Routing: MPPD
Date: April 13, 1999
Time: 10:03:06 AM

SURPLUS/DEFICIT CALCULATION
Surplus Purchase to NFRAP Interface
Megawatts
Test Period October 1996 - September 2001

SDC05

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
	Oct-96	Nov-96	Dec-96	Jan-97	Feb-97	Mar-97	Apr-97	May-97	Jun-97	Jul-97	Aug-97	Sep-97	FY 1997 Avg/Tot	
1 Generated Energy														
2 Firm Surplus/Deficit	4011	3652	3200	2888	4172	4144	6203	5434	4729	3323	2712	3226	3974	
3 May Water Budget	0	0	0	0	0	0	0	0	0	0	0	0	0	
4 June Columbia Flow Augmentation	0	0	0	0	0	0	0	0	0	0	0	0	0	
5 Total	4011	3652	3200	2888	4172	4144	6203	5434	4729	3323	2712	3226	3974	
6														
7 PNW Surplus Firm Power Contracts-FAC														
8 Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	
9 Loss factor	1.025	1.027	1.029	1.03	1.028	1.027	1.026	1.025	1.025	1.024	1.024	1.023		
10 Generated Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	
11 Capacity	0	0	0	0	0	0	0	0	0	0	0	0	0	
12 Loss factor	1.032	1.035	1.038	1.038	1.036	1.035	1.033	1.032	1.03	1.028	1.028	1.028		
13 Generated Capacity	0	0	0	0	0	0	0	0	0	0	0	0	0	
14														
15 PSW Surplus Firm Power Contracts-FAC														
16 Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	
17 Loss factor	1.064	1.066	1.068	1.069	1.067	1.066	1.065	1.064	1.064	1.063	1.063	1.062		
18 Generated Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	
19 Capacity	0	0	0	0	0	0	0	0	0	0	0	0	0	
20 Loss factor	1.072	1.075	1.078	1.078	1.076	1.075	1.073	1.072	1.070	1.068	1.068	1.068		
21 Generated Capacity	0	0	0	0	0	0	0	0	0	0	0	0	0	
22														
23 Other New Resource Firm														
24 Energy	9	11	12	13	12	11	10	9	9	8	8	8	10	
25 Loss factor	1.025	1.027	1.029	1.03	1.028	1.027	1.026	1.025	1.025	1.024	1.024	1.023		
26 Generated Energy	9	11	12	13	12	11	10	9	9	8	8	8	10	
27														
28 Net Firm Surplus/Deficit														
29 Generated Energy	4002	3640	3188	2874	4160	4132	6193	5425	4720	3315	2704	3218	3964	
30														
31 Surplus Firm Power Open Market														
32 Generated Energy	4002	3640	3188	2874	4160	4132	6193	5425	4720	3315	2704	3218	3964	
33														
34 Balancing Purchase Power														
35 Generated Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	

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Surplus Purchase to NFRAP Interface
Megawatts
Test Period October 1996 - September 2001

SDC05

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
	Oct-97	Nov-97	Dec-97	Jan-98	Feb-98	Mar-98	Apr-98	May-98	Jun-98	Jul-98	Aug-98	Sep-98	FY 1998 Avg/Tot	2-Year Avg/Tot
1 Generated Energy														
2 Firm Surplus/Deficit	3686	3394	3350	1601	4466	3919	6192	5905	5430	2767	1895	3308	3826	3900
3 May Water Budget	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 June Columbia Flow Augmentation	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 Total	3686	3394	3350	1601	4466	3919	6192	5905	5430	2767	1895	3308	3826	3900
6														
7 PNW Surplus Firm Power Contracts-FAC														
8 Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 Loss factor	1.025	1.027	1.029	1.03	1.028	1.027	1.026	1.025	1.025	1.024	1.024	1.023		
10 Generated Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Capacity	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 Loss factor	1.032	1.035	1.038	1.038	1.036	1.035	1.033	1.032	1.03	1.028	1.028	1.028		
13 Generated Capacity	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14														
15 PSW Surplus Firm Power Contracts-FAC														
16 Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17 Loss factor	1.064	1.066	1.068	1.069	1.067	1.066	1.065	1.064	1.064	1.063	1.063	1.062		
18 Generated Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 Capacity	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Loss factor	1.072	1.075	1.078	1.078	1.076	1.075	1.073	1.072	1.070	1.068	1.068	1.068		
21 Generated Capacity	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22														
23 Other New Resource Firm														
24 Energy	9	11	12	13	12	11	10	9	9	8	8	8	10	10
25 Loss factor	1.025	1.027	1.029	1.03	1.028	1.027	1.026	1.025	1.025	1.024	1.024	1.023		
26 Generated Energy	9	11	12	13	12	11	10	9	9	8	8	8	10	10
27														
28 Net Firm Surplus/Deficit														
29 Generated Energy	3677	3382	3338	1588	4453	3908	6181	5896	5420	2758	1887	3300	3816	3890
30														
31 Surplus Firm Power Open Market														
32 Generated Energy	3677	3382	3338	1588	4453	3908	6181	5896	5420	2758	1887	3300	3816	3890
33														
34 Balancing Purchase Power														
35 Generated Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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SURPLUS/DEFICIT CALCULATION
Surplus Purchase to NFRAP Interface
Megawatts
Test Period October 1996 - September 2001

SDC05

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
	Oct-98	Nov-98	Dec-98	Jan-99	Feb-99	Mar-99	Apr-99	May-99	Jun-99	Jul-99	Aug-99	Sep-99	FY 1999 Avg/Tot	3-Year Avg/Tot
1 Generated Energy														
2 Firm Surplus/Deficit	3689	3234	3925	1392	3464	3542	7319	7622	5518	2267	1434	3152	3880	3893
3 May Water Budget	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 June Columbia Flow Augmentation	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 Total	3689	3234	3925	1392	3464	3542	7319	7622	5518	2267	1434	3152	3880	3893
6														
7 PNW Surplus Firm Power Contracts-FAC														
8 Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 Loss factor	1.025	1.027	1.029	1.03	1.028	1.027	1.026	1.025	1.025	1.024	1.024	1.023		
10 Generated Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Capacity	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 Loss factor	1.032	1.035	1.038	1.038	1.036	1.035	1.033	1.032	1.03	1.028	1.028	1.028		
13 Generated Capacity	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14														
15 PSW Surplus Firm Power Contracts-FAC														
16 Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17 Loss factor	1.064	1.066	1.068	1.069	1.067	1.066	1.065	1.064	1.064	1.063	1.063	1.062		
18 Generated Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 Capacity	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Loss factor	1.072	1.075	1.078	1.078	1.076	1.075	1.073	1.072	1.070	1.068	1.068	1.068		
21 Generated Capacity	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22														
23 Other New Resource Firm														
24 Energy	9	11	12	13	12	11	10	9	9	8	8	8	10	10
25 Loss factor	1.025	1.027	1.029	1.03	1.028	1.027	1.026	1.025	1.025	1.024	1.024	1.023		
26 Generated Energy	9	11	12	13	12	11	10	9	9	8	8	8	10	10
27														
28 Net Firm Surplus/Deficit														
29 Generated Energy	3680	3223	3912	1378	3452	3531	7309	7612	5509	2259	1426	3144	3870	3883
30														
31 Surplus Firm Power Open Market														
32 Generated Energy	3680	3223	3912	1378	3452	3531	7309	7612	5509	2259	1426	3144	3870	3883
33														
34 Balancing Purchase Power														
35 Generated Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Surplus Purchase to NFRAP Interface
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Test Period October 1996 - September 2001

SDC05

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
	Oct-99	Nov-99	Dec-99	Jan-00	Feb-00	Mar-00	Apr-00	May-00	Jun-00	Jul-00	Aug-00	Sep-00	FY 2000 Avg/Tot	4-Year Avg/Tot
1 Generated Energy														
2 Firm Surplus/Deficit	3474	3558	3336	1882	2987	2880	5475	8161	5791	1957	2065	3390	3746	3857
3 May Water Budget	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 June Columbia Flow Augmentation	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 Total	3474	3558	3336	1882	2987	2880	5475	8161	5791	1957	2065	3390	3746	3857
6														
7 PNW Surplus Firm Power Contracts-FAC														
8 Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 Loss factor	1.025	1.027	1.029	1.03	1.028	1.027	1.026	1.025	1.025	1.024	1.024	1.023		
10 Generated Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Capacity	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 Loss factor	1.032	1.035	1.038	1.038	1.036	1.035	1.033	1.032	1.03	1.028	1.028	1.028		
13 Generated Capacity	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14														
15 PSW Surplus Firm Power Contracts-FAC														
16 Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17 Loss factor	1.064	1.066	1.068	1.069	1.067	1.066	1.065	1.064	1.064	1.063	1.063	1.062		
18 Generated Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 Capacity	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Loss factor	1.072	1.075	1.078	1.078	1.076	1.075	1.073	1.072	1.070	1.068	1.068	1.068		
21 Generated Capacity	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22														
23 Other New Resource Firm														
24 Energy	9	11	12	13	12	11	10	9	9	8	8	8	10	10
25 Loss factor	1.025	1.027	1.029	1.03	1.028	1.027	1.026	1.025	1.025	1.024	1.024	1.023		
26 Generated Energy	9	11	12	13	12	11	10	9	9	8	8	8	10	10
27														
28 Net Firm Surplus/Deficit														
29 Generated Energy	3465	3547	3324	1869	2975	2869	5464	8151	5782	1949	2057	3381	3736	3846
30														
31 Surplus Firm Power Open Market														
32 Generated Energy	3465	3547	3324	1869	2975	2869	5464	8151	5782	1949	2057	3381	3736	3846
33														
34 Balancing Purchase Power														
35 Generated Energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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SDC05

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
	Oct-00	Nov-00	Dec-00	Jan-01	Feb-01	Mar-01	Apr-01	May-01	Jun-01	Jul-01	Aug-01	Sep-01	FY 2001 Avg/Tot	5-Year Avg/Tot
1 Generated Energy.....														
2 Firm Surplus/Deficit.....	3189	3359	3694	1921	2942	2773	5353	7012	3979	2767	2093	3446	3544	3794
3 May Water Budget.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 June Columbia Flow Augmentation.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 Total.....	3189	3359	3694	1921	2942	2773	5353	7012	3979	2767	2093	3446	3544	3794
6														
7 PNW Surplus Firm Power Contracts-FAC.....														
8 Energy.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9 Loss factor.....	1.025	1.027	1.029	1.03	1.028	1.027	1.026	1.025	1.025	1.024	1.024	1.023		
10 Generated Energy.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11 Capacity.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12 Loss factor.....	1.032	1.035	1.038	1.038	1.036	1.035	1.033	1.032	1.03	1.028	1.028	1.028		
13 Generated Capacity.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14														
15 PSW Surplus Firm Power Contracts-FAC.....														
16 Energy.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17 Loss factor.....	1.064	1.066	1.068	1.069	1.067	1.066	1.065	1.064	1.064	1.063	1.063	1.062		
18 Generated Energy.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19 Capacity.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20 Loss factor.....	1.072	1.075	1.078	1.078	1.076	1.075	1.073	1.072	1.070	1.068	1.068	1.068		
21 Generated Capacity.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22														
23 Other New Resource Firm.....														
24 Energy.....	9	11	12	13	12	11	10	9	9	8	8	8	10	10
25 Loss factor.....	1.025	1.027	1.029	1.03	1.028	1.027	1.026	1.025	1.025	1.024	1.024	1.023		
26 Generated Energy.....	9	11	12	13	12	11	10	9	9	8	8	8	10	10
27														
28 Net Firm Surplus/Deficit.....														
29 Generated Energy.....	3179	3348	3682	1908	2929	2762	5342	7003	3970	2759	2085	3438	3534	3784
30														
31 Surplus Firm Power Open Market.....														
32 Generated Energy.....	3179	3348	3682	1908	2929	2762	5342	7003	3970	2759	2085	3438	3534	3784
33														
34 Balancing Purchase Power.....														
35 Generated Energy.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0