.0
64.2
61.6
60.2
60.0
FOREBAY THERMISTER STRING

FLOW
0.0
kCfs
SPILL



FLOW
21.3
kCfs
POWERHOUSE



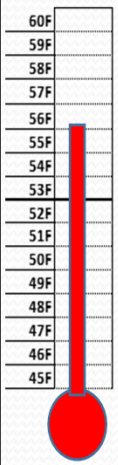


DWORSHAK

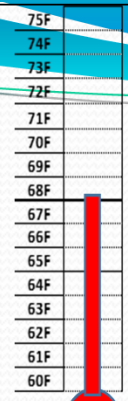
FLOW
1.6
kCfs
DWR TOTAL FLOW

1519.8
DWR ELEVATION

22-Sep-2015



PEKI



FLOW
15.1
kCfs
FLOW ANAW

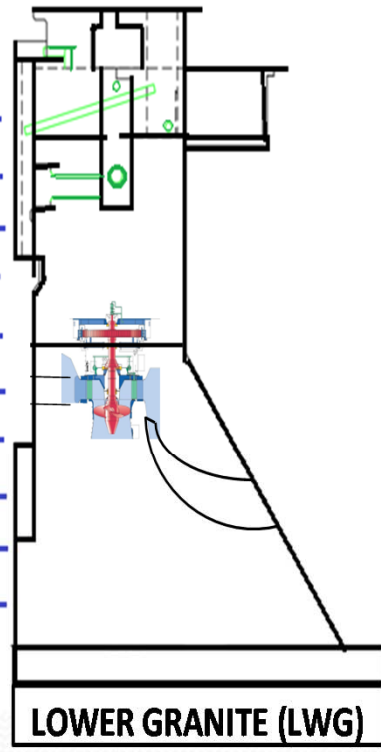


HELLS CANYON

MAX POOL EL 746.5
NORMAL POOL EL 738.0
MOP EL 733.0

- 65.5
- 65.2
- 65.1
- 64.8

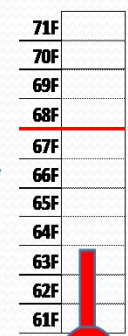
- 730.0
- 720.0
- 710.0
- 700.0
- 685.0
- 680.0
- 670.0
- 660.0
- 655.0
- 640.0



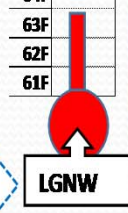
LOWER GRANITE (LWG)

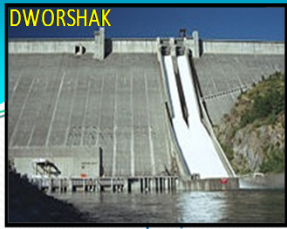
- 64.4
 - 63.1
 - 62.1
 - 61.7
 - 61.5
- FOREBAY THERMISTER STRING

FLOW
0.0
kCfs
SPILL



FLOW
19.0
kCfs
POWERHOUSE



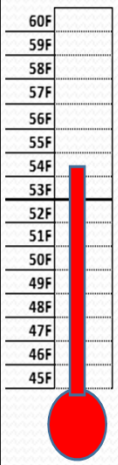


DWORSHAK

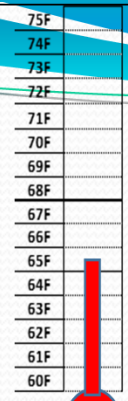
FLOW
1.6
kCfs
DWR TOTAL FLOW

1518.5
DWR ELEVATION

30-Sep-2015



PEKI



FLOW
13.8
kCfs
FLOW ANAW



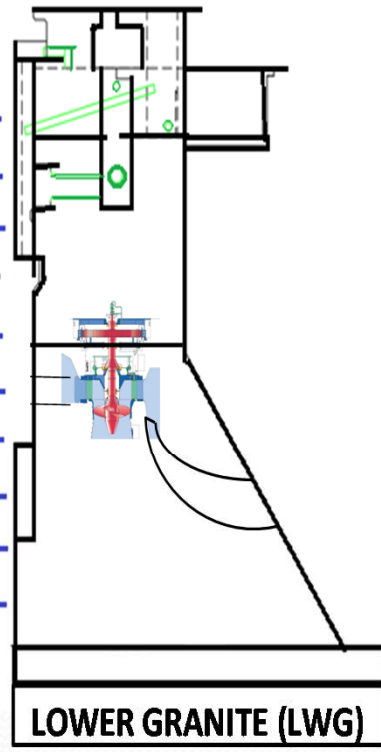
HELLS CANYON

MAX POOL EL 746.5
NORMAL POOL EL 738.0
MOP EL 733.0

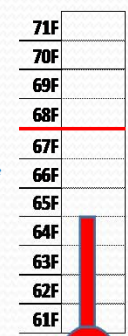
- 65.6
- 65.2
- 65.0
- 64.8

- 730.0
- 720.0
- 710.0
- 700.0
- 685.0
- 680.0
- 670.0
- 660.0
- 655.0
- 640.0

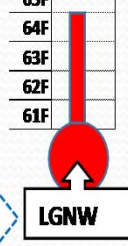
- 64.8
 - 64.8
 - 64.7
 - 62.9
 - 62.0
- FOREBAY THERMISTER STRING



FLOW
0.0
kCfs
SPILL



FLOW
17.1
kCfs
POWERHOUSE



LOWER GRANITE (LWG)



QUESTIONS ?????