BOYCE HYDRO POWER LLC

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18 January, 2011

Ms. Peggy A. Harding, PE
Regional Engineer
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Federal Energy Regulatory Commission
230 South Dearborn Street, Room 3130
Chicago, IL 60604
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peggy.harding@ferc.gov

JAN 21 2011

Subject: Sanford FERC Hydroelectric Project No. 2785
Detailed response regarding embankment toe drain repairs
& justifications for delayed commencement of construction

Dear Ms. Harding:

I am writing in further response to your letter of 14 December, 2010, and in response to your most recent letter dated 4 January, 2011 regarding Boyce Hydro Power, LLC's proposed future schedule for completion of the Sanford Dam embankment toe drain repairs as described in a letter from Frank Christie, Boyce Hydro Power, LLC's General Manager.

In your two letters you stated that the April, 2011 schedule for commencement of the second phase of embankment toe drain repair proposed by Boyce Hydro Power, LLC is "unacceptable" to FERC, and you requested a justification for why the construction will be delayed. A response concerning the subject of "justification" was addressed in my letter of 4 January, 2011.

The other four items for which you requested a detailed response associated with the Sanford Dam embankment wet spots that necessitated an emergency draw-down last August are addressed as follows:

#2 ***"Identification of the risk involved with waiting to complete the repairs in April 2011."***

It is our impression that the *"risk"* associated with waiting to complete or even to commence the second phase of Sanford embankment toe drain repairs is minimal if the term "risk" is defined as: "The potential failure of the earthen embankment occurring prior to completion of the intended repairs occasioned by:

1. An increase in the hydrostatic pressure on the embankment due to a significantly elevated reservoir level lasting for a period of more than four days;

2. The resulting elevated phreatic surface level within the embankment section not yet repaired causes saturation on the downstream embankment slope significant enough to begin free flowing water.

This impression of minimal risk associated with a condition of unfinished embankment repair during the spring freshet is based on the physical circumstances that gave rise to the request for an emergency draw down of Sanford Lake in August 2010. At that time there were more than six clearly identified locations of surface water saturation on the down stream side at the far west end of the Sanford Dam embankment. These wet spots had grown and propagated in size and in number during a four-month period of observation between May and August 2010 when the Sanford reservoir was at normal pond level.

Upon FERC's approval to reduce the reservoir level by as much as four feet (as circumstances dictated) and after installing monitoring wells at strategic locations which afforded the logging and recording of data about the correlation between internal water levels in the embankment and the relative levels of the reservoir, three "facts" or circumstances became clearly evident:

1. The water levels in the embankment monitoring wells did recede in response to the reduced water level of the reservoir;

2. When the water level in the reservoir was allowed to increase, there was a discernable time lag of several days before there was a corresponding measurable water level increase in the embankment;

3. A factor of safety stability analysis was performed and filed with FERC on 23 September, 2010 which demonstrated that even prior to completion of the toe drain repairs that were then underway, the embankment was stable (with an appropriate factor of safety) when the reservoir level was at a minus one foot below normal pond. It was subsequently discovered that some, but not all, previous wet spots did return when the reservoir level was elevated to approximately 1.5 feet below normal pond. This was during early stages of construction on the right end. Consequently, the licensee responded and began reducing the reservoir level to the current annual *winter draw-down* level of minus 2.5 to 3 feet below normal reservoir. Based on continuing observation of the embankment by our operators and based on observation of the monitoring wells, the Sanford Dam embankment is believed to be stable given the combined circumstances of the present winter draw down level and the now completed toe drain repairs at the far right end of the embankment.

Concerns regarding the potential effects on the unfinished repair area of the Sanford Dam embankment occasioned by elevated reservoir levels that might occur during the spring freshet while the reservoir is maintained at the winter draw down level have been considered, researched, and analyzed as follows:

Log book records covering the past five years of spring runoff water level conditions with corresponding discharge flows and spill gate openings have been reviewed. The conditions in 2006 were the most severe with a maximum spring discharge of approximately 13,780 cfs. The 2006 spring runoff conditions were encountered and spill gate operations were undertaken on March 10 when the Sanford reservoir was at -1.08 feet below the normal pond level (elevation 629.72). Over the next three days the reservoir was allowed to rise to normal level and was then maintained at +0.35 or less over the remainder of the flood event. During this period not all of the six spill gates were required to accommodate the discharge necessary to maintain a steady state or constant elevation for the reservoir.

The maximum discharge in the spring runoff event of 2006 occurred over a two-day period after the reservoir was allowed to rise to normal pond level. Had we desired, we could have maintained the level at about -1.0 foot. We have used our records of 2006 to develop the flows associated with that event and have presented them in an attached spread sheet. One can see on this sheet that for two days the flow was about 13,700 cfs. On the second spread sheet we have calculated the discharge over the spillway at a rising head with all gates open. From that sheet one can see a discharge of 13,700 cfs will bring the reservoir to a -0.8 feet. This condition would then exist for two days before the flow dropped to +/- 9,500 cfs which would be at about the -2.5 foot level.

Given the toe drain repairs completed so far, and the fact that the wet spots in the unfinished section were not as severe, it is the licensee's opinion that no threat to the stability of the unrepaired segment of the Sanford Dam embankment exists during the spring freshet as long as the winter draw down level of the reservoir is maintained. In the event of an extreme spring runoff it is believed that the six Sanford spill gates provide adequate discharge capacity to limit any rise in level to less than 3 or 4 days, which would not be enough time to cause a problem with the phreatic surface in the embankment.

#3 ***"Identification of changes in the operation plans due to conditions of the project."***

The reservoir is now at the prescribed winter draw down level of minus 2.5 to 3 feet below normal pond. The embankment is inspected on a weekly basis, including water levels in the monitoring wells. In the next two weeks we will install a second set of monitoring wells in the center of the 90 feet of embankment that was not completed and monitor them on a weekly basis unless changes are observed.

We also intend to use the series of reservoirs upstream to serve as a warning for potential high water at Sanford. When we see flow and pond levels begin to rise at Secord and Smallwood, and conditions exist that may result in significant flow increases downstream, we will begin further lowering the Sanford Reservoir in advance of the water reaching that reservoir. If these conditions appear to be very severe, we may also allow the 3 reservoirs above Sanford to rise a foot above their normal pond level. This would give us an additional 5,000 acre feet of storage.

Unless a material change in the condition of the embankment is observed, no additional changes in operation are contemplated.

#4 ***"Determination of how much runoff the project can convey prior to the reservoir rising during a flood event or spring runoff."***

We have addressed this question under item 2 above.

#5 ***Provide a detailed construction schedule for the final repairs that indicate the number of days for construction, ordering of construction materials, and delivering of construction materials to the site."***

The schedule for completion of the prior toe drain repair construction that took place between September and December 2010 was adversely impacted by several factors, the worst of which was the delivery schedule of special sand mix utilized for the project. The supply vendor who was prepaid for this material at the outset of the project was found to be exceptionally unreliable. For the second phase of construction, another vendor will be used to ensure compliance with a reasonable schedule.

Another factor that adversely impacted the prior construction schedule was the fact that most of the crushed lime stone used for the embankment overlay and coverage of the 12" diameter drain pipe had been previously stockpiled at the Edenville Dam site and thus had to be trucked to the Sanford dam location in relatively small quantities due to the trucking equipment available to Boyce Hydro Power, LLC and the space limitations for stockpiling this material at the Sanford site. The phase two construction will be organized in a manner that will permit trucking larger quantities of crushed stone to the Sanford Dam site on a regularly scheduled basis by an outside truck hauling contractor.

As has been stated in prior correspondence, materials, including the requisite amount of slotted plastic pipe and concrete manholes, will be ordered for the project when funds to pay for these materials become available. The lead time for receiving delivery of the pipe is approximately three to four weeks.

Staging and transporting the necessary heavy construction equipment for the phase two construction can be arranged within a one week or less time period given the fact that Boyce Hydro has recently acquired two new heavy-duty equipment hauling trailers that can transport excavators, backhoes, bulldozers, skid steers, and tractors to the job site utilizing company personnel.

The construction schedule for phase two is estimated to involve four weeks lead time for delivery of materials to the site and four weeks to complete the installation of the pipe and placement of the sand and crushed stone in the ditches and on the embankment overlay.

Sincerely yours,

Lee W. Mueller, Co-Member Manager
Boyce Hydro Power, LLC

cc: Frank O. Christie, P.E.
Steve Doret, P.E.

Spring Freshet Flow Analysis and Inflow Prediction

Each gate is assume to have 7 vertical feet of opening by Staff

6 x7= 42 total gate available

Crest Elevation= 622.3

Target Reservoir Elevation : 630.8

Reservoir and Catchment is small relative to the upstream area controled by Edenville Dam

		Res Incre	Res El	Change	Gen Units	% Gate	Unit disch	Unit Run Hrs	Average Unit Discharge	Feet of Gate	C1	C2	C3	C4	C5	C6	GATE HEADS H1-1	H2-1	H1-2	H2-2	H1-3	H2-3	H1-4	H2-4	H1-5	H2-5	H1-6	H2-6	Gate Discharge # 1	Gate Discharge # 2	Gate Discharge # 3	Gate Discharge # 4	Gate Discharge # 5	Gate Discharge # 6	Storage Ac-Ft	Change In Storage	CFS into Storage	Estimated Unit Flow CFS	Estimated Total Out Flow
16				Feet	EACH																																		
ch	3	-0.6	630.2	0	3	95	2109	12	1054.5	0	0.00	0.00	0.00	0.00	0.00	0.00	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	0	0	0	0	0	0	14581	0	0	1054.5	1055
ch	4	-0.6	630.2	0	3	95	2109	0	0.0	0	0.00	0.00	0.00	0.00	0.00	0.00	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	0	0	0	0	0	0	14581	0	0	0.0	0
ch	5	-0.6	630.2	0	3	95	2109	0	0.0	0	0.00	0.00	0.00	0.00	0.00	0.00	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	7.9	0	0	0	0	0	0	14581	0	0	0.0	0
ch	6	-0.96	629.84	-0.36	3	95	2109	15	1318.1	0	0.00	0.00	0.00	0.00	0.00	0.00	7.54	7.54	7.54	7.54	7.54	7.54	7.54	7.54	7.54	7.54	7.54	7.54	0	0	0	0	0	0	14302	-279	-0.00323	1318.1	1318
ch	7	-1.06	629.74	-0.1	3	95	2109	14	1230.3	0	0.00	0.00	0.00	0.00	0.00	0.00	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	0	0	0	0	0	0	14232	-69	-0.0008	1230.3	1230
ch	8	-1.06	629.74	0	3	95	2109	17	1493.9	0	0.00	0.00	0.00	0.00	0.00	0.00	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	7.44	0	0	0	0	0	0	14232	0	0	1493.9	1494
ch	9	-1.09	629.71	-0.03	3	95	2109	18	1581.8	0	0.00	0.00	0.00	0.00	0.00	0.00	7.41	7.41	7.41	7.41	7.41	7.41	7.41	7.41	7.41	7.41	7.41	7.41	0	0	0	0	0	0	14232	0	0	1581.8	1582
ch	10	-1.07	629.73	0.02	3	95	2109	11	2109.0	0	3.91	0.66	0.00	0.00	0.00	0.00	7.43	0	7.43	3.43	7.43	7.43	7.43	7.43	7.43	7.43	7.43	7.43	2009	1084	0	0	0	0	14232	0	0	2109.0	5203
ch	11	-0.5	630.3	0.57	3	95	2109	24	2109.0	22	3.91	3.91	3.91	0.73	0.00	0.00	8	0	8	0	8	0	8	0	8	0	8	0	2245	1946	1946	1944	0	0	14651	419	0.004845	2109.0	10191
ch	12	-0.8	630	-0.3	3	95	2109	24	2109.0	24	3.91	3.91	3.91	3.91	0.00	0.00	7.7	0	7.7	0	7.7	0	7.7	0	7.7	0	7.7	0	2120	1838	1838	1838	0	0	14441	-210	-0.00243	2109.0	9743
ch	13	0.35	631.15	1.15	3	95	2109	24	2109.0	30	3.91	3.91	3.91	3.91	3.91	0.00	8.85	0	8.85	0	8.85	0	8.85	0	8.85	0	8.85	0	2612	2265	2265	2265	2265	0	15219	778	0.009	2109.0	13780
ch	14	0.3	631.1	-0.05	3	95	2109	24	2109.0	32	3.91	3.91	3.91	3.91	3.91	0.00	8.8	0	8.8	0	8.8	0	8.8	0	8.8	0	8.8	0	2590	2246	2246	2246	2246	0	15219	0	0	2109.0	13681
ch	15	0.15	630.95	-0.15	3	95	2109	24	2109.0	18.5	3.91	3.91	3.91	0.00	0.00	0.00	8.65	0	8.65	0	8.65	0	8.65	0	8.65	0	8.65	0	2524	2188	2188	0	0	0	15076	-143	-0.00165	2109.0	9010
ch	16	0.3	631.1	0.15	3	95	2109	24	2109.0	4	0.67	0.00	0.00	0.00	0.00	0.00	8.8	4.8	8.8	4.8	8.8	4.8	8.8	4.8	8.8	4.8	8.8	4.8	0	0	0	0	0	0	15219	143	0.001654	2109.0	2109
ch	17	0.25	631.05	-0.05	3	95	2109	24	2109.0	4	0.67	0.00	0.00	0.00	0.00	0.00	8.75	4.75	8.75	4.75	8.75	4.75	8.75	4.75	8.75	4.75	8.75	4.75	0	0	0	0	0	0	15147	-72	-0.00083	2109.0	2109
ril	3	-0.5	630.3	-0.75	3	95	2109	16	1406.0	8.5	3.91	3.91	0.00	0.00	0.00	0.00	8	0	8	0	8	0	8	0	8	0	8	0	2245	1946	0	0	0	0	14651	0	0	1406.0	5597
ril	4	-0.575	630.225	-0.075	3	95	2109	24	2109.0	12.5	3.91	3.91	0.00	0.00	0.00	0.00	7.92	0	7.92	0	7.92	0	7.92	0	7.92	0	7.92	0	2214	1919	0	0	0	0	14581	-70	-0.00081	2109.0	6242
ril	5	-0.75	630.05	-0.175	3	95	2109	16	1406.0	10.5	3.91	3.91	0.00	0.00	0.00	0.00	7.75	0	7.75	0	7.75	0	7.75	0	7.75	0	7.75	0	2141	1856	0	0	0	0	14441	-140	-0.00162	1406.0	5402
ril	6	-0.825	629.975	-0.075	3	95	2109	12	1054.5	1	0.71	0.00	0.00	0.00	0.00	0.00	7.67	6.67	7.67	6.67	7.67	6.67	7.67	6.67	7.67	6.67	7.67	6.67	0	0	0	0	0	0	14371	-70	-0.00081	1054.5	1054
ay	11	0.2	631	1.025	3	95	2109	24	2109.0	4	0.67	0.00	0.00	0.00	0.00	0.00	8.7	4.7	8.7	4.7	8.7	4.7	8.7	4.7	8.7	4.7	8.7	4.7	0	0	0	0	0	0	15147	0	0	2109.0	2109
ay	12	0.1	630.9	-0.1	3	95	2109	24	2109.0	9	3.91	3.91	0.00	0.00	0.00	0.00	8.6	0	8.6	0	8.6	0	8.6	0	8.6	0	8.6	0	2502	2169	0	0	0	0	15076	-71	-0.00083	2109.0	6781
ay	13	0	630.8	-0.1	3	95	2109	24	2109.0	4.5	0.66	0.00	0.00	0.00	0.00	0.00	8.5	4	8.5	4	8.5	4	8.5	4	8.5	4	8.5	4	0	0	0	0	0	0	15004	-71	-0.00082	2109.0	2109
ay	14	0	630.8	0	3	95	2109	8	703.0	1.5	0.70	0.00	0.00	0.00	0.00	0.00	8.5	7	8.5	7	8.5	7	8.5	7	8.5	7	8.5	7	0	0	0	0	0	0	15004	0	0	703.0	703
ay	15	0.3	631.1	0.3	3	95	2109	8	703.0	3	0.68	0.00	0.00	0.00	0.00	0.00	8.8	5.8	8.8	5.8	8.8	5.8	8.8	5.8	8.8	5.8	8.8	5.8	0	0	0	0	0	0	15219	214	0.002478	703.0	703
ay	16	0	630.8	-0.3	3	95	2109	16	1406.0	1	0.71	0.00	0.00	0.00	0.00	0.00	8.5	7.5	8.5	7.5	8.5	7.5	8.5	7.5	8.5	7.5	8.5	7.5	0	0	0	0	0	0	15004	-214	-0.00248	1406.0	1406
ay	26	0.2	631	631	3	95	2109	16	1406.0	3	0.68	0.00	0.00	0.00	0.00	0.00	8.7	5.7	8.7	5.7	8.7	5.7	8.7	5.7	8.7	5.7	8.7	5.7	0	0	0	0	0	0	15147	0	0	1406.0	1406
ay	27	0.2	631	0	3	95	2109	16	1406.0	2	0.69	0.00	0.00	0.00	0.00	0.00	8.7	6.7	8.7	6.7	8.7	6.7	8.7	6.7	8.7	6.7	8.7	6.7	0	0	0	0	0	0	15147	0	0	1406.0	1406

	EA	All
Gates 1 & 6	25.375	50.75
Gates 2,3,4 & 5	22	88

Gate Equation Q=(2/3)*((2*32.2)^0.5)*C*L*((H1^1.5)-(H2^1.5))

Sanford Station & Gate Discharge

Crest discharge coefficient is 3.91, Q=CL(H^(1.5)

Elevation	Dif	Head =	Ltotal= 138.75	C= 3.91		
			All Open gate Discharge	Machine Head	3 machine Flow-CFS	Total Station Disharge-cfs
622.3	-8.5	0	0	19.5	1325	1325
622.4	-8.4	0.1	17.2	19.6	1335	1352
622.5	-8.3	0.2	48.5	19.7	1346	1394
622.6	-8.2	0.3	89.1	19.8	1356	1445
622.7	-8.1	0.4	137.2	19.9	1366	1503
622.8	-8.0	0.5	191.8	20.0	1376	1568
622.9	-7.9	0.6	252.1	20.1	1387	1639
623.0	-7.8	0.7	317.7	20.2	1397	1715
623.1	-7.7	0.8	388.2	20.3	1407	1796
623.2	-7.6	0.9	463.2	20.4	1418	1881
623.3	-7.5	1	542.5	20.5	1428	1971
623.4	-7.4	1.1	625.9	20.6	1439	2065
623.5	-7.3	1.2	713.2	20.7	1449	2162
623.6	-7.2	1.3	804.1	20.8	1460	2264
623.7	-7.1	1.4	898.7	20.9	1470	2369
623.8	-7.0	1.5	996.7	21.0	1481	2478
623.9	-6.9	1.6	1098.0	21.1	1491	2589
624.0	-6.8	1.7	1202.5	21.2	1502	2705
624.1	-6.7	1.8	1310.1	21.3	1513	2823
624.2	-6.6	1.9	1420.8	21.4	1523	2944
624.3	-6.5	2	1534.5	21.5	1534	3069
624.4	-6.4	2.1	1651.0	21.6	1545	3196
624.5	-6.3	2.2	1770.3	21.7	1556	3326
624.6	-6.2	2.3	1892.4	21.8	1566	3459
624.7	-6.1	2.4	2017.1	21.9	1577	3594
624.8	-6.0	2.5	2144.5	22.0	1588	3732
624.9	-5.9	2.6	2274.4	22.1	1599	3873
625.0	-5.8	2.7	2406.9	22.2	1610	4017
625.1	-5.7	2.8	2541.8	22.3	1621	4162
625.2	-5.6	2.9	2679.2	22.4	1631	4311
625.3	-5.5	3	2819.0	22.5	1642	4461
625.4	-5.4	3.1	2961.1	22.6	1653	4614
625.5	-5.3	3.2	3105.5	22.7	1664	4770
625.6	-5.2	3.3	3252.2	22.8	1675	4928
625.7	-5.1	3.4	3401.2	22.9	1686	5088
625.8	-5.0	3.5	3552.3	23.0	1697	5250
625.9	-4.9	3.6	3705.6	23.1	1709	5414
626.0	-4.8	3.7	3861.1	23.2	1720	5581
626.1	-4.7	3.8	4018.7	23.3	1731	5749
626.2	-4.6	3.9	4178.4	23.4	1742	5920
626.3	-4.5	4	4340.1	23.5	1753	6093

626.4	-4.4	4.1	4503.9	23.6	1764	6268
626.5	-4.3	4.2	4669.6	23.7	1775	6445
626.6	-4.2	4.3	4837.4	23.8	1787	6624
626.7	-4.1	4.4	5007.1	23.9	1798	6805
626.8	-4.0	4.5	5178.8	24.0	1809	6988
626.9	-3.9	4.6	5352.4	24.1	1821	7173
627.0	-3.8	4.7	5527.9	24.2	1832	7360
627.1	-3.7	4.8	5705.2	24.3	1843	7549
627.2	-3.6	4.9	5884.4	24.4	1855	7739
627.3	-3.5	5	6065.5	24.5	1866	7932
627.4	-3.4	5.1	6248.3	24.6	1878	8126
627.5	-3.3	5.2	6433.0	24.7	1889	8322
627.6	-3.2	5.3	6619.5	24.8	1901	8520
627.7	-3.1	5.4	6807.7	24.9	1912	8720
627.8	-3.0	5.5	6997.7	25.0	1924	8921
627.9	-2.9	5.6	7189.4	25.1	1935	9125
628.0	-2.8	5.7	7382.8	25.2	1947	9330
628.1	-2.7	5.8	7578.0	25.3	1958	9536
628.2	-2.6	5.9	7774.8	25.4	1970	9745
628.3	-2.5	6	7973.3	25.5	1982	9955
628.4	-2.4	6.1	8173.4	25.6	1993	10167
628.5	-2.3	6.2	8375.2	25.7	2005	10380
628.6	-2.2	6.3	8578.7	25.8	2017	10595
628.7	-2.1	6.4	8783.7	25.9	2028	10812
628.8	-2.0	6.5	8990.4	26.0	2040	11031
628.9	-1.9	6.6	9198.7	26.1	2052	11251
629.0	-1.8	6.7	9408.5	26.2	2064	11472
629.1	-1.7	6.8	9620.0	26.3	2076	11695
629.2	-1.6	6.9	9832.9	26.4	2087	11920
629.3	-1.5	7	10047.5	26.5	2099	12147
629.4	-1.4	7.1	10263.5	26.6	2111	12375
629.5	-1.3	7.2	10481.1	26.7	2123	12604
629.6	-1.2	7.3	10700.3	26.8	2135	12835
629.7	-1.1	7.4	10920.9	26.9	2147	13068
629.8	-1.0	7.5	11143.0	27.0	2159	13302
629.9	-0.9	7.6	11366.6	27.1	2171	13538
630.0	-0.8	7.7	11591.7	27.2	2183	13775
630.1	-0.7	7.8	11818.2	27.3	2195	14013
630.2	-0.6	7.9	12046.2	27.4	2207	14253
630.3	-0.5	8	12275.7	27.5	2219	14495
630.4	-0.4	8.1	12506.5	27.6	2231	14738
630.5	-0.3	8.2	12738.9	27.7	2243	14982
630.6	-0.2	8.3	12972.6	27.8	2256	15228
630.7	-0.1	8.4	13207.7	27.9	2268	15476
630.8	0.0	8.5	13444.3	28.0	2280	15724
630.9	0.1	8.6	13682.2	28.1	2292	15974
631.0	0.2	8.7	13921.6	28.2	2304	16226
631.1	0.3	8.8	14162.3	28.3	2317	16479

631.2	0.4	8.9	14404.4	28.4	2329	16733
631.3	0.5	9	14647.8	28.5	2341	16989
631.4	0.6	9.1	14892.6	28.6	2354	17246
631.5	0.7	9.2	15138.8	28.7	2366	17505
631.6	0.8	9.3	15386.3	28.8	2378	17765
631.7	0.9	9.4	15635.1	28.9	2391	18026
631.8	1.0	9.5	15885.3	29.0	2403	18289
631.9	1.1	9.6	16136.8	29.1	2416	18552
632.0	1.2	9.7	16389.6	29.2	2428	18818
632.1	1.3	9.8	16643.7	29.3	2441	19084
632.2	1.4	9.9	16899.1	29.4	2453	19352
632.3	1.5	10	17155.8	29.5	2466	19621
632.4	1.6	10.1	17413.7	29.6	2478	19892
632.5	1.7	10.2	17673.0	29.7	2491	20164
632.6	1.8	10.3	17933.5	29.8	2503	20437
632.7	1.9	10.4	18195.3	29.9	2516	20711
632.8	2.0	10.5	18458.4	30.0	2529	20987
632.9	2.1	10.6	18722.7	30.1	2541	21264
633.0	2.2	10.7	18988.3	30.2	2554	21542
633.1	2.3	10.8	19255.1	30.3	2567	21822
633.2	2.4	10.9	19523.1	30.4	2579	22102
633.3	2.5	11	19792.4	30.5	2592	22384
633.4	2.6	11.1	20062.9	30.6	2605	22668
633.5	2.7	11.2	20334.7	30.7	2618	22952
633.6	2.8	11.3	20607.6	30.8	2630	23238
633.7	2.9	11.4	20881.8	30.9	2643	23525
633.8	3.0	11.5	21157.1	31.0	2656	23813
633.9	3.1	11.6	21433.7	31.1	2669	24103
634.0	3.2	11.7	21711.4	31.2	2682	24393
634.1	3.3	11.8	21990.4	31.3	2695	24685
634.2	3.4	11.9	22270.5	31.4	2708	24978
634.3	3.5	12	22551.8	31.5	2721	25272
634.4	3.6	12.1	22834.3	31.6	2734	25568
634.5	3.7	12.2	23118.0	31.7	2747	25865
634.6	3.8	12.3	23402.8	31.8	2760	26162
634.7	3.9	12.4	23688.8	31.9	2773	26461
634.8	4.0	12.5	23975.9	32.0	2786	26762
634.9	4.1	12.6	24264.2	32.1	2799	27063
635.0	4.2	12.7	24553.6	32.2	2812	27365
635.1	4.3	12.8	24844.2	32.3	2825	27669
635.2	4.4	12.9	25135.9	32.4	2838	27974
635.3	4.5	13	25428.7	32.5	2851	28280
635.4	4.6	13.1	25722.7	32.6	2864	28587
635.5	4.7	13.2	26017.8	32.7	2878	28895
635.6	4.8	13.3	26314.0	32.8	2891	29205
635.7	4.9	13.4	26611.4	32.9	2904	29515
635.8	5.0	13.5	26909.8	33.0	2917	29827