

ALSTOM

00012517

3555	80.5413	80.8186	81.1669	68.6396	68.6396	69.6487
3556	80.1804	80.2532	80.5731	68.3947	68.3947	69.0281
3557	80.1969	80.8255	81.6254	68.6404	68.6404	70.9449
3558	80.1078	80.7364	81.5364	68.7005	68.7005	71.005
3559	79.9622	80.5908	81.3907	68.6824	68.6824	70.9869
3570	79.7866	80.4151	81.2151	68.6317	68.6317	70.9362
3571	79.587	80.204	80.9892	68.5568	68.5568	70.8188
3572	79.2652	79.7188	80.2981	68.3293	68.3293	69.9923
3573	78.8713	79.1615	79.5309	68.0261	68.0261	69.0901
3574	78.4327	78.5596	78.721	67.6799	67.6799	68.1448
3575	78.0287	78.07	78.1537	67.3387	67.3387	67.3387
3576	77.8648	78.0905	78.5486	67.1103	67.1103	67.1103
3577	77.8412	78.2514	79.0838	66.9304	66.9304	66.9304
3578	77.3813	77.417	77.4624	66.8046	66.8046	66.9353
3579	77.0192	77.0477	77.1055	66.6385	66.6385	66.6385
3580	76.7739	76.8711	77.0685	66.487	66.487	66.407
3581	76.567	76.7013	76.874	66.3424	66.3424	66.3424
3582	76.2426	76.2613	76.2991	66.2013	66.2013	66.2013
3583	78.9849	81.3634	89.0603	66.0673	66.0673	66.0673
3584	80.336	82.2687	90.0097	65.9347	65.9347	65.9347
3585	80.8103	82.2351	89.5201	65.803	65.803	65.803
3586	80.9255	82.204	89.0865	65.6725	65.6725	65.6725
3587	80.7574	86.2054	85.2929	70.0422	70.0422	87.3069
3588	78.5376	78.541	78.5484	67.6515	67.6515	67.6515
3589	77.2221	77.2255	77.233	66.5621	66.5621	66.5621
3590	76.398	76.4014	76.4088	66.024	66.024	66.024
3591	75.8411	75.8446	75.852	65.7198	65.7198	65.7198
3592	75.43	75.4334	75.4409	65.5153	65.5153	65.5153
3593	75.9471	76.8105	78.7772	65.355	65.355	65.355
3594	76.1707	77.0264	79.0217	65.2135	65.2135	65.2135
3595	76.2358	77.0838	79.1077	65.0807	65.0807	65.0807
3596	76.2157	77.0559	79.1084	64.9522	64.9522	64.9522
3597	76.15	76.9825	79.0636	64.8262	64.8262	64.8262
3598	76.0343	76.9016	78.8536	64.702	64.702	64.702
3599	75.9121	76.7794	78.7314	64.5791	64.5791	64.5791
3600	75.7867	76.654	78.606	64.4575	64.4575	64.4575
3601	75.66	76.5273	78.4793	64.3371	64.3371	64.3371
3602	75.5332	76.4002	78.3532	64.2178	64.2178	64.2178
3603	75.4363	76.2546	78.3882	64.0997	64.0997	64.0997
3604	75.3882	76.1631	78.4756	63.9828	63.9828	63.9828
3605	75.3243	76.1091	78.5961	63.8671	63.8671	63.8671
3608	75.3013	76.0853	78.7549	63.7525	63.7525	63.7525
3607	75.2985	76.0863	78.9498	63.639	63.639	63.639
3608	75.3082	76.1097	79.1635	63.5268	63.5268	63.5268
3609	75.2814	76.085	79.1616	63.4155	63.4155	63.4155
3610	75.2807	76.1049	79.3451	63.3055	63.3055	63.3055
3611	75.2995	76.1471	79.5482	63.1965	63.1965	63.1965
3612	75.2885	76.1414	79.5757	63.0886	63.0886	63.0886
3613	76.3026	77.7256	84.1475	62.9833	62.9833	62.9833
3614	77.1319	78.5694	85.8783	62.8794	62.8794	62.8794
3615	77.5622	78.9389	86.1271	62.7765	62.7765	62.7765
3616	76.501	77.2216	80.5395	62.6724	62.6724	62.6724
3617	75.8324	78.6427	79.6911	62.5693	62.5693	62.5693
3618	75.377	76.0828	79.0507	62.467	62.467	62.467
3619	75.0386	75.746	78.5358	62.3656	62.3656	62.3656

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ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

ALSTOM

00012518

3620	74.7852	75.4803	78.0958	62.2651	62.2651	62.2651
3621	74.5946	75.3046	78.0175	62.1656	62.1656	62.1656
3622	74.4205	75.1395	77.7063	62.067	62.067	62.067
3623	74.2448	74.9759	77.3971	61.9692	61.9692	61.9692
3624	74.0716	74.8255	77.1114	61.8723	61.8723	61.8723
3625	73.8839	74.7005	76.7381	61.7762	61.7762	61.7762
3626	73.7303	74.5489	76.5845	61.681	61.681	61.681
3627	73.5958	74.4122	76.4498	61.5868	61.5868	61.5868
3628	73.4715	74.2882	76.3257	61.4934	61.4934	61.4934
3629	73.3412	74.1876	76.1375	61.4008	61.4008	61.4008
3630	75.1385	85.6	80.5781	66.7937	66.7937	87.664
3631	76.9108	88.3291	84.7801	69.1204	69.1204	88.8358
3632	77.8318	88.6689	85.554	70.1228	70.1228	88.6799
3633	78.2089	88.2947	85.6697	70.5355	70.5355	87.9192
3634	78.5124	88.3776	86.2785	70.672	70.672	86.8773
3635	79.0288	89.3739	87.5342	70.6704	70.6704	85.7081
3636	79.2193	89.0493	87.5306	70.5719	70.5719	84.383
3637	79.4613	89.153	88.5068	70.4198	70.4198	83.0574
3638	79.8091	89.7401	89.7544	70.235	70.235	81.7514
3639	80.205	90.5518	90.9681	70.0119	70.0119	80.3968
3640	80.5513	91.2644	91.9687	69.7341	69.7341	78.9226
3641	80.864	92.0878	93.1508	69.4293	69.4293	77.5007
3642	80.0584	88.0707	89.4811	68.0394	68.0394	70.872
3643	79.077	86.2635	87.5729	66.7286	66.7286	66.7286
3644	78.6001	87.2766	88.2315	66.153	66.153	66.153
3645	76.3902	76.3902	76.3902	65.8962	65.8962	65.8962
3646	75.1585	75.1585	75.1585	65.7802	65.7802	65.7802
3647	74.4705	74.4705	74.4705	65.7259	65.7259	65.7259
3648	74.0844	74.0844	74.0844	65.6986	65.6986	65.6986
3649	73.8662	73.8662	73.8662	65.683	65.683	65.683
3650	73.7413	73.7413	73.7413	65.6727	65.6727	65.6727
3651	73.6682	73.6682	73.6682	65.6646	65.6646	65.6646
3652	73.6238	73.6238	73.6238	65.6575	65.6575	65.6575
3653	73.5955	73.5955	73.5955	65.6508	65.6508	65.6508
3654	73.5761	73.5761	73.5761	65.6443	65.6443	65.6443
3655	73.5616	73.5616	73.5616	65.6379	65.6379	65.6379
3656	73.5498	73.5498	73.5498	65.6316	65.6316	65.6316
3657	73.5396	73.5396	73.5396	65.6252	65.6252	65.6252
3658	73.5302	73.5302	73.5302	65.6189	65.6189	65.6189
3659	73.5213	73.5213	73.5213	65.6126	65.6126	65.6126
3660	73.5127	73.5127	73.5127	65.6063	65.6063	65.6063
3661	73.5042	73.5042	73.5042	65.6	65.6	65.6
3662	77.3311	92.7455	96.1427	65.5995	65.5995	65.5995
3663	79.5602	92.2518	98.0871	65.5991	65.5991	65.5991
3664	80.917	91.1758	95.782	65.5986	65.5986	65.5986
3665	81.784	90.6225	96.1447	65.5565	65.5565	65.5565
3666	82.3678	90.1697	96.526	65.4659	65.4659	65.4659
3667	82.8122	89.716	96.8629	65.3556	65.3556	65.3556
3668	83.1932	89.3283	97.2215	65.2376	65.2376	65.2376
3669	83.4883	88.7211	97.4806	65.117	65.117	65.117
3670	83.7454	88.4135	97.5626	64.9961	64.9961	64.9961
3671	83.9915	88.4474	97.4887	64.8757	64.8757	64.8757
3672	84.6192	89.366	99.2677	64.7567	64.7567	64.7567
3673	85.0418	89.4983	99.4908	64.6388	64.6388	64.6388
3674	84.8669	88.4014	97.6057	64.5211	64.5211	64.5211

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3675	84.7219	87.9638	96.9281	64.4044	64.4044	64.4044
3676	84.6868	87.8061	96.6778	64.2887	64.2887	64.2887
3677	84.744	87.8411	96.6475	64.1741	64.1741	64.1741
3678	84.858	87.9542	96.703	64.0607	64.0607	64.0607
3679	84.7372	87.3978	95.7571	63.9479	63.9479	63.9479
3680	84.3248	86.3043	94.0884	63.8357	63.8357	63.8357
3681	83.8059	85.239	92.5395	63.7239	63.7239	63.7239
3682	83.4525	84.7841	91.893	63.6132	63.6132	63.6132
3683	83.1882	84.4194	91.342	63.5033	63.5033	63.5033
3684	82.944	84.0188	90.7535	63.3943	63.3943	63.3943
3685	82.6983	83.5708	90.1174	63.2862	63.2862	63.2862
3686	82.4423	83.1219	89.4853	63.1789	63.1789	63.1789
3687	82.274	82.9002	89.2382	63.0726	63.0726	63.0726
3688	82.1831	82.8042	89.1697	62.9673	62.9673	62.9673
3689	82.1347	82.7507	89.143	62.8631	62.8631	62.8631
3690	82.1081	82.7188	89.1235	62.7598	62.7598	62.7598
3691	82.087	82.6967	89.108	62.6576	62.6576	62.6576
3692	82.0732	82.6802	89.0977	62.5563	62.5563	62.5563
3693	82.0601	82.6642	89.0797	62.456	62.456	62.456
3694	82.0437	82.645	89.0466	62.3586	62.3586	62.3586
3695	82.0256	82.6241	89.0121	62.2582	62.2582	62.2582
3696	81.6435	82.1329	87.3487	62.1601	62.1601	62.1601
3697	79.7829	79.8258	79.911	62.0605	62.0605	62.0605
3698	79.5672	82.6244	81.5456	64.9596	64.9596	76.5906
3699	80.8293	92.1547	83.9367	69.7696	69.7696	93.995
3700	81.5067	92.9089	84.5368	72.2533	72.2533	96.5663
3701	81.8556	93.2718	84.8089	73.7255	73.7255	98.0357
3702	81.9707	93.0418	84.8338	74.6351	74.6351	98.4728
3703	82.1918	93.0274	85.8495	75.1854	75.1854	98.1602
3704	82.5254	93.1448	87.1711	75.5076	75.5076	97.4192
3705	82.9336	93.4549	88.5251	75.6952	75.6952	96.4932
3706	83.9123	95.361	91.859	75.8003	75.8003	95.479
3707	84.361	95.1993	92.0842	75.8453	75.8453	94.4038
3708	84.4646	94.5591	91.9267	75.8316	75.8316	93.2389
3709	84.5871	94.4332	92.3257	75.7652	75.7652	92.0083
3710	85.0032	95.3653	93.5177	75.6547	75.6547	90.7419
3711	85.1218	94.9763	93.4424	75.4872	75.4872	89.357
3712	85.2915	94.9911	94.2855	75.2823	75.2823	87.9835
3713	85.5779	95.4836	95.4717	75.05	75.05	86.6286
3714	85.9279	96.2532	96.6531	74.7844	74.7844	85.2407
3715	86.231	96.9142	97.5955	74.4637	74.4637	83.7202
3716	86.5016	97.6751	98.7348	74.117	74.117	82.2573
3717	86.7389	94.0026	95.3935	72.7662	72.7662	75.9832
3718	84.6929	91.7874	93.1187	71.3686	71.3686	71.3686
3719	84.1795	92.784	93.7408	70.7545	70.7545	70.7545
3720	81.9492	81.9492	81.9492	70.4801	70.4801	70.4801
3721	80.7056	80.7056	80.7056	70.3558	70.3558	70.3558
3722	80.0102	80.0102	80.0102	70.2972	70.2972	70.2972
3723	79.6195	79.6195	79.6195	70.2673	70.2673	70.2673
3724	79.398	79.398	79.398	70.25	70.25	70.25
3725	79.2706	79.2706	79.2706	70.2383	70.2383	70.2383
3726	79.1955	79.1955	79.1955	70.2289	70.2289	70.2289
3727	79.1494	79.1494	79.1494	70.2206	70.2206	70.2206
3728	79.1194	79.1194	79.1194	70.2128	70.2128	70.2128
3729	79.0984	79.0984	79.0984	70.2051	70.2051	70.2051





3730	79.0824	79.0824	79.0824	70.1976	70.1976	70.1976
3731	79.0692	79.0692	79.0692	70.1901	70.1901	70.1901
3732	79.0575	79.0575	79.0575	70.1826	70.1826	70.1826
3733	79.0467	79.0467	79.0467	70.1752	70.1752	70.1752
3734	79.0363	79.0363	79.0363	70.1677	70.1677	70.1677
3735	79.0263	79.0263	79.0263	70.1602	70.1602	70.1602
3736	79.0163	79.0163	79.0163	70.1528	70.1528	70.1528
3737	82.8424	98.4249	101.794	70.1511	70.1511	70.1511
3738	85.0702	97.9298	101.735	70.1494	70.1494	70.1494
3739	86.4246	96.7717	101.321	70.1477	70.1477	70.1477
3740	87.3063	96.2295	101.696	70.146	70.146	70.146
3741	87.9032	95.7762	102.082	70.0889	70.0889	70.0889
3742	88.3325	95.2837	102.384	69.9676	69.9676	69.9676
3743	88.687	94.8695	102.717	69.8201	69.8201	69.8201
3744	88.9528	94.2413	102.947	69.6624	69.6624	69.6624
3745	89.1749	93.8561	103.012	69.5012	69.5012	69.5012
3746	89.3843	93.8533	102.901	69.3396	69.3396	69.3396
3747	89.95	94.8783	104.528	69.1792	69.1792	69.1792
3748	90.3791	94.896	104.94	69.02	69.02	69.02
3749	90.1887	93.7774	103.028	68.8614	68.8614	68.8614
3750	89.9915	93.2417	102.212	68.704	68.704	68.704
3751	89.9112	93.0391	101.917	68.548	68.548	68.548
3752	89.924	93.0212	101.833	68.3935	68.3935	68.3935
3753	89.9969	93.0932	101.848	68.2405	68.2405	68.2405
3754	89.8908	92.8396	101.074	68.0887	68.0887	68.0887
3755	89.4836	91.5697	99.4441	67.9378	67.9378	67.9378
3756	88.9123	90.3709	97.7149	67.7877	67.7877	67.7877
3757	88.5212	89.8833	97.0497	67.6389	67.6389	67.6389
3758	88.2318	89.5085	96.5135	67.4914	67.4914	67.4914
3759	87.9997	89.198	96.0549	67.3452	67.3452	67.3452
3760	87.7761	88.8277	95.5407	67.2003	67.2003	67.2003
3761	87.5576	88.4683	95.0488	67.0567	67.0567	67.0567
3762	87.3452	88.1276	94.5878	66.9142	66.9142	66.9142
3763	87.1396	87.8063	94.1577	66.7731	66.7731	66.7731
3764	86.9854	87.6137	93.9408	66.6332	66.6332	66.6332
3765	86.8821	87.5076	93.8495	66.4947	66.4947	66.4947
3766	86.8087	87.4295	93.7859	66.3575	66.3575	66.3575
3767	86.7468	87.3669	93.7374	66.2216	66.2216	66.2216
3768	86.6957	87.3131	93.6974	66.087	66.087	66.087
3769	86.6495	87.2645	93.6621	65.9537	65.9537	65.9537
3770	86.6044	87.2177	93.6207	65.8217	65.8217	65.8217
3771	86.5596	87.1715	93.5777	65.6909	65.6909	65.6909
3772	86.5152	87.1257	93.535	65.5613	65.5613	65.5613
3773	86.4713	87.0804	93.4931	65.433	65.433	65.433
3774	86.4286	87.0359	93.4525	65.306	65.306	65.306
3775	86.3867	86.992	93.4125	65.1801	65.1801	65.1801
3776	86.341	86.9436	93.3513	65.0554	65.0554	65.0554
3777	86.2928	86.8924	93.2857	64.9319	64.9319	64.9319
3778	86.0113	86.5373	92.1819	64.8093	64.8093	64.8093
3779	84.8138	86.7425	88.7811	68.9471	66.9471	75.7898
3780	84.0775	86.0153	86.0438	67.9582	67.9582	76.8079
3781	83.5919	85.5389	85.5574	68.4921	68.4921	77.3691
3782	83.2422	85.1921	85.2075	68.8189	68.8189	77.7042
3783	82.9686	84.9165	84.9319	69.0551	69.0551	77.9404
3784	82.7318	84.6817	84.6971	69.252	69.252	78.1373

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ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

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3785	82.5198	84.4896	84.485	69.4314	69.4314	78.3167
3788	82.3206	84.2705	84.2859	69.6024	69.6024	78.4877
3787	82.1291	84.0789	84.0944	69.769	69.769	78.6543
3788	81.9129	83.6084	83.9014	69.7356	69.7356	77.8647
3789	81.6847	83.0965	83.7195	69.5579	69.5579	76.7591
3790	81.4611	82.6228	83.5666	69.2995	69.2995	75.566
3791	80.874	81.3767	81.8867	68.3406	68.3406	71.1205
3792	80.5852	81.0782	82.0578	67.2003	67.2003	67.2003
3793	80.4628	80.9309	82.4233	66.6382	66.6382	66.6382
3794	80.341	80.7845	82.4407	66.3215	66.3215	66.3215
3795	80.1883	80.6118	82.2879	66.1092	66.1092	66.1092
3796	80.045	80.4407	82.2467	65.942	65.942	65.942
3797	79.8873	80.2801	82.1047	65.7945	65.7945	65.7945
3798	79.7226	80.1126	81.9558	65.6561	65.6561	65.6561
3799	79.5398	79.9375	81.7301	65.5222	65.5222	65.5222
3800	79.3582	79.756	81.5485	65.3909	65.3909	65.3909
3801	79.1779	79.5757	81.3682	65.2615	65.2615	65.2615
3802	78.9989	79.3967	81.1892	65.1335	65.1335	65.1335
3803	78.8212	79.2189	81.0115	65.0068	65.0068	65.0068
3804	78.6447	79.0425	80.835	64.8814	64.8814	64.8814
3805	78.4695	78.8673	80.6598	64.7571	64.7571	64.7571
3806	78.2956	78.6934	80.4859	64.634	64.634	64.634
3807	78.1233	78.5203	80.3133	64.513	64.513	64.513
3808	77.9525	78.3483	80.1422	64.394	64.394	64.394
3809	77.7832	78.1777	79.9725	64.278	64.278	64.278
3810	77.6154	78.0085	79.8042	64.165	64.165	64.165
3811	77.4491	77.8407	79.6373	64.055	64.055	64.055
3812	77.2843	77.6743	79.4719	63.948	63.948	63.948
3813	77.121	77.5093	79.3079	63.844	63.844	63.844
3814	76.9592	77.3457	79.1452	63.742	63.742	63.742
3815	76.7989	77.1835	78.9838	63.642	63.642	63.642
3816	76.6401	77.0227	78.8237	63.544	63.544	63.544
3817	76.4828	76.8633	78.6648	63.448	63.448	63.448
3818	76.327	76.7053	78.5071	63.354	63.354	63.354
3819	76.1728	76.5487	78.3506	63.262	63.262	63.262
3820	76.02	76.3935	78.1953	63.172	63.172	63.172
3821	75.8697	76.2397	78.0412	63.084	63.084	63.084
3822	75.7209	76.0873	77.8883	63.0	63.0	63.0
3823	75.5736	75.9363	77.7366	62.914	62.914	62.914
3824	75.4278	75.7867	77.5861	62.83	62.83	62.83
3825	75.2835	75.6385	77.4368	62.748	62.748	62.748
3826	75.1407	75.4917	77.2887	62.668	62.668	62.668
3827	75.0	75.3463	77.1418	62.59	62.59	62.59
3828	74.8582	75.2023	77.0	62.514	62.514	62.514
3829	74.7174	75.0597	76.8553	62.44	62.44	62.44
3830	74.5776	74.9185	76.7119	62.37	62.37	62.37
3831	74.4388	74.7787	76.5697	62.3	62.3	62.3
3832	74.301	74.6403	76.4287	62.234	62.234	62.234
3833	74.1642	74.5033	76.2889	62.17	62.17	62.17
3834	74.0284	74.3677	76.1503	62.11	62.11	62.11
3835	73.8936	74.2335	76.0129	62.054	62.054	62.054
3836	73.7598	74.1007	75.8767	62.0	62.0	62.0
3837	73.627	73.9693	75.7417	61.946	61.946	61.946
3838	73.4952	73.8393	75.6079	61.894	61.894	61.894
3839	73.3644	73.7107	75.4753	61.844	61.844	61.844

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3840	78.4097	78.4097	78.4097	72.0395	72.0395	72.0395
3841	78.3982	78.3982	78.3982	72.0316	72.0316	72.0316
3842	78.3876	78.3876	78.3876	72.0237	72.0237	72.0237
3843	78.3775	78.3775	78.3775	72.0159	72.0159	72.0159
3844	78.3676	78.3676	78.3676	72.008	72.008	72.008
3845	78.3578	78.3578	78.3578	72.0001	72.0001	72.0001
3846	82.1789	96.5084	100.087	71.9979	71.9979	71.9979
3847	84.406	95.7558	99.8334	71.9956	71.9956	71.9956
3848	86.7696	95.462	100.434	71.9933	71.9933	71.9933
3849	86.6288	95.0498	100.904	71.9301	71.9301	71.9301
3850	87.1952	94.5888	101.276	71.7961	71.7961	71.7961
3851	87.6251	94.2255	101.67	71.6333	71.6333	71.6333
3852	87.9617	93.7382	101.977	71.4592	71.4592	71.4592
3853	88.2176	93.0946	102.199	71.2814	71.2814	71.2814
3854	88.4448	93.0283	102.134	71.1031	71.1031	71.1031
3855	88.8091	93.375	102.746	70.9257	70.9257	70.9257
3856	89.5012	94.367	104.618	70.7502	70.7502	70.7502
3857	89.5779	93.6548	103.323	70.5756	70.5756	70.5756
3858	89.2881	92.6078	101.631	70.402	70.402	70.402
3859	89.1601	92.3529	101.28	70.23	70.23	70.23
3860	89.1283	92.2259	101.069	70.0596	70.0596	70.0596
3861	89.1797	92.2765	101.061	69.8908	69.8908	69.8908
3862	89.2759	92.3718	101.1	69.7237	69.7237	69.7237
3863	88.9819	91.3974	99.55	69.5576	69.5576	69.5576
3864	88.8869	99.4317	94.8461	74.7807	74.7807	95.309
3865	87.0803	90.4322	91.0996	74.3265	74.3265	83.7445
3866	84.8147	85.0379	85.3221	72.008	72.008	72.8266
3867	83.5815	83.9682	84.4602	71.096	71.096	72.5135
3868	82.9156	83.4656	84.1656	70.7912	70.7912	72.8078
3869	82.5645	83.2779	84.1859	70.7555	70.7555	73.3711
3870	82.3914	83.2682	84.3841	70.8457	70.8457	74.0603
3871	81.7747	81.9956	82.4438	70.0292	70.0292	70.0292
3872	81.4308	81.7674	82.4505	69.5872	69.5872	69.5872
3873	81.2414	81.6937	82.6116	69.3046	69.3046	69.3046
3874	81.1425	81.7104	82.8632	69.0904	69.0904	69.0904
3875	81.099	81.7827	83.1703	68.9061	68.9061	68.9061
3876	80.4781	80.6112	80.8814	68.7346	68.7346	68.7346
3877	80.0245	80.1576	80.4278	68.5696	68.5696	68.5696
3878	79.6625	79.7957	80.0659	68.4083	68.4083	68.4083
3879	79.3511	79.4843	79.7545	68.2494	68.2494	68.2494
3880	79.068	79.2011	79.4713	68.0923	68.0923	68.0923
3881	78.8009	78.934	79.2042	67.9369	67.9369	67.9369
3882	78.5434	78.6766	78.9468	67.7829	67.7829	67.7829
3883	78.292	78.4251	78.6953	67.6305	67.6305	67.6305
3884	78.0445	78.1777	78.4479	67.4794	67.4794	67.4794
3885	77.8001	77.9332	78.2034	67.3298	67.3298	67.3298
3886	77.5581	77.6912	77.9615	67.1816	67.1816	67.1816
3887	77.3182	77.4514	77.7216	67.0348	67.0348	67.0348
3888	77.0802	77.2134	77.4836	66.8893	66.8893	66.8893
3889	76.8441	76.9772	77.2474	66.7452	66.7452	66.7452
3890	76.6097	76.7428	77.013	66.6025	66.6025	66.6025
3891	76.377	76.5101	76.7803	66.461	66.461	66.461
3892	76.0255	76.0286	76.0325	66.3236	66.3236	66.3348
3893	76.2181	76.7562	77.8484	66.1839	66.1839	66.1839
3894	76.2395	76.7777	77.8698	66.0463	66.0463	66.0463





ENCLOSURE

ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

00012523



3895	76.1687	76.7069	77.799	65.9104	65.9104	65.9104
3896	76.0485	76.5866	77.6788	65.7759	65.7759	65.7759
3897	75.9934	76.8307	77.9241	65.6428	65.6428	65.6428
3898	75.4232	75.5584	75.8266	65.5103	65.5103	65.5103
3899	75.0136	75.1487	75.4169	65.3791	65.3791	65.3791
3900	74.6918	74.825	75.0952	65.2491	65.2491	65.2491
3901	74.4184	74.5516	74.8218	65.1203	65.1203	65.1203
3902	74.172	74.3051	74.5753	64.9927	64.9927	64.9927
3903	73.9408	74.074	74.3442	64.8663	64.8663	64.8663
3904	73.7187	73.8518	74.122	64.741	64.741	64.741
3905	73.5021	73.8353	73.9055	64.617	64.617	64.617
3906	73.2893	73.4224	73.6926	64.494	64.494	64.494
3907	73.0791	73.2123	73.4825	64.3723	64.3723	64.3723
3908	72.8712	73.0043	73.2745	64.2516	64.2516	64.2516
3909	72.665	72.7981	73.0683	64.1321	64.1321	64.1321
3910	72.4605	72.5937	72.8639	64.0137	64.0137	64.0137
3911	72.2578	72.3908	72.661	63.8964	63.8964	63.8964
3912	72.0562	72.1894	72.4596	63.7802	63.7802	63.7802
3913	71.8563	71.9895	72.2597	63.6651	63.6651	63.6651
3914	71.8755	72.347	72.9471	63.9915	63.9915	65.7202
3915	71.8822	72.4562	73.1868	64.1938	64.1938	66.2983
3916	71.8868	72.5633	73.4243	64.3511	64.3511	66.8313
3917	71.8948	72.6738	73.6652	64.4968	64.4968	67.3528
3918	71.8965	72.7368	73.8188	64.6158	64.6158	67.7328
3919	74.3686	76.7881	84.944	63.8718	63.8718	63.8718
3920	75.3614	77.0637	84.6136	63.495	63.495	63.495
3921	75.7396	77.1235	84.3311	63.2741	63.2741	63.2741
3922	75.8891	77.1674	84.1754	63.1196	63.1196	63.1196
3923	75.9101	77.0746	83.8936	62.9938	62.9938	62.9938
3924	75.8308	76.7951	83.426	62.8806	62.8806	62.8806
3925	75.6876	76.474	82.9283	62.7732	62.7732	62.7732
3926	75.5558	76.1852	82.5067	62.6687	62.6687	62.6687
3927	75.5002	76.1248	82.4712	62.5661	62.5661	62.5661
3928	75.4911	76.1113	82.4811	62.4649	62.4649	62.4649
3929	75.507	76.1231	82.5147	62.3648	62.3648	62.3648
3930	75.5342	76.1474	82.5507	62.2657	62.2657	62.2657
3931	75.5657	76.1769	82.5849	62.1676	62.1676	62.1676
3932	75.5996	76.2087	82.6212	62.0705	62.0705	62.0705
3933	75.6346	76.2418	82.6588	61.9743	61.9743	61.9743
3934	75.6701	76.2753	82.6959	61.879	61.879	61.879
3935	75.7017	76.3048	82.7149	61.7846	61.7846	61.7846
3936	74.4219	74.8189	76.8597	61.6892	61.6892	61.6892
3937	74.1781	74.58	78.3748	61.5955	61.5955	61.5955
3938	74.8165	75.4171	81.8152	61.5038	61.5038	61.5038
3939	75.1784	75.775	82.163	61.4129	61.4129	61.4129
3940	75.7473	87.0628	78.8618	67.7287	67.7287	91.9421
3941	76.0687	87.4705	79.1018	70.8573	70.8573	95.1704
3942	76.2401	87.6451	79.1885	72.6028	72.6028	96.8979
3943	76.2729	87.3124	79.1279	73.6245	73.6245	97.419
3944	76.5103	87.3201	80.3274	74.1994	74.1994	97.0341
3945	76.8575	87.4379	81.8153	74.5212	74.5212	96.2468
3946	77.4124	88.1113	83.455	74.7021	74.7021	95.2858
3947	78.4431	89.9713	86.6866	74.8008	74.8008	94.2506
3948	78.7946	89.4502	86.35	74.841	74.841	93.1836
3949	78.8954	88.8565	86.3588	74.822	74.822	91.9803



ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

00012524



3950	79.1314	89.1017	87.0492	74.7539	74.7539	90.7501
3951	79.5233	89.7766	87.9963	74.6394	74.8394	89.4657
3952	79.6475	89.3979	87.938	74.4697	74.4697	88.0793
3953	79.8931	89.5788	89.079	74.2665	74.2665	86.72
3954	80.2515	90.2522	90.3389	74.0386	74.0386	85.383
3955	80.6342	91.036	91.496	73.7695	73.7695	83.9686
3956	80.9709	91.7592	92.5216	73.4516	73.4516	82.4689
3957	81.2773	92.556	93.8968	73.106	73.106	81.007
3958	80.2594	87.651	89.1094	71.4766	71.4766	73.3604
3959	79.3567	86.7705	88.0258	70.2818	70.2818	70.2818
3960	78.9236	87.8274	88.7282	69.7564	69.7564	69.7564
3961	76.7366	76.7366	76.7366	69.5213	69.5213	69.5213
3962	75.5177	75.5177	75.5177	69.4144	69.4144	69.4144
3963	74.8366	74.8366	74.8366	69.3636	69.3636	69.3636
3964	74.4544	74.4544	74.4544	69.3374	69.3374	69.3374
3965	74.2383	74.2383	74.2383	69.3219	69.3219	69.3219
3966	74.1145	74.1145	74.1145	69.3112	69.3112	69.3112
3967	74.0419	74.0419	74.0419	69.3025	69.3025	69.3025
3968	73.9979	73.9979	73.9979	69.2947	69.2947	69.2947
3969	73.9697	73.9697	73.9697	69.2873	69.2873	69.2873
3970	73.9503	73.9503	73.9503	69.2801	69.2801	69.2801
3971	73.9357	73.9357	73.9357	69.273	69.273	69.273
3972	73.9239	73.9239	73.9239	69.2659	69.2659	69.2659
3973	73.9136	73.9136	73.9136	69.2588	69.2588	69.2588
3974	73.9042	73.9042	73.9042	69.2518	69.2518	69.2518
3975	73.8952	73.8952	73.8952	69.2447	69.2447	69.2447
3976	73.8865	73.8865	73.8865	69.2376	69.2376	69.2376
3977	73.8779	73.8779	73.8779	69.2306	69.2306	69.2306
3978	77.7029	92.7022	96.1689	69.229	69.229	69.229
3979	79.934	92.2118	96.1341	69.2273	69.2273	69.2273
3980	81.2933	91.3369	96.0834	69.2256	69.2256	69.2256
3981	82.1606	90.8421	96.4916	69.1713	69.1713	69.1713
3982	82.7434	90.3883	96.872	69.0557	69.0557	69.0557
3983	83.1913	89.9821	97.2432	68.9152	68.9152	68.9152
3984	83.5639	89.5615	97.5866	68.765	68.765	68.765
3985	83.8529	88.9481	97.8397	68.6115	68.6115	68.6115
3986	84.1086	88.7443	97.877	68.4575	68.4575	68.4575
3987	84.4044	88.8959	98.0481	68.3043	68.3043	68.3043
3988	85.0693	89.8617	99.8974	68.1528	68.1528	68.1528
3989	85.3697	89.679	99.5456	68.0023	68.0023	68.0023
3990	85.1316	88.5343	97.6259	67.8525	67.8525	67.8525
3991	85.016	88.2393	97.1894	67.704	67.704	67.704
3992	84.9962	88.0989	96.958	67.5568	67.5568	67.5568
3993	85.066	88.163	96.9619	67.4111	67.4111	67.4111
3994	85.1856	88.2817	97.0245	67.2668	67.2668	67.2668
3995	85.0325	87.6369	95.9492	67.1235	67.1235	67.1235
3996	84.6145	86.5624	94.3199	66.981	66.981	66.981
3997	84.1088	85.5413	92.8408	66.8394	66.8394	66.8394
3998	83.7661	85.1022	92.2194	66.699	66.699	66.699
3999	83.51	84.7532	91.6948	66.5599	66.5599	66.5599
4000	83.2846	84.3943	91.1618	66.422	66.422	66.422
4001	83.0545	83.9775	90.5697	66.2852	66.2852	66.2852
4002	82.8186	83.5599	89.9814	66.1495	66.1495	66.1495
4003	82.6198	83.2482	89.575	66.0151	66.0151	66.0151
4004	82.5106	83.1341	89.4865	65.8819	65.8819	65.8819

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ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

ALSTOM

00012525

4005	82.4502	83.069	89.4465	65.75	65.75	65.75
4006	82.4165	83.0307	89.4316	65.6194	65.6194	65.6194
4007	82.3931	83.0048	89.4115	65.49	65.49	65.49
4008	82.3758	82.9848	89.3976	65.3819	65.3819	65.3819
4009	82.6729	94.0855	85.6442	71.6878	71.6878	95.9787
4010	82.7744	93.9441	85.6627	74.6514	74.6514	98.6242
4011	82.8762	93.7763	86.1348	76.1334	76.1334	99.4592
4012	83.1722	93.8983	87.5083	76.8803	76.8803	99.2587
4013	83.4625	93.9621	88.4516	77.2803	77.2803	98.6603
4014	84.0517	94.9078	90.4971	77.514	77.514	97.9062
4015	82.9263	86.5876	87.0721	75.1095	75.1095	84.995
4016	81.9511	84.0643	85.6356	73.495	73.495	80.7154
4017	81.3649	83.4446	85.0443	72.8388	72.8388	79.9944
4018	81.012	83.1742	84.704	72.6449	72.6449	79.9604
4019	80.7482	82.7971	84.4229	72.5506	72.5506	79.6462
4020	80.5497	82.5726	84.2228	72.5358	72.5358	79.5742
4021	80.3727	82.2501	84.0619	72.4669	72.4669	79.1136
4022	80.2225	82.0774	83.9142	72.4526	72.4526	79.0388
4023	80.087	81.9194	83.7811	72.4601	72.4601	78.9857
4024	79.9595	81.7678	83.8563	72.4741	72.4741	78.9349
4025	79.8364	81.6198	83.5359	72.4889	72.4889	78.8828
4026	79.7345	81.6386	83.4207	72.6038	72.6038	79.3224
4027	79.6299	81.534	83.3161	72.6831	72.6831	79.4016
4028	79.5242	81.4283	83.2104	72.747	72.747	79.4656
4029	79.4182	81.3223	83.1044	72.8041	72.8041	79.5227
4030	79.3124	81.2165	82.9986	72.8581	72.8581	79.5786
4031	79.2071	81.1112	82.8933	72.9104	72.9104	79.629
4032	79.1024	81.0065	82.7886	72.9618	72.9618	79.6803
4033	78.9983	80.9024	82.6846	73.0124	73.0124	79.731
4034	78.895	80.7991	82.5812	73.0625	73.0625	79.7811
4035	78.7924	80.6965	82.4786	73.1121	73.1121	79.8307
4036	78.6905	80.5946	82.3767	73.1612	73.1612	79.8798
4037	78.5893	80.4934	82.2755	73.2098	73.2098	79.9284
4038	78.4888	80.3929	82.175	73.258	73.258	79.9786
4039	78.3891	80.2932	82.0753	73.3057	73.3057	80.0243
4040	78.2901	80.1942	81.9763	73.3529	73.3529	80.0715
4041	78.1918	80.0959	81.878	73.3997	73.3997	80.1182
4042	78.1055	80.0978	81.7819	73.5074	73.5074	80.4635
4043	78.0198	80.0475	81.6924	73.6085	73.6085	80.5598
4044	77.9382	80.0059	81.6158	73.7048	73.7048	80.8369
4045	77.8515	79.917	81.5287	73.7781	73.7781	80.9061
4046	77.7681	79.8609	81.4494	73.8562	73.8562	81.0372
4047	77.7275	78.8249	82.0368	72.0898	72.0898	72.0898
4048	79.3297	81.3979	89.258	71.2413	71.2413	71.2413
4049	79.8521	81.2769	88.5618	70.7804	70.7804	70.7804
4050	80.0554	81.3604	88.4188	70.4846	70.4846	70.4846
4051	80.0858	81.2784	88.1243	70.2596	70.2596	70.2596
4052	80.3752	91.0202	84.948	75.8589	75.8589	97.8809
4053	80.8825	91.0818	85.9596	78.2742	78.2742	99.2239
4054	81.5741	92.8553	89.0953	79.3158	79.3158	99.1966
4055	82.1709	93.1945	90.0338	79.7483	79.7483	98.5463
4056	82.3329	92.5855	89.7902	79.891	79.891	97.5762
4057	82.3825	92.0819	89.9133	79.8758	79.8758	96.4053
4058	82.7902	93.0699	91.1542	79.7726	79.7726	95.1542
4059	83.0054	92.985	91.375	79.5947	79.5947	93.7716



CONFIDENTIAL



4060	83.1664	92.8823	91.9345	79.3666	79.3656	92.3585
4061	83.4399	93.23	93.1091	79.1019	79.1019	90.9547
4062	83.8174	94.0527	94.3818	78.8137	78.8137	89.5729
4063	84.1417	94.7337	95.3434	78.4677	78.4677	88.0264
4064	84.432	95.4819	96.4461	78.0896	78.0896	86.5115
4065	84.0304	93.3209	94.6323	77.0383	77.0383	81.8251
4066	82.8615	89.58	91.0008	75.3832	75.3832	75.3832
4067	82.2799	90.4885	91.5547	74.6556	74.6556	74.6556
4068	80.0143	80.0143	80.0143	74.3313	74.3313	74.3313
4069	78.7512	78.7512	78.7512	74.1848	74.1848	74.1848
4070	78.0453	78.0453	78.0453	74.116	74.116	74.116
4071	77.6489	77.6489	77.6489	74.0812	74.0812	74.0812
4072	77.4245	77.4245	77.4245	74.0613	74.0613	74.0613
4073	77.2958	77.2958	77.2958	74.048	74.048	74.048
4074	77.2201	77.2201	77.2201	74.0375	74.0375	74.0375
4075	77.1739	77.1739	77.1739	74.0283	74.0283	74.0283
4076	77.1442	77.1442	77.1442	74.0196	74.0196	74.0196
4077	77.1235	77.1235	77.1235	74.0112	74.0112	74.0112
4078	77.1079	77.1079	77.1079	74.0028	74.0028	74.0028
4079	77.0952	77.0952	77.0952	73.9946	73.9946	73.9946
4080	77.084	77.084	77.084	73.9863	73.9863	73.9863
4081	77.0736	77.0736	77.0736	73.9781	73.9781	73.9781
4082	77.0638	77.0638	77.0638	73.9698	73.9698	73.9698
4083	77.0542	77.0542	77.0542	73.9616	73.9616	73.9616
4084	77.0448	77.0448	77.0448	73.9533	73.9533	73.9533
4085	80.8648	97.1298	100.33	73.9504	73.9504	73.9504
4086	83.0975	96.6432	100.327	73.9474	73.9474	73.9474
4087	84.4505	95.1588	99.4775	73.9444	73.9444	73.9444
4088	85.3312	94.6141	99.8493	73.9415	73.9415	73.9415
4089	85.9305	94.0631	100.158	73.8716	73.8716	73.8716
4090	86.3615	93.5068	100.419	73.724	73.724	73.724
4091	88.7228	93.0992	100.758	73.5447	73.5447	73.5447
4092	87.0116	92.5278	101.015	73.3531	73.3531	73.3531
4093	87.2474	91.9822	101.165	73.1573	73.1573	73.1573
4094	87.4704	91.9929	101.068	72.9609	72.9609	72.9609
4095	87.9499	92.6024	102.227	72.7657	72.7657	72.7657
4096	88.5762	93.3436	103.602	72.5724	72.5724	72.5724
4097	88.4919	92.3053	101.748	72.3799	72.3799	72.3799
4098	88.2477	91.5301	100.525	72.1888	72.1888	72.1888
4099	88.1479	91.306	100.207	71.9995	71.9995	71.9995
4100	88.146	91.2434	100.07	71.8119	71.8119	71.8119
4101	88.2167	91.3132	100.083	71.6262	71.6262	71.6262
4102	88.2367	91.1852	99.7884	71.4421	71.4421	71.4421
4103	87.9221	90.2279	98.2878	71.2592	71.2592	71.2592
4104	87.4238	89.1184	96.8617	71.0776	71.0776	71.0776
4105	86.9783	88.3778	95.615	70.8975	70.8975	70.8975
4106	86.6637	87.9746	95.0442	70.719	70.719	70.719
4107	86.4179	87.6425	94.549	70.542	70.542	70.542
4108	86.1891	87.2732	94.0167	70.3666	70.3666	70.3666
4109	85.955	86.8664	93.4475	70.1928	70.1928	70.1928
4110	85.7152	86.4584	92.8816	70.0204	70.0204	70.0204
4111	85.503	86.1318	92.4564	69.8496	69.8496	69.8496
4112	85.3763	86.0006	92.3489	69.6804	69.6804	69.6804
4113	85.2964	85.9163	92.2878	69.5129	69.5129	69.5129
4114	85.2423	85.8579	92.252	69.3469	69.3469	69.3469

*Handwritten red mark resembling a stylized 'D' or '0'.*

*Handwritten blue signature or initials.*

4115	85.1995	85.8122	92.2166	69.1825	69.1825	69.1825
4116	85.1619	85.7723	92.182	69.0197	69.0197	69.0197
4117	85.1274	85.7355	92.1505	68.8584	68.8584	68.8584
4118	85.0949	85.7007	92.1209	68.6987	68.6987	68.6987
4119	85.0594	85.6627	92.0737	68.5405	68.5405	68.5405
4120	85.0214	85.6222	92.0214	68.3838	68.3838	68.3838
4121	84.9821	85.5806	91.9681	68.2286	68.2286	68.2286
4122	84.9422	85.5384	91.9145	68.0748	68.0748	68.0748
4123	83.49	83.9376	85.5067	67.9206	67.9206	67.9206
4124	82.6093	83.0568	84.626	67.7678	67.7678	67.7678
4125	82.0392	82.4867	84.0558	67.6165	67.6165	67.6165
4126	81.6382	82.0857	83.6548	67.4666	67.4666	67.4666
4127	81.3296	81.7771	83.3462	67.318	67.318	67.318
4128	81.0717	81.5193	83.0884	67.1709	67.1709	67.1709
4129	80.8421	81.2896	82.8588	67.0252	67.0252	67.0252
4130	80.6222	81.0794	82.6122	66.8808	66.8808	66.8808
4131	80.3948	80.8825	82.3019	66.7377	66.7377	66.7377
4132	80.1648	80.6872	81.9923	66.596	66.596	66.596
4133	79.9562	80.4638	81.8121	66.4556	66.4556	66.4556
4134	79.7424	80.2812	81.5385	66.3165	66.3165	66.3165
4135	79.5258	80.0959	81.2621	66.1787	66.1787	66.1787
4136	78.9354	79.1143	79.4698	66.0416	66.0416	66.0416
4137	79.2327	81.9593	81.194	68.7042	68.7042	79.5814
4138	80.8209	92.1428	83.9308	73.5757	73.5757	97.7967
4139	81.6742	93.0761	84.7068	76.0655	76.0655	100.379
4140	82.1174	93.533	85.0711	77.5194	77.5194	101.83
4141	82.2843	93.3668	85.1503	78.4049	78.4049	102.258
4142	82.5195	93.3627	86.1302	78.9321	78.9321	101.948
4143	82.8597	93.498	87.4517	79.2306	79.2306	101.204
4144	83.2249	93.6764	88.6391	79.3953	79.3953	100.278
4145	82.8889	89.2782	88.1442	77.9719	77.9719	92.185
4146	80.8091	81.2111	81.7227	74.2371	74.2371	75.7108
4147	79.5462	79.9023	80.3554	72.5379	72.5379	73.8434
4148	78.879	79.4024	80.0686	71.8965	71.8965	73.8155
4149	78.4214	78.9449	79.611	71.5588	71.5588	73.4778
4150	78.0783	78.6017	79.2679	71.3502	71.3502	73.2892
4151	77.9751	78.5772	79.7992	70.7084	70.7084	70.7084
4152	77.9417	78.6596	80.1164	70.336	70.336	70.336
4153	77.9526	78.7862	80.4779	70.0787	70.0787	70.0787
4154	77.9738	78.899	80.7847	69.871	69.871	69.871
4155	77.9256	78.8486	80.7638	69.6852	69.6852	69.6852
4156	77.484	78.0385	79.164	69.5091	69.5091	69.5091
4157	77.1807	77.7153	78.8407	69.3382	69.3382	69.3382
4158	76.9022	77.4568	78.5822	69.1704	69.1704	69.1704
4159	76.6794	77.234	78.3594	69.0049	69.0049	69.0049
4160	76.4766	77.0311	78.1566	68.8411	68.8411	68.8411
4161	76.2852	76.8397	77.9652	68.679	68.679	68.679
4162	76.2225	76.9093	78.3031	68.5187	68.5187	68.5187
4163	76.2456	77.0743	78.7561	68.36	68.36	68.36
4164	76.2844	77.2088	79.1003	68.203	68.203	68.203
4165	76.2528	77.1721	79.1022	68.0475	68.0475	68.0475
4166	76.1839	77.0981	79.0668	67.8934	67.8934	67.8934
4167	76.0956	77.0048	79.012	67.7408	67.7408	67.7408
4168	75.9977	76.9018	78.9476	67.5897	67.5897	67.5897
4169	75.8571	76.7807	78.6785	67.4399	67.4399	67.4399





ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

00012528



4170	75.724	76.6467	78.5516	67.2915	67.2915	67.2915
4171	75.5951	76.517	78.4278	67.1446	67.1446	67.1446
4172	75.4612	76.3869	78.2658	66.999	66.999	66.999
4173	75.5205	76.4731	79.0092	66.855	66.855	66.855
4174	77.0305	78.9563	85.638	66.7144	66.7144	66.7144
4175	78.8646	90.1963	88.9599	71.6003	71.6003	90.7963
4176	79.6471	90.1114	87.1	73.6579	73.6579	91.7255
4177	80.0071	89.822	87.4736	74.4828	74.4828	91.3769
4178	80.4811	90.5819	88.5872	74.7661	74.7661	90.5029
4179	80.8881	91.0271	89.3174	74.7898	74.7898	89.342
4180	81.077	90.8091	89.5719	74.6743	74.6743	88.022
4181	81.3536	91.0248	90.7411	74.4874	74.4874	86.6806
4182	81.738	91.8384	92.0288	74.2634	74.2634	85.3617
4183	82.1049	92.587	93.1101	73.9839	73.9839	83.9127
4184	82.4268	93.3255	94.1731	73.6594	73.6594	82.4253
4185	82.4685	93.0137	94.2279	73.0635	73.0635	79.7683
4186	81.2345	87.71	89.2394	71.2515	71.2515	71.7348
4187	80.5003	88.2495	89.4251	70.3139	70.3139	70.3139
4188	80.1607	89.4	90.221	69.9011	69.9011	69.9011
4189	78.0235	78.0235	78.0235	69.7153	69.7153	69.7153
4190	76.8321	76.8321	76.8321	69.6301	69.6301	69.6301
4191	76.1661	76.1661	76.1661	69.5888	69.5888	69.5888
4192	75.7922	75.7922	75.7922	69.5668	69.5668	69.5668
4193	75.5805	75.5805	75.5805	69.5532	69.5532	69.5532
4194	75.459	75.459	75.459	69.5433	69.5433	69.5433
4195	75.3876	75.3876	75.3876	69.5351	69.5351	69.5351
4196	75.344	75.344	75.344	69.5275	69.5275	69.5275
4197	75.3159	75.3159	75.3159	69.5203	69.5203	69.5203
4198	75.2964	75.2964	75.2964	69.5132	69.5132	69.5132
4199	75.2816	75.2816	75.2816	69.5062	69.5062	69.5062
4200	75.2695	75.2695	75.2695	69.4991	69.4991	69.4991
4201	75.2589	75.2589	75.2589	69.4921	69.4921	69.4921
4202	75.2491	75.2491	75.2491	69.4852	69.4852	69.4852
4203	75.2398	75.2398	75.2398	69.4782	69.4782	69.4782
4204	75.2307	75.2307	75.2307	69.4712	69.4712	69.4712
4205	75.2218	75.2218	75.2218	69.4642	69.4642	69.4642
4206	75.213	75.213	75.213	69.4572	69.4572	69.4572
4207	75.2042	75.2042	75.2042	69.4503	69.4503	69.4503
4208	75.1954	75.1954	75.1954	69.4433	69.4433	69.4433
4209	75.1866	75.1866	75.1866	69.4363	69.4363	69.4363
4210	75.1779	75.1779	75.1779	69.4293	69.4293	69.4293
4211	75.1691	75.1691	75.1691	69.4224	69.4224	69.4224
4212	75.1604	75.1604	75.1604	69.4154	69.4154	69.4154
4213	75.1516	75.1516	75.1516	69.4085	69.4085	69.4085
4214	75.1429	75.1429	75.1429	69.4015	69.4015	69.4015
4215	75.1342	75.1342	75.1342	69.3945	69.3945	69.3945
4216	75.1254	75.1254	75.1254	69.3876	69.3876	69.3876
4217	75.1167	75.1167	75.1167	69.3806	69.3806	69.3806
4218	75.108	75.108	75.108	69.3737	69.3737	69.3737
4219	75.0993	75.0993	75.0993	69.3667	69.3667	69.3667
4220	75.0905	75.0905	75.0905	69.3598	69.3598	69.3598
4221	75.0818	75.0818	75.0818	69.3528	69.3528	69.3528
4222	75.0731	75.0731	75.0731	69.3459	69.3459	69.3459
4223	75.0644	75.0644	75.0644	69.339	69.339	69.339
4224	75.0557	75.0557	75.0557	69.332	69.332	69.332

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4225	75.047	75.047	75.047	69.3251	69.3251	69.3251
4226	75.0383	75.0383	75.0383	69.3182	69.3182	69.3182
4227	75.0296	75.0296	75.0296	69.3112	69.3112	69.3112
4228	75.0209	75.0209	75.0209	69.3043	69.3043	69.3043
4229	75.0122	75.0122	75.0122	69.2974	69.2974	69.2974
4230	75.0035	75.0035	75.0035	69.2905	69.2905	69.2905
4231	74.9948	74.9948	74.9948	69.2836	69.2836	69.2836
4232	74.9861	74.9861	74.9861	69.2766	69.2766	69.2766
4233	74.9774	74.9774	74.9774	69.2697	69.2697	69.2697
4234	74.9687	74.9687	74.9687	69.2628	69.2628	69.2628
4235	74.96	74.96	74.96	69.2559	69.2559	69.2559
4236	74.9513	74.9513	74.9513	69.249	69.249	69.249
4237	74.9426	74.9426	74.9426	69.2421	69.2421	69.2421
4238	74.934	74.934	74.934	69.2352	69.2352	69.2352
4239	74.9253	74.9253	74.9253	69.2283	69.2283	69.2283
4240	74.9166	74.9166	74.9166	69.2214	69.2214	69.2214
4241	74.9079	74.9079	74.9079	69.2145	69.2145	69.2145
4242	74.8993	74.8993	74.8993	69.2076	69.2076	69.2076
4243	74.8906	74.8906	74.8906	69.2007	69.2007	69.2007
4244	74.8819	74.8819	74.8819	69.1938	69.1938	69.1938
4245	74.8733	74.8733	74.8733	69.1869	69.1869	69.1869
4246	74.8646	74.8646	74.8646	69.18	69.18	69.18
4247	74.856	74.856	74.856	69.1732	69.1732	69.1732
4248	74.8473	74.8473	74.8473	69.1663	69.1663	69.1663
4249	74.8386	74.8386	74.8386	69.1594	69.1594	69.1594
4250	74.83	74.83	74.83	69.1525	69.1525	69.1525
4251	74.8213	74.8213	74.8213	69.1456	69.1456	69.1456
4252	74.8127	74.8127	74.8127	69.1388	69.1388	69.1388
4253	74.8041	74.8041	74.8041	69.1319	69.1319	69.1319
4254	74.7954	74.7954	74.7954	69.125	69.125	69.125
4255	74.7868	74.7868	74.7868	69.1182	69.1182	69.1182
4256	74.7781	74.7781	74.7781	69.1113	69.1113	69.1113
4257	74.7695	74.7695	74.7695	69.1045	69.1045	69.1045
4258	74.7609	74.7609	74.7609	69.0976	69.0976	69.0976
4259	74.7522	74.7522	74.7522	69.0907	69.0907	69.0907
4260	74.7436	74.7436	74.7436	69.0839	69.0839	69.0839
4261	74.735	74.735	74.735	69.077	69.077	69.077
4262	74.7264	74.7264	74.7264	69.0702	69.0702	69.0702
4263	74.7177	74.7177	74.7177	69.0633	69.0633	69.0633
4264	74.7091	74.7091	74.7091	69.0565	69.0565	69.0565
4265	74.7005	74.7005	74.7005	69.0497	69.0497	69.0497
4266	74.6919	74.6919	74.6919	69.0428	69.0428	69.0428
4267	74.6833	74.6833	74.6833	69.036	69.036	69.036
4268	74.6747	74.6747	74.6747	69.0291	69.0291	69.0291
4269	74.666	74.666	74.666	69.0223	69.0223	69.0223
4270	74.6574	74.6574	74.6574	69.0155	69.0155	69.0155
4271	74.6488	74.6488	74.6488	69.0087	69.0087	69.0087
4272	74.6402	74.6402	74.6402	69.0018	69.0018	69.0018
4273	74.6316	74.6316	74.6316	68.995	68.995	68.995
4274	74.623	74.623	74.623	68.9882	68.9882	68.9882
4275	74.6144	74.6144	74.6144	68.9814	68.9814	68.9814
4276	74.6058	74.6058	74.6058	68.9746	68.9746	68.9746
4277	74.5973	74.5973	74.5973	68.9677	68.9677	68.9677
4278	74.5887	74.5887	74.5887	68.9609	68.9609	68.9609
4279	74.5801	74.5801	74.5801	68.9541	68.9541	68.9541

*Handwritten signature*

*Handwritten signature*

ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

ALSTOM

00012530

4280	74.5715	74.5715	74.5715	68.9473	68.9473	68.9473
4281	74.5629	74.5629	74.5629	68.9405	68.9405	68.9405
4282	74.5543	74.5543	74.5543	68.9337	68.9337	68.9337
4283	74.5458	74.5458	74.5458	68.9269	68.9269	68.9269
4284	74.5372	74.5372	74.5372	68.9201	68.9201	68.9201
4285	74.5286	74.5286	74.5286	68.9133	68.9133	68.9133
4286	74.52	74.52	74.52	68.9065	68.9065	68.9065
4287	74.5115	74.5115	74.5115	68.8997	68.8997	68.8997
4288	74.5029	74.5029	74.5029	68.8929	68.8929	68.8929
4289	74.4943	74.4943	74.4943	68.8861	68.8861	68.8861
4290	74.4858	74.4858	74.4858	68.8794	68.8794	68.8794
4291	74.4772	74.4772	74.4772	68.8726	68.8726	68.8726
4292	74.4687	74.4687	74.4687	68.8658	68.8658	68.8658
4293	74.4601	74.4601	74.4601	68.859	68.859	68.859
4294	74.4516	74.4516	74.4516	68.8522	68.8522	68.8522
4295	74.443	74.443	74.443	68.8455	68.8455	68.8455
4296	74.4345	74.4345	74.4345	68.8387	68.8387	68.8387
4297	74.4259	74.4259	74.4259	68.8319	68.8319	68.8319
4298	74.4174	74.4174	74.4174	68.8252	68.8252	68.8252
4299	74.4088	74.4088	74.4088	68.8184	68.8184	68.8184
4300	74.4003	74.4003	74.4003	68.8116	68.8116	68.8116
4301	74.3918	74.3918	74.3918	68.8049	68.8049	68.8049
4302	74.3832	74.3832	74.3832	68.7981	68.7981	68.7981
4303	74.3747	74.3747	74.3747	68.7914	68.7914	68.7914
4304	74.3662	74.3662	74.3662	68.7846	68.7846	68.7846
4305	74.3576	74.3576	74.3576	68.7779	68.7779	68.7779
4306	74.3491	74.3491	74.3491	68.7711	68.7711	68.7711
4307	74.3406	74.3406	74.3406	68.7644	68.7644	68.7644
4308	74.3321	74.3321	74.3321	68.7576	68.7576	68.7576
4309	74.3236	74.3236	74.3236	68.7509	68.7509	68.7509
4310	74.315	74.315	74.315	68.7441	68.7441	68.7441
4311	74.3065	74.3065	74.3065	68.7374	68.7374	68.7374
4312	74.298	74.298	74.298	68.7307	68.7307	68.7307
4313	74.2895	74.2895	74.2895	68.7239	68.7239	68.7239
4314	74.281	74.281	74.281	68.7172	68.7172	68.7172
4315	74.2725	74.2725	74.2725	68.7105	68.7105	68.7105
4316	74.264	74.264	74.264	68.7037	68.7037	68.7037
4317	74.2555	74.2555	74.2555	68.697	68.697	68.697
4318	74.247	74.247	74.247	68.6903	68.6903	68.6903
4319	74.2385	74.2385	74.2385	68.6836	68.6836	68.6836
4320	74.23	74.23	74.23	68.6768	68.6768	68.6768
4321	74.2215	74.2215	74.2215	68.6701	68.6701	68.6701
4322	74.213	74.213	74.213	68.6634	68.6634	68.6634
4323	74.2045	74.2045	74.2045	68.6567	68.6567	68.6567
4324	74.196	74.196	74.196	68.65	68.65	68.65
4325	74.1876	74.1876	74.1876	68.6433	68.6433	68.6433
4326	74.1791	74.1791	74.1791	68.6366	68.6366	68.6366
4327	74.1706	74.1706	74.1706	68.6299	68.6299	68.6299
4328	74.1621	74.1621	74.1621	68.6232	68.6232	68.6232
4329	74.1537	74.1537	74.1537	68.6165	68.6165	68.6165
4330	74.1452	74.1452	74.1452	68.6098	68.6098	68.6098
4331	74.1367	74.1367	74.1367	68.6031	68.6031	68.6031
4332	74.1283	74.1283	74.1283	68.5964	68.5964	68.5964
4333	74.1198	74.1198	74.1198	68.5897	68.5897	68.5897
4334	74.1113	74.1113	74.1113	68.583	68.583	68.583



4335	74.1029	74.1029	74.1029	68.5763	68.5763	68.5763
4336	74.0944	74.0944	74.0944	68.5697	68.5697	68.5697
4337	74.086	74.086	74.086	68.563	68.563	68.563
4338	74.0775	74.0775	74.0775	68.5563	68.5563	68.5563
4339	74.069	74.069	74.069	68.5496	68.5496	68.5496
4340	74.0606	74.0606	74.0606	68.5429	68.5429	68.5429
4341	74.0522	74.0522	74.0522	68.5363	68.5363	68.5363
4342	74.0437	74.0437	74.0437	68.5296	68.5296	68.5296
4343	74.0353	74.0353	74.0353	68.5229	68.5229	68.5229
4344	74.0268	74.0268	74.0268	68.5163	68.5163	68.5163
4345	74.0184	74.0184	74.0184	68.5096	68.5096	68.5096
4346	74.0099	74.0099	74.0099	68.5029	68.5029	68.5029
4347	74.0015	74.0015	74.0015	68.4963	68.4963	68.4963
4348	73.9931	73.9931	73.9931	68.4896	68.4896	68.4896
4349	73.9847	73.9847	73.9847	68.483	68.483	68.483
4350	73.9762	73.9762	73.9762	68.4763	68.4763	68.4763
4351	73.9678	73.9678	73.9678	68.4697	68.4697	68.4697
4352	73.9594	73.9594	73.9594	68.463	68.463	68.463
4353	73.951	73.951	73.951	68.4564	68.4564	68.4564
4354	73.9425	73.9425	73.9425	68.4497	68.4497	68.4497
4355	73.9341	73.9341	73.9341	68.4431	68.4431	68.4431
4356	73.9257	73.9257	73.9257	68.4365	68.4365	68.4365
4357	73.9173	73.9173	73.9173	68.4298	68.4298	68.4298
4358	73.9089	73.9089	73.9089	68.4232	68.4232	68.4232
4359	73.9005	73.9005	73.9005	68.4166	68.4166	68.4166
4360	73.8921	73.8921	73.8921	68.4099	68.4099	68.4099
4361	73.8837	73.8837	73.8837	68.4033	68.4033	68.4033
4362	73.8753	73.8753	73.8753	68.3967	68.3967	68.3967
4363	73.8669	73.8669	73.8669	68.39	68.39	68.39
4364	73.8585	73.8585	73.8585	68.3834	68.3834	68.3834
4365	73.8501	73.8501	73.8501	68.3768	68.3768	68.3768
4366	73.8417	73.8417	73.8417	68.3702	68.3702	68.3702
4367	73.8333	73.8333	73.8333	68.3636	68.3636	68.3636
4368	73.8249	73.8249	73.8249	68.357	68.357	68.357
4369	73.8165	73.8165	73.8165	68.3503	68.3503	68.3503

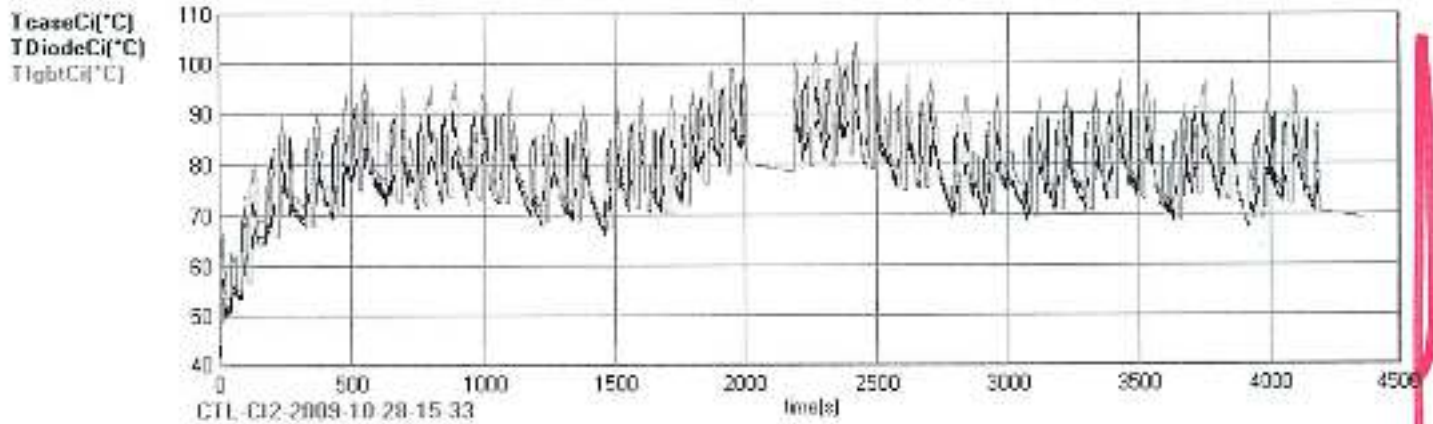
AS



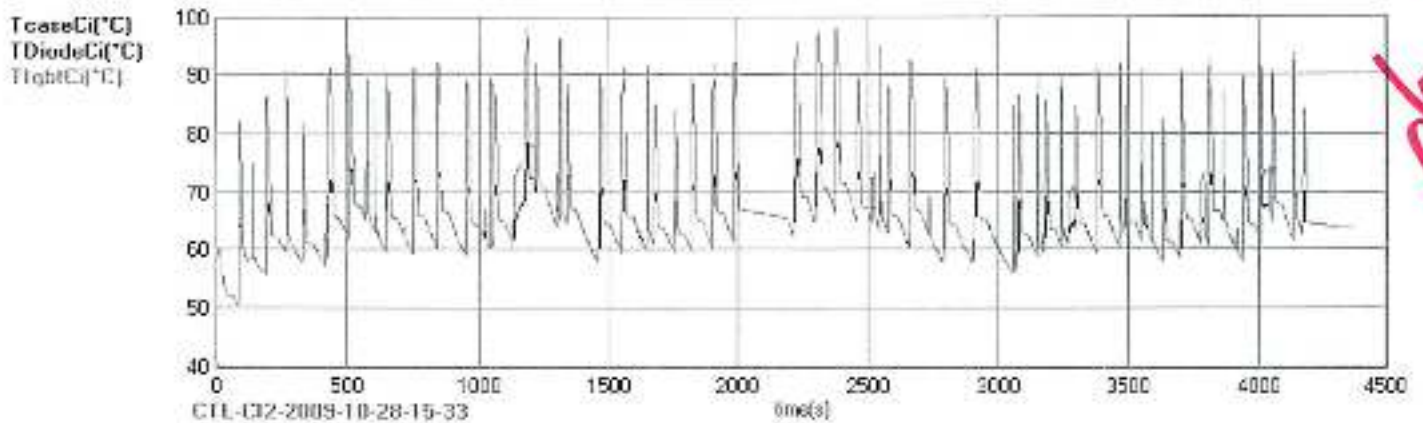
Inverter Temperature 1500V  
Air flow 2240m

7C 5M AW4 10p/m<sup>2</sup>

Normal mode



Rheo temperature Temperature 1800V  
Air flow 2240m



ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS



00012533

7C 5M AW4 10p/m<sup>2</sup> Normal mode

INV CM1200HC-66H-203\_Mitsubishi\_1\_5.6

RHEO CM800E6C-66H-202\_Mitsubishi\_1\_5.6

time(s)	TcaseCi(°C)	TDiodeCi(°C)	TlgbtCi(°C)	TcaseCi(°C)	TDiodeCi(°C)	TlgbtCi(°C)
Maximum	90.9	101.2	104.7	78.7	78.7	98.2

time(s)	TcaseCi(°C)	TDiodeCi(°C)	TlgbtCi(°C)	TcaseCi(°C)	TDiodeCi(°C)	TlgbtCi(°C)
0	42	44.0998	44.223	42	42	42
1	44.2736	53.87	54.9714	54.7643	54.7643	54.7643
2	46.6175	57.5554	59.9966	57.5964	57.5964	57.5964
3	48.0143	57.5783	61.0237	58.5235	58.5235	58.5235
4	48.9183	57.4003	61.8211	58.9779	58.9779	58.9779
5	49.5756	57.0935	62.4502	59.242	59.242	59.242
6	50.1222	56.8538	63.0074	59.434	59.434	59.434
7	50.5899	56.4943	63.4795	59.5692	59.5692	59.5692
8	50.9832	55.9944	63.8779	59.6496	59.6496	59.6496
9	51.3758	55.9975	63.9218	59.7185	59.7185	59.7185
10	51.8933	56.3915	64.6154	59.8503	59.8503	59.8503
11	52.672	57.3723	66.4289	60.1232	60.1232	60.1232
12	52.9327	56.9129	65.4186	60.1863	60.1863	60.1863
13	52.9032	56.2211	64.1503	60.0928	60.0928	60.0928
14	52.9975	56.1591	63.9874	59.9967	59.9967	59.9967
15	53.1678	56.2053	63.9536	59.9031	59.9031	59.9031
16	53.411	56.4059	64.1275	59.8235	59.8235	59.8235
17	53.8927	56.6472	64.3434	59.7553	59.7553	59.7553
18	51.6583	52.6026	53.9361	58.9694	58.9694	58.9694
19	50.5706	51.515	52.8484	58.2662	58.2662	58.2662
20	49.8963	50.9406	52.274	57.6334	57.6334	57.6334
21	49.7002	50.6445	51.978	57.0608	57.0608	57.0608
22	49.7052	50.7172	52.5686	56.5785	56.5785	56.5785
23	49.7403	50.7508	52.6383	56.1404	56.1404	56.1404
24	49.8602	50.8704	53.0453	55.7568	55.7568	55.7568
25	49.976	50.9918	53.244	55.4091	55.4091	55.4091
26	50.0908	51.1122	53.4415	55.0931	55.0931	55.0931
27	50.1453	51.1576	53.3618	54.7927	54.7927	54.7927
28	50.2152	51.2306	53.4773	54.5163	54.5163	54.5163
29	50.2826	51.2964	53.5501	54.2593	54.2593	54.2593
30	50.3471	51.3529	53.6146	54.0194	54.0194	54.0194
31	50.4098	51.4256	53.6773	53.795	53.795	53.795
32	50.4714	51.4871	53.7389	53.5846	53.5846	53.5846
33	50.5321	51.5478	53.7996	53.387	53.387	53.387
34	50.5921	51.6079	53.8596	53.201	53.201	53.201
35	50.6516	51.6674	53.9191	53.0256	53.0256	53.0256
36	50.7106	51.7264	53.9782	52.86	52.86	52.86
37	50.7692	51.7849	54.0367	52.7033	52.7033	52.7033
38	50.8273	51.8431	54.0948	52.5548	52.5548	52.5548
39	50.8298	51.8332	53.8991	52.4061	52.4061	52.4061
40	50.845	51.8499	53.8797	52.2635	52.2635	52.2635
41	50.8866	51.8728	53.8667	52.1266	52.1266	52.1266
42	50.8986	51.9051	53.8935	51.9961	51.9961	51.9961
43	50.9269	51.935	53.8819	51.8703	51.8703	51.8703
44	52.4791	54.8635	60.8728	51.9432	51.9432	51.9432

ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

ALSTOM

00012534

45	53.5792	55.8254	62.5926	52.0322	52.0322	52.0322
46	54.0038	55.5207	62.063	52.083	52.083	52.083
47	54.2402	55.6202	62.0059	52.1211	52.1211	52.1211
48	54.3953	55.6894	61.9564	52.1504	52.1504	52.1504
49	54.5048	55.7185	61.8695	52.1717	52.1717	52.1717
50	54.5854	55.6583	61.6293	52.1832	52.1832	52.1832
51	54.5885	55.5513	61.3187	52.1848	52.1848	52.1848
52	54.5874	55.422	60.9887	52.1772	52.1772	52.1772
53	54.5873	55.3194	60.7319	52.163	52.163	52.163
54	54.655	55.3793	60.8109	52.15	52.15	52.15
55	54.7595	55.476	60.9262	52.138	52.138	52.138
56	54.8836	55.5924	61.0613	52.1271	52.1271	52.1271
57	55.0169	55.719	61.2004	52.117	52.117	52.117
58	55.1529	55.8496	61.3343	52.1075	52.1075	52.1075
59	55.2901	55.9813	61.4693	52.0985	52.0985	52.0985
60	55.4276	56.1133	61.6046	52.0901	52.0901	52.0901
61	55.5622	56.2439	61.7266	52.0819	52.0819	52.0819
62	55.693	56.3717	61.8384	52.0738	52.0738	52.0738
63	55.8212	56.4969	61.9481	52.0657	52.0657	52.0657
64	55.9045	56.1358	60.4804	52.0278	52.0278	52.0278
65	54.6388	55.2689	56.1825	51.9144	51.9144	51.9144
66	54.1063	54.7364	55.65	51.8045	51.8045	51.8045
67	53.8089	54.439	55.3526	51.6979	51.6979	51.6979
68	53.639	54.2691	55.1827	51.5944	51.5944	51.5944
69	53.5383	54.1684	55.082	51.4939	51.4939	51.4939
70	53.4753	54.1053	55.019	51.3983	51.3983	51.3983
71	53.4326	54.0627	54.9763	51.3014	51.3014	51.3014
72	53.4012	54.0313	54.9449	51.2092	51.2092	51.2092
73	53.3759	54.0059	54.9196	51.1195	51.1195	51.1195
74	53.3539	53.984	54.8976	51.0322	51.0322	51.0322
75	53.3531	53.9124	54.9991	50.9487	50.9487	50.9487
76	53.3487	53.897	55.0105	50.8676	50.8676	50.8676
77	53.3432	53.8835	55.0229	50.7889	50.7889	50.7889
78	53.3375	53.87	55.0351	50.7124	50.7124	50.7124
79	53.317	53.8778	54.9608	50.6372	50.6372	50.6372
80	53.299	53.8598	54.9428	50.5638	50.5638	50.5638
81	53.2824	53.8432	54.9262	50.4922	50.4922	50.4922
82	54.9704	67.1442	57.5361	56.1236	56.1236	76.6502
83	56.9588	68.2358	58.4752	59.334	59.334	79.927
84	56.5476	68.8364	59.018	61.2933	61.2933	81.8564
85	56.8712	68.8071	59.2842	62.5034	62.5034	82.6887
86	57.2725	68.8371	60.7016	63.2244	63.2244	82.6709
87	57.7083	68.9887	62.0594	63.6486	63.6486	82.2336
88	58.2613	69.611	63.7252	63.9074	63.9074	81.6011
89	59.1877	71.195	66.6994	64.0902	64.0902	80.8872
90	59.5661	70.8019	66.4499	64.1819	64.1819	80.0689
91	59.743	70.2469	66.5842	64.2001	64.2001	79.1364
92	60.0285	70.546	67.2211	64.1731	64.1731	78.1499
93	60.4471	71.3719	68.0163	64.1106	64.1106	77.1147
94	60.6367	71.1805	68.0524	63.987	63.987	75.9743
95	60.9158	71.2531	69.1917	63.8369	63.8369	74.8336
96	61.298	71.8152	70.3936	63.6715	63.6715	73.7074
97	61.7133	72.5109	71.5089	63.4757	63.4757	72.5103
98	62.0966	73.1158	72.4927	63.2384	63.2384	71.2226
99	62.4588	73.6394	73.5182	62.9777	62.9777	69.9432

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ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

ALSTOM

00012535

100	61.7452	68.7828	69.8059	61.6535	61.6535	63.3819
101	61.0942	67.8736	69.1416	60.5669	60.5669	60.5669
102	60.8097	68.948	70.0618	60.0074	60.0074	60.0074
103	58.9138	58.9138	58.9138	59.6214	59.6214	59.6214
104	57.8586	57.8586	57.8586	59.3774	59.3774	59.3774
105	57.2706	57.2706	57.2706	59.2076	59.2076	59.2076
106	56.9421	56.9421	56.9421	59.0768	59.0768	59.0768
107	56.7579	56.7579	56.7579	58.967	58.967	58.967
108	56.6539	56.6539	56.6539	58.8687	58.8687	58.8687
109	56.5944	56.5944	56.5944	58.7772	58.7772	58.7772
110	56.5596	56.5596	56.5596	58.6899	58.6899	58.6899
111	56.5386	56.5386	56.5386	58.6054	58.6054	58.6054
112	56.5252	56.5252	56.5252	58.523	58.523	58.523
113	56.516	56.516	56.516	58.4425	58.4425	58.4425
114	56.5093	56.5093	56.5093	58.3635	58.3635	58.3635
115	56.5038	56.5038	56.5038	58.2859	58.2859	58.2859
116	56.4991	56.4991	56.4991	58.2097	58.2097	58.2097
117	56.4948	56.4948	56.4948	58.1347	58.1347	58.1347
118	56.4907	56.4907	56.4907	58.0611	58.0611	58.0611
119	56.4867	56.4867	56.4867	57.9886	57.9886	57.9886
120	59.798	74.4396	75.9459	58.0724	58.0724	58.0724
121	61.7171	73.6742	75.8581	58.1537	58.1537	58.1537
122	62.8685	72.756	75.922	58.2329	58.2329	58.2329
123	63.611	72.358	76.5198	58.2908	58.2908	58.2908
124	64.133	71.916	77.0137	58.322	58.322	58.322
125	64.5515	71.4948	77.4312	58.34	58.34	58.34
126	64.9153	71.0682	77.8049	58.3514	58.3514	58.3514
127	65.2077	70.6661	78.1013	58.3578	58.3578	58.3578
128	65.4867	70.2015	78.1393	58.3619	58.3619	58.3619
129	65.8099	70.2517	78.2435	58.3669	58.3669	58.3669
130	66.4338	71.0784	79.9057	58.385	58.385	58.385
131	66.7742	70.9908	79.7049	58.3964	58.3964	58.3964
132	66.6788	70.1148	78.1407	58.3896	58.3896	58.3896
133	66.6554	69.871	77.734	58.3791	58.3791	58.3791
134	66.7103	69.7861	77.5589	58.3669	58.3669	58.3669
135	66.8381	69.8546	77.5897	58.3544	58.3544	58.3544
136	67.0126	69.9925	77.7047	58.342	58.342	58.342
137	67.145	69.9781	77.5733	58.3269	58.3269	58.3269
138	67.0497	69.3893	76.592	58.301	58.301	58.301
139	66.8384	68.7281	75.5698	58.2655	58.2655	58.2655
140	66.5723	68.0534	74.567	58.2215	58.2215	58.2215
141	66.2717	73.6542	71.1508	61.5714	61.5714	74.9813
142	65.3229	66.4415	69.4584	60.0006	60.0006	60.0006
143	64.8248	65.964	69.0278	59.1693	59.1693	59.1693
144	64.5533	65.6924	68.7563	58.7095	58.7095	58.7095
145	64.4285	65.593	68.7156	58.4377	58.4377	58.4377
146	64.3688	65.5422	68.6851	58.2607	58.2607	58.2607
147	64.4065	65.653	68.9709	58.1341	58.1341	58.1341
148	64.4408	65.6976	69.0399	58.0323	58.0323	58.0323
149	64.4738	65.7409	69.108	57.9438	57.9438	57.9438
150	64.5086	65.7881	69.185	57.862	57.862	57.862
151	64.5457	65.8382	69.2663	57.7847	57.7847	57.7847
152	64.5221	65.7623	69.0651	57.7078	57.7078	57.7078
153	64.5128	65.7531	69.0558	57.6324	57.6324	57.6324
154	64.5113	65.7515	69.0543	57.5582	57.5582	57.5582



ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

ALSTOM

00012536

155	64.5139	65.7542	69.057	57.4849	57.4849	57.4849
156	64.5188	65.7591	69.0619	57.4124	57.4124	57.4124
157	64.5249	65.7652	69.0679	57.3407	57.3407	57.3407
158	64.5318	65.7719	69.0747	57.2698	57.2698	57.2698
159	64.5386	65.7789	69.0817	57.1996	57.1996	57.1996
160	64.5458	65.7861	69.0888	57.1301	57.1301	57.1301
161	64.553	65.7933	69.0961	57.0614	57.0614	57.0614
162	64.5602	65.8005	69.1033	56.9933	56.9933	56.9933
163	64.5674	65.8077	69.1105	56.9259	56.9259	56.9259
164	64.5746	65.8149	69.1177	56.8591	56.8591	56.8591
165	64.5817	65.822	69.1248	56.7931	56.7931	56.7931
166	64.5888	65.8291	69.1319	56.7277	56.7277	56.7277
167	64.5959	65.8361	69.1389	56.6629	56.6629	56.6629
168	64.6028	65.8431	69.1459	56.5988	56.5988	56.5988
169	64.5548	65.7375	68.9022	56.5336	56.5336	56.5336
170	64.5123	65.6774	68.8013	56.4684	56.4684	56.4684
171	64.4821	65.6404	68.7486	56.4036	56.4036	56.4036
172	64.4667	65.6273	68.7407	56.3396	56.3396	56.3396
173	64.4402	65.5823	68.6534	56.2757	56.2757	56.2757
174	66.0208	68.5886	75.9745	56.2638	56.2638	56.2638
175	66.7347	68.8752	75.9181	56.2446	56.2446	56.2446
176	66.9848	68.8764	75.3751	56.2183	56.2183	56.2183
177	66.9907	68.4185	74.8703	56.1872	56.1872	56.1872
178	66.9976	68.3466	74.6894	56.1546	56.1546	56.1546
179	66.9903	68.2596	74.4924	56.1205	56.1205	56.1205
180	66.9707	68.159	74.2793	56.0849	56.0849	56.0849
181	66.9086	67.9591	73.8637	56.0467	56.0467	56.0467
182	66.8164	67.7262	73.4108	56.0061	56.0061	56.0061
183	66.7007	67.467	72.927	55.963	55.963	55.963
184	66.6454	67.372	72.7979	55.9197	55.9197	55.9197
185	66.6449	67.3625	72.8102	55.8771	55.8771	55.8771
186	66.6742	67.383	72.8519	55.8351	55.8351	55.8351
187	66.7179	67.4193	72.9011	55.7936	55.7936	55.7936
188	66.7673	67.4629	72.9482	55.7526	55.7526	55.7526
189	66.8197	67.5096	72.9983	55.7121	55.7121	55.7121
190	66.4979	73.2695	68.4374	59.5724	59.5724	74.7207
191	67.1551	79.4805	69.641	63.4426	63.4426	84.0339
192	67.4935	79.541	69.9246	65.6176	65.6176	85.9223
193	67.7801	79.4651	70.8048	66.8367	66.8367	86.5466
194	68.1535	79.5033	72.2902	67.491	67.491	86.3683
195	68.4913	79.6309	73.2776	67.8283	67.8283	85.8197
196	69.2777	81.1054	76.1859	68.0026	68.0026	85.0982
197	69.7754	81.27	76.8698	68.0684	68.0684	84.2608
198	69.9404	80.6837	76.7403	68.0508	68.0508	83.3109
199	70.0618	80.3471	77.0634	67.9704	67.9704	82.2721
200	70.462	81.4317	78.0266	67.8532	67.8532	81.1976
201	70.6431	81.3162	78.1109	67.6794	67.6794	80.0118
202	70.812	81.2192	78.7951	67.4687	67.4687	78.8016
203	71.0772	81.4861	79.8999	67.2353	67.2353	77.5937
204	71.4282	82.1453	81.0258	66.9818	66.9818	76.3757
205	71.7455	82.7	81.9267	66.681	66.681	75.0162
206	72.0404	83.1662	82.8747	66.3559	66.3559	73.6672
207	71.6401	80.1656	80.7881	65.3601	65.3601	68.946
208	70.7836	77.1019	78.4222	64.0157	64.0157	64.0157
209	70.3835	78.0606	79.2267	63.321	63.321	63.321

ANEXO 1E      INVERTER TEMPERAT-EBRCL13.xls  
SIMULACIONES, CALCULOS Y GRÁFICAS



00012537

210	68.4299	68.4289	68.4299	62.9137	62.9137	62.9137
211	67.3415	67.3415	67.3415	62.6799	62.6799	62.6799
212	66.7339	66.7339	66.7339	62.5359	62.5359	62.5359
213	66.3935	66.3935	66.3935	62.4385	62.4385	62.4385
214	66.2016	66.2016	66.2016	62.3653	62.3653	62.3653
215	66.0921	66.0921	66.0921	62.3048	62.3048	62.3048
216	66.0285	66.0285	66.0285	62.2511	62.2511	62.2511
217	65.9903	65.9903	65.9903	62.2011	62.2011	62.2011
218	65.9663	65.9663	65.9663	62.1531	62.1531	62.1531
219	65.9502	65.9502	65.9502	62.1065	62.1065	62.1065
220	65.9384	65.9384	65.9384	62.0606	62.0606	62.0606
221	65.9291	65.9291	65.9291	62.0154	62.0154	62.0154
222	65.9211	65.9211	65.9211	61.9707	61.9707	61.9707
223	65.9139	65.9139	65.9139	61.9265	61.9265	61.9265
224	65.907	65.907	65.907	61.8826	61.8826	61.8826
225	65.9004	65.9004	65.9004	61.8391	61.8391	61.8391
226	65.894	65.894	65.894	61.796	61.796	61.796
227	69.2109	84.7636	86.0399	61.8354	61.8354	61.8354
228	71.1322	84.0004	85.9543	61.8739	61.8739	61.8739
229	72.2787	82.5647	85.3911	61.9115	61.9115	61.9115
230	73.0081	82.1172	85.9472	61.9485	61.9485	61.9485
231	73.5019	81.6159	86.3962	61.9577	61.9577	61.9577
232	73.8645	81.0703	86.7405	61.9314	61.9314	61.9314
233	74.1739	80.6059	87.0607	61.8879	61.8879	61.8879
234	74.4162	79.978	87.3084	61.8354	61.8354	61.8354
235	74.6234	79.4525	87.4069	61.7786	61.7786	61.7786
236	74.8416	79.334	87.2396	61.7204	61.7204	61.7204
237	75.3077	79.8838	88.4288	61.6677	61.6677	61.6677
238	76.7871	80.2879	89.2529	61.6179	61.6179	61.6179
239	76.7208	79.3936	87.6282	61.558	61.558	61.558
240	75.5787	78.8334	88.723	61.4941	61.4941	61.4941
241	75.5347	78.6391	86.4305	61.4299	61.4299	61.4299
242	75.5736	78.5944	86.3321	61.366	61.366	61.366
243	75.6725	78.6508	86.3619	61.3029	61.3029	61.3029
244	75.6625	76.357	85.8447	61.2373	61.2373	61.2373
245	75.385	77.4513	84.4347	61.1647	61.1647	61.1647
246	74.9556	76.4156	82.912	61.0855	61.0855	61.0855
247	74.672	76.0249	82.3732	61.0052	61.0052	61.0052
248	74.4651	75.7133	81.9168	60.924	60.924	60.924
249	74.2799	75.3955	81.4021	60.8416	60.8416	60.8416
250	74.0802	75.0255	80.7657	60.7574	60.7574	60.7574
251	73.8682	74.6461	80.1242	60.6715	60.6715	60.6715
252	73.7308	74.4568	79.8842	60.586	60.586	60.586
253	73.6639	74.3795	79.8319	60.5014	60.5014	60.5014
254	73.6353	74.3409	79.8176	60.4178	60.4178	60.4178
255	73.624	74.3223	79.806	60.3351	60.3351	60.3351
256	73.6215	74.3132	79.8009	60.2532	60.2532	60.2532
257	73.6238	74.3091	79.8007	60.1722	60.1722	60.1722
258	73.2826	73.8353	78.2008	60.0844	60.0844	60.0844
259	71.7892	71.9506	72.0341	60.12	60.12	60.7713
260	70.8557	70.9428	70.9879	60.0209	60.0209	60.3724
261	70.6082	71.1611	71.8717	59.8462	59.8462	59.8462
262	70.5157	71.133	72.1772	59.7088	59.7088	59.7088
263	70.4292	70.9779	72.221	59.59	59.59	59.59
264	71.4022	79.9273	73.5088	64.025	64.025	81.186



ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

ALSTOM

00012538

265	72.4937	84.7867	74.9948	67.5859	67.5859	88.1781
266	73.0619	85.2028	75.5082	69.6192	69.6192	90.0238
267	73.3948	85.1538	76.1715	70.7681	70.7681	90.6395
268	73.8008	85.1795	77.8485	71.3569	71.3569	90.3561
269	74.1415	85.2978	78.8764	71.6274	71.6274	89.6889
270	73.8417	80.5555	78.6246	70.3456	70.3456	82.8664
271	72.656	73.6599	75.7124	66.675	66.675	66.675
272	71.9635	72.9682	75.0014	64.7685	64.7685	64.7685
273	71.5436	72.5483	74.5814	63.7489	63.7489	63.7489
274	71.2717	72.2764	74.3095	63.1754	63.1754	63.1754
275	71.0804	72.0852	74.1183	62.8266	62.8266	62.8266
276	71.0384	72.0642	74.4549	62.5933	62.5933	62.5933
277	70.9891	72.0175	74.4448	62.4178	62.4178	62.4178
278	70.9367	71.9677	74.4316	62.2718	62.2718	62.2718
279	70.8835	71.9172	74.4176	62.1415	62.1415	62.1415
280	70.8307	71.867	74.404	62.0195	62.0195	62.0195
281	70.7208	71.7458	74.1252	61.9013	61.9013	61.9013
282	70.6249	71.6499	74.0293	61.7859	61.7859	61.7859
283	70.5367	71.5617	73.9411	61.6725	61.6725	61.6725
284	70.4531	71.4781	73.8575	61.5605	61.5605	61.5605
285	70.3722	71.3972	73.7768	61.4498	61.4498	61.4498
286	70.293	71.318	73.6974	61.3402	61.3402	61.3402
287	70.2149	71.2399	73.6193	61.2317	61.2317	61.2317
288	70.1378	71.1628	73.5422	61.1242	61.1242	61.1242
289	70.0614	71.0864	73.4658	61.0177	61.0177	61.0177
290	69.9858	71.0106	73.3901	60.9122	60.9122	60.9122
291	69.9105	70.9355	73.3149	60.8076	60.8076	60.8076
292	69.8359	70.8609	73.2403	60.704	60.704	60.704
293	69.7619	70.7889	73.1663	60.6014	60.6014	60.6014
294	69.6884	70.7134	73.0928	60.4997	60.4997	60.4997
295	69.6155	70.6405	73.0199	60.3989	60.3989	60.3989
296	69.543	70.568	72.9474	60.299	60.299	60.299
297	69.4587	70.4807	72.8188	60.1998	60.1998	60.1998
298	69.4307	70.4649	72.9723	60.1024	60.1024	60.1024
299	69.3854	70.4196	72.927	60.006	60.006	60.006
300	69.331	70.3652	72.8728	59.9104	59.9104	59.9104
301	69.2719	70.3061	72.8134	59.8157	59.8157	59.8157
302	69.2192	70.2555	72.7923	59.722	59.722	59.722
303	69.1147	70.1397	72.5191	59.6283	59.6283	59.6283
304	69.027	70.052	72.4314	59.5355	59.5355	59.5355
305	68.9485	69.9735	72.3529	59.4434	59.4434	59.4434
306	68.8753	69.9003	72.2797	59.3523	59.3523	59.3523
307	68.8052	69.8302	72.2098	59.2619	59.2619	59.2619
308	68.737	69.762	72.1414	59.1724	59.1724	59.1724
309	68.67	69.695	72.0744	59.0836	59.0836	59.0836
310	68.6039	69.6289	72.0083	58.9957	58.9957	58.9957
311	68.5385	69.5635	71.9429	58.9086	58.9086	58.9086
312	68.4737	69.4987	71.8781	58.8223	58.8223	58.8223
313	68.4094	69.4344	71.8138	58.7367	58.7367	58.7367
314	68.3456	69.3708	71.75	58.6519	58.6519	58.6519
315	68.2823	69.3073	71.6887	58.5679	58.5679	58.5679
316	68.2195	69.2445	71.6239	58.4846	58.4846	58.4846
317	68.1571	69.1821	71.5615	58.4021	58.4021	58.4021
318	68.0952	69.1202	71.4996	58.3204	58.3204	58.3204
319	67.9743	68.9849	71.1662	58.2383	58.2383	58.2383

ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

00012539



320	67.8509	68.855	70.9463	58.1565	58.1565	58.1565
321	67.7277	68.7338	70.7322	58.075	58.075	58.075
322	67.6041	68.6139	70.519	57.9938	57.9938	57.9938
323	67.4793	68.4929	70.3048	57.9129	57.9129	57.9129
324	68.7476	70.7723	76.4959	57.8565	57.8565	57.8565
325	69.8078	71.8514	78.8165	57.8064	57.8064	57.8064
326	70.1424	71.8286	78.1463	57.7517	57.7517	57.7517
327	70.2831	71.8501	78.0179	57.6961	57.6961	57.6961
328	70.7866	82.0311	75.9328	62.3752	62.3752	80.2003
329	71.673	83.6334	78.9819	64.7213	64.7213	81.6511
330	72.073	83.425	79.0513	65.8698	65.8698	81.8939
331	72.2015	82.8155	79.0244	66.3901	66.3901	81.4734
332	72.3634	82.7755	79.4694	66.5768	66.5768	80.7011
333	72.7366	83.7201	80.3295	66.5837	66.5837	79.7445
334	72.8628	83.4663	80.3021	66.4658	66.4656	78.61
335	73.0345	83.4036	81.1775	66.28	66.28	77.4294
336	73.3077	83.7756	82.2794	66.0559	66.0559	76.2382
337	73.6388	84.3997	83.3444	65.7955	65.7955	74.9931
338	73.9379	84.9322	84.2318	65.4852	65.4852	73.6264
339	74.2155	85.3713	85.1727	65.1508	65.1508	72.2733
340	73.5906	81.3035	82.1448	63.9562	63.9562	66.5277
341	72.8058	79.3757	80.6675	62.7459	62.7459	62.7459
342	72.4452	80.3741	81.5117	62.121	62.121	62.121
343	70.5092	70.5092	70.5092	61.7689	61.7689	61.7689
344	69.4303	69.4303	69.4303	61.5729	61.5729	61.5729
345	68.8278	68.8278	68.8278	61.4577	61.4577	61.4577
346	68.49	68.49	68.49	61.3841	61.3841	61.3841
347	68.2992	68.2992	68.2992	61.3322	61.3322	61.3322
348	68.1902	68.1902	68.1902	61.2915	61.2915	61.2915
349	68.1265	68.1265	68.1265	61.2566	61.2566	61.2566
350	68.0881	68.0881	68.0881	61.2249	61.2249	61.2249
351	68.0637	68.0637	68.0637	61.1949	61.1949	61.1949
352	68.0471	68.0471	68.0471	61.1658	61.1658	61.1658
353	68.0348	68.0348	68.0348	61.1372	61.1372	61.1372
354	68.025	68.025	68.025	61.109	61.109	61.109
355	68.0164	68.0164	68.0164	61.0811	61.0811	61.0811
356	68.0087	68.0087	68.0087	61.0533	61.0533	61.0533
357	68.0013	68.0013	68.0013	61.0257	61.0257	61.0257
358	67.9942	67.9942	67.9942	60.9983	60.9983	60.9983
359	67.9871	67.9871	67.9871	60.971	60.971	60.971
360	71.2991	86.3543	87.7562	60.9956	60.9956	60.9956
361	73.2149	85.5853	87.6482	61.0197	61.0197	61.0197
362	74.3638	84.4332	87.446	61.0433	61.0433	61.0433
363	75.0952	83.9911	88.0083	61.0668	61.0668	61.0668
364	75.5832	83.5139	88.4673	61.064	61.064	61.064
365	75.9419	83.0043	88.82	61.0278	61.0278	61.0278
366	76.2426	82.5313	89.1314	60.9754	60.9754	60.9754
367	76.4847	81.8608	89.3576	60.9148	60.9148	60.9148
368	76.6622	81.4288	89.3742	60.8504	60.8504	60.8504
369	76.8686	81.2986	89.1952	60.7847	60.7847	60.7847
370	77.3792	81.9928	90.6921	60.7235	60.7235	60.7235
371	77.7347	82.0751	90.8985	60.6621	60.6621	60.6621
372	77.5989	81.1279	89.2358	60.5947	60.5947	60.5947
373	77.475	80.7028	88.5735	60.526	60.526	60.526
374	77.4376	80.515	88.2888	60.4574	60.4574	60.4574

375	77.4804	80.4934	88.2263	60.3895	60.3895	60.3895
376	77.575	80.5464	88.2531	60.3223	60.3223	60.3223
377	77.5035	80.1006	87.51	60.2531	60.2531	60.2531
378	77.193	79.1793	86.0985	60.1797	60.1797	60.1797
379	76.7721	78.2214	84.703	60.1029	60.1029	60.1029
380	78.4898	77.8362	84.1756	60.0257	60.0257	60.0257
381	78.2812	77.5286	83.7308	59.9482	59.9482	59.9482
382	78.0973	77.2243	83.2486	59.8702	59.8702	59.8702
383	75.9022	76.8733	82.6537	59.7915	59.7915	59.7915
384	75.6979	76.5169	82.0593	59.7121	59.7121	59.7121
385	75.5304	76.26	81.6787	59.6327	59.6327	59.6327
386	75.4404	76.1606	81.602	59.5541	59.5541	59.5541
387	75.3927	76.1037	81.5674	59.4764	59.4764	59.4764
388	75.3673	76.0699	81.551	59.3995	59.3995	59.3995
389	75.351	76.0476	81.5323	59.3234	59.3234	59.3234
390	75.3399	76.0306	81.5189	59.248	59.248	59.248
391	75.3317	76.0166	81.5084	59.1734	59.1734	59.1734
392	75.3215	76.0027	81.4824	59.0995	59.0995	59.0995
393	75.3092	75.9874	81.4512	59.0263	59.0263	59.0263
394	75.2958	75.971	81.4193	58.9537	58.9537	58.9537
395	74.3305	74.7227	77.0439	58.8683	58.8683	58.8683
396	73.4722	74.0986	75.0213	58.7797	58.7797	58.7797
397	72.8143	73.2893	73.9651	58.6902	58.6902	58.6902
398	72.4737	73.0739	73.9277	58.6028	58.6028	58.6028
399	72.2865	72.7943	74.041	58.517	58.517	58.517
400	72.182	72.6132	74.2159	58.4329	58.4329	58.4329
401	72.1429	72.5398	74.5064	58.3507	58.3507	58.3507
402	72.1598	72.5517	74.8906	58.2706	58.2706	58.2706
403	72.226	72.6298	75.2933	58.1926	58.1926	58.1926
404	72.3344	72.7576	75.8383	58.117	58.117	58.117
405	72.3711	72.7975	75.9391	58.0424	58.0424	58.0424
406	72.3525	72.7789	75.9205	57.9684	57.9684	57.9684
407	72.3042	72.7308	75.8722	57.895	57.895	57.895
408	72.2401	72.6665	75.8081	57.8223	57.8223	57.8223
409	72.1676	72.5941	75.7357	57.7503	57.7503	57.7503
410	72.091	72.5175	75.659	57.6789	57.6789	57.6789
411	72.0123	72.4388	75.5804	57.6081	57.6081	57.6081
412	71.9328	72.3593	75.5008	57.538	57.538	57.538
413	71.7986	72.215	75.1674	57.4678	57.4678	57.4678
414	71.513	71.9068	74.2924	57.3958	57.3958	57.3958
415	71.1494	71.5584	73.3307	57.3223	57.3223	57.3223
416	70.7816	71.3176	72.4712	57.2479	57.2479	57.2479
417	70.3398	70.9809	71.3479	57.8037	57.8037	60.5407
418	70.32	71.8279	72.0858	58.891	58.891	65.0243
419	70.3078	72.3738	72.0007	59.8664	59.8664	67.4817
420	70.2583	72.3891	71.9432	60.4732	60.4732	68.2541
421	70.1781	72.321	71.8641	60.8607	60.8607	68.6667
422	70.0856	72.2388	71.7709	61.1377	61.1377	68.9686
423	69.9857	72.1425	71.6704	61.355	61.355	69.1955
424	69.8812	72.0381	71.566	61.5391	61.5391	69.3796
425	69.7748	71.9317	71.4596	61.7058	61.7058	69.5464
426	69.6677	71.8248	71.3524	61.8631	61.8631	69.7036
427	69.5349	71.4547	71.2408	61.8643	61.8643	69.1177
428	69.3863	71.0285	71.1295	61.739	61.739	68.2508
429	70.6147	81.4135	73.0181	65.4315	65.4315	84.8143

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430	71.5107	83.74	74.0575	67.9516	67.9516	88.5186
431	72.0115	84.3038	74.5136	69.5298	69.5298	90.1219
432	72.2712	84.4498	74.7237	70.5784	70.5784	91.0214
433	72.3962	84.2236	74.9432	71.2608	71.2608	91.2818
434	72.6907	84.1446	76.4909	71.631	71.631	90.8358
435	72.9857	84.2054	77.5244	71.8093	71.8093	90.1384
436	73.5507	85.1057	79.6349	71.874	71.874	89.3108
437	74.2105	85.9955	81.5434	71.8652	71.8652	88.4029
438	74.4017	85.4232	81.1568	71.7956	71.7956	87.4226
439	74.4557	84.7579	81.3305	71.6678	71.6678	86.3348
440	74.7296	85.4384	82.0796	71.5009	71.5009	85.2102
441	74.9814	85.7997	82.5077	71.2895	71.2895	84.0095
442	75.0925	85.5783	82.7468	71.0339	71.0339	82.7444
443	75.2845	85.5717	83.8007	70.7503	70.7503	81.4708
444	75.5821	86.1984	84.9125	70.4521	70.4521	80.2225
445	75.8947	86.7587	85.8534	70.113	70.113	78.8517
446	76.1695	87.2338	86.7509	69.74	69.74	77.4396
447	76.1728	86.3694	86.5421	69.1066	69.1066	74.7789
448	75.146	80.9586	82.3115	67.5027	67.5027	67.7016
449	74.6004	81.7595	82.9845	66.6111	66.6111	66.6111
450	72.574	72.574	72.574	66.1276	66.1276	66.1276
451	71.4447	71.4447	71.4447	65.8664	65.8664	65.8664
452	70.8139	70.8139	70.8139	65.72	65.72	65.72
453	70.4601	70.4601	70.4601	65.6329	65.6329	65.6329
454	70.2602	70.2602	70.2602	65.5765	65.5765	65.5765
455	70.1459	70.1459	70.1459	65.536	65.536	65.536
456	70.0791	70.0791	70.0791	65.5037	65.5037	65.5037
457	70.0387	70.0387	70.0387	65.4757	65.4757	65.4757
458	70.013	70.013	70.013	65.45	65.45	65.45
459	69.9954	69.9954	69.9954	65.4255	65.4255	65.4255
460	69.9824	69.9824	69.9824	65.4016	65.4016	65.4016
461	69.9719	69.9719	69.9719	65.3782	65.3782	65.3782
462	69.9627	69.9627	69.9627	65.3549	65.3549	65.3549
463	69.9544	69.9544	69.9544	65.3319	65.3319	65.3319
464	69.9465	69.9465	69.9465	65.3089	65.3089	65.3089
465	69.9388	69.9388	69.9388	65.2861	65.2861	65.2861
466	69.9313	69.9313	69.9313	65.2634	65.2634	65.2634
467	73.2562	89.8321	90.8501	65.2808	65.2808	65.2808
468	75.1817	89.0731	90.7688	65.2978	65.2978	65.2978
469	76.3264	87.2527	89.6968	65.3144	65.3144	65.3144
470	77.0535	86.6141	90.0624	65.3309	65.3309	65.3309
471	77.5351	86.009	90.4316	65.3102	65.3102	65.3102
472	77.8722	85.3873	90.7487	65.242	65.242	65.242
473	78.1525	84.8794	91.0353	65.1506	65.1506	65.1506
474	78.3843	84.2882	91.2758	65.0481	65.0481	65.0481
475	78.5604	83.569	91.4552	64.9403	64.9403	64.9403
476	78.7448	83.3555	91.2897	64.8307	64.8307	64.8307
477	79.0609	83.5596	91.786	64.7223	64.7223	64.7223
478	79.6417	84.3426	93.4016	64.6181	64.6181	64.6181
479	79.7053	83.6837	92.1879	64.5105	64.5105	64.5105
480	79.4824	82.8006	90.7301	64.3998	64.3998	64.3998
481	79.3852	82.5486	90.3779	64.2898	64.2898	64.2898
482	79.365	82.4037	90.1527	64.1804	64.1804	64.1804
483	79.4192	82.4161	90.1388	64.0723	64.0723	64.0723
484	79.5134	82.4707	90.1687	63.9653	63.9653	63.9653

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ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

ALSTOM

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485	79.334	81.7451	89.0053	63.856	63.856	63.856
486	78.976	80.819	87.6231	63.7444	63.7444	63.7444
487	78.5829	80.0149	86.4725	63.6313	63.6313	63.6313
488	78.3158	79.6545	85.9831	63.5185	63.5185	63.5185
489	78.1163	79.3658	85.571	63.406	63.406	63.406
490	77.942	79.0878	85.1415	63.2938	63.2938	63.2938
491	77.757	78.7824	84.5963	63.1817	63.1817	63.1817
492	77.5637	78.4323	84.0524	63.0696	63.0696	63.0696
493	77.3633	78.0989	83.5109	62.9576	62.9576	62.9576
494	77.2473	77.9727	83.4015	62.8467	62.8467	62.8467
495	77.1786	77.8958	83.3444	62.7369	62.7369	62.7369
496	77.1359	77.8451	83.313	62.6282	62.6282	62.6282
497	77.1062	77.8085	83.2898	62.5206	62.5206	62.5206
498	77.0817	77.7787	83.2632	62.4141	62.4141	62.4141
499	77.0601	77.7519	83.2395	62.3086	62.3086	62.3086
500	77.0401	77.7269	83.2175	62.2041	62.2041	62.2041
501	77.0198	77.7025	83.1897	62.1007	62.1007	62.1007
502	76.9968	77.6768	83.1503	61.9982	61.9982	61.9982
503	76.9724	77.6498	83.1098	61.8968	61.8968	61.8968
504	76.9472	77.6221	83.069	61.796	61.796	61.796
505	77.4167	89.5491	79.9964	67.2769	67.2769	67.2769
506	77.6779	89.9447	80.2115	70.354	70.354	90.9477
507	77.8108	90.1168	80.2955	72.1902	72.1902	92.7815
508	77.8284	89.8602	80.257	73.3026	73.3026	93.5905
509	77.9245	89.5856	81.0297	73.9399	73.9399	93.5974
510	78.1562	89.4893	82.3445	74.2567	74.2567	93.0637
511	78.4165	89.5937	83.359	74.382	74.382	92.2915
512	79.1478	91.0459	88.2685	74.4001	74.4001	91.4077
513	79.5059	90.9216	88.5361	74.343	74.343	90.4421
514	79.5771	90.2496	88.3902	74.2235	74.2235	89.3848
515	79.6538	90.0102	88.7139	74.0531	74.0531	88.2552
516	79.9898	91.0042	87.5952	73.8461	73.8461	87.0896
517	80.0728	90.7063	87.5246	73.5867	73.5867	85.8134
518	80.1801	90.5659	88.2529	73.2948	73.2948	84.5247
519	80.3892	90.8293	89.2962	72.981	72.981	83.2395
520	80.6696	91.4114	90.3279	72.6433	72.6433	81.9271
521	80.9187	91.8979	91.1606	72.2591	72.2591	80.4843
522	81.1462	92.2889	92.0495	71.8533	71.8533	79.0587
523	80.5629	88.6326	89.3779	70.6792	70.6792	73.6961
524	79.7032	86.1827	87.487	69.3659	69.3659	69.3659
525	79.3003	87.1186	88.2687	68.6864	68.6864	68.6864
526	77.3417	77.3417	77.3417	68.315	68.315	68.315
527	76.2496	76.2496	76.2496	68.1125	68.1125	68.1125
528	75.6389	75.6389	75.6389	67.9973	67.9973	67.9973
529	75.2957	75.2957	75.2957	67.9272	67.9272	67.9272
530	75.1011	75.1011	75.1011	67.8804	67.8804	67.8804
531	74.9892	74.9892	74.9892	67.8457	67.8457	67.8457
532	74.9231	74.9231	74.9231	67.8173	67.8173	67.8173
533	74.8826	74.8826	74.8826	67.7921	67.7921	67.7921
534	74.8562	74.8562	74.8562	67.7686	67.7686	67.7686
535	74.8377	74.8377	74.8377	67.7461	67.7461	67.7461
536	74.8236	74.8236	74.8236	67.724	67.724	67.724
537	74.8119	74.8119	74.8119	67.7023	67.7023	67.7023
538	74.8016	74.8016	74.8016	67.6807	67.6807	67.6807
539	74.792	74.792	74.792	67.6593	67.6593	67.6593

ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

ALSTOM

00012543

540	74.7828	74.7828	74.7828	67.638	67.638	67.638
541	74.7739	74.7739	74.7739	67.6167	67.6167	67.6167
542	74.7651	74.7651	74.7651	67.5955	67.5955	67.5955
543	78.0773	93.3508	94.6978	67.6087	67.6087	67.6087
544	79.9947	92.5838	94.6082	67.6216	67.6216	67.6216
545	81.1397	91.3033	94.234	67.6343	67.6343	67.6343
546	81.8687	90.86	94.7955	67.6468	67.6468	67.6468
547	82.3428	90.3513	95.2284	67.6171	67.6171	67.6171
548	82.6695	89.7949	95.5467	67.5333	67.5333	67.5333
549	82.9308	89.2824	95.8188	67.4232	67.4232	67.4232
550	83.1135	88.5824	96.0061	67.3002	67.3002	67.3002
551	83.2644	88.0585	96.0078	67.1714	67.1714	67.1714
552	83.4239	87.5814	95.7819	67.0406	67.0406	67.0406
553	83.8624	88.4596	97.0912	66.9123	66.9123	66.9123
554	84.2195	88.63	97.5152	66.7849	66.7849	66.7849
555	84.0616	87.6533	95.8165	66.654	66.654	66.654
556	83.8774	87.121	95.0022	66.5227	66.5227	66.5227
557	83.7882	86.8873	94.6752	66.3922	66.3922	66.3922
558	83.7758	86.7974	94.5357	66.2628	66.2628	66.2628
559	83.8194	86.8017	94.5154	66.1348	66.1348	66.1348
560	83.817	86.6308	94.2142	66.0074	66.0074	66.0074
561	83.5538	85.8012	92.9299	65.8782	65.8782	65.8782
562	83.1386	84.8314	91.5149	65.7474	65.7474	65.7474
563	82.7578	84.1841	90.5862	65.6162	65.6162	65.6162
564	81.1383	82.0478	83.7697	65.4722	65.4722	65.4722
565	80.1639	81.1516	82.8927	65.3294	65.3294	65.3294
566	79.1046	79.4686	80.0172	65.1834	65.1834	65.1834
567	78.3675	78.7351	79.0386	65.2847	65.2847	66.3517
568	78.2339	79.2963	80.1736	65.7495	65.7495	66.8334
569	78.463	80.3418	81.6858	66.5169	66.5169	71.9805
570	78.5338	80.5622	81.7384	67.024	67.024	72.9352
571	78.5232	80.7121	81.7095	67.4067	67.4067	73.7597
572	78.4729	80.8323	81.8409	67.7334	67.7334	74.5227
573	78.3702	79.1203	81.9986	68.3264	68.3264	66.3264
574	79.6358	90.9235	83.9642	70.5411	70.5411	89.1569
575	80.062	89.0851	84.5021	72.0762	72.0762	88.0352
576	79.263	81.7446	82.578	70.4977	70.4977	77.3849
577	78.7745	81.256	82.0894	69.733	69.733	76.6202
578	78.4339	80.7647	81.7456	69.2916	69.2916	75.8439
579	78.1698	80.3259	81.4775	68.9937	68.9937	75.1583
580	77.9558	79.9614	81.2723	68.7612	68.7612	74.5282
581	77.362	78.405	79.3182	68.0064	68.0064	71.034
582	76.5109	76.7292	76.9203	67.038	67.038	67.6716
583	76.3156	76.9902	76.0613	66.3418	66.3418	66.3418
584	78.3792	77.3284	79.0511	65.9212	65.9212	65.9212
585	76.3821	77.28	79.2159	65.6387	65.6387	65.6387
586	78.3278	77.2173	79.2029	65.4263	65.4263	65.4263
587	76.2516	77.1284	79.1979	65.2497	65.2497	65.2497
588	76.1471	77.0239	79.0934	65.0918	65.0918	65.0918
589	76.0277	76.9045	78.974	64.9439	64.9439	64.9439
590	75.9007	76.7775	78.847	64.8015	64.8015	64.8015
591	75.77	76.6468	78.7163	64.6627	64.6627	64.6627
592	75.6378	76.5145	78.5841	64.5262	64.5262	64.5262
593	75.5052	76.3819	78.4514	64.3914	64.3914	64.3914
594	75.3727	76.2495	78.319	64.2582	64.2582	64.2582





595	75.2409	76.1176	78.1871	64.1263	64.1263	64.1263
596	75.0908	75.9812	77.9608	63.9955	63.9955	63.9955
597	74.9351	75.8377	77.7462	63.8659	63.8659	63.8659
598	74.7845	75.6919	77.572	63.7373	63.7373	63.7373
599	74.6368	75.5491	77.4006	63.6099	63.6099	63.6099
600	74.4907	75.4079	77.2309	63.4836	63.4836	63.4836
601	75.2766	76.4779	81.403	63.367	63.367	63.367
602	76.1559	77.5674	83.9966	63.2559	63.2559	63.2559
603	76.581	77.8991	84.1993	63.1452	63.1452	63.1452
604	77.1338	88.342	81.708	67.9084	67.9084	86.189
605	77.5375	87.4617	83.2303	69.8223	69.8223	85.7576
606	76.0626	77.1356	78.66	66.8187	66.8187	66.8187
607	75.2359	76.2631	77.994	65.2464	65.2464	65.2464
608	74.7321	75.7545	77.5072	64.3936	64.3936	64.3936
609	74.4113	75.4251	77.233	63.9029	63.9029	63.9029
610	74.1944	75.2059	77.0711	63.5947	63.5947	63.5947
611	74.1224	75.1372	77.3759	63.3797	63.3797	63.3797
612	74.0705	75.0943	77.4579	63.2118	63.2118	63.2118
613	74.0228	75.0535	77.5119	63.0683	63.0683	63.0683
614	73.9794	75.0168	77.5701	62.9378	62.9378	62.9378
615	73.9401	74.9845	77.6325	62.8143	62.8143	62.8143
616	73.8497	74.8875	77.4461	62.6947	62.6947	62.6947
617	73.7747	74.8167	77.4336	62.5777	62.5777	62.5777
618	73.7004	74.7445	77.3902	62.4626	62.4626	62.4626
619	73.6187	74.6628	77.3085	62.3489	62.3489	62.3489
620	73.5333	74.5774	77.2231	62.2364	62.2364	62.2364
621	73.4462	74.4903	77.1359	62.125	62.125	62.125
622	73.3584	74.4025	77.0482	62.0148	62.0148	62.0148
623	73.2706	74.3147	76.9603	61.9055	61.9055	61.9055
624	73.183	74.2271	76.8727	61.7973	61.7973	61.7973
625	73.0817	74.1225	76.7211	61.6899	61.6899	61.6899
626	72.9612	73.9958	76.5092	61.5833	61.5833	61.5833
627	72.7751	73.7906	76.0389	61.477	61.477	61.477
628	72.5943	73.6014	75.7342	61.3713	61.3713	61.3713
629	72.4171	73.4225	75.4376	61.2663	61.2663	61.2663
630	72.2426	73.2528	75.148	61.162	61.162	61.162
631	72.0694	73.0866	74.8627	61.0583	61.0583	61.0583
632	72.5411	73.9097	77.5374	60.9611	60.9611	60.9611
633	73.9461	76.1211	83.1917	60.8751	60.8751	60.8751
634	74.4476	76.0475	82.8585	60.7872	60.7872	60.7872
635	74.6197	76.0043	82.3963	60.6991	60.6991	60.6991
636	74.8648	75.9517	82.2088	60.6112	60.6112	60.6112
637	74.6395	75.8324	81.9593	60.5236	60.5236	60.5236
638	74.5401	75.5814	81.4718	60.4359	60.4359	60.4359
639	74.3964	75.2883	80.9447	60.3483	60.3483	60.3483
640	74.2259	74.9724	80.4012	60.2606	60.2606	60.2606
641	74.1297	74.855	80.284	60.1737	60.1737	60.1737
642	74.0826	74.7989	80.2496	60.0878	60.0878	60.0878
643	74.0622	74.7899	80.2416	60.0027	60.0027	60.0027
644	74.0544	74.755	80.2373	59.9184	59.9184	59.9184
645	74.0519	74.7468	80.2325	59.835	59.835	59.835
646	74.0524	74.7418	80.2308	59.7524	59.7524	59.7524
647	74.0546	74.7383	80.2308	59.6706	59.6706	59.6706
648	74.5311	86.8005	77.0613	65.2001	65.2001	85.7938
649	74.7906	87.0984	77.2735	68.2797	68.2797	88.8709



650	74.8862	86.9116	77.3137	70.0258	70.0258	90.3069
651	75.0349	86.8964	78.1388	70.9949	70.9949	90.6533
652	75.3034	86.8389	79.4811	71.4931	71.4931	90.3146
653	75.5788	86.7362	80.4618	71.7232	71.7232	89.6574
654	76.3223	88.1951	83.3867	71.8055	71.8055	88.8447
655	76.7248	88.171	83.7798	71.7924	71.7924	87.9275
656	76.8242	87.5262	83.6325	71.7066	71.7066	86.9072
657	76.9102	87.2386	83.9472	71.5631	71.5631	85.8044
658	77.2702	88.2864	84.8709	71.3802	71.3802	84.6653
659	77.3815	88.0306	84.8396	71.1431	71.1431	83.4114
660	77.5041	87.8984	85.5416	70.8718	70.8718	82.1423
661	77.7271	88.156	86.6005	70.5778	70.5778	80.8763
662	78.0276	88.7597	87.662	70.2599	70.2599	79.5871
663	78.2962	89.2656	88.5142	69.8953	69.8953	78.1637
664	78.543	89.679	89.4191	69.5077	69.5077	76.7548
665	78.0246	86.2738	86.9707	68.3963	68.3963	71.6373
666	77.1607	83.5646	84.8752	67.0698	67.0698	67.0698
667	76.7558	84.5185	85.675	66.3837	66.3837	66.3837
668	74.7973	74.7973	74.7973	66.0133	66.0133	66.0133
669	73.7055	73.7055	73.7055	65.8135	65.8135	65.8135
670	73.0953	73.0953	73.0953	65.702	65.702	65.702
671	72.7527	72.7527	72.7527	65.6359	65.6359	65.6359
672	72.5588	72.5588	72.5588	65.5935	65.5935	65.5935
673	72.4475	72.4475	72.4475	65.5632	65.5632	65.5632
674	72.3821	72.3821	72.3821	65.5392	65.5392	65.5392
675	72.3422	72.3422	72.3422	65.5185	65.5185	65.5185
676	72.3165	72.3165	72.3165	65.4994	65.4994	65.4994
677	72.2986	72.2986	72.2986	65.4813	65.4813	65.4813
678	72.2852	72.2852	72.2852	65.4637	65.4637	65.4637
679	72.2742	72.2742	72.2742	65.4464	65.4464	65.4464
680	72.2645	72.2645	72.2645	65.4292	65.4292	65.4292
681	72.2556	72.2556	72.2556	65.4121	65.4121	65.4121
682	72.2471	72.2471	72.2471	65.3951	65.3951	65.3951
683	72.2388	72.2388	72.2388	65.3781	65.3781	65.3781
684	72.2307	72.2307	72.2307	65.3612	65.3612	65.3612
685	75.5445	90.928	92.247	65.3715	65.3715	65.3715
686	77.4632	90.1622	92.1588	65.3816	65.3816	65.3816
687	78.6086	88.8203	91.71	65.3916	65.3916	65.3916
688	79.338	88.3773	92.2718	65.4014	65.4014	65.4014
689	79.8169	87.8648	92.7036	65.3743	65.3743	65.3743
690	80.1553	87.3171	93.0367	65.3	65.3	65.3
691	80.4298	86.8137	93.318	65.2027	65.2027	65.2027
692	80.6296	86.1351	93.5221	65.0942	65.0942	65.0942
693	80.7962	85.604	93.5553	64.9807	64.9807	64.9807
694	80.9722	85.4434	93.3459	64.8654	64.8654	64.8654
695	81.4149	86.0038	94.6014	64.752	64.752	64.752
696	81.8135	86.2594	95.1758	64.6396	64.6396	64.6396
697	81.6851	85.3088	93.4999	64.5245	64.5245	64.5245
698	81.5097	84.7565	92.8397	64.4089	64.4089	64.4089
699	81.4313	84.5265	92.3119	64.2942	64.2942	64.2942
700	81.4335	84.4541	92.1918	64.1805	64.1805	64.1805
701	81.4927	84.4743	92.1876	64.0679	64.0679	64.0679
702	80.9422	83.2338	89.3129	63.9515	63.9515	63.9515
703	79.1466	80.1543	82.1127	63.8241	63.8241	63.8241
704	78.1169	79.1231	81.1176	63.6979	63.6979	63.6979



705	77.4509	78.4641	80.2854	63.5725	63.5725	63.5725
706	77.0238	78.037	79.8583	63.4483	63.4483	63.4483
707	76.7267	77.7399	79.5613	63.3252	63.3252	63.3252
708	76.5007	77.5139	79.3353	63.2032	63.2032	63.2032
709	76.3137	77.3269	79.1482	63.0823	63.0823	63.0823
710	76.1482	77.1614	78.9828	62.9625	62.9625	62.9625
711	75.995	77.0081	78.8295	62.8439	62.8439	62.8439
712	75.8133	76.8638	78.4902	62.726	62.726	62.726
713	75.635	76.7058	78.241	62.6091	62.6091	62.6091
714	75.1347	75.7173	76.5399	62.4905	62.4905	62.4905
715	74.3968	74.417	74.4455	62.3701	62.3701	62.3701
716	74.1302	74.6061	74.9672	62.555	62.555	63.8631
717	76.3077	78.6758	85.9014	62.3251	62.3251	62.3251
718	77.1815	78.8951	85.5954	62.1591	62.1591	62.1591
719	77.4922	78.8825	85.2826	62.0256	62.0256	62.0256
720	77.5907	78.8667	85.1087	61.909	61.909	61.909
721	77.5601	78.7051	84.7576	61.8009	61.8009	61.8009
722	77.422	78.3784	84.1358	61.6971	61.6971	61.6971
723	77.2232	77.9978	83.4707	61.5953	61.5953	61.5953
724	77.0845	77.8096	83.2392	61.4954	61.4954	61.4954
725	77.0062	77.7206	83.176	61.397	61.397	61.397
726	76.9606	77.6648	83.1448	61.2999	61.2999	61.2999
727	76.9286	77.6261	83.1103	61.2039	61.2039	61.2039
728	76.904	77.5951	83.0831	61.1088	61.1088	61.1088
729	76.8834	77.5685	83.0602	61.0147	61.0147	61.0147
730	76.8616	77.5428	83.0228	60.9215	60.9215	60.9215
731	76.8379	77.5161	82.9797	60.8292	60.8292	60.8292
732	76.8133	77.4884	82.9362	60.7378	60.7378	60.7378
733	75.6782	76.0989	77.7712	60.6388	60.6388	60.6388
734	74.8638	75.0209	75.529	60.5381	60.5381	60.5381
735	74.0264	74.3835	74.8915	60.4383	60.4383	60.4383
736	73.594	73.9511	74.4592	60.3394	60.3394	60.3394
737	73.2735	73.6306	74.1386	60.2413	60.2413	60.2413
738	73.0142	73.3714	73.8794	60.1441	60.1441	60.1441
739	72.7889	73.146	73.654	60.0478	60.0478	60.0478
740	72.5825	72.9396	73.4476	59.9523	59.9523	59.9523
741	72.3889	72.7441	73.2521	59.8576	59.8576	59.8576
742	72.1979	72.5551	73.0631	59.7637	59.7637	59.7637
743	72.0344	72.4202	72.9689	59.6709	59.6709	59.6709
744	71.8651	72.2509	72.7996	59.5788	59.5788	59.5788
745	71.6719	72.029	72.5371	59.4874	59.4874	59.4874
746	71.4908	71.8536	72.3698	59.3969	59.3969	59.3969
747	71.3102	71.6697	72.1811	59.3071	59.3071	59.3071
748	71.1853	71.6149	72.2261	59.2184	59.2184	59.2184
749	72.5766	82.5655	74.8744	64.1292	64.1292	82.7835
750	73.676	85.9177	76.2185	67.4777	67.4777	88.0538
751	74.2767	86.574	76.7726	69.4661	69.4661	90.058
752	74.5738	86.6989	77.0176	70.6976	70.6976	91.0854
753	74.7534	86.5231	77.4937	71.4498	71.4498	91.3448
754	75.0702	86.4685	79.0574	71.8487	71.8487	90.93
755	75.3537	86.5418	79.99	72.0327	72.0327	90.2286
756	75.9769	87.6395	82.3861	72.0932	72.0932	89.3955
757	76.544	88.2164	83.7831	72.0736	72.0736	88.4755
758	76.6958	87.6093	83.469	71.9907	71.9907	87.4735
759	78.7202	86.9141	83.6128	71.8498	71.8498	85.3728

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ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

ALSTOM

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760	77.0258	87.8374	84.4604	71.6703	71.6703	85.2357
761	77.2289	87.9879	84.7301	71.4431	71.4431	84.0103
762	77.3356	87.7897	85.1198	71.1753	71.1753	82.7385
763	77.5298	87.865	88.1669	70.8813	70.8813	81.459
764	77.8325	88.4868	87.2737	70.5705	70.5705	80.1981
765	78.1114	89.0111	88.1579	70.2145	70.2145	78.7941
766	78.3656	89.4541	89.0467	69.8285	69.8285	77.375
767	78.1817	87.7194	88.0694	69.0266	69.0266	73.8762
768	77.1859	83.0968	84.4634	67.4949	67.4949	67.4949
769	76.7091	84.0725	85.2742	66.7029	66.7029	66.7029
770	74.7172	74.7172	74.7172	66.2796	66.2796	66.2796
771	73.6069	73.6069	73.6069	66.0535	66.0535	66.0535
772	72.9864	72.9864	72.9864	65.9292	65.9292	65.9292
773	72.6381	72.6381	72.6381	65.8575	65.8575	65.8575
774	72.441	72.441	72.441	65.813	65.813	65.813
775	72.328	72.328	72.328	65.7825	65.7825	65.7825
776	72.2616	72.2616	72.2616	65.7593	65.7593	65.7593
777	72.2212	72.2212	72.2212	65.7398	65.7398	65.7398
778	72.1952	72.1952	72.1952	65.7223	65.7223	65.7223
779	72.1773	72.1773	72.1773	65.7058	65.7058	65.7058
780	72.1638	72.1638	72.1638	65.6899	65.6899	65.6899
781	72.1527	72.1527	72.1527	65.6742	65.6742	65.6742
782	72.1431	72.1431	72.1431	65.6588	65.6588	65.6588
783	72.1342	72.1342	72.1342	65.6434	65.6434	65.6434
784	72.1257	72.1257	72.1257	65.6281	65.6281	65.6281
785	72.1175	72.1175	72.1175	65.6128	65.6128	65.6128
786	72.1094	72.1094	72.1094	65.5976	65.5976	65.5976
787	75.4301	91.6025	92.7224	65.6062	65.6062	65.6062
788	77.3491	90.8367	92.6066	65.6145	65.6145	65.6145
789	78.494	89.0518	91.6464	65.6227	65.6227	65.6227
790	79.223	88.6071	92.2064	65.6308	65.6308	65.6308
791	79.7016	88.0314	92.5948	65.6012	65.6012	65.6012
792	80.0317	87.4162	92.9053	65.5234	65.5234	65.5234
793	80.303	86.9136	93.1874	65.4222	65.4222	65.4222
794	80.5156	86.284	93.4089	65.3096	65.3096	65.3096
795	80.6777	85.5881	93.5525	65.1918	65.1918	65.1918
796	80.8507	85.4208	93.3377	65.0723	65.0723	65.0723
797	81.2007	85.73	94.0822	64.9536	64.9536	64.9536
798	81.7764	86.4815	95.6265	64.8376	64.8376	64.8376
799	81.7377	85.5937	93.9899	64.7192	64.7192	64.7192
800	81.5073	84.8006	92.7138	64.5999	64.5999	64.5999
801	81.3991	84.5374	92.3505	64.4814	64.4814	64.4814
802	81.3736	84.404	92.1479	64.3638	64.3638	64.3638
803	81.4185	84.4063	92.1234	64.2475	64.2475	64.2475
804	81.4422	84.2871	91.8955	64.132	64.132	64.132
806	81.1708	83.3915	90.4988	64.0153	64.0153	64.0153
808	80.7338	82.354	88.9792	63.8975	63.8975	63.8975
807	80.3698	81.7544	88.1464	63.7799	63.7799	63.7799
808	80.1044	81.3873	87.8388	63.6629	63.6629	63.6629
809	79.8884	81.069	87.1773	63.5468	63.5468	63.5468
810	79.8618	80.6805	86.5355	63.4306	63.4306	63.4306
811	79.4264	80.2875	85.8956	63.315	63.315	63.315
812	79.202	79.934	85.3469	63.1999	63.1999	63.1999
813	79.0894	79.7917	85.228	63.086	63.086	63.086
814	78.9869	79.6997	85.1589	62.9732	62.9732	62.9732



815	78.9317	79.6355	85.1159	62.8616	62.8616	62.8616
818	78.8878	79.5853	85.0694	62.751	62.751	62.751
817	78.8501	79.5415	85.0294	62.6415	62.6415	62.6415
818	78.8181	79.5018	84.993	62.533	62.533	62.533
819	78.781	79.4624	84.9434	62.4256	62.4256	62.4256
820	78.7438	79.4221	84.8868	62.3192	62.3192	62.3192
821	78.7056	79.3809	84.8296	62.2137	62.2137	62.2137
822	77.7593	78.155	80.5913	62.1031	62.1031	62.1031
823	76.6497	77.0068	77.5148	61.9899	61.9899	61.9899
824	75.9545	76.3118	76.8196	61.8777	61.8777	61.8777
825	75.4846	75.8417	76.3498	61.7664	61.7664	61.7664
828	75.1377	75.4948	76.0029	61.6562	61.6562	61.6562
827	74.8581	75.2152	75.7233	61.5469	61.5469	61.5469
828	74.6157	74.9728	75.4809	61.4386	61.4386	61.4386
829	74.3941	74.7512	75.2593	61.3313	61.3313	61.3313
830	74.1845	74.5416	75.0496	61.2249	61.2249	61.2249
831	73.9819	74.339	74.8471	61.1195	61.1195	61.1195
832	73.7839	74.141	74.649	61.015	61.015	61.015
833	73.5889	73.946	74.4541	60.9114	60.9114	60.9114
834	73.3962	73.7534	74.2614	60.8088	60.8088	60.8088
835	73.2055	73.5626	74.0706	60.707	60.707	60.707
836	73.0163	73.3734	73.8815	60.6062	60.6062	60.6062
837	72.8286	73.1858	73.6938	60.5062	60.5062	60.5062
838	72.6984	73.1306	73.7455	60.4075	60.4075	60.4075
839	72.5778	73.2787	73.68	61.0009	61.0009	63.9932
840	74.2797	86.4295	76.8535	66.1936	66.1936	86.7028
841	75.2135	87.4844	77.742	69.1265	69.1265	89.72
842	75.7173	88.026	78.1993	70.8947	70.8947	91.4858
843	75.9411	87.963	78.3681	71.9742	71.9742	92.2514
844	76.1565	87.8175	79.2618	72.6023	72.6023	92.2596
845	76.4567	87.7941	80.6323	72.9237	72.9237	91.7489
848	76.7414	87.8934	81.608	73.0588	73.0588	90.9998
847	77.4855	89.3527	84.5128	73.0858	73.0858	90.1321
848	77.8908	89.343	84.9507	73.0379	73.0379	89.1803
848	77.9868	88.6945	84.7941	72.928	72.928	88.1362
850	78.0641	88.3871	85.0967	72.7655	72.7655	87.0144
851	78.4156	89.4263	86.0119	72.5658	72.5658	85.8585
852	78.5217	89.1738	85.9811	72.3138	72.3138	84.5902
853	78.6381	89.032	86.6667	72.0281	72.0281	83.3065
854	78.8503	89.2767	87.7173	71.7199	71.7199	82.0259
855	79.1432	89.8733	88.7729	71.3881	71.3881	80.7237
856	79.4039	90.3715	89.6173	71.0096	71.0096	79.2865
857	79.6429	90.7776	90.5137	70.6082	70.6082	77.8634
858	79.1256	87.4096	88.0971	69.4927	69.4927	72.7772
859	78.2521	84.6452	85.957	68.1524	68.1524	68.1524
860	77.8417	85.5936	86.7513	67.4589	67.4589	67.4589
861	75.8802	75.8802	75.8802	67.0877	67.0877	67.0877
862	74.7867	74.7867	74.7867	66.889	66.889	66.889
863	74.1753	74.1753	74.1753	66.7793	66.7793	66.7793
864	73.832	73.832	73.832	66.7156	66.7156	66.7156
865	73.6375	73.6375	73.6375	66.6757	66.6757	66.6757
866	73.5258	73.5258	73.5258	66.6481	66.6481	66.6481
867	73.48	73.48	73.48	66.6268	66.6268	66.6268
868	73.4198	73.4198	73.4198	66.6088	66.6088	66.6088
869	73.3938	73.3938	73.3938	66.5925	66.5925	66.5925

*[Handwritten signature]*

ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

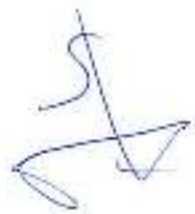
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870	73.3756	73.3756	73.3756	66.5771	66.5771	66.5771
871	73.3619	73.3619	73.3619	66.5622	66.5622	66.5622
872	73.3506	73.3506	73.3506	66.5476	66.5476	66.5476
873	73.3406	73.3406	73.3406	66.5331	66.5331	66.5331
874	73.3314	73.3314	73.3314	66.5186	66.5186	66.5186
875	73.3227	73.3227	73.3227	66.5043	66.5043	66.5043
876	73.3141	73.3141	73.3141	66.4899	66.4899	66.4899
877	73.3057	73.3057	73.3057	66.4756	66.4756	66.4756
878	76.6194	92.0242	93.3378	66.4826	66.4826	66.4826
879	78.5351	91.2552	93.2263	66.4894	66.4894	66.4894
880	79.6813	89.9024	92.7841	66.496	66.496	66.496
881	80.4111	89.4597	93.3462	66.5026	66.5026	66.5026
882	80.8699	88.9512	93.783	66.4695	66.4695	66.4695
883	81.2214	88.3846	94.0981	66.3853	66.3853	66.3853
884	81.4901	87.8801	94.3782	66.2763	66.2763	66.2763
885	81.6836	87.1962	94.576	66.1552	66.1552	66.1552
886	81.843	86.6535	94.6052	66.0288	66.0288	66.0288
887	82.0117	86.4856	94.3885	65.9004	65.9004	65.9004
888	82.4445	87.0317	95.6224	65.7735	65.7735	65.7735
889	82.8449	87.3062	96.2363	65.6475	65.6475	65.6475
890	82.7245	86.3822	94.6035	65.5197	65.5197	65.5197
891	82.5368	85.7979	93.6904	65.3918	65.3918	65.3918
892	82.4511	85.5704	93.3713	65.2649	65.2649	65.2649
893	82.4385	85.47	93.2145	65.1391	65.1391	65.1391
894	82.4856	85.483	93.2061	65.0145	65.0145	65.0145
895	82.5646	85.5309	93.2345	64.8912	64.8912	64.8912
896	81.7149	83.6688	89.0032	64.7633	64.7633	64.7633
897	80.4823	81.7204	85.0181	64.6317	64.6317	64.6317
898	79.7733	81.0157	84.3235	64.5014	64.5014	64.5014
899	79.4032	80.7063	84.1599	64.3727	64.3727	64.3727
900	79.162	80.4651	83.9187	64.2452	64.2452	64.2452
901	78.9911	80.2942	83.7478	64.1189	64.1189	64.1189
902	78.8585	80.1616	83.6152	63.9938	63.9938	63.9938
903	78.7471	80.0501	83.5038	63.8699	63.8699	63.8699
904	78.8473	79.9504	83.404	63.7471	63.7471	63.7471
905	78.5542	79.8573	83.311	63.6254	63.6254	63.6254
906	78.465	79.7681	83.2217	63.5049	63.5049	63.5049
907	78.3782	79.6813	83.1349	63.3855	63.3855	63.3855
908	78.293	79.596	83.0497	63.2673	63.2673	63.2673
909	78.2089	79.5119	82.9656	63.1501	63.1501	63.1501
910	78.1256	79.4287	82.8823	63.0341	63.0341	63.0341
911	78.0431	79.3462	82.7998	62.9191	62.9191	62.9191
912	77.9613	79.2644	82.718	62.8052	62.8052	62.8052
913	77.8467	79.1191	82.4942	62.6922	62.6922	62.6922
914	77.7369	78.9943	82.3383	62.5801	62.5801	62.5801
915	77.5641	78.7447	81.904	62.4687	62.4687	62.4687
916	77.355	78.4577	81.4378	62.3578	62.3578	62.3578
917	77.127	78.1883	80.9705	62.2476	62.2476	62.2476
918	76.8377	77.8645	80.2693	62.1376	62.1376	62.1376
919	76.6814	77.7216	80.3133	62.029	62.029	62.029
920	76.4939	77.522	79.944	61.9211	61.9211	61.9211
921	76.2886	77.3048	79.5623	61.8139	61.8139	61.8139
922	76.0725	77.077	79.1736	61.7074	61.7074	61.7074
923	75.8536	76.8625	78.7927	61.6016	61.6016	61.6016
924	75.6025	76.6648	78.238	61.4964	61.4964	61.4964



925	75.4022	76.4645	78.0376	61.3921	61.3921	61.3921
926	75.2298	76.2922	77.8653	61.2887	61.2887	61.2887
927	75.0732	76.1355	77.7087	61.1863	61.1863	61.1863
928	74.9255	75.9878	77.5609	61.0848	61.0848	61.0848
929	74.783	75.8454	77.4185	60.9842	60.9842	60.9842
930	74.644	75.7063	77.2794	60.8846	60.8846	60.8846
931	74.5071	75.5694	77.1426	60.7858	60.7858	60.7858
932	74.3719	75.4343	77.0074	60.688	60.688	60.688
933	74.2381	75.3004	76.8736	60.591	60.591	60.591
934	74.1054	75.1677	76.7409	60.495	60.495	60.495
935	73.6311	74.2171	75.0446	60.3977	60.3977	60.3977
936	73.2044	73.6561	74.294	60.3008	60.3008	60.3008
937	72.7992	73.1168	73.5649	60.2041	60.2041	60.2041
938	72.4012	72.5844	72.843	60.1078	60.1078	60.1078
939	72.0029	72.0517	72.1207	60.0118	60.0118	60.0118
940	73.5813	75.3836	80.4907	59.9279	59.9279	59.9279
941	74.9885	78.9901	83.9215	59.848	59.848	59.848
942	75.492	76.9411	83.4224	59.7672	59.7672	59.7672
943	75.7103	77.0547	83.3912	59.6867	59.6867	59.6867
944	75.7729	77.017	83.2147	59.6065	59.6065	59.6065
945	75.7336	76.8527	82.8647	59.5266	59.5266	59.5266
946	75.6169	76.5795	82.3467	59.4469	59.4469	59.4469
947	75.4581	76.2875	81.7979	59.3674	59.3674	59.3674
948	75.3177	76.0469	81.4665	59.2883	59.2883	59.2883
949	75.2439	75.964	81.4056	59.21	59.21	59.21
950	75.2053	75.9168	81.3794	59.1326	59.1326	59.1326
951	75.1853	75.8885	81.3692	59.0558	59.0558	59.0558
952	75.1725	75.8699	81.3541	58.9799	58.9799	58.9799
953	75.6211	87.9252	78.1085	64.513	64.513	65.1044
954	75.621	87.8795	78.2539	67.5084	67.5084	67.8249
955	75.9971	87.6937	78.9833	69.1235	69.1235	68.8584
956	76.2873	87.6436	80.4041	69.9539	69.9539	68.8584
957	76.5534	87.6994	81.3198	70.357	70.357	68.3755
958	77.2598	89.0655	84.1016	70.5301	70.5301	67.6532
959	77.712	89.2303	84.8257	70.5684	70.5684	66.7866
960	77.8231	88.5926	84.6202	70.5149	70.5149	65.8055
961	77.8777	88.1419	84.662	70.3924	70.3924	64.7234
962	78.2157	89.1643	85.763	70.2243	70.2243	63.5982
963	78.35	89.0348	85.8225	70.0018	70.0018	62.3655
964	78.4618	88.8753	86.4184	69.7416	69.7416	61.1049
965	78.6688	89.0679	87.4668	69.4563	69.4563	59.8439
966	78.9662	89.676	88.6459	69.1495	69.1495	58.5759
967	79.2298	90.177	89.3931	68.795	68.795	57.1627
968	79.4712	90.5921	90.2851	68.4152	68.4152	55.7578
969	79.0521	87.7123	88.2986	67.4113	67.4113	54.1653
970	78.1411	84.4176	85.7427	66.0269	66.0269	52.0269
971	77.7098	85.3452	86.516	65.3109	65.3109	50.3109
972	75.7387	75.7387	75.7387	64.9297	64.9297	64.9297
973	74.6397	74.6397	74.6397	64.7266	64.7266	64.7266
974	74.0254	74.0254	74.0254	64.6158	64.6158	64.6158
975	73.6805	73.6805	73.6805	64.552	64.552	64.552
976	73.4851	73.4851	73.4851	64.5131	64.5131	64.5131
977	73.3729	73.3729	73.3729	64.4868	64.4868	64.4868
978	73.3069	73.3069	73.3069	64.467	64.467	64.467
979	73.2666	73.2666	73.2666	64.4507	64.4507	64.4507



ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

ALSTOM

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980	73.2405	73.2405	73.2405	64.4361	64.4361	64.4361
981	73.2224	73.2224	73.2224	64.4224	64.4224	64.4224
982	73.2086	73.2086	73.2086	64.4092	64.4092	64.4092
983	73.1973	73.1973	73.1973	64.3963	64.3963	64.3963
984	73.1874	73.1874	73.1874	64.3835	64.3835	64.3835
985	73.1783	73.1783	73.1783	64.3708	64.3708	64.3708
986	73.1695	73.1695	73.1695	64.3582	64.3582	64.3582
987	73.161	73.161	73.161	64.3456	64.3456	64.3456
988	73.1527	73.1527	73.1527	64.333	64.333	64.333
989	76.4684	92.1035	93.359	64.3393	64.3393	64.3393
990	78.3882	91.3388	93.2719	64.3455	64.3455	64.3455
991	79.5326	89.8547	92.6503	64.3515	64.3515	64.3515
992	80.26	89.4052	93.2043	64.3574	64.3574	64.3574
993	80.7373	88.8751	93.626	64.3291	64.3291	64.3291
994	81.0681	88.2976	93.9435	64.2568	64.2568	64.2568
995	81.3366	87.7923	94.2231	64.163	64.163	64.163
996	81.5347	87.1241	94.4288	64.0589	64.0589	64.0589
997	81.6934	86.5329	94.4887	63.9501	63.9501	63.9501
998	81.8622	86.365	94.2721	63.8397	63.8397	63.8397
999	82.269	86.8389	95.3583	63.7304	63.7304	63.7304
1000	82.717	87.2447	96.2332	63.6223	63.6223	63.6223
1001	82.8105	86.3073	94.5632	63.5125	63.5125	63.5125
1002	82.4113	85.6728	93.5655	63.4024	63.4024	63.4024
1003	82.3171	85.4261	93.2203	63.2932	63.2932	63.2932
1004	82.3043	85.3265	93.0652	63.1849	63.1849	63.1849
1005	82.353	85.3334	93.0458	63.0777	63.0777	63.0777
1006	82.3199	85.0625	92.5888	62.971	62.971	62.971
1007	82.0252	84.1686	91.2138	62.8636	62.8636	62.8636
1008	81.5927	83.1778	89.7749	62.7555	62.7555	62.7555
1009	81.2526	82.6464	89.0512	62.6479	62.6479	62.6479
1010	81.0113	82.3226	88.8134	62.541	62.541	62.541
1011	80.8251	82.0605	88.2462	62.4348	62.4348	62.4348
1012	80.661	81.8101	87.8692	62.3293	62.3293	62.3293
1013	80.4906	81.5267	87.4088	62.2244	62.2244	62.2244
1014	79.2492	79.9144	81.9841	62.1142	62.1142	62.1142
1015	78.4739	79.1576	81.0804	62.0049	62.0049	62.0049
1016	77.938	78.671	80.3509	61.8963	61.8963	61.8963
1017	77.5397	78.3621	79.7846	61.7885	61.7885	61.7885
1018	77.224	78.1745	79.323	61.6816	61.6816	61.6816
1019	76.3939	76.4465	78.5056	61.5724	61.5724	61.5724
1020	76.2584	77.2232	77.7412	62.1379	62.1379	65.0426
1021	76.2531	77.5407	78.2319	62.6364	62.6364	66.5129
1022	76.1747	77.4623	78.1535	62.8899	62.8899	66.7864
1023	76.0573	77.3449	78.0361	63.0204	63.0204	66.8969
1024	75.9192	77.2088	77.898	63.089	63.089	66.9655
1025	75.6972	76.8298	77.4378	63.0182	63.0182	66.428
1026	75.3857	76.215	76.6709	62.781	62.781	65.3378
1027	74.9681	75.5341	75.8379	62.4478	62.4478	64.1517
1028	74.6976	75.3392	75.6836	62.305	62.305	64.2366
1029	74.3845	74.8914	75.1582	62.1074	62.1074	63.6035
1030	73.9994	74.2007	74.3088	61.7709	61.7709	62.377
1031	73.5933	73.5956	73.5981	61.4178	61.4178	61.4178
1032	75.0797	76.009	81.7241	61.1984	61.1984	61.1984
1033	75.782	76.5596	82.0371	61.0411	61.0411	61.0411
1034	76.1301	76.857	82.2821	60.9157	60.9157	60.9157

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1035	76.3158	77.0334	82.4812	60.8067	60.8067	60.8067
1036	76.4139	77.1222	82.5924	60.7065	60.7065	60.7065
1037	76.4625	77.1632	82.6455	60.6112	60.6112	60.6112
1038	76.4827	77.1772	82.6632	60.5187	60.5187	60.5187
1039	76.4875	77.178	82.6656	60.4281	60.4281	60.4281
1040	76.4834	77.1664	82.656	60.3388	60.3388	60.3388
1041	76.4705	77.1504	82.6235	60.2507	60.2507	60.2507
1042	76.9296	89.2049	79.4527	65.7723	65.7723	66.3655
1043	77.1723	89.485	79.6493	68.8442	68.8442	69.4351
1044	76.043	79.8247	77.8346	67.6541	67.6541	78.1803
1045	74.6083	74.7983	74.9829	64.5756	64.5756	64.5756
1046	73.7355	73.9254	74.1101	62.9757	62.9757	62.9757
1047	73.1681	73.3581	73.5427	62.1191	62.1191	62.1191
1048	72.7671	72.957	73.1416	61.6363	61.6363	61.6363
1049	72.8612	73.6752	74.5568	61.344	61.344	61.344
1050	72.8449	73.646	74.5562	61.1468	61.1468	61.1468
1051	72.7693	73.5576	74.4963	60.9977	60.9977	60.9977
1052	72.6517	73.4772	74.3331	60.8733	60.8733	60.8733
1053	72.5192	73.3448	74.2006	60.7617	60.7617	60.7617
1054	72.3793	73.2041	74.0616	60.657	60.657	60.657
1055	72.2392	73.0475	73.9417	60.5562	60.5562	60.5562
1056	73.144	81.6782	75.2348	64.9148	64.9148	81.8492
1057	74.2257	85.8918	77.3141	68.1911	68.1911	87.8595
1058	75.001	86.3389	79.1746	69.8475	69.8475	88.6746
1059	75.5521	86.7111	80.44	70.6574	70.6574	88.5895
1060	76.4506	88.3332	83.5248	71.0263	71.0263	88.0532
1061	78.9238	88.352	83.9669	71.1554	71.1554	87.2733
1062	77.0629	87.7492	83.8738	71.1398	71.1398	86.3195
1063	77.1787	87.5251	84.2306	71.0302	71.0302	85.2463
1064	77.5491	88.5677	85.1562	70.8613	70.8613	84.1157
1065	77.6584	88.295	85.1115	70.6301	70.6301	82.8651
1066	77.7862	88.1734	85.8531	70.361	70.361	81.5977
1067	78.0135	88.4535	86.9147	70.0674	70.0674	80.3332
1068	78.3123	89.0526	87.9668	69.7477	69.7477	79.0384
1069	78.5791	89.5568	88.8173	69.3808	69.3808	77.6127
1070	78.8239	89.9655	89.7229	68.9914	68.9914	76.2033
1071	78.2647	86.3626	87.1003	67.8444	67.8444	70.8965
1072	77.4149	83.8657	85.171	66.5439	66.5439	66.5439
1073	77.0179	84.8275	85.9786	65.8712	65.8712	65.8712
1074	75.0629	75.0629	75.0629	65.5131	65.5131	65.5131
1075	73.973	73.973	73.973	65.3224	65.3224	65.3224
1076	73.3639	73.3639	73.3639	65.2181	65.2181	65.2181
1077	73.0218	73.0218	73.0218	65.1584	65.1584	65.1584
1078	72.8281	72.8281	72.8281	65.1217	65.1217	65.1217
1079	72.717	72.717	72.717	65.097	65.097	65.097
1080	72.6516	72.6516	72.6516	65.0784	65.0784	65.0784
1081	72.6117	72.6117	72.6117	65.063	65.063	65.063
1082	72.5859	72.5859	72.5859	65.0493	65.0493	65.0493
1083	72.5681	72.5681	72.5681	65.0364	65.0364	65.0364
1084	72.5546	72.5546	72.5546	65.024	65.024	65.024
1085	72.5435	72.5435	72.5435	65.0118	65.0118	65.0118
1086	72.5337	72.5337	72.5337	64.9998	64.9998	64.9998
1087	72.5248	72.5248	72.5248	64.9878	64.9878	64.9878
1088	72.5162	72.5162	72.5162	64.9759	64.9759	64.9759
1089	72.5079	72.5079	72.5079	64.964	64.964	64.964



1090	72.4997	72.4997	72.4997	64.9521	64.9521	64.9521
1091	75.8125	91.1034	92.4458	64.9574	64.9574	64.9574
1092	77.7307	90.337	92.3571	64.9625	64.9625	64.9625
1093	78.8767	89.0491	91.9738	64.9675	64.9675	64.9675
1094	79.606	88.6049	92.5339	64.9724	64.9724	64.9724
1095	80.0844	88.0993	92.9704	64.9414	64.9414	64.9414
1096	80.421	87.5513	93.2981	64.8642	64.8642	64.8642
1097	80.6949	87.0515	93.5828	64.7645	64.7645	64.7645
1098	80.892	86.3667	93.7846	64.654	64.654	64.654
1099	81.0578	85.854	93.8038	64.5386	64.5386	64.5386
1100	81.2325	85.6921	93.593	64.4214	64.4214	64.4214
1101	81.6842	86.2799	94.9058	64.3054	64.3054	64.3054
1102	82.0622	86.4813	95.3741	64.1901	64.1901	64.1901
1103	81.9248	85.5284	93.7021	64.0734	64.0734	64.0734
1104	81.7529	84.997	92.8785	63.9569	63.9569	63.9569
1105	81.6761	84.7707	92.5557	63.8412	63.8412	63.8412
1106	81.6787	84.6975	92.4341	63.7266	63.7266	63.7266
1107	81.7376	84.7161	92.4274	63.6131	63.6131	63.6131
1108	81.7103	84.4503	91.9744	63.5002	63.5002	63.5002
1109	81.4321	83.5944	90.6548	63.3868	63.3868	63.3868
1110	81.0167	82.631	89.2515	63.2731	63.2731	63.2731
1111	80.673	82.0668	88.4717	63.1598	63.1598	63.1598
1112	80.4254	81.7281	88.0069	63.0473	63.0473	63.0473
1113	80.2284	81.4426	87.599	62.9355	62.9355	62.9355
1114	80.0341	81.1219	87.0849	62.8244	62.8244	62.8244
1115	79.8289	80.7758	86.5183	62.7138	62.7138	62.7138
1116	79.614	80.4222	85.9477	62.6039	62.6039	62.6039
1117	79.4346	80.1643	85.5828	62.4948	62.4948	62.4948
1118	79.325	80.0457	85.4859	62.3868	62.3868	62.3868
1119	79.2537	79.9655	85.4271	62.2798	62.2798	62.2798
1120	79.2031	79.9064	85.3871	62.1738	62.1738	62.1738
1121	79.1165	79.797	85.1362	62.0687	62.0687	62.0687
1122	77.8886	78.6235	79.5229	61.9588	61.9588	61.9588
1123	77.14	77.875	78.7744	61.8498	61.8498	61.8498
1124	76.5139	77.0664	77.6904	61.7412	61.7412	61.7412
1125	76.0383	76.5192	77.0623	61.6333	61.6333	61.6333
1126	75.634	76.0304	76.4782	61.5261	61.5261	61.5261
1127	76.4058	76.9759	81.2591	61.4253	61.4253	61.4253
1128	77.156	77.8453	83.3344	61.3272	61.3272	61.3272
1129	77.5514	78.2348	83.7256	61.2301	61.2301	61.2301
1130	77.75	78.4298	83.9023	61.1338	61.1338	61.1338
1131	77.8417	78.5179	83.9714	61.0385	61.0385	61.0385
1132	76.8588	77.2538	79.3253	60.9391	60.9391	60.9391
1133	76.217	78.0996	77.9262	62.536	62.536	69.6974
1134	75.8257	77.9592	77.5125	63.552	63.552	71.3346
1135	75.5454	77.6816	77.232	64.1279	64.1279	71.9175
1136	75.3255	77.4617	77.012	64.4806	64.4806	72.2701
1137	75.1388	77.2751	76.8254	64.7205	64.7205	72.51
1138	74.9707	77.1069	76.6572	64.9031	64.9031	72.6926
1139	74.8131	76.9493	76.4996	65.0563	65.0563	72.8459
1140	74.6616	76.7979	76.3482	65.1942	65.1942	72.9837
1141	74.514	76.6503	76.2006	65.3238	65.3238	73.1133
1142	74.369	76.5052	76.0566	65.4486	65.4486	73.2381
1143	74.2258	76.382	75.9124	65.5704	65.5704	73.3599
1144	74.084	76.2203	75.7706	65.6902	65.6902	73.4797

1145	73.9436	76.0798	75.6302	65.8083	65.8083	73.5978
1146	73.8042	75.9405	75.4908	65.9251	65.9251	73.7146
1147	73.666	75.8022	75.3526	66.0406	66.0406	73.8301
1148	73.5287	75.665	75.2153	66.1549	66.1549	73.9444
1149	73.3931	75.5344	75.0792	66.2713	66.2713	74.0734
1150	73.2583	75.4007	74.9443	66.3859	66.3859	74.1906
1151	73.1243	75.2668	74.8104	66.4983	66.4983	74.3032
1152	72.9908	75.1295	74.6772	66.6068	66.6068	74.4024
1153	72.8548	74.9596	74.5441	66.6936	66.6936	74.4054
1154	72.7211	74.8252	74.4105	66.7885	66.7885	74.4984
1155	72.5893	74.6942	74.2787	66.888	66.888	74.5997
1156	72.4613	74.5688	74.1487	67.0031	67.0031	74.7708
1157	72.3356	74.4821	74.0213	67.1242	67.1242	74.9391
1158	72.2101	74.3614	73.8954	67.2396	67.2396	75.0664
1159	72.082	74.2085	73.7694	67.333	67.333	75.0985
1160	71.9514	74.0416	73.6421	67.4065	67.4065	75.0819
1161	71.8197	73.8727	73.5137	67.4677	67.4677	75.0512
1162	71.6875	73.7034	73.3848	67.5208	67.5208	75.0124
1163	71.5552	73.5341	73.2559	67.5679	67.5679	74.9676
1164	71.4232	73.3649	73.1271	67.6102	67.6102	74.918
1165	71.2933	73.2165	72.9989	67.6599	67.6599	74.9216
1166	71.1871	73.0902	72.8727	67.724	67.724	74.9857
1167	71.0431	72.9662	72.7487	67.795	67.795	75.0587
1168	70.9208	72.8439	72.6264	67.869	67.869	75.1307
1169	70.7898	72.7229	72.5054	67.9442	67.9442	75.2059
1170	70.6799	72.603	72.3855	68.0195	68.0195	75.2813
1171	70.561	72.4841	72.2665	68.0946	68.0946	75.3564
1172	70.443	72.3681	72.1485	68.1692	68.1692	75.431
1173	70.3258	72.249	72.0314	68.2432	68.2432	75.5049
1174	70.2096	72.1327	71.9152	68.3165	68.3165	75.5783
1175	70.0942	72.0173	71.7998	68.3891	68.3891	75.6509
1176	69.9796	71.9027	71.6852	68.461	68.461	75.7228
1177	69.8659	71.789	71.5715	68.5322	68.5322	75.794
1178	69.753	71.6761	71.4585	68.6027	68.6027	75.8645
1179	69.6408	71.564	71.3464	68.6725	68.6725	75.9342
1180	69.5295	71.4527	71.2351	68.7416	68.7416	76.0033
1181	70.9674	83.0824	73.5531	72.6669	72.6669	93.1508
1182	71.7734	83.9996	74.3212	74.9356	74.9356	95.5004
1183	72.2273	84.5153	74.7347	76.3538	76.3538	96.9463
1184	72.4763	84.7345	74.9417	77.3137	77.3137	97.8439
1185	72.5746	84.5319	74.9911	77.9555	77.9555	98.1636
1186	72.7564	84.3997	75.9211	78.3447	78.3447	97.9633
1187	73.0334	84.3902	77.1486	78.5556	78.5556	97.4623
1188	73.2923	84.4687	77.966	78.6488	78.6488	96.7971
1189	73.8493	85.4409	80.044	78.6711	78.6711	96.0621
1190	72.5289	75.0771	75.8166	75.8333	75.8333	82.453
1191	71.7595	74.1807	75.0309	74.3517	74.3517	80.7359
1192	71.3123	73.7335	74.5837	73.6075	73.6075	79.9917
1193	71.0401	73.4612	74.3115	73.2337	73.2337	79.6179
1194	70.863	73.2842	74.1344	73.0459	73.0459	79.4302
1195	70.6951	72.8289	73.9718	72.7967	72.7967	78.5625
1196	70.5896	72.8768	73.8495	72.6465	72.6465	78.3496
1197	70.4671	72.5477	73.7502	72.5451	72.5451	78.1856
1198	70.3772	72.4312	73.6634	72.4674	72.4674	78.0452
1199	70.2941	72.3216	73.5835	72.4007	72.4007	77.9158

ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

ALSTOM

00012555

1200	70.2306	72.3661	73.5071	72.4176	72.4176	78.1875
1201	70.186	72.3015	73.4425	72.4172	72.4172	78.1871
1202	70.1009	72.2364	73.3775	72.4082	72.4082	78.178
1203	70.0359	72.1714	73.3124	72.3949	72.3949	78.1647
1204	69.971	72.1065	73.2476	72.3795	72.3795	78.1493
1205	69.9065	72.042	73.1831	72.3632	72.3632	78.133
1206	69.8424	71.9779	73.1189	72.3484	72.3484	78.1162
1207	69.7787	71.9142	73.0552	72.3295	72.3295	78.0993
1208	69.7154	71.8509	72.992	72.3126	72.3126	78.0824
1209	69.6526	71.7881	72.9292	72.2958	72.2958	78.0658
1210	69.5902	71.7257	72.8668	72.2791	72.2791	78.0489
1211	69.5283	71.6638	72.8049	72.2625	72.2625	78.0323
1212	69.461	71.6017	72.7436	72.2471	72.2471	77.8708
1213	69.3932	71.5353	72.6792	72.1176	72.1176	77.5021
1214	69.2497	71.0314	72.3831	71.937	71.937	76.8337
1215	68.8796	70.1554	71.1234	71.5026	71.5026	75.009
1216	68.3869	69.1389	69.721	70.9207	70.9207	73.0369
1217	67.7629	68.0269	68.2273	70.2451	70.2451	70.9709
1218	69.8026	79.4528	76.1891	73.5216	73.5216	88.4731
1219	71.2973	82.7072	78.3228	75.6611	75.6611	91.7535
1220	72.0081	82.6741	78.8224	76.6226	76.6226	91.7752
1221	72.4616	82.8348	79.5355	76.9689	76.9689	91.1476
1222	73.0102	84.0053	80.6078	76.9895	76.9895	90.1813
1223	73.2269	83.8328	80.6676	76.8158	76.8158	88.9689
1224	73.4452	83.8131	81.5929	76.541	76.541	87.6849
1225	73.7442	84.218	82.7306	76.2106	76.2106	86.3756
1226	74.0864	84.8545	83.8094	75.8348	75.8348	85.0013
1227	74.3905	85.3912	84.7105	75.4066	75.4066	83.5077
1228	74.6596	85.8332	85.6589	74.9529	74.9529	82.0261
1229	73.9806	81.445	82.3532	73.5907	73.5907	75.8519
1230	73.2204	79.8743	81.1565	72.3454	72.3454	72.3454
1231	72.8738	80.8887	82.0165	71.7005	71.7005	71.7005
1232	70.9439	70.9439	70.9439	71.3572	71.3572	71.3572
1233	69.8685	69.8685	69.8685	71.1739	71.1739	71.1739
1234	69.2678	69.2678	69.2678	71.0733	71.0733	71.0733
1235	68.931	68.931	68.931	71.0153	71.0153	71.0153
1236	68.7407	68.7407	68.7407	70.9794	70.9794	70.9794
1237	68.6319	68.6319	68.6319	70.9548	70.9548	70.9548
1238	68.5683	68.5683	68.5683	70.9362	70.9362	70.9362
1239	68.5298	68.5298	68.5298	70.9205	70.9205	70.9205
1240	68.5054	68.5054	68.5054	70.9065	70.9065	70.9065
1241	68.4887	68.4887	68.4887	70.8933	70.8933	70.8933
1242	68.4763	68.4763	68.4763	70.8805	70.8805	70.8805
1243	68.4664	68.4664	68.4664	70.8679	70.8679	70.8679
1244	68.4577	68.4577	68.4577	70.8555	70.8555	70.8555
1245	68.4498	68.4498	68.4498	70.8431	70.8431	70.8431
1246	68.4423	68.4423	68.4423	70.8308	70.8308	70.8308
1247	68.4351	68.4351	68.4351	70.8185	70.8185	70.8185
1248	68.428	68.428	68.428	70.8062	70.8062	70.8062
1249	71.7384	86.628	88.0717	70.8089	70.8089	70.8089
1250	73.6558	85.8703	87.9892	70.8114	70.8114	70.8114
1251	74.8033	84.8107	87.8746	70.8138	70.8138	70.8138
1252	75.5213	84.3744	88.4326	70.7649	70.7649	70.7649
1253	75.9828	83.8947	88.8823	70.65	70.65	70.65
1254	76.3416	83.3849	89.2241	70.5028	70.5028	70.5028

ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

ALSTOM

00012556

1255	76.634	82.9022	89.523	70.3404	70.3404	70.3404
1256	76.8498	82.2268	89.7426	70.171	70.171	70.171
1257	77.0432	81.8036	89.748	69.999	69.999	69.999
1258	77.2462	81.67	89.5655	69.8268	69.8268	69.8268
1259	77.7595	82.3768	91.0916	69.6563	69.6563	69.6563
1260	78.1013	82.426	91.2355	69.4869	69.4869	69.4869
1261	77.9573	81.472	89.5673	69.3171	69.3171	69.3171
1262	77.834	81.0588	88.9278	69.1482	69.1482	69.1482
1263	77.7958	80.8706	88.6428	68.9808	68.9808	68.9808
1264	77.8378	80.8511	88.5843	68.8149	68.8149	68.8149
1265	77.9301	80.9044	88.6131	68.6507	68.6507	68.6507
1266	77.9152	80.8221	88.1196	68.4875	68.4875	68.4875
1267	77.6768	79.8466	88.9131	68.3247	68.3247	68.3247
1268	77.3227	78.9958	85.6635	68.1622	68.1622	68.1622
1269	77.0116	78.4288	84.866	68.0006	68.0006	68.0006
1270	76.808	78.1523	84.4888	67.8404	67.8404	67.8404
1271	76.6546	77.943	84.1682	67.6815	67.6815	67.6815
1272	76.5557	77.7744	83.9372	67.524	67.524	67.524
1273	76.4579	77.6081	83.6637	67.3677	67.3677	67.3677
1274	76.3528	77.4118	83.3298	67.2126	67.2126	67.2126
1275	76.2408	77.2108	82.9896	67.0588	67.0588	67.0588
1276	76.1232	77.0066	82.6497	66.9062	66.9062	66.9062
1277	75.9996	76.7963	82.3037	66.7548	66.7548	66.7548
1278	75.8867	76.6184	82.0319	66.6047	66.6047	66.6047
1279	75.8224	76.5478	81.9766	66.456	66.456	66.456
1280	75.7851	76.5039	81.9486	66.3087	66.3087	66.3087
1281	75.7629	76.4749	81.9361	66.1629	66.1629	66.1629
1282	75.7495	76.4543	81.9329	66.0184	66.0184	66.0184
1283	75.7384	76.4377	81.9207	65.8754	65.8754	65.8754
1284	75.7285	76.4222	81.9086	65.7337	65.7337	65.7337
1285	75.7195	76.4076	81.8974	65.5934	65.5934	65.5934
1286	75.7103	76.3934	81.8832	65.4544	65.4544	65.4544
1287	75.6974	76.3776	81.8521	65.3168	65.3168	65.3168
1288	75.6825	76.3599	81.8194	65.1804	65.1804	65.1804
1289	75.6666	76.3411	81.7862	65.0453	65.0453	65.0453
1290	74.4539	74.978	76.1709	64.9063	64.9063	64.9063
1291	73.7203	74.2544	75.4142	64.7686	64.7686	64.7686
1292	73.2517	73.7858	74.9456	64.6321	64.6321	64.6321
1293	72.9238	73.4653	74.6008	64.4969	64.4969	64.4969
1294	72.6752	73.2195	74.3479	64.3629	64.3629	64.3629
1295	72.47	73.0152	74.1384	64.2301	64.2301	64.2301
1296	72.2453	72.8537	73.7193	64.0984	64.0984	64.0984
1297	71.7784	72.1352	72.3396	64.3185	64.3185	65.842
1298	71.8577	73.0687	73.7098	65.2243	65.2243	70.3633
1299	71.8479	73.2302	73.6465	65.8347	65.8347	71.5646
1300	71.7973	73.3951	73.548	66.3239	66.3239	72.7105
1301	71.7353	73.6054	73.4456	66.786	66.786	73.9164
1302	71.6678	73.7611	73.3582	67.1986	67.1986	74.8818
1303	71.5791	73.7114	73.2681	67.4777	67.4777	75.2573
1304	71.4505	73.351	73.1581	67.5192	67.5192	74.7251
1305	71.2969	72.933	73.0435	67.3967	67.3967	73.8856
1306	71.1405	72.5281	72.9376	67.1762	67.1762	72.9238
1307	70.9704	72.1229	72.7828	66.8783	66.8783	71.7985
1308	70.3949	70.7059	70.884	65.9005	65.9005	67.2283
1309	70.261	70.8192	71.6134	65.0556	65.0556	65.0556

1310	70.9455	76.9918	72.8233	68.2414	68.2414	82.5815
1311	72.2493	84.4558	74.8038	71.9253	71.9253	92.4757
1312	72.9686	85.2582	75.4765	74.0659	74.0659	94.6584
1313	73.3485	85.5646	75.807	75.3812	75.3812	95.8664
1314	73.5039	85.374	75.9076	76.1919	76.1919	96.3082
1315	73.8065	85.3093	77.4427	76.6036	76.6036	95.9152
1316	73.3556	80.0603	76.886	75.4033	75.4033	89.3169
1317	71.889	72.443	73.2781	71.3851	71.3851	71.3851
1318	71.0794	71.7106	72.6621	69.2863	69.2863	69.2863
1319	70.6294	71.3379	72.4059	68.1525	68.1525	68.1525
1320	70.3779	71.1637	72.3482	67.5043	67.5043	67.5043
1321	70.2374	71.1006	72.4015	67.101	67.101	67.101
1322	70.2319	71.1211	72.8994	66.8218	66.8218	66.8218
1323	70.1873	71.0623	72.8852	66.6054	66.6054	66.6054
1324	70.1213	70.9839	72.8457	66.4213	66.4213	66.4213
1325	70.0427	70.8966	72.7861	66.2541	66.2541	66.2541
1326	69.9393	70.8267	72.6104	66.096	66.096	66.096
1327	69.8367	70.7241	72.5078	65.9432	65.9432	65.9432
1328	69.7348	70.6223	72.4059	65.7938	65.7938	65.7938
1329	69.6337	70.5212	72.3049	65.6467	65.6467	65.6467
1330	69.5334	70.4208	72.2045	65.5015	65.5015	65.5015
1331	69.4328	70.3224	72.0994	65.3579	65.3579	65.3579
1332	69.3296	70.2278	71.9776	65.2157	65.2157	65.2157
1333	69.2454	70.1059	71.9743	65.0749	65.0749	65.0749
1334	69.1561	70.0167	71.885	64.9355	64.9355	64.9355
1335	69.0895	69.9073	71.9309	64.7976	64.7976	64.7976
1336	69.0091	69.8298	71.8398	64.6608	64.6608	64.6608
1337	68.8449	69.8239	71.2995	64.5251	64.5251	64.5251
1338	70.4822	81.6758	75.4743	69.1451	69.1451	87.0341
1339	71.9902	83.9154	79.1929	71.4111	71.4111	88.3847
1340	72.7561	84.1265	79.7523	72.475	72.475	88.5248
1341	73.0752	83.7026	79.8959	72.9127	72.9127	88.0137
1342	73.3323	83.7378	80.4328	73.0166	73.0166	87.1502
1343	73.7565	84.7411	81.3499	72.9389	72.9389	86.1028
1344	73.906	84.5078	81.3451	72.7392	72.7392	84.8814
1345	74.0874	84.4554	82.2347	72.4733	72.4733	83.8178
1346	74.3829	84.8331	83.3401	72.1689	72.1689	82.3448
1347	74.6911	85.4539	84.4011	71.828	71.828	81.018
1348	74.9854	85.9809	85.2841	71.4382	71.4382	79.572
1349	75.2669	86.4138	86.219	71.0248	71.0248	78.1398
1350	74.6171	82.2981	83.148	69.755	69.755	72.2866
1351	73.8301	80.4101	81.7007	68.5044	68.5044	68.5044
1352	73.4685	81.4073	82.5437	67.8571	67.8571	67.8571
1353	71.5315	71.5315	71.5315	67.5138	67.5138	67.5138
1354	70.452	70.452	70.452	67.3313	67.3313	67.3313
1355	69.849	69.849	69.849	67.2319	67.2319	67.2319
1356	69.5108	69.5108	69.5108	67.1754	67.1754	67.1754
1357	69.3196	69.3196	69.3196	67.141	67.141	67.141
1358	69.2103	69.2103	69.2103	67.118	67.118	67.118
1359	69.1464	69.1464	69.1464	67.101	67.101	67.101
1360	69.1077	69.1077	69.1077	67.087	67.087	67.087
1361	69.083	69.083	69.083	67.0746	67.0746	67.0746
1362	69.0661	69.0661	69.0661	67.0631	67.0631	67.0631
1363	69.0536	69.0536	69.0536	67.0519	67.0519	67.0519
1364	69.0434	69.0434	69.0434	67.041	67.041	67.041

ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

ALSTOM

00012558

1366	69.0346	69.0346	69.0346	67.0302	67.0302	67.0302
1366	69.0266	69.0266	69.0266	67.0195	67.0195	67.0195
1367	69.019	69.019	69.019	67.0088	67.0088	67.0088
1368	69.0115	69.0115	69.0115	66.9981	66.9981	66.9981
1369	69.0043	69.0043	69.0043	66.9875	66.9875	66.9875
1370	72.3158	87.3614	88.7583	66.9905	66.9905	66.9905
1371	74.2313	86.5822	88.6501	66.9933	66.9933	66.9933
1372	75.3799	85.4407	88.4609	66.9961	66.9961	66.9961
1373	76.0966	84.9843	89.0087	66.9572	66.9572	66.9572
1374	76.5638	84.4875	89.4476	66.8647	66.8647	66.8647
1375	76.9082	83.9649	89.7863	66.746	66.746	66.746
1376	77.1979	83.481	90.0868	66.615	66.615	66.615
1377	77.4107	82.8003	90.3037	66.4782	66.4782	66.4782
1378	77.6003	82.3645	90.3095	66.3394	66.3394	66.3394
1379	77.7994	82.227	90.1232	66.2003	66.2003	66.2003
1380	78.3053	82.9203	91.6258	66.0629	66.0629	66.0629
1381	78.6497	82.9839	91.8019	65.9264	65.9264	65.9264
1382	78.5051	82.0285	90.1314	65.7893	65.7893	65.7893
1383	78.3759	81.8024	89.4725	65.6529	65.6529	65.6529
1384	78.3327	81.409	89.1822	65.5176	65.5176	65.5176
1385	78.3697	81.3624	89.115	65.3836	65.3836	65.3836
1386	78.4583	81.4292	89.1358	65.251	65.251	65.251
1387	78.3744	80.96	88.3601	65.1189	65.1189	65.1189
1388	78.0509	80.02	86.9254	64.9867	64.9867	64.9867
1389	77.6256	79.0704	85.5458	64.8547	64.8547	64.8547
1390	77.3367	78.677	85.0077	64.7236	64.7236	64.7236
1391	77.1196	78.3581	84.5481	64.5935	64.5935	64.5935
1392	76.9194	78.0239	84.013	64.4642	64.4642	64.4642
1393	76.7063	77.5463	83.3781	64.3358	64.3358	64.3358
1394	76.4823	77.2609	82.74	64.2082	64.2082	64.2082
1395	76.3291	77.0555	82.4819	64.0817	64.0817	64.0817
1396	76.2447	76.9612	82.4116	63.9564	63.9564	63.9564
1397	76.198	76.9047	82.3786	63.8323	63.8323	63.8323
1398	76.1688	76.8682	82.3512	63.7095	63.7095	63.7095
1399	76.1461	76.8411	82.328	63.5878	63.5878	63.5878
1400	76.1323	76.819	82.3097	63.4672	63.4672	63.4672
1401	76.1166	76.7986	82.2823	63.3479	63.3479	63.3479
1402	76.0987	76.7774	82.244	63.2296	63.2296	63.2296
1403	76.0795	76.755	82.2051	63.1125	63.1125	63.1125
1404	75.3305	75.7523	78.7931	62.9936	62.9936	62.9936
1405	74.1219	74.418	74.8393	62.8727	62.8727	62.8727
1406	73.4891	73.9328	74.564	62.7534	62.7534	62.7534
1407	73.1752	73.7664	74.6076	62.6356	62.6356	62.6356
1408	72.964	73.5941	74.5077	62.5191	62.5191	62.5191
1409	72.7775	73.4076	74.3212	62.4036	62.4036	62.4036
1410	72.6048	73.2349	74.1485	62.2892	62.2892	62.2892
1411	72.4402	73.0703	73.9839	62.1758	62.1758	62.1758
1412	72.2804	72.9105	73.8241	62.0634	62.0634	62.0634
1413	72.1238	72.7539	73.6675	61.9521	61.9521	61.9521
1414	71.9664	72.5995	73.5131	61.8418	61.8418	61.8418
1415	71.8167	72.4468	73.3604	61.7325	61.7325	61.7325
1416	71.6654	72.2955	73.2091	61.6243	61.6243	61.6243
1417	71.5174	72.1402	73.0716	61.517	61.517	61.517
1418	71.3697	71.9925	72.9239	61.4107	61.4107	61.4107
1419	71.2207	71.8508	72.7644	61.3053	61.3053	61.3053





00012559

1420	71.0738	71.7025	72.6195	61.2009	61.2009	61.2009
1421	70.9278	71.5574	72.4722	61.0975	61.0975	61.0975
1422	70.783	71.4131	72.3267	60.995	60.995	60.995
1423	70.6393	71.2694	72.183	60.8935	60.8935	60.8935
1424	70.4968	71.1269	72.0405	60.7929	60.7929	60.7929
1425	70.3553	70.9854	71.899	60.6932	60.6932	60.6932
1426	70.2149	70.845	71.7586	60.5944	60.5944	60.5944
1427	70.0755	70.7056	71.6192	60.4965	60.4965	60.4965
1428	69.9371	70.5672	71.4808	60.3995	60.3995	60.3995
1429	69.7997	70.4298	71.3434	60.3034	60.3034	60.3034
1430	69.6633	70.2934	71.207	60.2082	60.2082	60.2082
1431	69.5279	70.158	71.0716	60.1138	60.1138	60.1138
1432	69.3935	70.0236	70.9372	60.0203	60.0203	60.0203
1433	69.26	69.8901	70.8037	59.9277	59.9277	59.9277
1434	69.1275	69.7576	70.6712	59.8359	59.8359	59.8359
1435	68.9959	69.626	70.5396	59.7449	59.7449	59.7449
1436	68.8653	69.4954	70.409	59.6547	59.6547	59.6547
1437	68.7357	69.3657	70.2794	59.5654	59.5654	59.5654
1438	68.6069	69.237	70.1506	59.4769	59.4769	59.4769
1439	68.4791	69.1092	70.0228	59.3892	59.3892	59.3892
1440	68.3522	68.9823	69.8959	59.3023	59.3023	59.3023
1441	68.2263	68.8563	69.77	59.2162	59.2162	59.2162
1442	68.1012	68.7313	69.6449	59.1308	59.1308	59.1308
1443	67.977	68.6071	69.5207	59.0462	59.0462	59.0462
1444	67.8537	68.4838	69.3974	58.9625	58.9625	58.9625
1445	67.7503	68.311	69.3941	58.8795	58.8795	58.8795
1446	67.6673	68.1669	69.4409	58.7974	58.7974	58.7974
1447	67.6026	68.0592	69.519	58.7161	58.7161	58.7161
1448	67.5547	67.9787	69.6286	58.6358	58.6358	58.6358
1449	67.5225	67.9288	69.7668	58.5563	58.5563	58.5563
1450	67.5057	67.9007	69.9301	58.4778	58.4778	58.4778
1451	67.4755	67.8679	69.9819	58.4	58.4	58.4
1452	67.4183	67.8107	69.9247	58.323	58.323	58.323
1453	67.3467	67.7391	69.8531	58.2466	58.2466	58.2466
1454	67.2549	67.6488	69.7125	58.1709	58.1709	58.1709
1455	67.125	67.5246	69.4296	58.0958	58.0958	58.0958
1456	66.9761	67.3868	69.135	58.0211	58.0211	58.0211
1457	66.8183	67.2517	68.84	57.9471	57.9471	57.9471
1458	66.657	67.1194	68.5509	57.8736	57.8736	57.8736
1459	66.4956	66.9945	68.2709	57.8006	57.8006	57.8006
1460	66.3369	66.8827	68.0039	57.7283	57.7283	57.7283
1461	66.2019	66.7477	67.8688	57.6565	57.6565	57.6565
1462	67.6058	78.6442	70.0381	62.8752	62.8752	62.4648
1463	68.5697	80.8195	71.1095	66.1051	66.1051	66.687
1464	69.1132	81.4133	71.6058	68.0365	68.0365	68.6282
1465	69.3918	81.4884	71.8309	69.234	69.234	69.5913
1466	69.6018	81.3389	72.4518	69.9599	69.9599	69.7835
1467	69.9429	81.322	73.9891	70.3453	70.3453	69.3461
1468	70.2568	81.4257	74.9526	70.5245	70.5245	68.6394
1469	70.9573	82.6853	77.5642	70.5836	70.5836	67.8039
1470	71.5115	83.1134	78.8933	70.5639	70.5639	66.8828
1471	71.6844	82.532	78.4685	70.482	70.482	65.877
1472	71.7524	81.9423	78.6755	70.3439	70.3439	64.7789
1473	72.1161	82.9904	79.6022	70.1669	70.1669	63.6448
1474	72.3279	83.0541	79.8171	69.941	69.941	62.4152





00012560

1475	72.478	82.914	80.3409	69.6768	69.6768	81.1478
1476	72.7177	83.0796	81.4292	69.3865	69.3865	79.8758
1477	73.0812	83.7447	82.576	69.0788	69.0788	78.6195
1478	73.3694	84.2909	83.4893	68.7231	68.7231	77.2058
1479	73.6547	84.758	84.3965	68.3397	68.3397	75.7929
1480	73.4004	82.537	82.995	67.4466	67.4466	71.7955
1481	72.4723	78.5901	79.9332	65.9849	65.9849	65.9849
1482	72.0324	79.5201	80.7077	65.2289	65.2289	65.2289
1483	70.0595	70.0595	70.0595	64.8306	64.8306	64.8306
1484	68.9603	68.9603	68.9603	64.6203	64.6203	64.6203
1485	68.3465	68.3465	68.3465	64.5072	64.5072	64.5072
1486	68.0024	68.0024	68.0024	64.4442	64.4442	64.4442
1487	67.8083	67.8083	67.8083	64.4071	64.4071	64.4071
1488	67.6974	67.6974	67.6974	64.3835	64.3835	64.3835
1489	67.6328	67.6328	67.6328	64.3667	64.3667	64.3667
1490	67.5939	67.5939	67.5939	64.3535	64.3535	64.3535
1491	67.5693	67.5693	67.5693	64.3421	64.3421	64.3421
1492	67.5526	67.5526	67.5526	64.3317	64.3317	64.3317
1493	67.5404	67.5404	67.5404	64.3218	64.3218	64.3218
1494	67.5306	67.5306	67.5306	64.3122	64.3122	64.3122
1495	67.5222	67.5222	67.5222	64.3027	64.3027	64.3027
1496	67.5145	67.5145	67.5145	64.2933	64.2933	64.2933
1497	67.5073	67.5073	67.5073	64.2839	64.2839	64.2839
1498	67.5002	67.5002	67.5002	64.2746	64.2746	64.2746
1499	67.4934	67.4934	67.4934	64.2652	64.2652	64.2652
1500	70.8132	86.74	87.9219	64.2684	64.2684	64.2684
1501	72.736	86.9783	87.8378	64.2714	64.2714	64.2714
1502	73.8811	84.3312	87.0176	64.2744	64.2744	64.2744
1503	74.6096	83.8827	87.5728	64.2773	64.2773	64.2773
1504	75.0978	83.3399	87.989	64.2451	64.2451	64.2451
1505	75.4505	82.7642	88.325	64.168	64.168	64.168
1506	75.7491	82.289	88.6345	64.069	64.069	64.069
1507	75.9875	81.6757	88.8803	63.9594	63.9594	63.9594
1508	76.1811	81.0571	89.0183	63.8451	63.8451	63.8451
1509	76.3867	80.9261	88.8384	63.7291	63.7291	63.7291
1510	76.7975	81.3454	89.7741	63.6136	63.6136	63.6136
1511	77.3495	81.9731	91.0463	63.4993	63.4993	63.4993
1512	77.3144	81.0972	89.4289	63.3842	63.3842	63.3842
1513	77.1331	80.4118	88.3156	63.2692	63.2692	63.2692
1514	77.0658	80.1908	87.9954	63.155	63.155	63.155
1515	77.0802	80.1072	87.8488	63.0419	63.0419	63.0419
1516	77.1608	80.1456	87.8609	62.9299	62.9299	62.9299
1517	77.1987	80.0089	87.5894	62.8187	62.8187	62.8187
1518	76.9555	79.1556	86.2464	62.7074	62.7074	62.7074
1519	76.5567	78.1719	84.794	62.596	62.596	62.596
1520	76.2294	77.6167	84.0125	62.4852	62.4852	62.4852
1521	76.001	77.2909	83.5519	62.3752	62.3752	62.3752
1522	75.8253	77.0225	83.1554	62.266	62.266	62.266
1523	75.6447	76.6963	82.8026	62.1575	62.1575	62.1575
1524	75.4569	76.3632	82.0423	62.0497	62.0497	62.0497
1525	75.2624	76.0272	81.4849	61.9426	61.9426	61.9426
1526	75.1374	75.864	81.2898	61.8364	61.8364	61.8364
1527	75.0712	75.789	81.2362	61.7313	61.7313	61.7313
1528	75.0374	75.7485	81.2147	61.6272	61.6272	61.6272
1529	75.0196	75.7213	81.2029	61.5241	61.5241	61.5241



ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

00012561



1530	75.0085	75.7045	81.1895	61.422	61.422	61.422
1531	75.0011	75.6916	81.18	61.3209	61.3209	61.3209
1532	74.9958	75.681	81.1728	61.2207	61.2207	61.2207
1533	74.9887	75.6704	81.1526	61.1215	61.1215	61.1215
1534	74.9795	75.6585	81.1267	61.0233	61.0233	61.0233
1535	74.9691	75.6456	81.1004	60.9259	60.9259	60.9259
1536	74.9581	75.6321	81.0741	60.8295	60.8295	60.8295
1537	73.8154	74.2526	75.8171	60.7299	60.7299	60.7299
1538	73.1305	73.5677	75.1322	60.6312	60.6312	60.6312
1539	72.7031	73.1336	74.7408	60.5334	60.5334	60.5334
1540	72.4076	72.8381	74.446	60.4366	60.4366	60.4366
1541	72.184	72.6146	74.2218	60.3406	60.3406	60.3406
1542	71.9937	72.429	74.0057	60.2454	60.2454	60.2454
1543	71.827	72.263	73.8353	60.1512	60.1512	60.1512
1544	71.6734	72.11	73.678	60.0578	60.0578	60.0578
1545	71.5275	71.9647	73.5291	59.9652	59.9652	59.9652
1546	71.3869	71.824	73.3885	59.8735	59.8735	59.8735
1547	71.2496	71.6868	73.2512	59.7827	59.7827	59.7827
1548	71.1145	71.5517	73.1162	59.6927	59.6927	59.6927
1549	70.9811	71.4183	72.9828	59.6035	59.6035	59.6035
1550	70.849	71.2862	72.8507	59.5151	59.5151	59.5151
1551	70.7181	71.1553	72.7197	59.4275	59.4275	59.4275
1552	72.2137	84.3662	74.7865	64.9264	64.9264	85.4376
1553	73.0416	85.3152	75.5665	68.0144	68.0144	88.6078
1554	73.4944	85.8075	75.9708	69.8628	69.8628	90.4536
1555	73.689	85.6587	76.1075	70.9669	70.9669	91.1882
1556	73.9415	85.5378	77.2643	71.5811	71.5811	91.0969
1557	74.2517	85.5491	78.5506	71.8864	71.8864	90.5427
1558	74.647	85.5431	79.949	72.0096	72.0096	89.7702
1559	75.4666	87.4807	82.9378	72.0263	72.0263	88.8888
1560	75.7597	87.0536	82.6908	71.9705	71.9705	87.9261
1561	75.828	86.3877	82.6599	71.8528	71.8528	86.8636
1562	75.9732	86.4372	83.1214	71.686	71.686	85.738
1563	76.2953	87.2501	83.8767	71.4783	71.4783	84.5623
1564	76.3815	86.9553	83.8093	71.2199	71.2199	83.2872
1565	76.5366	86.888	84.7454	70.9316	70.9316	82.0049
1566	76.7945	87.2865	85.8269	70.6231	70.6231	80.7338
1567	77.0989	87.8779	86.8487	70.2841	70.2841	79.4019
1568	77.3722	88.3787	87.7161	69.9018	69.9018	77.9662
1569	77.6247	88.7926	88.6319	69.4973	69.4973	76.5429
1570	76.8903	84.2726	85.2029	68.1672	68.1672	70.326
1571	76.1206	82.7932	84.0733	66.973	66.973	66.973
1572	75.7683	83.7997	84.9257	66.3549	66.3549	66.3549
1573	73.8348	73.8348	73.8348	66.0279	66.0279	66.0279
1574	72.7569	72.7569	72.7569	65.8545	65.8545	65.8545
1575	72.1546	72.1546	72.1546	65.7604	65.7604	65.7604
1576	71.8164	71.8164	71.8164	65.7072	65.7072	65.7072
1577	71.6251	71.6251	71.6251	65.6752	65.6752	65.6752
1578	71.5153	71.5153	71.5153	65.6541	65.6541	65.6541
1579	71.4509	71.4509	71.4509	65.6386	65.6386	65.6386
1580	71.4117	71.4117	71.4117	65.6261	65.6261	65.6261
1581	71.3864	71.3864	71.3864	65.6151	65.6151	65.6151
1582	71.369	71.369	71.369	65.6049	65.6049	65.6049
1583	71.3558	71.3558	71.3558	65.595	65.595	65.595
1584	71.3451	71.3451	71.3451	65.5854	65.5854	65.5854

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ANEXO 1E INVERTER TEMPERAT-EBRCL13.xls  
SIMULACIONES, CALCULOS Y GRÁFICAS

ALSTOM

00012562

1585	71.3357	71.3357	71.3357	65.5759	65.5759	65.5759
1586	71.327	71.327	71.327	65.5665	65.5665	65.5665
1587	71.3188	71.3188	71.3188	65.5571	65.5571	65.5571
1588	71.3108	71.3108	71.3108	65.5477	65.5477	65.5477
1589	71.3029	71.3029	71.3029	65.5383	65.5383	65.5383
1590	74.8122	89.4649	90.9179	65.5407	65.5407	65.5407
1591	76.5264	88.6944	90.8103	65.543	65.543	65.543
1592	77.6749	87.6557	90.7444	65.5452	65.5452	65.5452
1593	78.3873	87.2096	91.2978	65.5092	65.5092	65.5092
1594	78.8445	86.7029	91.7269	65.4243	65.4243	65.4243
1595	79.1777	86.1817	92.0566	65.3155	65.3155	65.3155
1596	79.4512	85.6745	92.3405	65.1953	65.1953	65.1953
1597	79.6472	84.9759	92.5405	65.07	65.07	65.07
1598	79.8234	84.5646	92.5063	64.9428	64.9428	64.9428
1599	80.0198	84.4458	92.3726	64.8153	64.8153	64.8153
1600	80.5291	85.1592	93.9269	64.6894	64.6894	64.6894
1601	80.8072	85.0693	93.8236	64.5641	64.5641	64.5641
1602	80.615	84.0614	92.0965	64.4383	64.4383	64.4383
1603	80.4863	83.6935	91.5511	64.3133	64.3133	64.3133
1604	80.4352	83.4887	91.2471	64.1894	64.1894	64.1894
1605	80.4678	83.4729	91.2009	64.0666	64.0666	64.0666
1606	80.547	83.5109	91.213	63.9451	63.9451	63.9451
1607	80.3955	82.8787	90.1966	63.8239	63.8239	63.8239
1608	80.0307	81.9068	88.7376	63.7028	63.7028	63.7028
1609	79.6124	81.0422	87.4969	63.5819	63.5819	63.5819
1610	79.3203	80.6459	88.9586	63.462	63.462	63.462
1611	78.5364	79.4503	83.8788	63.341	63.341	63.341
1612	76.685	76.785	76.8551	63.2817	63.2817	63.5647
1613	75.5769	75.677	75.747	63.195	63.195	63.478
1614	74.8728	74.9729	75.0429	63.095	63.095	63.378
1615	74.3885	74.4886	74.5586	62.9889	62.9889	63.2718
1616	74.0242	74.1242	74.1943	62.8801	62.8801	63.1631
1617	73.7258	73.8257	73.8958	62.7708	62.7708	63.0536
1618	73.4635	73.5636	73.6336	62.6612	62.6612	62.9442
1619	73.2219	73.3219	73.392	62.5523	62.5523	62.8353
1620	72.992	73.0921	73.1621	62.4442	62.4442	62.7272
1621	72.7693	72.8694	72.9394	62.3369	62.3369	62.6199
1622	72.5512	72.6512	72.7213	62.2306	62.2306	62.5136
1623	72.3362	72.4363	72.5063	62.1252	62.1252	62.4082
1624	72.1238	72.2237	72.2938	62.0207	62.0207	62.3037
1625	71.9131	72.0132	72.0832	61.9172	61.9172	62.2002
1626	71.7043	71.8044	71.8744	61.8146	61.8146	62.0976
1627	71.4972	71.5972	71.6673	61.713	61.713	61.996
1628	71.254	71.2802	71.2985	61.5838	61.5638	61.6379
1629	71.1526	71.4246	71.615	61.5978	61.5978	62.3669
1630	70.8985	70.9505	70.9869	61.4289	61.4289	61.5758
1631	70.7662	70.955	71.2032	61.2601	61.2601	61.2601
1632	70.7707	71.2068	71.78	61.124	61.124	61.124
1633	72.3471	73.5063	79.4981	61.0104	61.0104	61.0104
1634	73.1501	74.1753	80.0405	60.9053	60.9053	60.9053
1635	73.4971	74.3741	80.0074	60.8048	60.8048	60.8048
1636	73.5961	74.3321	79.7445	60.7069	60.7069	60.7069
1637	73.8537	74.3788	79.8084	60.6109	60.6109	60.6109
1638	73.8907	74.4072	79.8575	60.5164	60.5164	60.5164
1639	73.7167	74.4248	79.8954	60.423	60.423	60.423

*(Handwritten red and blue marks)*

ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

ALSTOM

00012563

1640	73.735	74.4362	79.9181	60.3307	60.3307	60.3307
1641	73.7475	74.4432	79.9284	60.2393	60.2393	60.2393
1642	73.7569	74.4472	79.9357	60.1488	60.1488	60.1488
1643	73.7647	74.4498	79.9415	60.0592	60.0592	60.0592
1644	73.7687	74.4503	79.932	59.9704	59.9704	59.9704
1645	73.7693	74.4481	79.9154	59.8825	59.8825	59.8825
1646	73.7681	74.4443	79.8975	59.7955	59.7955	59.7955
1647	73.7659	74.4394	79.8789	59.7092	59.7092	59.7092
1648	73.2735	79.1507	75.1355	63.2297	63.2297	77.3462
1649	73.96	86.1697	76.5135	67.1636	67.1636	87.7163
1650	74.3402	86.6299	76.8454	69.4495	69.4495	90.0418
1651	74.5262	86.7068	76.979	70.8457	70.8457	91.2929
1652	74.6129	86.423	77.2177	71.6869	71.6869	91.6702
1653	74.8909	86.3072	78.8174	72.1126	72.1126	91.2351
1654	73.8682	77.3558	77.0459	69.658	69.658	78.7973
1655	73.0125	73.7898	76.0485	66.2882	66.2882	66.2882
1656	72.5082	73.2748	75.6236	64.5364	64.5364	64.5364
1657	72.2103	72.9688	75.4092	63.5981	63.5981	63.5981
1658	72.0147	72.7703	75.2615	63.069	63.069	63.069
1659	71.9266	72.6768	75.4149	62.7462	62.7462	62.7462
1660	71.8453	72.5958	75.3614	62.5274	62.5274	62.5274
1661	71.7684	72.5187	75.3123	62.3614	62.3614	62.3614
1662	71.6946	72.4451	75.266	62.2226	62.2226	62.2226
1663	71.6238	72.375	75.2209	62.0978	62.0978	62.0978
1664	71.5183	72.2865	75.0011	61.9806	61.9806	61.9806
1665	71.4185	72.1687	74.9033	61.8677	61.8677	61.8677
1666	71.3263	72.0764	74.8111	61.7574	61.7574	61.7574
1667	71.2373	71.9875	74.7221	61.649	61.649	61.649
1668	71.1504	71.9006	74.6352	61.5421	61.5421	61.5421
1669	71.0649	71.8151	74.5497	61.4363	61.4363	61.4363
1670	70.9805	71.7306	74.4653	61.3316	61.3316	61.3316
1671	70.8969	71.647	74.3816	61.2279	61.2279	61.2279
1672	70.814	71.5641	74.2987	61.1253	61.1253	61.1253
1673	70.7317	71.4818	74.2185	61.0236	61.0236	61.0236
1674	70.641	71.391	74.0911	60.9228	60.9228	60.9228
1675	70.5255	71.2757	73.8655	60.8229	60.8229	60.8229
1676	70.5678	73.3604	73.7362	62.5781	62.5781	70.3554
1677	72.0385	83.3034	77.2461	66.3949	66.3949	84.1946
1678	73.4846	85.5196	81.0189	68.2542	68.2542	85.0839
1679	74.0771	85.2818	80.9356	69.11	69.11	84.9803
1680	74.3188	84.7456	81.1728	69.4359	69.4359	84.2692
1681	74.6461	85.2774	81.9324	69.4821	69.4821	83.2997
1682	74.9643	85.8058	82.5	69.3669	69.3669	82.149
1683	75.1009	85.5909	82.7374	69.1504	69.1504	80.8812
1684	75.3083	85.5966	83.8273	68.8809	68.8809	79.5981
1685	75.6267	86.2391	84.964	68.5849	68.5849	78.3351
1686	75.9334	86.8051	85.9112	68.2426	68.2426	76.9468
1687	76.2105	87.2815	86.8194	67.8655	67.8655	75.5228
1688	76.1593	86.1384	86.3696	67.1779	67.1779	72.5785
1689	75.1308	80.8314	82.2218	65.5857	65.5857	65.5857
1690	74.6374	81.8774	83.0931	64.7623	64.7623	64.7623
1691	72.6386	72.6386	72.6386	64.33	64.33	64.33
1692	71.5247	71.5247	71.5247	64.1026	64.1026	64.1026
1693	70.9024	70.9024	70.9024	63.9811	63.9811	63.9811
1694	70.5534	70.5534	70.5534	63.9142	63.9142	63.9142

ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

ALSTOM

00012564

1695	70.3562	70.3562	70.3562	63.8755	63.8755	63.8755
1696	70.2433	70.2433	70.2433	63.8514	63.8514	63.8514
1697	70.1772	70.1772	70.1772	63.8348	63.8348	63.8348
1698	70.1373	70.1373	70.1373	63.8221	63.8221	63.8221
1699	70.1118	70.1118	70.1118	63.8114	63.8114	63.8114
1700	70.0943	70.0943	70.0943	63.8018	63.8018	63.8018
1701	70.0813	70.0813	70.0813	63.7927	63.7927	63.7927
1702	70.0708	70.0708	70.0708	63.7838	63.7838	63.7838
1703	70.0617	70.0617	70.0617	63.7752	63.7752	63.7752
1704	70.0534	70.0534	70.0534	63.7666	63.7666	63.7666
1705	70.0454	70.0454	70.0454	63.758	63.758	63.758
1706	70.0377	70.0377	70.0377	63.7495	63.7495	63.7495
1707	70.0302	70.0302	70.0302	63.741	63.741	63.741
1708	73.3536	89.7665	90.8257	63.7435	63.7435	63.7435
1709	75.2783	89.0159	90.7504	63.7459	63.7459	63.7459
1710	76.422	87.1369	89.6344	63.7482	63.7482	63.7482
1711	77.149	86.6532	90.1462	63.7504	63.7504	63.7504
1712	77.6314	86.0692	90.5271	63.719	63.719	63.719
1713	77.9687	85.4543	90.8425	63.6443	63.6443	63.6443
1714	78.2502	84.9601	91.1355	63.5486	63.5486	63.5486
1715	78.4803	84.3651	91.371	63.4428	63.4428	63.4428
1716	78.6563	83.6535	91.5535	63.3324	63.3324	63.3324
1717	78.8402	83.4559	91.3793	63.2204	63.2204	63.2204
1718	79.1603	83.662	91.9007	63.1085	63.1085	63.1085
1719	79.7432	84.447	93.5181	62.9982	62.9982	62.9982
1720	79.7964	83.7621	92.255	62.8873	62.8873	62.8873
1721	79.5731	82.8881	90.8155	62.7763	62.7763	62.7763
1722	79.4751	82.6341	90.4607	62.6662	62.6662	62.6662
1723	79.4555	82.4923	90.2401	62.5571	62.5571	62.5571
1724	79.5098	82.504	90.2252	62.449	62.449	62.449
1725	79.6037	82.5571	90.2526	62.342	62.342	62.342
1726	79.3873	81.7306	88.9363	62.2349	62.2349	62.2349
1727	79.0018	80.7871	87.5089	62.1279	62.1279	62.1279
1728	78.6216	80.0382	86.4745	62.0213	62.0213	62.0213
1729	77.0134	77.9089	79.8671	61.9112	61.9112	61.9112
1730	76.0841	76.9635	78.7725	61.8021	61.8021	61.8021
1731	75.5652	76.3668	78.468	61.6942	61.6942	61.6942
1732	75.238	76.0249	78.199	61.5873	61.5873	61.5873
1733	75.0181	75.7955	78.047	61.4814	61.4814	61.4814
1734	74.8528	75.6238	77.9295	61.3766	61.3766	61.3766
1735	74.7123	75.4798	77.813	61.2728	61.2728	61.2728
1736	74.5548	75.3367	77.5518	61.1698	61.1698	61.1698
1737	74.4126	75.1944	77.4095	61.0678	61.0678	61.0678
1738	74.2789	75.0508	77.2758	60.9668	60.9668	60.9668
1739	74.1503	74.9322	77.1473	60.8667	60.8667	60.8667
1740	74.0249	74.8068	77.0218	60.7675	60.7675	60.7675
1741	73.8962	74.6812	76.8711	60.6692	60.6692	60.6692
1742	73.7613	74.5542	76.6957	60.5718	60.5718	60.5718
1743	73.6238	74.4265	76.5213	60.4753	60.4753	60.4753
1744	73.4786	74.2978	76.3149	60.3796	60.3796	60.3796
1745	73.3562	74.1623	76.2366	60.2849	60.2849	60.2849
1746	73.2244	74.0413	76.0689	60.191	60.191	60.191
1747	73.0894	73.9162	75.897	60.0979	60.0979	60.0979
1748	72.9545	73.7922	75.7326	60.0057	60.0057	60.0057
1749	72.8231	73.6682	75.5854	59.9143	59.9143	59.9143

ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

ALSTOM

00012565

1750	72.8784	73.5658	75.3495	59.8237	59.8237	59.8237
1751	72.5445	73.432	75.2156	59.7339	59.7339	59.7339
1752	72.417	73.3044	75.0881	59.645	59.645	59.645
1753	72.2932	73.1806	74.9643	59.5569	59.5569	59.5569
1754	72.1718	73.0593	74.8429	59.4696	59.4696	59.4696
1755	72.1669	73.7577	75.0715	60.451	60.451	60.0687
1756	73.7316	84.9281	78.7327	64.6503	64.6503	82.5355
1757	75.1893	87.1168	82.399	66.7268	66.7268	83.6976
1758	75.9156	87.2871	82.9098	67.7175	67.7175	83.7848
1759	76.2028	86.827	83.024	68.1398	68.1398	83.2366
1760	76.4341	86.8426	83.5371	68.2573	68.2573	82.3866
1761	76.8323	87.8152	84.425	68.2074	68.2074	81.3666
1762	76.9577	87.5577	84.396	68.0427	68.0427	80.1801
1763	77.1171	87.4841	85.2685	67.8151	67.8151	78.9548
1764	77.3711	87.8428	86.3522	67.5505	67.5505	77.7217
1765	77.6774	88.4414	87.3903	67.2496	67.2496	76.4342
1768	77.95	88.9463	88.2521	66.9	66.9	75.0286
1767	78.2001	89.3578	89.1655	66.5286	66.5286	73.6364
1768	77.5333	85.1919	86.0478	65.2921	65.2921	67.7958
1769	76.7325	83.3194	84.8092	64.0754	64.0754	64.0754
1770	76.3628	84.3085	85.4442	63.446	63.446	63.446
1771	74.4208	74.4208	74.4208	63.1142	63.1142	63.1142
1772	73.3383	73.3383	73.3383	62.939	62.939	62.939
1773	72.7333	72.7333	72.7333	62.8446	62.8446	62.8446
1774	72.3936	72.3936	72.3936	62.792	62.792	62.792
1775	72.2013	72.2013	72.2013	62.7609	62.7609	62.7609
1776	72.091	72.091	72.091	62.741	62.741	62.741
1777	72.0261	72.0261	72.0261	62.7268	62.7268	62.7268
1778	71.9866	71.9866	71.9866	62.7156	62.7156	62.7156
1779	71.9612	71.9612	71.9612	62.706	62.706	62.706
1780	71.9435	71.9435	71.9435	62.6971	62.6971	62.6971
1781	71.9302	71.9302	71.9302	62.6886	62.6886	62.6886
1782	71.9193	71.9193	71.9193	62.6804	62.6804	62.6804
1783	71.9097	71.9097	71.9097	62.6723	62.6723	62.6723
1784	71.9009	71.9009	71.9009	62.6642	62.6642	62.6642
1785	71.8925	71.8925	71.8925	62.6562	62.6562	62.6562
1786	71.8844	71.8844	71.8844	62.6482	62.6482	62.6482
1787	71.8763	71.8763	71.8763	62.6402	62.6402	62.6402
1788	75.187	90.2089	91.6192	62.6427	62.6427	62.6427
1789	77.1039	89.4413	91.5292	62.645	62.645	62.645
1790	78.2503	88.3035	91.3284	62.6473	62.6473	62.6473
1791	78.961	87.8437	91.873	62.6188	62.6188	62.6188
1792	79.4155	87.3343	92.2992	62.5507	62.5507	62.5507
1793	79.7438	86.7965	92.6219	62.4632	62.4632	62.4632
1794	80.0155	86.2946	92.9045	62.3666	62.3666	62.3666
1795	80.209	85.5941	93.1021	62.2658	62.2658	62.2658
1796	80.3793	85.1418	93.0866	62.1635	62.1635	62.1635
1797	80.5588	84.9858	92.8819	62.0809	62.0809	62.0809
1798	81.0419	85.6549	94.3523	61.9596	61.9596	61.9596
1799	81.3819	85.7426	94.5839	61.8591	61.8591	61.8591
1800	81.2393	84.8131	92.9803	61.758	61.758	61.758
1801	81.082	84.3267	92.2086	61.6575	61.6575	61.6575
1802	81.0171	84.1198	91.91	61.5577	61.5577	61.5577
1803	81.0257	84.049	91.7884	61.459	61.459	61.459
1804	81.0896	84.074	91.789	61.3611	61.3611	61.3611

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ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

ALSTOM

00012566

1805	81.1269	83.977	91.5895	61.2641	61.2641	61.2641
1806	80.8959	83.1812	90.3403	61.1871	61.1671	61.1671
1807	80.5156	82.2604	88.9856	61.0702	61.0702	61.0702
1808	80.1447	81.5628	88.0013	60.9736	60.9736	60.9736
1809	79.8845	81.2105	87.5215	60.8778	60.8778	60.8778
1810	79.6812	80.9156	87.0999	60.7826	60.7826	60.7826
1811	79.4887	80.6021	86.6061	60.6881	60.6881	60.6881
1812	79.2865	80.2579	86.0388	60.5943	60.5943	60.5943
1813	79.0812	79.9218	85.498	60.5011	60.5011	60.5011
1814	78.8862	79.619	85.0299	60.4085	60.4085	60.4085
1815	78.7684	79.4941	84.9221	60.3168	60.3168	60.3168
1816	78.8923	79.4117	84.8551	60.2261	60.2261	60.2261
1817	78.6388	79.3524	84.8097	60.1362	60.1362	60.1362
1818	78.5974	79.3059	84.7755	60.0471	60.0471	60.0471
1819	78.5624	79.2663	84.7466	59.959	59.959	59.959
1820	78.5292	79.2299	84.7121	59.8716	59.8716	59.8716
1821	78.4971	79.1945	84.6788	59.7851	59.7851	59.7851
1822	78.9245	91.2285	81.4122	65.3066	65.3066	85.898
1823	79.0941	91.1167	81.5212	68.2781	68.2781	88.5583
1824	79.2878	90.9146	82.5081	69.8386	69.8386	89.421
1825	79.5618	90.8652	83.842	70.6111	70.6111	89.2927
1826	79.9275	91.2308	85.2502	70.9626	70.9626	88.7148
1827	80.7259	92.7636	88.2623	71.0908	71.0908	87.9237
1828	80.9627	92.2219	87.8858	71.0909	71.0909	87.0055
1829	80.9892	91.5161	87.8266	71.0035	71.0035	85.9705
1830	81.1117	91.6067	88.2858	70.8552	70.8552	84.8636
1831	81.3864	92.3237	88.9607	70.6589	70.6589	83.6966
1832	81.4298	91.9862	88.8506	70.409	70.409	82.43
1833	81.5549	91.8968	89.8032	70.1283	70.1283	81.1564
1834	81.7836	92.2902	90.8526	69.8272	69.8272	79.8945
1835	82.0517	92.8415	91.828	69.4935	69.4935	78.583
1836	82.2889	93.3027	92.663	69.1173	69.1173	77.1352
1837	82.5058	93.6811	93.5433	68.7185	68.7185	75.7176
1838	81.885	88.8674	89.8515	67.3472	67.3472	69.2562
1839	80.9092	87.8437	88.9168	66.1898	66.1898	66.1898
1840	80.553	88.6463	89.7652	65.5908	65.5908	65.5908
1841	78.6156	78.6156	78.6156	65.2746	65.2746	65.2746
1842	77.5351	77.5351	77.5351	65.1072	65.1072	65.1072
1843	76.9307	76.9307	76.9307	65.0167	65.0167	65.0167
1844	76.5909	76.5909	76.5909	64.9659	64.9659	64.9659
1845	76.398	76.398	76.398	64.9356	64.9356	64.9356
1846	76.2869	76.2869	76.2869	64.9158	64.9158	64.9158
1847	76.2211	76.2211	76.2211	64.9015	64.9015	64.9015
1848	76.1806	76.1806	76.1806	64.8901	64.8901	64.8901
1849	76.1541	76.1541	76.1541	64.8801	64.8801	64.8801
1850	76.1354	76.1354	76.1354	64.8708	64.8708	64.8708
1851	76.121	76.121	76.121	64.862	64.862	64.862
1852	76.109	76.109	76.109	64.8533	64.8533	64.8533
1853	76.0983	76.0983	76.0983	64.8448	64.8448	64.8448
1854	76.0884	76.0884	76.0884	64.8363	64.8363	64.8363
1855	76.0789	76.0789	76.0789	64.8279	64.8279	64.8279
1856	76.0696	76.0696	76.0696	64.8195	64.8195	64.8195
1857	76.0605	76.0605	76.0605	64.8111	64.8111	64.8111
1858	79.3675	94.0977	95.5816	64.8127	64.8127	64.8127
1859	81.2818	93.3275	95.4891	64.8143	64.8143	64.8143

*Handwritten marks:*  
A red vertical line on the right side of the page.  
A red signature or mark near the bottom right.  
A blue signature or mark near the bottom right.

ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

00012567



1860	82.4279	92.3532	95.4871	64.8158	64.8158	64.8158
1861	83.1308	91.9094	96.0403	64.7811	64.7811	64.7811
1862	83.5672	91.3819	96.4486	64.7001	64.7001	64.7001
1863	83.8748	90.8435	96.7541	64.5964	64.5964	64.5964
1864	84.1169	90.2993	97.0063	64.4819	64.4819	64.4819
1865	84.2805	89.5884	97.1739	64.3625	64.3625	64.3625
1866	84.4259	89.1518	97.0912	64.2414	64.2414	64.2414
1867	84.6045	89.0395	97.0035	64.12	64.12	64.12
1868	85.088	89.726	98.526	64.0001	64.0001	64.0001
1869	85.3125	89.55	98.2826	63.8806	63.8806	63.8806
1870	85.0835	88.5201	96.5465	63.7608	63.7608	63.7608
1871	84.9258	88.1354	95.9946	63.8419	63.8419	63.8419
1872	84.8484	87.9095	95.6741	63.524	63.524	63.524
1873	84.846	87.8563	95.5875	63.4072	63.4072	63.4072
1874	84.8927	87.8639	95.5706	63.2915	63.2915	63.2915
1875	84.7978	87.4445	94.8938	63.1765	63.1765	63.1765
1876	84.4886	86.587	93.5977	63.0618	63.0618	63.0618
1877	84.0612	85.6508	92.2515	62.9473	62.9473	62.9473
1878	83.717	85.1144	91.5243	62.8336	62.8336	62.8336
1879	83.4687	84.7832	91.081	62.7209	62.7209	62.7209
1880	83.268	84.5088	90.7021	62.609	62.609	62.609
1881	83.0893	84.2445	90.313	62.498	62.498	62.498
1882	82.9008	83.939	89.8243	62.3879	62.3879	62.3879
1883	82.705	83.6292	89.3362	62.2786	62.2786	62.2786
1884	82.5032	83.3166	88.8501	62.1701	62.1701	62.1701
1885	82.3184	83.0482	88.4615	62.0625	62.0625	62.0625
1886	82.1915	82.9166	88.3463	61.9559	61.9559	61.9559
1887	82.1007	82.819	88.2648	61.8504	61.8504	61.8504
1888	82.0286	82.7404	88.2019	61.7459	61.7459	61.7459
1889	81.987	82.6725	88.1493	61.6423	61.6423	61.6423
1890	81.9093	82.6101	88.0923	61.5398	61.5398	61.5398
1891	81.8534	82.55	88.0347	61.4383	61.4383	61.4383
1892	81.7986	82.4912	87.9783	61.3377	61.3377	61.3377
1893	81.7448	82.4334	87.9229	61.2381	61.2381	61.2381
1894	81.6916	82.3764	87.8682	61.1394	61.1394	61.1394
1895	81.6389	82.3191	87.8039	61.0417	61.0417	61.0417
1896	81.5808	82.2608	87.7351	60.9449	60.9449	60.9449
1897	81.5236	82.2018	87.6658	60.849	60.849	60.849
1898	81.4683	82.1426	87.5965	60.754	60.754	60.754
1899	81.409	82.0834	87.5274	60.66	60.66	60.66
1900	80.957	81.471	85.644	60.5656	60.5656	60.5656
1901	80.1295	80.5228	82.9017	60.4706	60.4706	60.4706
1902	79.5204	80.0151	82.4298	60.3764	60.3764	60.3764
1903	80.6812	92.8289	83.2558	65.866	65.866	86.3736
1904	81.2465	93.5207	83.7708	68.9464	68.9464	89.5397
1905	81.5278	93.832	84.0007	70.7833	70.7833	91.3629
1906	81.5977	93.5266	84.0096	71.8672	71.8672	92.0448
1907	81.7959	93.3353	85.3095	72.441	72.441	91.8324
1908	82.0369	93.2963	86.4529	72.709	72.709	91.2053
1909	82.4878	93.908	86.204	72.8013	72.8013	90.3823
1910	83.1467	95.0456	90.5701	72.7914	72.7914	89.4605
1911	83.3097	94.4333	90.1021	72.7126	72.7126	88.4672
1912	83.3107	93.7109	90.1891	72.5736	72.5736	87.3716
1913	83.4767	94.0933	90.75	72.3906	72.3906	86.2307
1914	83.6962	94.5865	91.2435	72.1641	72.1641	85.0227



*Handwritten signature or initials in blue ink.*





ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

ALSTOM

00012568

1915	83.7321	94.246	91.2687	71.8911	71.8911	83.7366
1916	83.8536	94.1814	92.2529	71.5897	71.5897	82.4447
1917	84.0859	94.6488	93.2966	71.2707	71.2707	81.1707
1918	84.3323	95.1639	94.2115	70.9145	70.9145	79.7976
1919	84.5497	95.5919	95.0406	70.5207	70.5207	78.3592
1920	84.6475	95.442	95.4536	70.0104	70.0104	76.4291
1921	83.6529	90.0632	91.2551	68.4792	68.4792	69.4244
1922	82.9664	89.9402	91.1862	67.4541	67.4541	67.4541
1923	82.6597	90.9924	92.0841	66.9232	66.9232	66.9232
1924	80.7457	80.7457	80.7457	66.6422	66.6422	66.6422
1925	79.6779	79.6779	79.6779	66.4929	66.4929	66.4929
1926	79.0803	79.0803	79.0803	66.4117	66.4117	66.4117
1927	78.744	78.744	78.744	66.3655	66.3655	66.3655
1928	78.5529	78.5529	78.5529	66.3375	66.3375	66.3375
1929	78.4424	78.4424	78.4424	66.3189	66.3189	66.3189
1930	78.3768	78.3768	78.3768	66.3051	66.3051	66.3051
1931	78.3361	78.3361	78.3361	66.2937	66.2937	66.2937
1932	78.3092	78.3092	78.3092	66.2837	66.2837	66.2837
1933	78.29	78.29	78.29	66.2744	66.2744	66.2744
1934	78.2751	78.2751	78.2751	66.2654	66.2654	66.2654
1935	78.2626	78.2626	78.2626	66.2566	66.2566	66.2566
1936	78.2514	78.2514	78.2514	66.2479	66.2479	66.2479
1937	78.2409	78.2409	78.2409	66.2393	66.2393	66.2393
1938	78.2309	78.2309	78.2309	66.2306	66.2306	66.2306
1939	78.2211	78.2211	78.2211	66.222	66.222	66.222
1940	78.2114	78.2114	78.2114	66.2134	66.2134	66.2134
1941	81.5136	95.771	97.3743	66.2144	66.2144	66.2144
1942	83.4239	94.8892	97.1973	66.2154	66.2154	66.2154
1943	84.572	94.2926	97.6039	66.2162	66.2162	66.2162
1944	85.2698	93.8745	98.1693	66.1776	66.1776	66.1776
1945	85.6979	93.3437	98.5754	66.0883	66.0883	66.0883
1946	85.9982	92.8308	98.8794	65.9742	65.9742	65.9742
1947	86.221	92.2459	99.1112	65.8483	65.8483	65.8483
1948	86.3678	91.5015	99.2641	65.717	65.717	65.717
1949	86.5039	91.1724	99.1011	65.5839	65.5839	65.5839
1950	86.7221	91.1908	99.2929	65.4506	65.4506	65.4506
1951	87.2153	91.8818	100.799	65.3187	65.3187	65.3187
1952	87.3491	91.4992	100.155	65.1872	65.1872	65.1872
1953	87.0896	90.4921	98.4884	65.0556	65.0556	65.0556
1954	86.9272	90.142	98.0046	64.9249	64.9249	64.9249
1955	86.8421	89.9236	97.7001	64.7954	64.7954	64.7954
1956	86.8262	89.8466	97.5841	64.6672	64.6672	64.6672
1957	86.8571	89.8432	97.5592	64.5401	64.5401	64.5401
1958	86.9131	89.8678	97.5641	64.4144	64.4144	64.4144
1959	86.7398	89.2471	96.5845	64.2891	64.2891	64.2891
1960	86.4429	88.5303	95.5305	64.1645	64.1645	64.1645
1961	86.0852	87.7873	94.4783	64.0404	64.0404	64.0404
1962	85.7435	87.181	93.6482	63.9171	63.9171	63.9171
1963	85.5015	86.8746	93.2507	63.7949	63.7949	63.7949
1964	85.3129	86.6238	92.914	63.6737	63.6737	63.6737
1965	85.1524	86.4033	92.6106	63.5536	63.5536	63.5536
1966	85.0065	86.1996	92.327	63.4344	63.4344	63.4344
1967	84.847	85.9479	91.9315	63.3163	63.3163	63.3163
1968	84.6774	85.6863	91.526	63.1991	63.1991	63.1991
1969	84.5008	85.4204	91.1201	63.0828	63.0828	63.0828

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3262



00012569

1970	84.3204	85.155	90.7217	62.9675	62.9675	62.9675
1971	84.137	84.8895	90.3279	62.8531	62.8531	62.8531
1972	83.994	84.7238	90.142	62.7398	62.7398	62.7398
1973	83.8859	84.6107	90.041	62.6276	62.6276	62.6276
1974	83.7972	84.517	89.9594	62.5165	62.5165	62.5165
1975	83.7194	84.4343	89.8885	62.4064	62.4064	62.4064
1976	83.6479	84.3579	89.8238	62.2974	62.2974	62.2974
1977	83.5801	84.2854	89.7628	62.1894	62.1894	62.1894
1978	83.5132	84.215	89.6966	62.0825	62.0825	62.0825
1979	83.4466	84.1451	89.6287	61.9765	61.9765	61.9765
1980	83.3803	84.0758	89.5612	61.8716	61.8716	61.8716
1981	83.3147	84.0068	89.4942	61.7677	61.7677	61.7677
1982	83.2499	83.9383	89.4279	61.6648	61.6648	61.6648
1983	83.1859	83.8703	89.3624	61.5629	61.5629	61.5629
1984	83.12	83.8017	89.284	61.4619	61.4619	61.4619
1985	83.5297	95.8014	86.057	66.9896	66.9896	87.553
1986	83.723	96.0339	86.2021	70.0276	70.0276	90.6186
1987	83.7489	95.7454	86.1718	71.743	71.743	91.9931
1988	83.8534	95.4842	87.06	72.6739	72.6739	92.2653
1989	84.0602	95.3795	88.2912	73.1389	73.1389	91.8876
1990	84.3131	95.5292	89.3733	73.3399	73.3399	91.2007
1991	85.0185	96.95	92.2404	73.3923	73.3923	90.358
1992	85.3081	96.691	92.3116	73.3508	73.3508	89.4114
1993	85.3287	95.9716	92.1468	73.2376	73.2376	88.3594
1994	85.3744	95.759	92.4577	73.0683	73.0683	87.231
1995	85.6583	96.6571	93.2574	72.8571	72.8571	86.0687
1996	85.6942	96.312	93.1397	72.5934	72.5934	84.7782
1997	85.7665	96.1438	93.8748	72.2972	72.2972	83.4864
1998	85.8412	96.3963	94.8806	71.9788	71.9788	82.1993
1999	86.1811	96.9327	95.8634	71.6335	71.6335	80.8737
2000	86.3903	97.3781	96.6575	71.242	71.242	79.4242
2001	86.5783	97.7276	97.5089	70.8291	70.8291	77.9925
2002	85.9095	93.7987	94.5925	69.6112	69.6112	72.4027
2003	85.0386	91.554	92.852	68.3295	68.3295	68.3295
2004	84.8289	92.5032	93.8489	67.666	67.666	67.666
2005	82.8649	82.6649	82.6649	67.3167	67.3167	67.3167
2006	81.5692	81.5692	81.5692	67.1321	67.1321	67.1321
2007	80.9559	80.9559	80.9559	67.0326	67.0326	67.0326
2008	80.8106	80.6106	80.8106	66.9771	66.9771	66.9771
2009	80.4143	80.4143	80.4143	66.9442	66.9442	66.9442
2010	80.3008	80.3008	80.3008	66.9231	66.9231	66.9231
2011	80.2332	80.2332	80.2332	66.908	66.908	66.908
2012	80.1912	80.1912	80.1912	66.896	66.896	66.896
2013	80.1634	80.1634	80.1634	66.8857	66.8857	66.8857
2014	80.1435	80.1435	80.1435	66.8761	66.8761	66.8761
2015	80.1279	80.1279	80.1279	66.8671	66.8671	66.8671
2016	80.1148	80.1148	80.1148	66.8582	66.8582	66.8582
2017	80.1031	80.1031	80.1031	66.8495	66.8495	66.8495
2018	80.0921	80.0921	80.0921	66.8408	66.8408	66.8408
2019	80.0816	80.0816	80.0816	66.8322	66.8322	66.8322
2020	80.0712	80.0712	80.0712	66.8236	66.8236	66.8236
2021	80.0611	80.0611	80.0611	66.815	66.815	66.815
2022	80.0509	80.0509	80.0509	66.8064	66.8064	66.8064
2023	80.0409	80.0409	80.0409	66.7979	66.7979	66.7979
2024	80.0308	80.0308	80.0308	66.7893	66.7893	66.7893

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00012570

2025	80.0208	80.0208	80.0208	66.7807	66.7807	66.7807
2026	80.0108	80.0108	80.0108	66.7722	66.7722	66.7722
2027	80.0007	80.0007	80.0007	66.7636	66.7636	66.7636
2028	79.9907	79.9907	79.9907	66.7551	66.7551	66.7551
2029	79.9807	79.9807	79.9807	66.7465	66.7465	66.7465
2030	79.9707	79.9707	79.9707	66.738	66.738	66.738
2031	79.9607	79.9607	79.9607	66.7295	66.7295	66.7295
2032	79.9507	79.9507	79.9507	66.7209	66.7209	66.7209
2033	79.9407	79.9407	79.9407	66.7124	66.7124	66.7124
2034	79.9307	79.9307	79.9307	66.7039	66.7039	66.7039
2035	79.9207	79.9207	79.9207	66.6954	66.6954	66.6954
2036	79.9107	79.9107	79.9107	66.6869	66.6869	66.6869
2037	79.9007	79.9007	79.9007	66.6784	66.6784	66.6784
2038	79.8907	79.8907	79.8907	66.6699	66.6699	66.6699
2039	79.8808	79.8808	79.8808	66.6614	66.6614	66.6614
2040	79.8708	79.8708	79.8708	66.6529	66.6529	66.6529
2041	79.8608	79.8608	79.8608	66.6445	66.6445	66.6445
2042	79.8508	79.8508	79.8508	66.636	66.636	66.636
2043	79.8409	79.8409	79.8409	66.6275	66.6275	66.6275
2044	79.8309	79.8309	79.8309	66.6191	66.6191	66.6191
2045	79.8209	79.8209	79.8209	66.6106	66.6106	66.6106
2046	79.811	79.811	79.811	66.6022	66.6022	66.6022
2047	79.801	79.801	79.801	66.5937	66.5937	66.5937
2048	79.791	79.791	79.791	66.5853	66.5853	66.5853
2049	79.7811	79.7811	79.7811	66.5769	66.5769	66.5769
2050	79.7711	79.7711	79.7711	66.5684	66.5684	66.5684
2051	79.7612	79.7612	79.7612	66.56	66.56	66.56
2052	79.7512	79.7512	79.7512	66.5516	66.5516	66.5516
2053	79.7413	79.7413	79.7413	66.5432	66.5432	66.5432
2054	79.7313	79.7313	79.7313	66.5348	66.5348	66.5348
2055	79.7214	79.7214	79.7214	66.5264	66.5264	66.5264
2056	79.7115	79.7115	79.7115	66.518	66.518	66.518
2057	79.7015	79.7015	79.7015	66.5096	66.5096	66.5096
2058	79.6916	79.6916	79.6916	66.5012	66.5012	66.5012
2059	79.6817	79.6817	79.6817	66.4928	66.4928	66.4928
2060	79.6717	79.6717	79.6717	66.4844	66.4844	66.4844
2061	79.6618	79.6618	79.6618	66.4761	66.4761	66.4761
2062	79.6519	79.6519	79.6519	66.4677	66.4677	66.4677
2063	79.642	79.642	79.642	66.4593	66.4593	66.4593
2064	79.632	79.632	79.632	66.451	66.451	66.451
2065	79.6221	79.6221	79.6221	66.4426	66.4426	66.4426
2066	79.6122	79.6122	79.6122	66.4343	66.4343	66.4343
2067	79.6023	79.6023	79.6023	66.4259	66.4259	66.4259
2068	79.5924	79.5924	79.5924	66.4176	66.4176	66.4176
2069	79.5825	79.5825	79.5825	66.4093	66.4093	66.4093
2070	79.5726	79.5726	79.5726	66.401	66.401	66.401
2071	79.5627	79.5627	79.5627	66.3926	66.3926	66.3926
2072	79.5528	79.5528	79.5528	66.3843	66.3843	66.3843
2073	79.5429	79.5429	79.5429	66.376	66.376	66.376
2074	79.533	79.533	79.533	66.3677	66.3677	66.3677
2075	79.5231	79.5231	79.5231	66.3594	66.3594	66.3594
2076	79.5132	79.5132	79.5132	66.3511	66.3511	66.3511
2077	79.5034	79.5034	79.5034	66.3428	66.3428	66.3428
2078	79.4935	79.4935	79.4935	66.3345	66.3345	66.3345
2079	79.4836	79.4836	79.4836	66.3263	66.3263	66.3263

*Handwritten signature*

*Handwritten mark*

ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

00012571



2080	79.4737	79.4737	79.4737	66.318	66.318	66.318
2081	79.4638	79.4638	79.4638	66.3097	66.3097	66.3097
2082	79.454	79.454	79.454	66.3015	66.3015	66.3015
2083	79.4441	79.4441	79.4441	66.2932	66.2932	66.2932
2084	79.4342	79.4342	79.4342	66.2849	66.2849	66.2849
2085	79.4244	79.4244	79.4244	66.2767	66.2767	66.2767
2086	79.4145	79.4145	79.4145	66.2685	66.2685	66.2685
2087	79.4047	79.4047	79.4047	66.2602	66.2602	66.2602
2088	79.3948	79.3948	79.3948	66.252	66.252	66.252
2089	79.385	79.385	79.385	66.2438	66.2438	66.2438
2090	79.3751	79.3751	79.3751	66.2355	66.2355	66.2355
2091	79.3653	79.3653	79.3653	66.2273	66.2273	66.2273
2092	79.3554	79.3554	79.3554	66.2191	66.2191	66.2191
2093	79.3456	79.3456	79.3456	66.2109	66.2109	66.2109
2094	79.3357	79.3357	79.3357	66.2027	66.2027	66.2027
2095	79.3259	79.3259	79.3259	66.1945	66.1945	66.1945
2096	79.3161	79.3161	79.3161	66.1863	66.1863	66.1863
2097	79.3062	79.3062	79.3062	66.1781	66.1781	66.1781
2098	79.2964	79.2964	79.2964	66.1699	66.1699	66.1699
2099	79.2866	79.2866	79.2866	66.1618	66.1618	66.1618
2100	79.2768	79.2768	79.2768	66.1536	66.1536	66.1536
2101	79.2669	79.2669	79.2669	66.1454	66.1454	66.1454
2102	79.2571	79.2571	79.2571	66.1372	66.1372	66.1372
2103	79.2473	79.2473	79.2473	66.1291	66.1291	66.1291
2104	79.2375	79.2375	79.2375	66.1209	66.1209	66.1209
2105	79.2277	79.2277	79.2277	66.1128	66.1128	66.1128
2106	79.2179	79.2179	79.2179	66.1046	66.1046	66.1046
2107	79.2081	79.2081	79.2081	66.0965	66.0965	66.0965
2108	79.1983	79.1983	79.1983	66.0884	66.0884	66.0884
2109	79.1885	79.1885	79.1885	66.0802	66.0802	66.0802
2110	79.1787	79.1787	79.1787	66.0721	66.0721	66.0721
2111	79.1689	79.1689	79.1689	66.064	66.064	66.064
2112	79.1591	79.1591	79.1591	66.0559	66.0559	66.0559
2113	79.1493	79.1493	79.1493	66.0478	66.0478	66.0478
2114	79.1395	79.1395	79.1395	66.0397	66.0397	66.0397
2115	79.1297	79.1297	79.1297	66.0316	66.0316	66.0316
2116	79.1199	79.1199	79.1199	66.0235	66.0235	66.0235
2117	79.1101	79.1101	79.1101	66.0154	66.0154	66.0154
2118	79.1004	79.1004	79.1004	66.0073	66.0073	66.0073
2119	79.0906	79.0906	79.0906	65.9992	65.9992	65.9992
2120	79.0808	79.0808	79.0808	65.9911	65.9911	65.9911
2121	79.0711	79.0711	79.0711	65.9831	65.9831	65.9831
2122	79.0613	79.0613	79.0613	65.975	65.975	65.975
2123	79.0515	79.0515	79.0515	65.9669	65.9669	65.9669
2124	79.0418	79.0418	79.0418	65.9589	65.9589	65.9589
2125	79.032	79.032	79.032	65.9508	65.9508	65.9508
2126	79.0222	79.0222	79.0222	65.9428	65.9428	65.9428
2127	79.0125	79.0125	79.0125	65.9347	65.9347	65.9347
2128	79.0027	79.0027	79.0027	65.9267	65.9267	65.9267
2129	78.993	78.993	78.993	65.9187	65.9187	65.9187
2130	78.9832	78.9832	78.9832	65.9106	65.9106	65.9106
2131	78.9735	78.9735	78.9735	65.9026	65.9026	65.9026
2132	78.9638	78.9638	78.9638	65.8946	65.8946	65.8946
2133	78.954	78.954	78.954	65.8866	65.8866	65.8866
2134	78.9443	78.9443	78.9443	65.8786	65.8786	65.8786



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Handwritten signature or initials in red ink.

2135	78.9346	78.9348	78.9346	65.8706	65.8706	65.8706
2136	78.9248	78.9248	78.9248	65.8626	65.8626	65.8628
2137	78.9151	78.9151	78.9151	65.8546	65.8546	65.8546
2138	78.9054	78.9054	78.9054	65.8466	65.8466	65.8466
2139	78.8956	78.8956	78.8956	65.8386	65.8386	65.8386
2140	78.8859	78.8859	78.8859	65.8306	65.8306	65.8306
2141	78.8762	78.8762	78.8762	65.8227	65.8227	65.8227
2142	78.8665	78.8665	78.8665	65.8147	65.8147	65.8147
2143	78.8568	78.8568	78.8568	65.8067	65.8067	65.8067
2144	78.8471	78.8471	78.8471	65.7988	65.7988	65.7988
2145	78.8374	78.8374	78.8374	65.7908	65.7908	65.7908
2146	78.8277	78.8277	78.8277	65.7829	65.7829	65.7829
2147	78.818	78.818	78.818	65.7749	65.7749	65.7749
2148	78.8083	78.8083	78.8083	65.767	65.767	65.767
2149	78.7986	78.7986	78.7986	65.759	65.759	65.759
2150	78.7889	78.7889	78.7889	65.7511	65.7511	65.7511
2151	78.7792	78.7792	78.7792	65.7432	65.7432	65.7432
2152	78.7695	78.7695	78.7695	65.7352	65.7352	65.7352
2153	78.7598	78.7598	78.7598	65.7273	65.7273	65.7273
2154	78.7501	78.7501	78.7501	65.7194	65.7194	65.7194
2155	78.7404	78.7404	78.7404	65.7115	65.7115	65.7115
2156	78.7307	78.7307	78.7307	65.7036	65.7036	65.7036
2157	78.7211	78.7211	78.7211	65.6957	65.6957	65.6957
2158	78.7114	78.7114	78.7114	65.6878	65.6878	65.6878
2159	78.7017	78.7017	78.7017	65.6799	65.6799	65.6799
2160	78.692	78.692	78.692	65.672	65.672	65.672
2161	78.6824	78.6824	78.6824	65.6641	65.6641	65.6641
2162	78.6727	78.6727	78.6727	65.6563	65.6563	65.6563
2163	78.6631	78.6631	78.6631	65.6484	65.6484	65.6484
2164	78.6534	78.6534	78.6534	65.6405	65.6405	65.6405
2165	78.6437	78.6437	78.6437	65.6327	65.6327	65.6327
2166	78.6341	78.6341	78.6341	65.6248	65.6248	65.6248
2167	78.6244	78.6244	78.6244	65.6169	65.6169	65.6169
2168	78.6148	78.6148	78.6148	65.6091	65.6091	65.6091
2169	78.6051	78.6051	78.6051	65.6012	65.6012	65.6012
2170	78.5955	78.5955	78.5955	65.5934	65.5934	65.5934
2171	78.5859	78.5859	78.5859	65.5856	65.5856	65.5856
2172	78.5762	78.5762	78.5762	65.5777	65.5777	65.5777
2173	78.5666	78.5666	78.5666	65.5699	65.5699	65.5699
2174	78.5569	78.5569	78.5569	65.5621	65.5621	65.5621
2175	78.5473	78.5473	78.5473	65.5543	65.5543	65.5543
2176	78.5377	78.5377	78.5377	65.5465	65.5465	65.5465
2177	78.5281	78.5281	78.5281	65.5386	65.5386	65.5386
2178	78.5184	78.5184	78.5184	65.5308	65.5308	65.5308
2179	78.5088	78.5088	78.5088	65.523	65.523	65.523
2180	78.4992	78.4992	78.4992	65.5152	65.5152	65.5152
2181	78.4896	78.4896	78.4896	65.5075	65.5075	65.5075
2182	78.48	78.48	78.48	65.4997	65.4997	65.4997
2183	78.4704	78.4704	78.4704	65.4919	65.4919	65.4919
2184	78.4607	78.4607	78.4607	65.4841	65.4841	65.4841
2185	81.771	98.934	98.3087	65.4849	65.4849	65.4849
2186	83.687	96.1655	98.2178	65.4856	65.4856	65.4856
2187	84.8313	94.9464	97.9185	65.4862	65.4862	65.4862
2188	85.5696	94.5025	98.4794	65.4868	65.4868	65.4868
2189	86.028	94.003	98.9191	65.4484	65.4484	65.4484

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ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

ALSTOM

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2190	86.3391	93.4326	99.2167	65.3597	65.3597	65.3597
2191	86.5799	92.8996	99.4682	65.2466	65.2466	65.2466
2192	86.7375	92.1696	99.6303	65.1217	65.1217	65.1217
2193	86.8648	91.645	99.5923	64.9917	64.9917	64.9917
2194	86.9997	91.4433	99.3418	64.8597	64.8597	64.8597
2195	87.426	92.0315	100.697	64.7281	64.7281	64.7281
2196	87.7334	92.1084	100.962	64.5971	64.5971	64.5971
2197	87.5381	91.098	99.2331	64.4658	64.4658	64.4658
2198	87.3356	90.5695	98.4444	64.3352	64.3352	64.3352
2199	87.2234	90.3067	98.0843	64.2057	64.2057	64.2057
2200	87.1921	90.2069	97.9408	64.0774	64.0774	64.0774
2201	87.2147	90.188	97.896	63.9504	63.9504	63.9504
2202	87.0926	89.7265	97.1655	63.8241	63.8241	63.8241
2203	86.7289	88.7603	95.7156	63.6983	63.6983	63.6983
2204	86.2326	87.6921	94.1877	63.5729	63.5729	63.5729
2205	85.8606	87.2394	93.5957	63.4484	63.4484	63.4484
2206	85.6032	86.8615	93.0789	63.325	63.325	63.325
2207	85.3493	86.4843	92.5212	63.2026	63.2026	63.2026
2208	85.0755	86.0362	91.8054	63.0811	63.0811	63.0811
2209	84.7832	85.5708	91.0639	62.9604	62.9604	62.9604
2210	84.5609	85.2865	90.7147	62.8407	62.8407	62.8407
2211	84.4136	85.1275	90.5841	62.7223	62.7223	62.7223
2212	84.3069	85.0095	90.4906	62.605	62.605	62.605
2213	84.2186	84.9127	90.3989	62.4888	62.4888	62.4888
2214	84.1406	84.8264	90.3176	62.3737	62.3737	62.3737
2215	84.0637	84.7441	90.2197	62.2598	62.2598	62.2598
2216	83.9857	84.6618	90.1147	62.1469	62.1469	62.1469
2217	82.7348	83.7914	84.396	63.0733	63.0733	67.5825
2218	82.0981	84.182	83.7893	64.3282	64.3282	71.9883
2219	81.6596	83.6997	83.3547	64.9855	64.9855	72.537
2220	81.3338	83.3745	83.0289	65.3686	65.3686	72.9215
2221	81.0754	83.1687	82.7658	65.6463	65.6463	73.3296
2222	80.8526	82.9821	82.5398	65.8623	65.8623	73.6351
2223	80.6473	82.7869	82.3336	66.0316	66.0316	73.8293
2224	81.2243	88.6202	83.2327	68.4796	68.4796	84.4751
2225	82.2417	94.4239	84.8045	71.3275	71.3275	91.8602
2226	82.7802	95.0552	85.3034	73.0577	73.0577	93.651
2227	83.0497	95.3568	85.5335	74.2048	74.2048	94.796
2228	83.1374	95.227	85.5754	74.979	74.979	95.3288
2229	83.1744	94.961	85.8584	75.5021	75.5021	95.4338
2230	83.3613	94.8234	87.1341	75.7967	75.7967	95.0193
2231	83.5572	94.8045	88.0116	75.9418	75.9418	94.3883
2232	83.9172	95.3099	89.511	75.988	75.988	93.6278
2233	84.6286	96.6514	92.153	75.965	75.965	92.7801
2234	84.8245	96.1251	91.761	75.8845	75.8845	91.848
2235	84.8142	95.4107	91.6386	75.7473	75.7473	90.8107
2236	84.8588	95.2615	91.957	75.5602	75.5602	89.6976
2237	85.1365	96.1331	92.7347	75.3307	75.3307	88.5266
2238	85.1722	95.7916	92.8183	75.0461	75.0461	87.2352
2239	85.2451	95.6235	93.3489	74.7254	74.7254	85.9198
2240	85.4214	95.8749	94.3566	74.3804	74.3804	84.6059
2241	85.6645	96.4148	95.3437	74.0079	74.0079	83.2537
2242	85.8771	96.864	96.1408	73.5888	73.5888	81.7763
2243	86.0686	97.217	96.9956	73.1482	73.1482	80.317
2244	85.4092	93.3214	94.109	71.9085	71.9085	74.7267

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ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

ALSTOM

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2245	84.5386	91.047	92.3457	70.6032	70.6032	70.6032
2246	84.1292	91.9964	93.1409	69.9273	69.9273	69.9273
2247	82.1658	82.1658	82.1656	69.5717	69.5717	69.5717
2248	81.0701	81.0701	81.0701	69.384	69.384	69.384
2249	80.457	80.457	80.457	69.2829	69.2829	69.2829
2250	80.1119	80.1119	80.1119	69.2265	69.2265	69.2265
2251	79.9157	79.9157	79.9157	69.1931	69.1931	69.1931
2252	79.8023	79.8023	79.8023	69.1718	69.1718	69.1718
2253	79.7349	79.7349	79.7349	69.1565	69.1565	69.1565
2254	79.693	79.693	79.693	69.1445	69.1445	69.1445
2255	79.6653	79.6653	79.6653	69.1341	69.1341	69.1341
2256	79.6455	79.6455	79.6455	69.1246	69.1246	69.1246
2257	79.6301	79.6301	79.6301	69.1155	69.1155	69.1155
2258	79.6172	79.6172	79.6172	69.1066	69.1066	69.1066
2259	79.6056	79.6056	79.6056	69.0979	69.0979	69.0979
2260	79.5947	79.5947	79.5947	69.0892	69.0892	69.0892
2261	79.5843	79.5843	79.5843	69.0805	69.0805	69.0805
2262	79.5741	79.5741	79.5741	69.0719	69.0719	69.0719
2263	79.564	79.564	79.564	69.0633	69.0633	69.0633
2264	82.874	98.0512	99.4223	69.0629	69.0629	69.0629
2265	84.7873	97.2798	99.3105	69.0625	69.0625	69.0625
2266	85.9323	96.0535	99.0204	69.062	69.062	69.062
2267	86.6607	95.6099	99.5815	69.0615	69.0615	69.0615
2268	87.1254	95.0997	100.01	69.013	69.013	69.013
2269	87.4325	94.53	100.31	68.9028	68.9028	68.9028
2270	87.6675	93.9913	100.556	68.7625	68.7625	68.7625
2271	87.8192	93.2584	100.714	68.6079	68.6079	68.6079
2272	87.939	92.721	100.669	68.4468	68.4468	68.4468
2273	88.0664	92.5117	100.41	68.2833	68.2833	68.2833
2274	88.4834	93.0878	101.749	68.1202	68.1202	68.1202
2275	88.7864	93.1659	102.024	67.9577	67.9577	67.9577
2276	88.5851	92.149	100.288	67.7952	67.7952	67.7952
2277	88.374	91.6079	99.4829	67.6337	67.6337	67.6337
2278	88.253	91.3337	99.1097	67.4735	67.4735	67.4735
2279	88.2145	91.2271	98.9597	67.3148	67.3148	67.3148
2280	88.2303	91.1993	98.9047	67.1576	67.1576	67.1576
2281	88.0421	90.5665	97.9177	67.0014	67.0014	67.0014
2282	87.6082	89.4778	96.3033	66.8458	66.8458	66.8458
2283	87.1229	88.5417	94.9811	66.6911	66.6911	66.6911
2284	86.7633	88.0692	94.3525	66.5377	66.5377	66.5377
2285	86.4692	87.6645	93.7948	66.3855	66.3855	66.3855
2286	86.1672	87.1826	93.0324	66.2345	66.2345	66.2345
2287	85.8546	86.6894	92.2565	66.0846	66.0846	66.0846
2288	85.5661	86.3149	91.7356	65.9361	65.9361	65.9361
2289	85.4101	86.1276	91.5754	65.7889	65.7889	65.7889
2290	85.2847	85.9913	91.4656	65.6432	65.6432	65.6432
2291	85.1836	85.882	91.3656	65.4988	65.4988	65.4988
2292	85.095	85.788	91.2741	65.3559	65.3559	65.3559
2293	85.0135	85.6974	91.1898	65.2143	65.2143	65.2143
2294	84.9307	85.6107	91.084	65.074	65.074	65.074
2295	84.8472	85.5235	90.9774	64.9351	64.9351	64.9351
2296	83.9478	84.3561	87.0939	64.7955	64.7955	64.7955
2297	83.0993	84.5299	84.8832	66.0317	66.0317	71.926
2298	82.6453	83.9905	84.3246	66.6807	66.6807	72.6249
2299	82.151	83.5999	83.9292	67.026	67.026	72.9827

*Handwritten signature*

*Handwritten mark*



2300	81.8442	83.2967	83.6212	67.2188	67.2188	73.188
2301	81.5852	83.0389	83.3619	67.3328	67.3328	73.3057
2302	81.3529	82.8065	83.1298	67.4062	67.4062	73.3791
2303	81.1356	82.5893	82.9124	67.4591	67.4591	73.432
2304	80.9272	82.3809	82.7039	67.5015	67.5015	73.4743
2305	80.7243	82.1779	82.501	67.5384	67.5384	73.5113
2306	80.5249	81.9786	82.3016	67.5725	67.5725	73.5453
2307	81.9171	94.063	84.4923	71.7923	71.7923	92.2986
2308	82.6609	94.9283	85.1936	74.2114	74.2114	94.8051
2309	83.0398	95.3423	85.5293	75.696	75.696	96.2875
2310	83.1859	95.2856	85.6255	76.6347	76.6347	96.9954
2311	83.265	95.0275	86.0295	77.2122	77.2122	97.0915
2312	83.4917	94.8983	87.4511	77.5029	77.5029	98.604
2313	83.6983	94.8987	88.2969	77.6117	77.6117	95.8592
2314	84.2115	95.8154	90.4435	77.609	77.609	94.9846
2315	84.7592	96.5049	92.058	77.5305	77.5305	94.019
2316	84.862	95.8469	91.6233	77.3911	77.3911	92.9692
2317	84.8338	95.0992	91.7146	77.1934	77.1934	91.8114
2318	85.0479	95.7916	92.4266	76.9548	76.9548	90.6152
2319	85.213	96.0119	92.7315	76.6705	76.6705	89.3386
2320	85.2548	95.73	92.953	76.3443	76.3443	88.0043
2321	85.3798	95.6831	93.9368	75.9906	75.9906	86.6627
2322	85.6183	96.2409	94.9797	75.6209	75.6209	85.3429
2323	85.8461	96.7222	95.8346	75.209	75.209	83.8937
2324	86.0476	97.1202	96.6629	74.7647	74.7647	82.4123
2325	85.9218	95.8945	96.1274	74.01	74.01	79.4029
2326	84.8381	90.5246	91.9166	72.3705	72.3705	72.3705
2327	84.3131	91.5416	92.7586	71.5217	71.5217	71.5217
2328	82.2958	82.2958	82.2958	71.077	71.077	71.077
2329	81.1705	81.1705	81.1705	70.843	70.843	70.843
2330	80.5407	80.5407	80.5407	70.7179	70.7179	70.7179
2331	80.1864	80.1864	80.1864	70.649	70.649	70.649
2332	79.9851	79.9851	79.9851	70.6091	70.6091	70.6091
2333	79.8688	79.8688	79.8688	70.5842	70.5842	70.5842
2334	79.7998	79.7998	79.7998	70.5671	70.5671	70.5671
2335	79.757	79.757	79.757	70.5539	70.5539	70.5539
2336	79.7289	79.7289	79.7289	70.5428	70.5428	70.5428
2337	79.7088	79.7088	79.7088	70.5328	70.5328	70.5328
2338	79.6932	79.6932	79.6932	70.5233	70.5233	70.5233
2339	79.6802	79.6802	79.6802	70.5141	70.5141	70.5141
2340	79.6685	79.6685	79.6685	70.5051	70.5051	70.5051
2341	79.6576	79.6576	79.6576	70.4961	70.4961	70.4961
2342	79.6471	79.6471	79.6471	70.4872	70.4872	70.4872
2343	79.6369	79.6369	79.6369	70.4784	70.4784	70.4784
2344	79.6268	79.6268	79.6268	70.4695	70.4695	70.4695
2345	82.948	99.3869	100.439	70.4686	70.4686	70.4686
2346	84.866	98.62	100.32	70.4677	70.4677	70.4677
2347	86.0088	96.7335	99.2285	70.4667	70.4667	70.4667
2348	86.7342	96.2317	99.7304	70.4656	70.4656	70.4656
2349	87.1977	95.6227	100.093	70.4132	70.4132	70.4132
2350	87.4933	94.9595	100.367	70.2946	70.2946	70.2946
2351	87.7207	94.4081	100.604	70.1437	70.1437	70.1437
2352	87.8902	93.7486	100.782	69.9775	69.9775	69.9775
2353	88.0022	92.9688	100.9	69.8044	69.8044	69.8044
2354	88.1222	92.7257	100.647	69.6287	69.6287	69.6287

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*Handwritten mark*



ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

00012576



2355	88.3888	92.8979	101.167	69.4529	69.4529	69.4529
2356	88.9126	93.6232	102.723	69.2786	69.2786	69.2786
2357	88.8776	92.8137	101.281	69.1045	69.1045	69.1045
2358	88.59	91.8992	99.8227	68.931	68.931	68.931
2359	88.4272	91.5786	99.4002	68.759	68.759	68.759
2360	88.3456	91.3785	99.1239	68.5886	68.5886	68.5886
2361	88.3377	91.3254	99.0425	68.4197	68.4197	68.4197
2362	88.2818	91.0737	98.6395	68.2523	68.2523	68.2523
2363	87.9076	90.0083	97.0192	68.0856	68.0856	68.0856
2364	87.3626	88.8155	95.3021	67.9197	67.9197	67.9197
2365	86.9646	88.295	94.6123	67.7551	67.7551	67.7551
2366	86.642	87.8505	93.9991	67.5919	67.5919	67.5919
2367	86.3151	87.3305	93.1802	67.43	67.43	67.43
2368	85.9713	86.7799	92.306	67.2692	67.2692	67.2692
2369	85.7045	86.4299	91.8587	67.1099	67.1099	67.1099
2370	85.5303	86.243	91.7026	66.9522	66.9522	66.9522
2371	85.405	86.1067	91.5884	66.7959	66.7959	66.7959
2372	85.3028	85.9966	91.483	66.6412	66.6412	66.6412
2373	85.2133	85.8999	91.3906	66.4879	66.4879	66.4879
2374	85.1277	85.8093	91.2911	66.3361	66.3361	66.3361
2375	85.0424	85.7206	91.1848	66.1857	66.1857	66.1857
2376	85.4492	97.601	88.0224	71.6175	71.6175	92.1281
2377	85.6482	97.9203	88.1751	74.6394	74.6394	95.2329
2378	85.7222	98.0318	88.2031	76.4223	76.4223	97.0133
2379	85.6825	97.7059	88.1097	77.48	77.48	97.7589
2380	85.7163	97.3908	88.7762	78.0763	78.0763	97.7632
2381	85.8882	97.2406	90.0169	78.3627	78.3627	97.251
2382	86.0558	97.2085	90.8077	78.4622	78.4622	96.5005
2383	86.6446	98.4054	93.3505	78.4518	78.4518	95.6312
2384	87.0616	98.6595	94.2401	78.3689	78.3689	94.6831
2385	87.1142	97.9837	93.8946	78.2274	78.2274	93.8516
2386	87.0532	97.2217	93.9501	78.0291	78.0291	92.5178
2387	87.2876	98.1122	94.7329	77.7894	77.7894	91.3367
2388	87.4102	98.1671	94.9117	77.4995	77.4995	90.0556
2389	87.4452	97.898	95.2374	77.1668	77.1668	88.7188
2390	87.5673	97.9055	95.2121	76.8059	76.8059	87.3745
2391	87.7982	98.4555	97.2471	76.4271	76.4271	86.0456
2392	88.0046	98.9066	98.0568	76.0027	76.0027	84.5721
2393	88.1872	99.2773	98.8747	75.5488	75.5488	83.0856
2394	87.9216	97.417	97.7784	74.6714	74.6714	79.4683
2395	86.8763	92.8091	94.1731	73.1018	73.1018	73.1018
2396	86.3708	93.7472	94.9475	72.2891	72.2891	72.2891
2397	84.3616	84.3616	84.3616	71.8629	71.8629	71.8629
2398	83.2405	83.2405	83.2405	71.6385	71.6385	71.6385
2399	82.6129	82.6129	82.6129	71.5182	71.5182	71.5182
2400	82.2595	82.2595	82.2595	71.4518	71.4518	71.4518
2401	82.0585	82.0585	82.0585	71.4131	71.4131	71.4131
2402	81.9421	81.9421	81.9421	71.3888	71.3888	71.3888
2403	81.8728	81.8728	81.8728	71.3718	71.3718	71.3718
2404	81.8296	81.8296	81.8296	71.3587	71.3587	71.3587
2405	81.801	81.801	81.801	71.3476	71.3476	71.3476
2406	81.7804	81.7804	81.7804	71.3375	71.3375	71.3375
2407	81.7643	81.7643	81.7643	71.328	71.328	71.328
2408	81.7507	81.7507	81.7507	71.3187	71.3187	71.3187
2409	81.7385	81.7385	81.7385	71.3095	71.3095	71.3095

ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

ALSTOM

00012577

2410	81.7271	81.7271	81.7271	71.3004	71.3004	71.3004
2411	81.7161	81.7161	81.7161	71.2914	71.2914	71.2914
2412	81.7053	81.7053	81.7053	71.2824	71.2824	71.2824
2413	81.6947	81.6947	81.6947	71.2734	71.2734	71.2734
2414	85.0127	101.159	102.286	71.2722	71.2722	71.2722
2415	86.9291	100.391	102.157	71.2709	71.2709	71.2709
2416	88.0715	98.818	101.222	71.2695	71.2695	71.2695
2417	88.798	98.1709	101.78	71.2682	71.2682	71.2682
2418	89.2574	97.5779	102.15	71.2135	71.2135	71.2135
2419	89.5459	98.9229	102.42	71.0903	71.0903	71.0903
2420	89.764	96.369	102.65	70.9337	70.9337	70.9337
2421	89.9162	95.6774	102.809	70.7612	70.7612	70.7612
2422	90.0149	94.922	102.886	70.5816	70.5816	70.5816
2423	90.1224	94.6899	102.604	70.3993	70.3993	70.3993
2424	90.4101	94.9414	103.302	70.2169	70.2169	70.2169
2425	90.9145	95.811	104.748	70.036	70.036	70.036
2426	90.8075	94.6557	103.045	69.8552	69.8552	69.8552
2427	90.5139	93.8056	101.718	69.6752	69.6752	69.6752
2428	90.3426	93.4819	101.296	69.4967	69.4967	69.4967
2429	90.253	93.2861	101.032	69.3199	69.3199	69.3199
2430	90.2337	93.2269	100.947	69.1447	69.1447	69.1447
2431	90.2525	93.2076	100.904	68.9712	68.9712	68.9712
2432	89.9905	92.3899	99.6407	68.7987	68.7987	68.7987
2433	89.5631	91.414	98.2244	68.6271	68.6271	68.6271
2434	89.0951	90.5289	96.9891	68.4567	68.4567	68.4567
2435	87.397	88.2844	90.0681	68.2846	68.2846	68.2846
2436	88.3782	87.2656	89.0493	68.1142	68.1142	68.1142
2437	85.7248	86.6208	88.3776	67.9453	67.9453	67.9453
2438	85.268	86.1855	87.8889	67.778	67.778	67.778
2439	84.9185	85.8595	87.5087	67.6122	67.6122	67.6122
2440	84.6278	85.5922	87.1872	67.448	67.448	67.448
2441	84.368	85.361	86.89	67.2854	67.2854	67.2854
2442	83.9423	84.8772	85.785	67.1238	67.1238	67.1238
2443	83.7853	84.7934	86.3104	66.9641	66.9641	66.9641
2444	83.4803	84.2821	85.4907	66.8056	66.8056	66.8056
2445	83.0454	83.8154	84.4744	66.6483	66.6483	66.6483
2446	82.6978	83.2636	84.1165	66.4924	66.4924	66.4924
2447	82.3425	82.8254	83.5532	66.3378	66.3378	66.3378
2448	81.7924	81.9248	82.1245	66.1841	66.1841	66.1841
2449	81.3708	81.5032	81.7029	66.0318	66.0318	66.0318
2450	81.0198	81.1523	81.352	65.8809	65.8809	65.8809
2451	80.708	80.8405	81.0402	65.7315	65.7315	65.7315
2452	80.4184	80.5509	80.7505	65.5834	65.5834	65.5834
2453	80.2588	80.5575	81.0078	65.4369	65.4369	65.4369
2454	80.2231	80.7537	81.5535	65.2922	65.2922	65.2922
2455	80.2644	81.0268	82.179	65.1493	65.1493	65.1493
2456	79.8895	80.2182	80.715	65.0069	65.0069	65.0069
2457	79.6502	80.0856	80.7419	64.8661	64.8661	64.8661
2458	79.4912	80.0325	80.8483	64.7267	64.7267	64.7267
2459	79.3801	80.0271	81.0024	64.5888	64.5888	64.5888
2460	80.4206	81.4613	86.4938	64.4549	64.4549	64.4549
2461	81.6643	92.9387	86.0338	69.2817	69.2817	87.8415
2462	82.586	93.9546	88.1071	71.6654	71.6654	89.3354
2463	83.8104	95.5968	91.1066	72.8052	72.8052	89.5796
2464	83.9618	95.1808	90.8318	73.301	73.301	89.188

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ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls



00012578

2465	84.0467	94.5362	90.8902	73.4468	73.4468	88.364
2466	84.2097	94.7402	91.413	73.4007	73.4007	87.3593
2467	84.4754	95.3958	92.0422	73.2398	73.2398	86.2255
2468	84.5067	95.0481	91.9362	72.9927	72.9927	84.9612
2469	84.6229	94.9539	92.918	72.6988	72.6988	83.6753
2470	84.8404	95.3636	93.9512	72.3769	72.3769	82.3949
2471	85.0877	95.8698	94.8944	72.0169	72.0169	81.0314
2472	85.3035	96.3257	95.7121	71.6138	71.6138	79.5788
2473	85.4991	96.6828	96.5711	71.187	71.187	78.1332
2474	84.5986	91.5531	92.5985	69.7343	69.7343	71.3589
2475	83.8299	90.6351	91.9002	68.5936	68.5936	68.5936
2476	83.4774	91.8414	92.7523	68.0028	68.0028	68.0028
2477	81.5406	81.5406	81.5406	67.6919	67.6919	67.6919
2478	80.46	80.46	80.46	67.5275	67.5275	67.5275
2479	79.8553	79.8553	79.8553	67.4389	67.4389	67.4389
2480	79.5149	79.5149	79.5149	67.3893	67.3893	67.3893
2481	79.3214	79.3214	79.3214	67.3599	67.3599	67.3599
2482	79.2096	79.2096	79.2096	67.3409	67.3409	67.3409
2483	79.1431	79.1431	79.1431	67.3273	67.3273	67.3273
2484	79.1018	79.1018	79.1018	67.3165	67.3165	67.3165
2485	79.0745	79.0745	79.0745	67.3072	67.3072	67.3072
2486	79.0551	79.0551	79.0551	67.2985	67.2985	67.2985
2487	79.0399	79.0399	79.0399	67.2903	67.2903	67.2903
2488	79.0271	79.0271	79.0271	67.2823	67.2823	67.2823
2489	79.0157	79.0157	79.0157	67.2743	67.2743	67.2743
2490	79.005	79.005	79.005	67.2665	67.2665	67.2665
2491	78.9948	78.9948	78.9948	67.2586	67.2586	67.2586
2492	78.9847	78.9847	78.9847	67.2508	67.2508	67.2508
2493	78.9748	78.9748	78.9748	67.243	67.243	67.243
2494	82.2745	96.8646	98.3455	67.2426	67.2426	67.2426
2495	84.1878	96.0939	98.2784	67.2422	67.2422	67.2422
2496	85.3354	95.1996	98.3856	67.2418	67.2418	67.2418
2497	86.0338	94.7626	98.9422	67.1984	67.1984	67.1984
2498	86.4583	94.2231	99.3385	67.0996	67.0996	67.0996
2499	86.7511	93.679	99.631	66.9739	66.9739	66.9739
2500	86.9731	93.1041	99.8628	66.8354	66.8354	66.8354
2501	87.1169	92.3473	100.013	66.691	66.691	66.691
2502	87.2448	91.9441	99.8774	66.5446	66.5446	66.5446
2503	87.4288	91.8797	99.9091	66.3979	66.3979	66.3979
2504	87.9059	92.5588	101.42	66.2524	66.2524	66.2524
2505	88.0615	92.2347	100.911	66.1076	66.1076	66.1076
2506	87.7834	91.1543	99.1227	65.963	65.963	65.963
2507	87.8185	90.8107	98.6586	65.8195	65.8195	65.8195
2508	87.5268	90.5717	98.3246	65.6773	65.6773	65.6773
2509	87.5161	90.5157	98.2402	65.5365	65.5365	65.5365
2510	87.5494	90.5046	98.2012	65.397	65.397	65.397
2511	87.2434	89.529	96.6884	65.2581	65.2581	65.2581
2512	86.7315	88.3447	94.9644	65.1197	65.1197	65.1197
2513	85.5189	86.3863	90.3952	64.9805	64.9805	64.9805
2514	84.4228	86.2436	87.8528	66.0672	66.0672	71.3568
2515	83.7512	85.572	86.9811	66.6198	66.6198	71.9094
2516	83.3103	85.1311	86.5402	66.9039	66.9039	72.1935
2517	82.9951	84.8158	86.225	67.0532	67.0532	72.3428
2518	82.7486	84.5694	85.9785	67.1346	67.1346	72.4243
2519	82.5399	84.3607	85.7699	67.1819	67.1819	72.4718

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2520	82.3523	84.1731	86.5822	67.212	67.212	72.5018
2521	82.1766	83.9974	85.4066	67.2334	67.2334	72.523
2522	82.008	83.8287	85.2379	67.2503	67.2503	72.5399
2523	81.8436	83.6644	85.0736	67.265	67.265	72.5546
2524	81.6822	83.503	84.9121	67.2784	67.2784	72.568
2525	81.5228	83.3436	84.7528	67.2911	67.2911	72.5807
2526	81.3651	83.1859	84.595	67.3035	67.3035	72.5931
2527	81.2145	83.1293	84.433	67.3854	67.3854	72.9564
2528	81.0641	82.9999	84.28	67.4522	67.4522	73.0859
2529	80.9113	82.8166	84.1309	67.474	67.474	73.0167
2530	80.7564	82.612	83.9821	67.4575	67.4575	72.8512
2531	80.6008	82.4066	83.8325	67.4193	67.4193	72.6641
2532	81.5465	82.8465	89.0635	66.1931	66.1931	66.1931
2533	82.0028	83.2154	89.3697	65.5092	65.5092	65.5092
2534	82.1336	83.1884	89.0995	65.0982	65.0982	65.0982
2535	82.0795	82.9692	88.6221	64.8249	64.8249	64.8249
2536	81.9248	82.6585	88.0674	64.6212	64.6212	64.6212
2537	81.8207	82.5447	87.9768	64.4533	64.4533	64.4533
2538	81.7442	82.4589	87.9136	64.3039	64.3039	64.3039
2539	81.6832	82.3889	87.8655	64.1646	64.1646	64.1646
2540	81.6277	82.3267	87.81	64.0308	64.0308	64.0308
2541	81.5747	82.2877	87.7546	63.9005	63.9005	63.9005
2542	81.5234	82.2106	87.7009	63.7725	63.7725	63.7725
2543	81.4714	82.1538	87.6399	63.6463	63.6463	63.6463
2544	81.4183	82.0957	87.5667	63.5215	63.5215	63.5215
2545	81.3598	82.0362	87.4905	63.3981	63.3981	63.3981
2546	81.3026	81.976	87.4161	63.2758	63.2758	63.2758
2547	80.0157	80.6458	81.5594	63.1521	63.1521	63.1521
2548	80.9509	93.1036	83.6238	68.6131	68.6131	89.1244
2549	81.4482	93.7215	83.976	71.6638	71.6638	92.2572
2550	81.698	94.008	84.1782	73.4751	73.4751	94.0661
2551	81.7627	93.7719	84.1876	74.5562	74.5562	94.8198
2552	81.8844	93.5294	85.0434	75.162	75.162	94.7844
2553	80.8259	84.2903	83.7061	72.6928	72.6928	82.0487
2554	79.8448	80.7621	82.3896	69.2466	69.2466	69.2466
2555	79.2436	80.1242	81.8374	67.4424	67.4424	67.4424
2556	78.8495	79.6933	81.4922	66.4638	66.4638	66.4638
2557	78.5687	79.3822	81.2635	65.9005	65.9005	65.9005
2558	78.3963	79.1462	81.3327	65.5467	65.5467	65.5467
2559	78.238	78.983	81.2033	65.2987	65.2987	65.2987
2560	78.0872	78.8285	81.0748	65.1045	65.1045	65.1045
2561	77.9413	78.6789	80.9514	64.9381	64.9381	64.9381
2562	77.776	78.5262	80.7101	64.7861	64.7861	64.7861
2563	77.6174	78.3676	80.5515	64.6422	64.6422	64.6422
2564	77.4629	78.2131	80.397	64.5028	64.5028	64.5028
2565	77.3111	78.0613	80.2451	64.3664	64.3664	64.3664
2566	77.1612	77.9114	80.0953	64.2321	64.2321	64.2321
2567	77.0129	77.7631	79.947	64.0995	64.0995	64.0995
2568	76.8659	77.6161	79.8	63.9683	63.9683	63.9683
2569	76.7201	77.4703	79.6542	63.8385	63.8385	63.8385
2570	76.5755	77.3257	79.5095	63.7099	63.7099	63.7099
2571	76.4319	77.1821	79.3659	63.5826	63.5826	63.5826
2572	76.2893	77.0395	79.2234	63.4564	63.4564	63.4564
2573	76.1479	76.8981	79.0819	63.3315	63.3315	63.3315
2574	76.0074	76.7576	78.9414	63.2077	63.2077	63.2077

2575	75.8679	75.6181	78.802	83.0851	63.0851	63.0851
2576	75.7295	76.4797	78.6635	82.9636	62.9636	62.9636
2577	75.5832	76.3398	78.4787	82.8433	62.8433	62.8433
2578	75.4301	76.1949	78.2766	82.724	62.724	62.724
2579	75.8475	81.018	78.9259	85.6662	65.6662	77.8824
2580	77.1016	88.3042	81.6931	69.0786	69.0786	87.3356
2581	78.2356	89.8838	84.6007	70.7402	70.7402	88.0607
2582	79.0779	90.7412	86.3096	71.5086	71.5086	87.8999
2583	79.3682	90.2556	86.1457	71.8081	71.8081	87.256
2584	79.4685	89.6228	86.3606	71.8475	71.8475	86.3184
2585	79.8113	90.6678	87.2828	71.7472	71.7472	85.2499
2586	80.0013	90.7351	87.4936	71.5493	71.5493	84.0438
2587	80.1102	90.55	87.9569	71.2894	71.2894	82.7789
2588	80.3009	90.6593	88.9665	70.9921	70.9921	81.5007
2589	80.5932	91.2708	90.0929	70.6711	70.6711	80.2295
2590	80.8507	91.7677	90.9397	70.2999	70.2999	78.8024
2591	81.0841	92.1844	91.8135	89.8992	69.8992	77.3715
2592	80.7983	90.0169	90.4529	69.0084	69.0084	73.4597
2593	79.8214	85.8969	87.2448	67.5218	67.5218	67.5218
2594	79.3537	86.8159	88.0064	66.7526	66.7526	66.7526
2595	77.3649	77.3649	77.3649	66.3499	66.3499	66.3499
2596	76.256	76.256	76.256	66.1384	66.1384	66.1384
2597	75.636	75.636	75.636	66.0257	66.0257	66.0257
2598	75.2877	75.2877	75.2877	65.9639	65.9639	65.9639
2599	75.0902	75.0902	75.0902	65.9285	65.9285	65.9285
2600	74.9767	74.9767	74.9767	65.9067	65.9067	65.9067
2601	74.9098	74.9098	74.9098	65.8919	65.8919	65.8919
2602	74.8687	74.8687	74.8687	65.8807	65.8807	65.8807
2603	74.8421	74.8421	74.8421	65.8714	65.8714	65.8714
2604	74.8234	74.8234	74.8234	65.8631	65.8631	65.8631
2605	74.8092	74.8092	74.8092	65.8553	65.8553	65.8553
2606	74.7975	74.7975	74.7975	65.8477	65.8477	65.8477
2607	74.7872	74.7872	74.7872	65.8403	65.8403	65.8403
2608	74.7776	74.7776	74.7776	65.8329	65.8329	65.8329
2609	74.7684	74.7684	74.7684	65.8256	65.8256	65.8256
2610	74.7595	74.7595	74.7595	65.8183	65.8183	65.8183
2611	74.7507	74.7507	74.7507	65.811	65.811	65.811
2612	78.0618	94.0381	95.1555	65.8108	65.8108	65.8108
2613	79.9859	93.2785	95.1253	65.8107	65.8107	65.8107
2614	81.1307	91.6028	94.2704	65.8104	65.8104	65.8104
2615	81.8581	91.1532	94.8245	65.8102	65.8102	65.8102
2616	82.3339	90.5994	95.2317	65.7706	65.7706	65.7706
2617	82.654	89.9822	95.5283	65.6805	65.6805	65.6805
2618	82.9113	89.4656	95.7965	65.5656	65.5656	65.5656
2619	83.1043	88.8076	95.9959	65.4391	65.4391	65.4391
2620	83.2497	88.132	96.0941	65.3072	65.3072	65.3072
2621	83.406	87.9516	96.8649	65.1734	65.1734	65.1734
2622	83.7613	88.3054	96.7184	65.0398	65.0398	65.0398
2623	84.2749	88.9152	98.0031	64.9071	64.9071	64.9071
2624	84.196	87.9937	96.3385	64.7744	64.7744	64.7744
2625	83.9618	87.2434	95.1492	64.6422	64.6422	64.6422
2626	83.8435	86.9713	94.7777	64.5111	64.5111	64.5111
2627	83.8074	86.835	94.577	64.3812	64.3812	64.3812
2628	83.8387	86.8237	94.539	64.2525	64.2525	64.2525
2629	83.8235	86.6251	94.1987	64.1249	64.1249	64.1249

2630	83.5218	85.6982	92.7701	63.9978	63.9978	63.9978
2631	83.0578	84.6316	91.2197	63.8713	63.8713	63.8713
2632	82.6882	84.0637	90.4432	63.7457	63.7457	63.7457
2633	82.4111	83.6839	89.9215	63.6211	63.6211	63.6211
2634	82.1754	83.3368	89.4151	63.4976	63.4976	63.4976
2635	81.9279	82.9246	88.7449	63.375	63.375	63.375
2636	81.6704	82.5055	88.0731	63.2533	63.2533	63.2533
2637	81.4443	82.1743	87.5919	63.1327	63.1327	63.1327
2638	81.3038	82.0237	87.4853	63.0132	63.0132	63.0132
2639	81.2097	81.9201	87.3851	62.8949	62.8949	62.8949
2640	81.1401	81.8421	87.3236	62.7777	62.7777	62.7777
2641	81.0813	81.7768	87.2622	62.6617	62.6617	62.6617
2642	81.0265	81.7178	87.2069	62.5467	62.5467	62.5467
2643	80.9789	81.6623	87.1534	62.4329	62.4329	62.4329
2644	80.9268	81.6069	87.0808	62.3201	62.3201	62.3201
2645	80.8733	81.5502	87.0074	62.2084	62.2084	62.2084
2646	80.8191	81.4929	86.9339	62.0977	62.0977	62.0977
2647	79.0782	79.102	79.1359	61.9846	61.9846	61.9846
2648	78.0209	78.0463	78.0824	61.8724	61.8724	61.8724
2649	77.3321	77.3648	77.3871	61.7613	61.7613	61.7613
2650	76.8637	76.9326	76.972	61.7192	61.7192	62.0134
2651	76.5052	76.5868	76.8335	61.661	61.661	62.0094
2652	76.2074	76.3017	76.3557	61.5959	61.5959	61.9985
2653	75.8932	75.9	75.9038	61.4296	61.4296	61.4586
2654	75.7691	75.9833	76.2881	61.2877	61.2877	61.2877
2655	75.7661	76.2017	76.8215	61.1649	61.1649	61.1649
2656	75.8225	76.454	77.3642	61.0524	61.0524	61.0524
2657	75.7789	76.38	77.3645	60.9454	60.9454	60.9454
2658	75.6821	76.2528	77.3115	60.8417	60.8417	60.8417
2659	75.5564	76.1022	77.2233	60.74	60.74	60.74
2660	75.4087	75.9545	77.0756	60.6398	60.6398	60.6398
2661	75.2629	75.782	76.9915	60.5409	60.5409	60.5409
2662	75.1155	75.6159	76.8873	60.443	60.443	60.443
2663	75.5018	80.3729	77.2805	63.554	63.554	76.2869
2664	76.7976	88.9887	79.3573	67.6492	67.6492	88.1885
2665	77.4988	89.7829	80.0109	70.016	70.016	90.8087
2666	77.8575	90.0987	80.3201	71.4694	71.4694	91.9815
2667	77.9853	89.874	80.3907	72.3638	72.3638	92.4984
2668	78.2476	89.7635	81.8401	72.8357	72.8357	92.1758
2669	78.5249	89.7794	82.9562	73.0579	73.0579	91.5335
2670	78.9824	90.4191	84.7091	73.131	73.131	90.7158
2671	79.6953	91.6108	87.1321	73.1124	73.1124	89.801
2672	79.89	91.0356	86.7004	73.0283	73.0283	88.8089
2673	79.9158	90.3369	86.7707	72.8842	72.8842	87.71
2674	80.0956	90.6912	87.3524	72.6953	72.6953	86.5829
2675	80.3454	91.2267	87.8971	72.4633	72.4633	85.3514
2676	80.4024	90.9223	87.914	72.1843	72.1843	84.0586
2677	80.5461	90.8598	88.9204	71.877	71.877	82.7607
2678	80.7891	91.3526	89.9864	71.5516	71.5516	81.4791
2679	81.0701	91.8949	90.9324	71.1898	71.1898	80.1036
2680	81.3118	92.3492	91.7833	70.7897	70.7897	78.6578
2681	81.4657	92.3875	92.3849	70.3035	70.3035	76.881
2682	80.5138	87.0514	88.2091	68.7841	68.7841	69.8882
2683	78.8247	86.7591	88.0095	67.7282	67.7282	67.7282
2684	79.5169	87.8101	88.9063	67.1813	67.1813	67.1813

## SIMULACIONES, CALCULOS Y GRÁFICAS

ALSTOM

00012532

2685	77.6032	77.6032	77.6032	66.8934	66.8934	66.8934
2686	76.536	76.536	76.536	66.7412	66.7412	66.7412
2687	75.9391	75.9391	75.9391	66.659	66.659	66.659
2688	75.6036	75.6036	75.6036	66.613	66.613	66.613
2689	75.4132	75.4132	75.4132	66.5857	66.5857	66.5857
2690	75.3036	75.3036	75.3036	66.568	66.568	66.568
2691	75.2388	75.2388	75.2388	66.5553	66.5553	66.5553
2692	75.1989	75.1989	75.1989	66.5452	66.5452	66.5452
2693	75.1728	75.1728	75.1728	66.5364	66.5364	66.5364
2694	75.1545	75.1545	75.1545	66.5283	66.5283	66.5283
2695	75.1404	75.1404	75.1404	66.5205	66.5205	66.5205
2696	75.1287	75.1287	75.1287	66.513	66.513	66.513
2697	75.1183	75.1183	75.1183	66.5055	66.5055	66.5055
2698	75.1087	75.1087	75.1087	66.4981	66.4981	66.4981
2699	75.0995	75.0995	75.0995	66.4907	66.4907	66.4907
2700	75.0905	75.0905	75.0905	66.4833	66.4833	66.4833
2701	75.0816	75.0816	75.0816	66.476	66.476	66.476
2702	78.3804	92.7152	94.263	66.4755	66.4755	66.4755
2703	80.2943	91.8743	94.1534	66.475	66.475	66.475
2704	81.4439	91.1986	94.4808	66.4745	66.4745	66.4745
2705	82.1484	90.781	95.0486	66.4329	66.4329	66.4329
2706	82.5905	90.2641	95.4686	66.3387	66.3387	66.3387
2707	82.9078	89.7626	95.7887	66.2189	66.2189	66.2189
2708	83.1514	89.2022	96.0414	66.0867	66.0867	66.0867
2709	83.3187	88.4751	96.2127	65.9491	65.9491	65.9491
2710	83.4755	88.1519	96.0842	65.8095	65.8095	65.8095
2711	83.7095	88.1746	96.2622	65.6696	65.6696	65.6696
2712	84.2282	88.8958	97.8179	65.531	65.531	65.531
2713	84.3647	88.4788	97.1026	65.3928	65.3928	65.3928
2714	84.1053	87.4497	95.3959	65.2549	65.2549	65.2549
2715	83.9729	87.1593	95.0035	65.1181	65.1181	65.1181
2716	83.9122	86.9569	94.7096	64.9826	64.9826	64.9826
2717	83.9297	86.9314	94.6573	64.8483	64.8483	64.8483
2718	83.9894	86.9503	94.6505	64.7153	64.7153	64.7153
2719	83.7954	86.2407	93.5283	64.5831	64.5831	64.5831
2720	83.402	85.2529	92.0634	64.4514	64.4514	64.4514
2721	82.9686	84.3967	90.849	64.3206	64.3206	64.3206
2722	82.6608	83.9898	90.3049	64.1908	64.1908	64.1908
2723	82.42	83.6534	89.8363	64.0622	64.0622	64.0622
2724	82.1952	83.3028	89.2969	63.9346	63.9346	63.9346
2725	81.9603	82.9167	88.6741	63.808	63.808	63.808
2726	81.7173	82.5265	88.0536	63.6824	63.6824	63.6824
2727	81.5154	82.2447	87.6641	63.5579	63.5579	63.5579
2728	81.387	82.1071	87.5487	63.4346	63.4346	63.4346
2729	81.289	82.0099	87.4738	63.3125	63.3125	63.3125
2730	81.2325	81.9349	87.4161	63.1916	63.1916	63.1916
2731	81.175	81.871	87.3561	63.0718	63.0718	63.0718
2732	81.1228	81.8122	87.3013	62.9532	62.9532	62.9532
2733	81.0731	81.7564	87.2468	62.8357	62.8357	62.8357
2734	81.0204	81.7	87.1715	62.7193	62.7193	62.7193
2735	80.966	81.642	87.0947	62.604	62.604	62.604
2736	79.998	80.3943	82.8187	62.4879	62.4879	62.4879
2737	79.2106	80.5229	81.0309	63.6479	63.6479	69.139
2738	78.6962	79.9169	80.5447	64.1744	64.1744	69.353
2739	78.1297	78.9091	79.3553	64.0249	64.0249	67.3521

2740	77.447	77.6654	77.7904	63.3859	63.3859	64.3182
2741	77.1284	77.489	78.0019	62.8058	62.8058	62.8058
2742	77.074	77.6652	78.674	62.4583	62.4583	62.4583
2743	76.984	77.5051	78.7079	62.228	62.228	62.228
2744	76.8692	77.3549	78.675	62.0571	62.0571	62.0571
2745	76.7249	77.2106	78.5307	61.9165	61.9165	61.9165
2746	76.5652	77.051	78.371	61.7916	61.7916	61.7916
2747	76.3978	76.8836	78.2036	61.6752	61.6752	61.6752
2748	76.2268	76.7125	78.0326	61.5635	61.5635	61.5635
2749	76.0544	76.5401	77.8502	61.4546	61.4546	61.4546
2750	75.8818	76.3675	77.6875	61.3477	61.3477	61.3477
2751	75.7096	76.1954	77.5154	61.2422	61.2422	61.2422
2752	75.5383	76.0241	77.3441	61.138	61.138	61.138
2753	75.368	75.8538	77.1738	61.0349	61.0349	61.0349
2754	75.1988	75.6846	77.0046	60.9327	60.9327	60.9327
2755	75.0308	75.5185	76.8366	60.8316	60.8316	60.8316
2756	74.8639	75.3496	76.6697	60.7314	60.7314	60.7314
2757	74.6982	75.1839	76.504	60.6321	60.6321	60.6321
2758	74.5337	75.0194	76.3395	60.5338	60.5338	60.5338
2759	74.3704	74.8561	76.1761	60.4363	60.4363	60.4363
2760	74.2082	74.6939	76.014	60.3398	60.3398	60.3398
2761	74.0472	74.5329	75.853	60.2442	60.2442	60.2442
2762	73.8874	74.3731	75.6931	60.1495	60.1495	60.1495
2763	73.7287	74.2144	75.5345	60.0556	60.0556	60.0556
2764	73.5711	74.0569	75.3769	59.9626	59.9626	59.9626
2765	73.4147	73.9005	75.2205	59.8705	59.8705	59.8705
2766	73.2594	73.7452	75.0652	59.7793	59.7793	59.7793
2767	73.1053	73.591	74.911	59.6889	59.6889	59.6889
2768	72.9522	73.4379	74.758	59.5993	59.5993	59.5993
2769	72.8002	73.286	74.606	59.5105	59.5105	59.5105
2770	72.6524	73.1347	74.4714	59.4226	59.4226	59.4226
2771	72.5021	72.9871	74.311	59.3355	59.3355	59.3355
2772	72.3525	72.8382	74.1583	59.2492	59.2492	59.2492
2773	72.2046	72.69	74.0124	59.1637	59.1637	59.1637
2774	72.0578	72.5435	73.8638	59.079	59.079	59.079
2775	71.912	72.3977	73.7178	58.9951	58.9951	58.9951
2776	71.7674	72.2531	73.5732	58.912	58.912	58.912
2777	71.6239	72.1096	73.4297	58.8296	58.8296	58.8296
2778	71.4814	71.9672	73.2872	58.748	58.748	58.748
2779	71.34	71.8258	73.1458	58.6671	58.6671	58.6671
2780	71.1997	71.6854	73.0055	58.587	58.587	58.587
2781	71.0667	71.5452	72.8699	58.5077	58.5077	58.5077
2782	70.9406	71.4094	72.8103	58.4291	58.4291	58.4291
2783	70.8191	71.2783	72.7254	58.3512	58.3512	58.3512
2784	70.7011	71.1506	72.644	58.2741	58.2741	58.2741
2785	70.5864	71.0273	72.5678	58.1977	58.1977	58.1977
2786	70.4751	70.9086	72.4972	58.1221	58.1221	58.1221
2787	70.3623	70.7916	72.4066	58.0471	58.0471	58.0471
2788	70.2439	70.6733	72.2883	57.9729	57.9729	57.9729
2789	70.123	70.5523	72.1673	57.8993	57.8993	57.8993
2790	70.0011	70.4304	72.0454	57.8264	57.8264	57.8264
2791	69.879	70.3084	71.9234	57.7542	57.7542	57.7542
2792	69.7573	70.1867	71.8017	57.6827	57.6827	57.6827
2793	69.6362	70.0656	71.6806	57.6118	57.6118	57.6118
2794	70.8683	81.3676	73.2285	62.6784	62.6784	81.7982



2795	71.811	84.0658	74.349	65.9725	65.9725	86.5582
2796	72.3311	84.6336	74.8205	67.934	67.934	88.5255
2797	72.581	84.6468	75.0151	69.135	69.135	89.4593
2798	72.7924	84.4905	75.7733	69.8444	69.8444	89.5828
2799	73.1135	84.4882	77.2352	70.2134	70.2134	89.1112
2800	73.4073	84.5503	78.183	70.3791	70.3791	88.3849
2801	74.1471	85.9649	81.0252	70.4269	70.4269	87.535
2802	74.6146	86.12	81.7178	70.3977	70.3977	86.6027
2803	74.7463	85.5037	81.5454	70.3064	70.3064	85.581
2804	74.8282	85.104	81.822	70.1612	70.1612	84.4762
2805	75.1913	86.1514	82.748	69.9767	69.9767	83.3345
2806	75.3423	86.0207	82.8122	69.7418	69.7418	82.0884
2807	75.4766	85.8887	83.4476	69.4714	69.4714	80.8182
2808	75.7068	86.1112	84.5183	69.1768	69.1768	79.5485
2809	76.0249	86.7387	85.6144	68.8602	68.8602	78.2689
2810	76.3094	87.2605	86.4825	68.4961	68.4961	76.8461
2811	76.5716	87.8952	87.3966	68.1072	68.1072	75.4327
2812	76.1544	84.7411	85.3472	67.0791	67.0791	70.7414
2813	75.2668	81.5661	82.8886	65.7036	65.7036	65.7036
2814	74.8489	82.5071	83.6753	64.9919	64.9919	64.9919
2815	72.8852	72.8852	72.8852	64.6194	64.6194	64.6194
2816	71.7907	71.7907	71.7907	64.4239	64.4239	64.4239
2817	71.1792	71.1792	71.1792	64.3197	64.3197	64.3197
2818	70.8361	70.8361	70.8361	64.2627	64.2627	64.2627
2819	70.6421	70.6421	70.6421	64.2301	64.2301	64.2301
2820	70.531	70.531	70.531	64.2101	64.2101	64.2101
2821	70.4659	70.4659	70.4659	64.1965	64.1965	64.1965
2822	70.4264	70.4264	70.4264	64.1864	64.1864	64.1864
2823	70.4012	70.4012	70.4012	64.1779	64.1779	64.1779
2824	70.3838	70.3838	70.3838	64.1703	64.1703	64.1703
2825	70.3709	70.3709	70.3709	64.1633	64.1633	64.1633
2826	70.3604	70.3604	70.3604	64.1564	64.1564	64.1564
2827	70.3512	70.3512	70.3512	64.1497	64.1497	64.1497
2828	70.3428	70.3428	70.3428	64.143	64.143	64.143
2829	70.3348	70.3348	70.3348	64.1364	64.1364	64.1364
2830	70.327	70.327	70.327	64.1298	64.1298	64.1298
2831	70.3194	70.3194	70.3194	64.1232	64.1232	64.1232
2832	73.6355	89.2258	90.4925	64.1232	64.1232	64.1232
2833	75.5558	88.4814	90.4059	64.1232	64.1232	64.1232
2834	76.7011	87.0035	89.8159	64.1231	64.1231	64.1231
2835	77.4293	86.5548	90.3707	64.123	64.123	64.123
2836	77.9141	86.0415	90.8087	64.0878	64.0878	64.0878
2837	78.257	85.4738	91.1329	64.0076	64.0076	64.0076
2838	78.5413	84.9841	91.4279	63.9053	63.9053	63.9053
2839	78.7583	84.3307	91.6485	63.7925	63.7925	63.7925
2840	78.934	83.7678	91.7229	63.6751	63.6751	63.6751
2841	79.1221	83.6192	91.5255	63.5559	63.5559	63.5559
2842	79.5535	84.1268	92.8602	63.4369	63.4369	63.4369
2843	80.0109	84.524	93.4996	63.3186	63.3186	63.3186
2844	79.9187	83.6024	91.8467	63.2003	63.2003	63.2003
2845	79.7419	83.0008	90.8918	63.0825	63.0825	63.0825
2846	79.6694	82.7793	90.5741	62.9657	62.9657	62.9657
2847	79.6764	82.7011	90.4413	62.8496	62.8496	62.8496
2848	79.7441	82.7291	90.4444	62.7353	62.7353	62.7353
2849	79.7925	82.6513	90.2707	62.6217	62.6217	62.6217

2850	79.5793	81.8867	89.0636	62.5086	62.5086	62.5086
2851	79.2158	80.9865	87.7327	62.396	62.396	62.396
2852	78.8464	80.2662	86.7071	62.2841	62.2841	62.2841
2853	77.2445	78.1319	79.9158	62.1705	62.1705	62.1705
2854	76.3068	77.2038	78.9573	62.0579	62.0579	62.0579
2855	75.7498	76.6103	78.4787	61.9465	61.9465	61.9465
2856	75.3845	76.2451	78.1134	61.836	61.836	61.836
2857	75.1237	75.9843	77.8526	61.7267	61.7267	61.7267
2858	74.9211	75.7791	77.6556	61.6183	61.6183	61.6183
2859	74.7534	75.6026	77.5067	61.511	61.511	61.511
2860	74.5844	75.4719	77.2555	61.4046	61.4046	61.4046
2861	74.4313	75.3187	77.1024	61.2992	61.2992	61.2992
2862	74.2872	75.1744	76.9588	61.1948	61.1948	61.1948
2863	74.1507	75.0325	76.8339	61.0914	61.0914	61.0914
2864	74.019	74.8954	76.7137	60.989	60.989	60.989
2865	73.8726	74.7939	76.4886	60.8875	60.8875	60.8875
2866	73.7321	74.6583	76.3417	60.7869	60.7869	60.7869
2867	73.5952	74.5264	76.1983	60.6873	60.6873	60.6873
2868	73.4606	74.3967	76.0572	60.5886	60.5886	60.5886
2869	73.6821	74.4479	77.6375	60.4915	60.4915	60.4915
2870	74.7321	76.0068	82.2489	60.3972	60.3972	60.3972
2871	75.2478	76.4284	82.5367	60.3037	60.3037	60.3037
2872	75.4401	76.4735	82.3514	60.2109	60.2109	60.2109
2873	75.4543	76.3443	81.9979	60.1187	60.1187	60.1187
2874	75.3689	76.1189	81.5534	60.0273	60.0273	60.0273
2875	75.312	76.0379	81.4656	59.9368	59.9368	59.9368
2876	75.282	75.9991	81.4479	59.8471	59.8471	59.8471
2877	75.2667	75.9753	81.4448	59.7583	59.7583	59.7583
2878	75.2579	75.9595	81.4412	59.6703	59.6703	59.6703
2879	75.2506	75.9471	81.4319	59.5832	59.5832	59.5832
2880	75.244	75.9359	81.4234	59.4969	59.4969	59.4969
2881	75.2378	75.9255	81.4156	59.4114	59.4114	59.4114
2882	75.2317	75.9157	81.408	59.3268	59.3268	59.3268
2883	75.2232	75.9053	81.3896	59.243	59.243	59.243
2884	75.2132	75.8938	81.3702	59.1599	59.1599	59.1599
2885	75.2025	75.8817	81.3508	59.0777	59.0777	59.0777
2886	75.1914	75.8693	81.3312	58.9962	58.9962	58.9962
2887	75.18	75.8563	81.3103	58.9155	58.9155	58.9155
2888	75.1682	75.8428	81.2877	58.8355	58.8355	58.8355
2889	74.7736	75.2915	79.5057	58.7556	58.7556	58.7556
2890	73.8064	74.227	75.8983	58.675	58.675	58.675
2891	73.1551	73.6353	74.9819	58.5951	58.5951	58.5951
2892	72.6999	73.2457	74.3668	58.5158	58.5158	58.5158
2893	72.3842	72.93	74.0511	58.4372	58.4372	58.4372
2894	72.1447	72.6905	73.8117	58.3594	58.3594	58.3594
2895	71.953	72.4868	73.6477	58.2823	58.2823	58.2823
2896	71.783	72.3149	73.482	58.2059	58.2059	58.2059
2897	71.6282	72.1523	73.3452	58.1303	58.1303	58.1303
2898	71.4736	72.0077	73.1674	58.0553	58.0553	58.0553
2899	71.3241	71.8583	73.018	57.981	57.981	57.981
2900	71.1746	71.7157	72.8524	57.9074	57.9074	57.9074
2901	71.0297	71.5887	72.7124	57.8345	57.8345	57.8345
2902	70.8872	71.4256	72.5712	57.7623	57.7623	57.7623
2903	70.7417	71.289	72.4051	57.6907	57.6907	57.6907
2904	70.5738	71.2057	72.1051	57.6197	57.6197	57.6197

2905	70.1116	70.4401	70.6282	57.8727	57.8727	59.2751
2906	70.2123	71.4155	72.0681	58.8451	58.8451	63.9644
2907	70.2258	71.7121	71.9952	59.6077	59.6077	65.6802
2908	70.2014	71.9615	71.9249	60.2376	60.2376	67.0813
2909	70.1837	72.2025	71.859	60.7971	60.7971	68.3452
2910	70.0896	72.2123	71.7882	61.1984	61.1984	68.9298
2911	70.0186	72.1754	71.7033	61.5036	61.5036	69.3441
2912	70.6816	77.9866	72.6808	63.9987	63.9987	79.8078
2913	71.793	83.9796	74.3543	66.9221	66.9221	87.458
2914	72.4146	84.6932	74.9335	68.71	68.71	89.303
2915	72.7608	85.0746	75.2364	69.9066	69.9066	90.4974
2916	72.9066	84.9014	75.3292	70.6933	70.6933	90.9416
2917	73.1026	84.7502	76.2529	71.177	71.177	90.805
2918	73.3973	84.7304	77.5858	71.4313	71.4313	90.2382
2919	73.7	84.8677	78.6141	71.5346	71.5346	89.4558
2920	74.4711	86.3623	81.5712	71.5419	71.5419	88.5581
2921	74.8746	86.3009	81.9134	71.4852	71.4852	87.597
2922	74.9838	85.667	81.7951	71.3721	71.3721	86.5477
2923	75.0914	85.4398	82.1449	71.2088	71.2088	85.4223
2924	75.4635	86.4817	83.0704	71.0076	71.0076	84.2609
2925	75.5807	86.2174	83.0338	70.7556	70.7556	82.9907
2926	75.7198	86.1054	83.7874	70.4707	70.4707	81.7063
2927	75.96	86.4003	84.8619	70.1637	70.1637	80.4285
2928	76.2724	87.0129	85.9275	69.8317	69.8317	79.1212
2929	76.5532	87.5311	86.792	69.453	69.453	77.6839
2930	76.8122	87.954	87.7119	69.0523	69.0523	76.2632
2931	76.2683	84.3599	85.0987	67.8957	67.8957	70.9424
2932	75.4278	81.8799	83.1851	66.5909	66.5909	66.5909
2933	75.0373	82.8482	83.9992	65.9157	65.9157	65.9157
2934	73.0862	73.0862	73.0862	65.562	65.562	65.562
2935	71.9987	71.9987	71.9987	65.3761	65.3761	65.3761
2936	71.3911	71.3911	71.3911	65.2769	65.2769	65.2769
2937	71.0501	71.0501	71.0501	65.2224	65.2224	65.2224
2938	70.8573	70.8573	70.8573	65.1909	65.1909	65.1909
2939	70.7468	70.7468	70.7468	65.1715	65.1715	65.1715
2940	70.6821	70.6821	70.6821	65.1582	65.1582	65.1582
2941	70.6427	70.6427	70.6427	65.148	65.148	65.148
2942	70.6175	70.6175	70.6175	65.1395	65.1395	65.1395
2943	70.6002	70.6002	70.6002	65.1319	65.1319	65.1319
2944	70.5872	70.5872	70.5872	65.1247	65.1247	65.1247
2945	70.5766	70.5766	70.5766	65.1177	65.1177	65.1177
2946	70.5674	70.5674	70.5674	65.1109	65.1109	65.1109
2947	70.559	70.559	70.559	65.1041	65.1041	65.1041
2948	70.5509	70.5509	70.5509	65.0973	65.0973	65.0973
2949	70.5431	70.5431	70.5431	65.0906	65.0906	65.0906
2950	70.5354	70.5354	70.5354	65.0839	65.0839	65.0839
2951	73.8488	89.137	90.4801	65.0835	65.0835	65.0835
2952	75.7675	88.3712	90.3919	65.083	65.083	65.083
2953	76.9135	87.0835	90.0088	65.0826	65.0826	65.0826
2954	77.8436	86.6413	90.5713	65.0821	65.0821	65.0821
2955	78.126	86.1399	91.0119	65.044	65.044	65.044
2956	78.4727	85.6069	91.3544	64.9578	64.9578	64.9578
2957	78.7571	85.1129	91.645	64.848	64.848	64.848
2958	78.9662	84.44	91.8588	64.727	64.727	64.727
2959	79.1448	83.9407	91.8903	64.601	64.601	64.601

2960	79.3328	83.792	91.6928	64.4731	64.4731	64.4731
2981	79.7857	84.3738	92.9683	64.3455	64.3455	64.3455
2982	80.2253	84.7263	93.6914	64.2185	64.2185	64.2185
2963	80.1567	83.8936	92.1847	64.0915	64.0915	64.0915
2984	79.9727	83.2596	91.1687	63.9652	63.9652	63.9652
2965	79.9	83.0534	90.8764	63.84	63.84	63.84
2966	79.8929	82.9357	90.6872	63.7158	63.7158	63.7158
2967	79.9514	82.9592	90.6889	63.5929	63.5929	63.5929
2968	80.0449	83.0202	90.7294	63.4711	63.4711	63.4711
2969	79.9212	82.5934	89.7445	63.3501	63.3501	63.3501
2970	78.3208	79.454	82.5044	63.2272	63.2272	63.2272
2971	77.4621	78.6497	81.8261	63.1056	63.1056	63.1056
2972	76.9928	78.2174	81.4827	62.9852	62.9852	62.9852
2973	76.7015	77.9262	81.1914	62.866	62.866	62.866
2974	76.5071	77.7318	80.997	62.7479	62.7479	62.7479
2975	76.3655	77.5901	80.8554	62.6309	62.6309	62.6309
2976	76.2527	77.4774	80.7426	62.515	62.515	62.515
2977	76.1559	77.3805	80.6456	62.4001	62.4001	62.4001
2978	76.0679	77.2926	80.5579	62.2884	62.2884	62.2884
2979	75.9851	77.2097	80.475	62.1738	62.1738	62.1738
2980	75.9052	77.1299	80.3952	62.0622	62.0622	62.0622
2981	75.8273	77.0519	80.3172	61.9516	61.9516	61.9516
2982	75.7506	76.9752	80.2405	61.8421	61.8421	61.8421
2983	75.6748	76.8995	80.1647	61.7337	61.7337	61.7337
2984	75.5998	76.8245	80.0897	61.6262	61.6262	61.6262
2985	75.5255	76.7501	80.0154	61.5198	61.5198	61.5198
2986	75.4517	76.6764	79.9416	61.4144	61.4144	61.4144
2987	75.3785	76.6032	79.8684	61.31	61.31	61.31
2988	75.3059	76.5305	79.7958	61.2065	61.2065	61.2065
2989	75.1853	76.3178	79.4127	61.1039	61.1039	61.1039
2990	75.041	76.1808	79.2466	61.0023	61.0023	61.0023
2991	74.9251	76.0523	79.0889	60.9015	60.9015	60.9015
2992	74.8134	75.928	78.9355	60.8018	60.8018	60.8018
2993	74.7037	75.8056	78.7839	60.7029	60.7029	60.7029
2994	76.178	78.6274	85.9182	60.6079	60.6079	60.6079
2995	76.7977	78.8203	85.7687	60.5134	60.5134	60.5134
2996	76.9509	78.5652	85.1858	60.4194	60.4194	60.4194
2997	76.9438	78.3613	84.7988	60.326	60.326	60.326
2998	76.9073	78.2665	84.5997	60.2335	60.2335	60.2335
2999	76.854	78.1374	84.3895	60.1418	60.1418	60.1418
3000	76.7904	78.0104	84.1748	60.0509	60.0509	60.0509
3001	76.7083	77.8457	83.8864	59.9607	59.9607	59.9607
3002	76.6031	77.6402	83.5239	59.8713	59.8713	59.8713
3003	76.4836	77.423	83.1539	59.7826	59.7826	59.7826
3004	76.3544	77.1988	82.781	59.6947	59.6947	59.6947
3005	76.2184	76.9703	82.4077	59.6074	59.6074	59.6074
3006	76.1279	76.8569	82.277	59.521	59.521	59.521
3007	76.0745	76.7979	82.2317	59.4354	59.4354	59.4354
3008	76.0415	76.7593	82.2066	59.3506	59.3506	59.3506
3009	76.0198	76.7321	82.1925	59.2667	59.2667	59.2667
3010	76.0043	76.7113	82.1845	59.1835	59.1835	59.1835
3011	75.9914	76.6939	82.175	59.1011	59.1011	59.1011
3012	75.9786	76.6777	82.1609	59.0196	59.0196	59.0196
3013	75.9662	76.6618	82.1471	58.9388	58.9388	58.9388
3014	75.9539	76.6462	82.1335	58.8588	58.8588	58.8588

## SIMULACIONES, CALCULOS Y GRÁFICAS

ALSTOM

00012588

3015	75.9419	76.6309	82.1202	58.7795	58.7795	58.7795
3016	75.93	76.6159	82.1071	58.701	58.701	58.701
3017	75.9176	76.6008	82.0908	58.6232	58.6232	58.6232
3018	75.9033	76.5848	82.066	58.5462	58.5462	58.5462
3019	75.8878	76.5677	82.0404	58.4699	58.4699	58.4699
3020	75.8718	76.5501	82.0145	58.3944	58.3944	58.3944
3021	75.8555	76.5322	81.9885	58.3195	58.3195	58.3195
3022	75.839	76.5142	81.9627	58.2454	58.2454	58.2454
3023	75.8225	76.4962	81.9371	58.172	58.172	58.172
3024	75.1599	75.603	78.9274	58.098	58.098	58.098
3025	74.6626	75.0812	78.0762	58.0246	58.0246	58.0246
3026	74.3598	74.7809	77.6225	57.9519	57.9519	57.9519
3027	74.1635	74.5871	77.6752	57.8799	57.8799	57.8799
3028	74.026	74.4521	77.5868	57.8086	57.8086	57.8086
3029	73.91	74.3365	77.4781	57.738	57.738	57.738
3030	73.8042	74.2307	77.3723	57.668	57.668	57.668
3031	73.7163	74.145	77.3289	57.5987	57.5987	57.5987
3032	73.6341	74.0651	77.273	57.5301	57.5301	57.5301
3033	73.5485	73.9794	77.187	57.4621	57.4621	57.4621
3034	73.4531	73.8816	77.0615	57.3947	57.3947	57.3947
3035	73.3564	73.7842	76.9496	57.328	57.328	57.328
3036	73.2615	73.689	76.8486	57.2619	57.2619	57.2619
3037	73.1684	73.5956	76.7515	57.1963	57.1963	57.1963
3038	73.0816	73.5098	76.6794	57.1315	57.1315	57.1315
3039	72.9958	73.424	76.598	57.0672	57.0672	57.0672
3040	72.911	73.3394	76.5175	57.0035	57.0035	57.0035
3041	72.8228	73.2507	76.4181	56.9404	56.9404	56.9404
3042	72.736	73.1639	76.3313	56.8779	56.8779	56.8779
3043	72.6502	73.078	76.2455	56.816	56.816	56.816
3044	72.5652	72.993	76.1605	56.7547	56.7547	56.7547
3045	72.4809	72.9087	76.0762	56.6939	56.6939	56.6939
3046	72.3972	72.8251	75.9925	56.6337	56.6337	56.6337
3047	72.3143	72.7421	75.9096	56.5741	56.5741	56.5741
3048	72.2319	72.6597	75.8272	56.515	56.515	56.515
3049	72.1501	72.578	75.7454	56.4565	56.4565	56.4565
3050	72.0689	72.4968	75.6642	56.3985	56.3985	56.3985
3051	71.9884	72.4162	75.5837	56.341	56.341	56.341
3052	71.9083	72.3362	75.5036	56.2841	56.2841	56.2841
3053	71.769	72.1858	75.1452	56.2277	56.2277	56.2277
3054	71.5878	71.9713	74.6259	56.1715	56.1715	56.1715
3055	71.3335	71.7277	74.1311	56.1158	56.1158	56.1158
3056	71.0831	71.475	73.6249	56.0604	56.0604	56.0604
3057	71.8419	80.5603	73.9898	60.6077	60.6077	78.0245
3058	72.7917	85.0354	75.3338	84.1471	64.1471	84.7247
3059	72.2289	77.3283	74.0531	63.8777	63.8777	76.7389
3060	71.3567	71.943	73.2351	60.6628	60.6628	60.6628
3061	70.824	71.4104	72.7024	59.0139	59.0139	59.0139
3062	70.485	71.0577	72.4038	58.1521	58.1521	58.1521
3063	70.2465	70.8136	72.1821	57.6859	57.6859	57.6859
3064	70.0789	70.6166	72.1013	57.4188	57.4188	57.4188
3065	69.9358	70.4685	71.9766	57.2521	57.2521	57.2521
3066	69.8078	70.3369	71.8707	57.1361	57.1361	57.1361
3067	69.6672	70.2157	71.6576	57.0458	57.0458	57.0458
3068	69.5227	70.0908	71.4549	56.9687	56.9687	56.9687
3069	69.3758	89.964	71.2501	56.8985	56.8985	56.8985

3070	69.2295	69.844	71.0511	56.8321	56.8321	56.8321
3071	69.0832	69.7242	70.8522	56.7679	56.7679	56.7679
3072	68.9377	69.6082	70.6561	56.705	56.705	56.705
3073	68.7866	69.5252	70.416	56.6431	56.6431	56.6431
3074	70.313	82.8183	72.799	62.1906	62.1906	82.782
3075	71.1102	83.1632	73.5422	65.1987	65.1987	85.5093
3076	71.6258	83.3202	74.6191	66.8275	66.8275	86.5577
3077	72.1118	83.4687	76.2266	67.6733	67.6733	86.5806
3078	72.4966	83.6446	77.2569	68.0922	68.0922	86.1189
3079	73.2718	85.0658	80.078	68.2796	68.2796	85.4174
3080	73.788	85.3201	80.9155	68.332	68.332	84.5722
3081	73.9448	84.7341	80.7385	68.2938	68.2938	83.6109
3082	74.0257	84.2691	80.9928	68.1856	68.1856	82.5459
3083	74.3898	85.3166	81.9191	68.0301	68.0301	81.4345
3084	74.5635	85.2605	82.0409	67.8203	67.8203	80.2165
3085	74.7022	85.1223	82.6312	67.5716	67.5716	78.9666
3086	74.8337	85.3226	83.706	67.2968	67.2968	77.7147
3087	75.2595	85.9617	84.8205	67.0007	67.0007	76.4609
3088	75.5505	86.4901	85.6952	66.6564	66.6564	75.058
3089	75.819	86.9347	86.6117	66.2859	66.2859	73.661
3090	75.4623	84.2626	84.8111	65.3267	65.3267	69.2557
3091	74.557	80.7901	82.1201	63.9304	63.9304	63.9304
3092	74.1294	81.7213	82.8971	63.2081	63.2081	63.2081
3093	72.1613	72.1613	72.1613	62.8307	62.8307	62.8307
3094	71.0645	71.0645	71.0645	62.633	62.633	62.633
3095	70.4519	70.4519	70.4519	62.528	62.528	62.528
3096	70.1082	70.1082	70.1082	62.471	62.471	62.471
3097	69.914	69.914	69.914	62.4387	62.4387	62.4387
3098	69.8028	69.8028	69.8028	62.4192	62.4192	62.4192
3099	69.7378	69.7378	69.7378	62.4063	62.4063	62.4063
3100	69.6985	69.6985	69.6985	62.3968	62.3968	62.3968
3101	69.6734	69.6734	69.6734	62.3891	62.3891	62.3891
3102	69.6562	69.6562	69.6562	62.3822	62.3822	62.3822
3103	69.6434	69.6434	69.6434	62.3759	62.3759	62.3759
3104	69.6331	69.6331	69.6331	62.3698	62.3698	62.3698
3105	69.6241	69.6241	69.6241	62.3638	62.3638	62.3638
3106	69.6159	69.6159	69.6159	62.3579	62.3579	62.3579
3107	69.6081	69.6081	69.6081	62.352	62.352	62.352
3108	69.6005	69.6005	69.6005	62.3461	62.3461	62.3461
3109	69.5931	69.5931	69.5931	62.3402	62.3402	62.3402
3110	72.9105	88.6314	89.8653	62.3404	62.3404	62.3404
3111	74.8284	87.8645	89.7528	62.3405	62.3405	62.3405
3112	75.9749	86.3347	89.0981	62.3406	62.3406	62.3406
3113	76.7038	85.8867	89.6537	62.3406	62.3406	62.3406
3114	77.1903	85.3644	90.086	62.3102	62.3102	62.3102
3115	77.5369	84.7968	90.4176	62.2405	62.2405	62.2405
3116	77.8241	84.3045	90.7102	62.1517	62.1517	62.1517
3117	78.0458	83.6656	90.939	62.0538	62.0538	62.0538
3118	78.2275	83.0808	91.0367	61.9518	61.9518	61.9518
3119	78.4194	82.933	90.9416	61.8483	61.8483	61.8483
3120	78.6401	83.4035	91.8963	61.7449	61.7449	61.7449
3121	79.3315	83.8874	92.9008	61.6423	61.6423	61.6423
3122	79.2594	82.9824	91.2615	61.5395	61.5395	61.5395
3123	79.0783	82.3457	90.2423	61.4372	61.4372	61.4372
3124	79.0051	82.1208	89.9194	61.3357	61.3357	61.3357

3125	79.0123	82.0382	89.7792	61.2352	61.2352	61.2352
3126	79.0823	82.0684	89.7845	61.1356	61.1356	61.1356
3127	79.1406	82.0112	89.6402	61.0369	61.0369	61.0369
3128	78.9272	81.2312	88.4054	60.9386	60.9386	60.9386
3129	78.5653	80.3324	87.0755	60.8407	60.8407	60.8407
3130	78.2026	79.6248	86.0689	60.7435	60.7435	60.7435
3131	77.9548	79.2868	85.6062	60.647	60.647	60.647
3132	77.7685	79.0141	85.2139	60.5514	60.5514	60.5514
3133	77.6036	78.7468	84.7966	60.4565	60.4565	60.4565
3134	77.4273	78.4341	84.2704	60.3624	60.3624	60.3624
3135	77.2423	78.1163	83.7449	60.2691	60.2691	60.2691
3136	77.0502	77.795	83.2213	60.1764	60.1764	60.1764
3137	76.9333	77.6596	83.0864	60.0847	60.0847	60.0847
3138	75.7379	76.3962	77.6763	59.9918	59.9918	59.9918
3139	75.0139	75.6808	76.9335	59.8998	59.8998	59.8998
3140	74.5464	75.2229	76.4483	59.8086	59.8086	59.8086
3141	74.2182	74.9045	76.1024	59.7183	59.7183	59.7183
3142	75.1087	75.8253	81.2755	59.6308	59.6308	59.6308
3143	75.5895	76.2979	81.7678	59.5442	59.5442	59.5442
3144	75.8466	76.5482	82.0299	59.4584	59.4584	59.4584
3145	75.9808	76.6768	82.1618	59.3735	59.3735	59.3735
3146	76.0481	76.739	82.2271	59.2893	59.2893	59.2893
3147	76.0798	76.7653	82.2568	59.206	59.206	59.206
3148	76.0892	76.7712	82.2552	59.1234	59.1234	59.1234
3149	76.0853	76.7646	82.2346	59.0416	59.0416	59.0416
3150	76.5602	88.7769	79.1113	64.5563	64.5563	85.1142
3151	76.8169	89.1089	79.3193	67.6382	67.6382	88.2304
3152	76.9247	89.0833	79.3739	69.4302	69.4302	89.8539
3153	76.841	87.7843	79.386	70.231	70.231	89.4333
3154	75.1215	76.7313	76.0573	66.1601	66.1601	67.9977
3155	74.4796	76.2259	76.857	63.6651	63.6651	63.6651
3156	74.0821	74.8025	76.5286	62.3606	62.3606	62.3606
3157	73.8177	74.5189	76.3283	61.8548	61.8548	61.8548
3158	73.6287	74.317	76.2102	61.2498	61.2498	61.2498
3159	73.505	74.1685	76.2546	60.9969	60.9969	60.9969
3160	73.3993	74.0537	76.2292	60.8206	60.8206	60.8206
3161	73.3084	73.9572	76.2288	60.6834	60.6834	60.6834
3162	73.2126	73.8599	76.1649	60.5662	60.5662	60.5662
3163	73.0822	73.7342	75.9354	60.4595	60.4595	60.4595
3164	72.9569	73.6089	75.8101	60.3585	60.3585	60.3585
3165	72.8348	73.4867	75.688	60.2609	60.2609	60.2609
3166	72.6746	73.3457	75.3586	60.1653	60.1653	60.1653
3167	72.4864	73.1942	74.9664	60.0711	60.0711	60.0711
3168	72.2908	73.0727	74.5949	59.978	59.978	59.978
3169	72.0994	72.9985	74.2507	59.8859	59.8859	59.8859
3170	71.6105	72.0859	72.6206	59.7942	59.7942	59.7942
3171	71.2176	71.741	72.0221	60.0675	60.0675	61.6435
3172	71.1161	72.0443	72.5426	60.4644	60.4644	63.259
3173	71.1837	72.5166	73.2322	60.9409	60.9409	64.954
3174	71.0237	72.0626	72.6203	60.988	60.988	64.1158
3175	70.5853	71.0171	71.2489	60.5885	60.5885	61.8885
3176	70.1863	70.3823	70.6027	60.0611	60.0611	60.0611
3177	70.3111	71.1857	72.1695	59.7528	59.7528	59.7528
3178	70.3748	71.3391	72.4238	59.5546	59.5546	59.5546
3179	72.0479	83.4727	75.9461	64.5561	64.5561	83.697

3180	73.0795	84.2817	77.6723	67.0607	67.0607	85.316
3181	74.0823	85.8988	80.3523	68.2925	68.2925	85.6524
3182	74.9098	86.6313	82.1889	68.8678	68.8678	85.3277
3183	75.1992	86.1586	81.9647	69.0925	69.0925	84.6366
3184	75.303	85.543	82.1881	69.1144	69.1144	83.6985
3185	75.6326	86.4005	83.0313	69.0225	69.0225	82.6491
3186	75.8768	86.6622	83.3899	68.8474	68.8474	81.4795
3187	75.9994	86.4674	83.7282	68.6122	68.6122	80.2371
3188	76.2009	86.5157	84.7866	68.3399	68.3399	78.9783
3189	76.5114	87.1453	85.9012	68.0459	68.0459	77.7343
3190	76.8046	87.6891	86.8138	67.7057	67.7057	76.3529
3191	77.071	88.1493	87.7098	67.3323	67.3323	74.9438
3192	76.9698	88.7878	87.0622	66.6106	66.6106	71.8099
3193	75.9521	81.7185	83.1014	65.0478	65.0478	65.0478
3194	75.4641	82.7407	83.9522	64.2394	64.2394	64.2394
3195	73.4676	73.4676	73.4676	63.8175	63.8175	63.8175
3196	72.3549	72.3549	72.3549	63.5967	63.5967	63.5967
3197	71.7332	71.7332	71.7332	63.4798	63.4798	63.4798
3198	71.3844	71.3844	71.3844	63.4166	63.4166	63.4166
3199	71.1871	71.1871	71.1871	63.381	63.381	63.381
3200	71.0742	71.0742	71.0742	63.3597	63.3597	63.3597
3201	71.008	71.008	71.008	63.3458	63.3458	63.3458
3202	70.9678	70.9678	70.9678	63.3357	63.3357	63.3357
3203	70.9422	70.9422	70.9422	63.3275	63.3275	63.3275
3204	70.9245	70.9245	70.9245	63.3204	63.3204	63.3204
3205	70.9113	70.9113	70.9113	63.3138	63.3138	63.3138
3206	70.9006	70.9006	70.9006	63.3075	63.3075	63.3075
3207	70.8912	70.8912	70.8912	63.3014	63.3014	63.3014
3208	70.8827	70.8827	70.8827	63.2953	63.2953	63.2953
3209	70.8745	70.8745	70.8745	63.2892	63.2892	63.2892
3210	70.8666	70.8666	70.8666	63.2832	63.2832	63.2832
3211	70.8589	70.8589	70.8589	63.2772	63.2772	63.2772
3212	74.1815	90.5254	91.602	63.277	63.277	63.277
3213	76.1015	89.7605	91.4854	63.2767	63.2767	63.2767
3214	77.2463	87.8793	90.4098	63.2765	63.2765	63.2765
3215	77.9742	87.4301	90.9643	63.2782	63.2762	63.2762
3216	78.4556	86.8487	91.3502	63.243	63.243	63.243
3217	78.7898	86.2238	91.6627	63.1676	63.1676	63.1676
3218	79.0874	85.7274	91.951	63.0716	63.0716	63.0716
3219	79.2903	85.1159	92.1814	62.9658	62.9658	62.9658
3220	79.4597	84.3948	92.3573	62.8555	62.8555	62.8555
3221	79.6398	84.2323	92.1498	62.7436	62.7436	62.7436
3222	79.9781	84.4944	92.7932	62.6318	62.6318	62.6318
3223	80.5657	85.2796	94.4014	62.5209	62.5209	62.5209
3224	80.5697	84.4772	92.9188	62.41	62.41	62.41
3225	80.3432	83.6467	91.5666	62.2995	62.2995	62.2995
3226	80.241	83.3892	91.2088	62.1899	62.1899	62.1899
3227	80.2198	83.2633	90.9991	62.0813	62.0813	62.0813
3228	80.2705	83.2617	90.981	61.9737	61.9737	61.9737
3229	80.335	83.2424	90.901	61.8671	61.8671	61.8671
3230	80.0967	82.3899	89.5554	61.761	61.761	61.761
3231	79.8902	81.3954	88.089	61.6554	61.6554	61.6554
3232	79.3185	80.7193	87.1386	61.5504	61.5504	61.5504
3233	79.0525	80.3571	86.6385	61.4464	61.4464	61.4464
3234	78.8467	80.0566	86.207	61.3432	61.3432	61.3432



3236	78.6438	79.7141	85.6497	61.2408	61.2408	61.2408
3236	78.4323	79.3535	85.0558	61.1393	61.1393	61.1393
3237	78.2136	78.9901	84.4658	61.0385	61.0385	61.0385
3238	78.0582	78.7856	84.2097	60.9387	60.9387	60.9387
3239	77.9661	78.6848	84.1301	60.8398	60.8398	60.8398
3240	77.9085	78.6185	84.0846	60.7419	60.7419	60.7419
3241	78.2926	90.4549	80.744	66.202	66.202	86.6403
3242	78.4748	90.2858	81.0768	69.0893	69.0893	89.0744
3243	78.7846	90.2146	82.6655	70.5528	70.5528	89.7051
3244	79.0629	90.2641	83.6585	71.2643	71.2643	89.5157
3245	79.2479	88.8082	84.8577	71.0377	71.0377	86.6057
3246	77.7273	78.7746	80.4147	67.0729	67.0729	67.0729
3247	76.8522	77.8795	79.6104	65.0211	65.0211	65.0211
3248	76.3135	77.3407	79.0716	63.9309	63.9309	63.9309
3249	75.9575	76.9848	78.7157	63.3244	63.3244	63.3244
3250	75.7012	76.7285	78.4594	62.9613	62.9613	62.9613
3251	75.584	76.5876	78.6721	62.7213	62.7213	62.7213
3252	75.4731	76.4792	78.5984	62.5435	62.5435	62.5435
3253	75.3665	76.3752	78.529	62.3976	62.3976	62.3976
3254	75.2633	76.2745	78.463	62.2682	62.2682	62.2682
3255	75.1629	76.1766	78.3998	62.1476	62.1476	62.1476
3256	75.0126	76.0161	78.0995	62.032	62.032	62.032
3257	74.8753	75.8788	77.9622	61.9193	61.9193	61.9193
3258	74.7455	75.749	77.8323	61.8087	61.8087	61.8087
3259	74.6201	75.6236	77.7069	61.6995	61.6995	61.6995
3260	74.4975	75.501	77.5844	61.5917	61.5917	61.5917
3261	74.3768	75.3803	77.4637	61.485	61.485	61.485
3262	74.2402	75.2456	77.2615	61.3793	61.3793	61.3793
3263	74.0606	75.0741	76.8869	61.2745	61.2745	61.2745
3264	73.8722	74.924	76.5446	61.1707	61.1707	61.1707
3265	73.4571	74.1838	75.2099	61.0674	61.0674	61.0674
3266	72.8789	72.706	72.7265	60.9815	60.9815	61.0558
3267	72.5094	73.2012	73.7262	61.3122	61.3122	63.2138
3268	72.8806	74.6007	75.9058	62.1098	62.1098	66.8375
3269	73.1345	75.1503	76.4253	62.7093	62.7093	68.1968
3270	73.2498	75.4319	76.5208	63.1362	63.1362	69.0158
3271	73.2955	75.6477	76.558	63.4788	63.4788	69.7354
3272	73.303	75.7673	76.5799	63.743	63.743	70.2071
3273	73.2366	75.5243	76.4951	63.8329	63.8329	69.9615
3274	73.1585	75.4196	76.4201	63.8991	63.8991	69.9651
3275	73.0742	75.3087	76.3389	63.9522	63.9522	69.9554
3276	72.9865	75.1945	76.2545	63.9973	63.9973	69.9379
3277	72.8972	75.0786	76.1683	64.0372	64.0372	69.9151
3278	72.8237	75.1206	76.0811	64.1564	64.1564	70.3066
3279	72.7464	75.0432	76.0037	64.2516	64.2516	70.4019
3280	72.6671	74.964	75.9245	64.3344	64.3344	70.4847
3281	72.5871	74.884	75.8445	64.4107	64.4107	70.561
3282	72.507	74.8038	75.7644	64.4833	64.4833	70.6336
3283	72.4271	74.7239	75.6844	64.5538	64.5538	70.7041
3284	72.3475	74.6443	75.6049	64.6229	64.6229	70.7732
3285	72.2684	74.5652	75.5258	64.691	64.691	70.8412
3286	72.1898	74.4866	75.4472	64.7582	64.7582	70.9084
3287	72.1068	74.3615	75.3692	64.8	64.8	70.8509
3288	72.011	74.1354	75.2889	64.7755	64.7755	70.5189
3289	71.9078	73.9017	75.2012	64.7127	64.7127	70.1487

3290	71.7629	73.5691	74.9396	64.5885	64.5885	69.553
3291	71.3412	72.5893	73.5011	64.1721	64.1721	67.5476
3292	70.753	71.403	71.8962	63.5862	63.5862	65.3727
3293	71.1809	74.1083	74.5384	64.5767	64.5767	71.883
3294	73.2206	84.8868	80.4548	67.6859	67.6859	84.0807
3295	74.18	85.1047	80.9512	69.1818	69.1818	84.6797
3296	74.6489	84.8628	81.5382	69.8382	69.8382	84.3876
3297	75.1902	85.9818	82.6083	70.0586	70.0586	83.6519
3298	75.5351	86.3056	83.0422	70.0314	70.0314	82.6237
3299	75.7217	86.1811	83.4865	69.8634	69.8634	81.4469
3300	75.9621	86.2876	84.5829	69.6178	69.6178	80.2142
3301	76.2943	86.9417	85.7183	69.3307	69.3307	78.9788
3302	76.5961	87.4907	86.63	68.9861	68.9861	77.5884
3303	76.8677	87.9528	87.5346	68.6044	68.6044	76.1728
3304	76.7222	86.354	86.6787	67.8281	67.8281	72.7952
3305	75.7265	81.5889	82.961	66.2868	66.2868	66.2868
3306	75.2502	82.5844	83.7895	65.4894	65.4894	65.4894
3307	73.2593	73.2593	73.2593	65.0731	65.0731	65.0731
3308	72.1497	72.1497	72.1497	64.8551	64.8551	64.8551
3309	71.5297	71.5297	71.5297	64.7395	64.7395	64.7395
3310	71.1819	71.1819	71.1819	64.6768	64.6768	64.6768
3311	70.9853	70.9853	70.9853	64.6413	64.6413	64.6413
3312	70.8726	70.8726	70.8726	64.62	64.62	64.62
3313	70.8067	70.8067	70.8067	64.606	64.606	64.606
3314	70.7667	70.7667	70.7667	64.5957	64.5957	64.5957
3315	70.7411	70.7411	70.7411	64.5873	64.5873	64.5873
3316	70.7235	70.7235	70.7235	64.58	64.58	64.58
3317	70.7104	70.7104	70.7104	64.5732	64.5732	64.5732
3318	70.6997	70.6997	70.6997	64.5666	64.5666	64.5666
3319	70.6904	70.6904	70.6904	64.5602	64.5602	64.5602
3320	70.6819	70.6819	70.6819	64.5539	64.5539	64.5539
3321	70.6738	70.6738	70.6738	64.5476	64.5476	64.5476
3322	70.666	70.666	70.666	64.5413	64.5413	64.5413
3323	70.6583	70.6583	70.6583	64.5351	64.5351	64.5351
3324	73.9799	90.21	91.3153	64.5344	64.5344	64.5344
3325	75.9034	89.449	91.232	64.5338	64.5338	64.5338
3326	77.047	87.63	90.2031	64.5331	64.5331	64.5331
3327	77.7753	87.1847	90.7624	64.5323	64.5323	64.5323
3328	78.2563	86.6067	91.15	64.4955	64.4955	64.4955
3329	78.592	85.9931	91.4653	64.4124	64.4124	64.4124
3330	78.8716	85.5007	91.7576	64.3066	64.3066	64.3066
3331	79.0937	84.8813	91.9849	64.19	64.19	64.19
3332	79.2649	84.1826	92.148	64.0686	64.0686	64.0686
3333	79.4468	84.0248	91.9402	63.9454	63.9454	63.9454
3334	79.8	84.3249	92.6592	63.8222	63.8222	63.8222
3335	80.3923	85.1088	94.2549	63.7	63.7	63.7
3336	80.3727	84.2459	92.6573	63.5778	63.5778	63.5778
3337	80.1495	83.4462	91.3617	63.4562	63.4562	63.4562
3338	80.0497	83.1916	91.0071	63.3356	63.3356	63.3356
3339	80.032	83.0639	90.8086	63.216	63.216	63.216
3340	80.0556	83.0752	90.7934	63.0976	63.0976	63.0976
3341	80.1407	83.0274	90.6892	62.9803	62.9803	62.9803
3342	79.9017	82.1821	89.3374	62.8636	62.8636	62.8636
3343	79.5007	81.204	87.8959	62.7474	62.7474	62.7474
3344	79.1331	80.538	86.9581	62.6321	62.6321	62.6321

3345	78.8753	80.1848	86.473	62.5178	62.5178	62.5178
3346	78.6761	79.8945	88.0587	62.4044	62.4044	62.4044
3347	78.4852	79.5761	85.5441	62.292	62.292	62.292
3348	78.2883	79.2354	84.9814	62.1805	62.1805	62.1805
3349	78.0809	78.8927	84.4237	62.0699	62.0699	62.0699
3350	77.9091	78.6392	84.0568	61.9603	61.9603	61.9603
3351	77.8082	78.5298	83.9679	61.8517	61.8517	61.8517
3352	77.7461	78.4594	83.9175	61.7442	61.7442	61.7442
3353	77.7053	78.4105	83.8882	61.6377	61.6377	61.6377
3354	77.6733	78.3726	83.8557	61.5322	61.5322	61.5322
3355	77.6456	78.3397	83.8259	61.4278	61.4278	61.4278
3356	77.6206	78.3094	83.7988	61.3243	61.3243	61.3243
3357	77.5971	78.2808	83.7733	61.2218	61.2218	61.2218
3358	77.5705	78.2515	83.7298	61.1203	61.1203	61.1203
3359	77.5423	78.2205	83.6849	61.0197	61.0197	61.0197
3360	77.5131	78.1888	83.6395	60.9201	60.9201	60.9201
3361	77.4836	78.1567	83.5941	60.8215	60.8215	60.8215
3362	76.2952	76.7607	78.1778	60.7218	60.7218	60.7218
3363	75.5759	76.0414	77.4585	60.6231	60.6231	60.6231
3364	75.1115	75.577	76.994	60.5253	60.5253	60.5253
3365	74.7859	75.2513	76.6884	60.4284	60.4284	60.4284
3366	74.538	75.0015	76.4186	60.3324	60.3324	60.3324
3367	74.3279	74.7933	76.2104	60.2373	60.2373	60.2373
3368	74.1428	74.6082	76.0253	60.1431	60.1431	60.1431
3369	73.9707	74.4362	75.8533	60.0497	60.0497	60.0497
3370	73.8063	74.2718	75.6888	59.9573	59.9573	59.9573
3371	73.6465	74.112	75.529	59.8657	59.8657	59.8657
3372	73.4897	73.9552	75.3722	59.7749	59.7749	59.7749
3373	73.3351	73.8005	75.2176	59.685	59.685	59.685
3374	73.1821	73.6476	75.0646	59.596	59.596	59.596
3375	73.0305	73.4959	74.913	59.5077	59.5077	59.5077
3376	72.8802	73.3456	74.7627	59.4203	59.4203	59.4203
3377	73.6511	81.1597	75.6692	63.5372	63.5372	79.6547
3378	74.7799	87.006	77.3277	67.2151	67.2151	87.7798
3379	75.3937	87.6881	77.8932	69.3683	69.3683	89.9604
3380	75.6983	87.8388	78.1428	70.6844	70.6844	91.0907
3381	75.8659	87.646	78.5715	71.4766	71.4766	91.3943
3382	76.1769	87.5792	80.1503	71.8869	71.8869	90.9789
3383	76.4552	87.644	81.0893	72.0694	72.0694	90.2683
3384	77.0737	88.738	83.4882	72.1202	72.1202	89.4202
3385	77.6318	89.2996	84.8672	72.0876	72.0876	88.4843
3386	77.7758	88.6844	84.5498	71.9926	71.9926	87.4688
3387	77.7924	87.9814	84.6859	71.8404	71.8404	86.3566
3388	78.0928	88.9091	85.5312	71.6483	71.6483	85.2071
3389	78.2848	89.0432	85.787	71.4086	71.4086	83.9688
3390	78.3685	88.8399	86.1763	71.1289	71.1289	82.6838
3391	78.5741	88.9115	87.2167	70.8225	70.8225	81.3938
3392	78.8699	89.5263	88.3166	70.4987	70.4987	80.1198
3393	79.1409	90.0423	89.1914	70.1292	70.1292	78.7016
3394	79.3675	90.4772	90.0732	69.7299	69.7299	77.2694
3395	79.1885	88.6962	89.0543	68.9098	68.9098	73.722
3396	78.1903	84.1167	85.4815	67.3787	67.3787	67.3787
3397	77.7118	85.0845	86.2852	66.5865	66.5865	66.5865
3398	75.7188	75.7188	75.7188	66.1728	66.1728	66.1728
3399	74.6077	74.6077	74.6077	65.956	65.956	65.956

3400	73.9867	73.9867	73.9867	65.8409	65.8409	65.8409
3401	73.638	73.638	73.638	65.7784	65.7784	65.7784
3402	73.4406	73.4406	73.4406	65.7429	65.7429	65.7429
3403	73.3272	73.3272	73.3272	65.7215	65.7215	65.7215
3404	73.2606	73.2606	73.2606	65.7073	65.7073	65.7073
3405	73.2199	73.2199	73.2199	65.6968	65.6968	65.6968
3406	73.1936	73.1936	73.1936	65.6883	65.6883	65.6883
3407	73.1754	73.1754	73.1754	65.6807	65.6807	65.6807
3408	73.1616	73.1616	73.1616	65.6737	65.6737	65.6737
3409	73.1503	73.1503	73.1503	65.6689	65.6689	65.6689
3410	73.1404	73.1404	73.1404	65.6603	65.6603	65.6603
3411	73.1312	73.1312	73.1312	65.6537	65.6537	65.6537
3412	73.1225	73.1225	73.1225	65.6472	65.6472	65.6472
3413	73.114	73.114	73.114	65.6407	65.6407	65.6407
3414	73.1056	73.1056	73.1056	65.6342	65.6342	65.6342
3415	76.426	92.58	93.7045	65.6332	65.6332	65.6332
3416	78.3446	91.8136	93.5886	65.6322	65.6322	65.6322
3417	79.4893	90.039	92.6405	65.6311	65.6311	65.6311
3418	80.218	89.5942	93.2003	65.63	65.63	65.63
3419	80.6947	89.0179	93.5877	65.5901	65.5901	65.5901
3420	81.0206	88.3998	93.8943	65.5003	65.5003	65.5003
3421	81.2865	87.8918	94.1709	65.3863	65.3863	65.3863
3422	81.4925	87.2547	94.3838	65.2606	65.2606	65.2606
3423	81.6482	86.5563	94.5202	65.1297	65.1297	65.1297
3424	81.8145	86.3823	94.2988	64.9969	64.9969	64.9969
3425	82.1599	86.6906	95.0485	64.8641	64.8641	64.8641
3426	82.7246	87.4236	96.5633	64.7322	64.7322	64.7322
3427	82.677	86.5275	94.9188	64.6005	64.6005	64.6005
3428	82.4412	85.7334	93.6459	64.4694	64.4694	64.4694
3429	82.3271	85.4647	93.2775	64.3394	64.3394	64.3394
3430	82.2954	85.326	93.0699	64.2106	64.2106	64.2106
3431	82.3339	85.3223	93.0397	64.083	64.083	64.083
3432	82.3612	85.2248	92.8481	63.9565	63.9565	63.9565
3433	82.0974	84.3518	91.4862	63.8308	63.8308	63.8308
3434	81.8734	83.3478	90.0165	63.7057	63.7057	63.7057
3435	81.2967	82.6958	89.1079	63.5816	63.5816	63.5816
3436	81.0261	82.3294	88.6089	63.4585	63.4585	63.4585
3437	80.8123	82.0238	88.1764	63.3365	63.3365	63.3365
3438	80.6024	81.6801	87.6273	63.2155	63.2155	63.2155
3439	80.3847	81.3189	87.0416	63.0955	63.0955	63.0955
3440	80.181	80.9567	86.4626	62.9765	62.9765	62.9765
3441	79.9831	80.7121	86.1322	62.8586	62.8586	62.8586
3442	79.8722	80.5928	86.0333	62.7418	62.7418	62.7418
3443	79.7979	80.5102	85.9707	62.6261	62.6261	62.6261
3444	79.7439	80.4481	85.9281	62.5115	62.5115	62.5115
3445	79.6975	80.3962	85.8797	62.398	62.398	62.398
3446	79.6555	80.3489	85.8356	62.2856	62.2856	62.2856
3447	79.6161	80.3043	85.7941	62.1743	62.1743	62.1743
3448	79.5779	80.2613	85.7522	62.064	62.064	62.064
3449	79.5368	80.2175	85.6942	61.9548	61.9548	61.9548
3450	79.4943	80.1723	85.635	61.8466	61.8466	61.8466
3451	79.451	80.1284	85.5756	61.7395	61.7395	61.7395
3452	79.2467	79.8436	84.7798	61.6331	61.6331	61.6331
3453	78.1096	78.575	79.9921	61.526	61.526	61.526
3454	77.4118	77.8773	79.2943	61.42	61.42	61.42

3455	76.953	77.4184	78.8355	61.315	61.315	61.315
3456	76.8243	77.0897	78.5068	61.2109	61.2109	61.2109
3457	76.3667	76.8322	78.2493	61.1078	61.1078	61.1078
3458	76.1484	76.6138	78.0309	61.0057	61.0057	61.0057
3459	75.9518	76.4173	77.8343	60.9046	60.9046	60.9046
3460	75.7726	76.2324	77.6766	60.8043	60.8043	60.8043
3461	75.629	76.0605	77.6621	60.7051	60.7051	60.7051
3462	75.5099	75.9197	77.6808	60.6069	60.6069	60.6069
3463	75.409	75.8077	77.7256	60.5096	60.5096	60.5096
3464	76.4585	86.2638	78.7297	65.3477	65.3477	83.8291
3465	77.3883	89.6552	79.9215	68.7059	68.7059	89.2996
3466	77.8802	90.1893	80.3615	70.684	70.684	91.2751
3467	78.0809	90.059	80.5008	71.8505	71.8505	92.0808
3468	78.3298	89.9088	81.7104	72.4754	72.4754	91.9535
3469	78.6234	89.8982	82.9921	72.7613	72.7613	91.3223
3470	79.0741	90.4818	84.7133	72.8536	72.8536	90.4747
3471	77.8403	80.533	81.1483	70.0869	70.0869	76.9943
3472	76.7974	77.8111	79.62	67.1002	67.1002	67.1002
3473	76.1493	77.1834	78.8833	65.5361	65.5351	65.5351
3474	75.7167	76.7748	78.3669	64.6848	64.6848	64.6848
3475	75.3195	76.2675	77.6061	64.194	64.194	64.194
3476	75.0331	75.9774	77.3109	63.8844	63.8844	63.8844
3477	74.9593	75.9714	77.8209	63.6667	63.6667	63.6667
3478	74.8888	75.8794	77.7649	63.4957	63.4957	63.4957
3479	74.7702	75.7794	77.7009	63.3487	63.3487	63.3487
3480	74.668	75.6758	77.6333	63.2144	63.2144	63.2144
3481	74.5649	75.5712	77.5647	63.0869	63.0869	63.0869
3482	74.4097	75.4229	77.2443	62.9635	62.9635	62.9635
3483	74.2677	75.2809	77.1023	62.8426	62.8426	62.8426
3484	74.1333	75.1465	76.9679	62.7236	62.7236	62.7236
3485	74.0033	75.0165	76.8379	62.606	62.606	62.606
3486	73.8763	74.8895	76.7108	62.4898	62.4898	62.4898
3487	73.7511	74.7643	76.5857	62.3747	62.3747	62.3747
3488	74.4317	79.5118	78.6749	64.7587	64.7587	74.9498
3489	76.1827	87.82	83.3933	67.8349	67.8349	84.1956
3490	76.9774	87.8487	83.7575	69.3023	69.3023	84.729
3491	77.3533	87.5276	84.2835	69.9366	69.9366	84.3935
3492	77.8662	88.7324	85.3441	70.142	70.142	83.6354
3493	78.1446	88.8748	85.6354	70.1034	70.1034	82.5881
3494	78.3093	88.7468	86.1656	69.9288	69.9288	81.4073
3495	78.537	88.8992	87.2423	69.6799	69.6799	80.177
3496	78.8551	89.5364	88.3645	69.3887	69.3887	78.9357
3497	79.1311	90.0509	89.2271	69.0376	69.0376	77.5273
3498	79.38	90.4823	90.1175	68.6525	68.6525	76.1125
3499	79.0947	88.2601	88.7104	67.7627	67.7627	72.1476
3500	78.1337	84.2367	85.5814	66.2944	66.2944	66.2944
3501	77.6749	85.1536	86.3423	65.5347	65.5347	65.5347
3502	75.691	75.691	75.691	65.1379	65.1379	65.1379
3503	74.585	74.585	74.585	64.9301	64.9301	64.9301
3504	73.9668	73.9668	73.9668	64.8198	64.8198	64.8198
3505	73.6197	73.6197	73.6197	64.7599	64.7599	64.7599
3506	73.4231	73.4231	73.4231	64.726	64.726	64.726
3507	73.3102	73.3102	73.3102	64.7055	64.7055	64.7055
3508	73.2439	73.2439	73.2439	64.692	64.692	64.692
3509	73.2034	73.2034	73.2034	64.682	64.682	64.682

## SIMULACIONES, CALCULOS Y GRÁFICAS

ALSTOM

00012597

3510	73.1772	73.1772	73.1772	64.6738	64.6738	64.6738
3511	73.159	73.159	73.159	64.6667	64.6667	64.6667
3512	73.1453	73.1453	73.1453	64.66	64.66	64.66
3513	73.134	73.134	73.134	64.6536	64.6536	64.6536
3514	73.1241	73.1241	73.1241	64.6473	64.6473	64.6473
3515	73.1149	73.1149	73.1149	64.6411	64.6411	64.6411
3516	73.1062	73.1062	73.1062	64.6349	64.6349	64.6349
3517	73.0977	73.0977	73.0977	64.6288	64.6288	64.6288
3518	73.0893	73.0893	73.0893	64.6226	64.6226	64.6226
3519	76.4007	92.3444	93.4704	64.6218	64.6218	64.6218
3520	78.325	91.585	93.4401	64.6209	64.6209	64.6209
3521	79.4703	89.9281	92.608	64.62	64.62	64.62
3522	80.1994	89.484	93.1686	64.6191	64.6191	64.6191
3523	80.6764	88.9248	93.5677	64.582	64.582	64.582
3524	81.0045	88.3232	93.8789	64.4984	64.4984	64.4984
3525	81.2716	87.8165	94.1568	64.3922	64.3922	64.3922
3526	81.4746	87.1671	94.3663	64.2751	64.2751	64.2751
3527	81.6313	86.5095	94.471	64.1532	64.1532	64.1532
3528	81.799	86.3406	94.2533	64.0295	64.0295	64.0295
3529	82.1696	86.7161	95.1393	63.9058	63.9058	63.9058
3530	82.6873	87.3167	96.395	63.7829	63.7829	63.7829
3531	82.616	86.404	94.7403	63.6602	63.6602	63.6602
3532	82.3954	85.6751	93.5796	63.5381	63.5381	63.5381
3533	82.2896	85.4156	93.2209	63.4169	63.4169	63.4169
3534	82.2659	85.2931	93.0349	63.2969	63.2969	63.2969
3535	82.3087	85.2939	93.0093	63.178	63.178	63.178
3536	82.3117	85.126	92.7098	63.0602	63.0602	63.0602
3537	82.0328	84.2369	91.3308	62.9429	62.9429	62.9429
3538	81.5971	83.2171	89.8422	62.8263	62.8263	62.8263
3539	81.2335	82.6214	89.0182	62.7106	62.7106	62.7106
3540	80.9684	82.2586	88.5202	62.5959	62.5959	62.5959
3541	80.7554	81.9514	88.0827	62.4821	62.4821	62.4821
3542	80.536	81.5825	87.481	62.3693	62.3693	62.3693
3543	80.308	81.205	86.8694	62.2574	62.2574	62.2574
3544	80.0729	80.8243	86.2608	62.1465	62.1465	62.1465
3545	79.9193	80.6449	86.0732	62.0365	62.0365	62.0365
3546	79.8221	80.5388	85.9887	61.9276	61.9276	61.9276
3547	79.756	80.4639	85.935	61.8198	61.8198	61.8198
3548	79.7048	80.4057	85.8878	61.713	61.713	61.713
3549	79.6604	80.3555	85.8411	61.6072	61.6072	61.6072
3550	79.6196	80.3092	85.7983	61.5024	61.5024	61.5024
3551	80.0319	92.3417	82.5124	67.0049	67.0049	67.596
3552	80.1895	92.197	82.6142	69.9527	69.9527	90.2146
3553	80.3681	92.0108	83.5355	71.508	71.508	91.1249
3554	80.6299	91.9555	84.8416	72.288	72.288	91.0642
3555	80.9089	92.0987	85.8938	72.6488	72.6488	90.5399
3556	80.3818	86.4167	84.9806	71.2181	71.2181	82.904
3557	78.3388	78.3649	78.4046	67.7012	67.7012	67.7012
3558	77.2284	77.4793	77.6689	66.028	66.028	66.7149
3559	76.6695	77.194	77.592	65.3071	65.3071	66.7487
3560	76.4152	77.2143	77.8207	65.0758	65.0758	67.2722
3561	76.3351	77.4089	78.2236	65.1016	65.1016	68.0527
3562	75.7167	75.8455	75.9433	64.4914	64.4914	64.8456
3563	75.3592	75.6448	75.8615	64.2263	64.2263	65.0112
3564	75.1443	75.5787	75.9083	64.136	64.136	65.33

3565	74.8715	75.188	75.4282	63.9702	63.9702	64.8402
3566	74.5845	74.7632	74.9139	63.7622	63.7622	64.3083
3567	74.574	75.2969	75.8453	63.9376	63.9376	65.9243
3568	74.4952	75.218	75.7665	63.9928	63.9928	65.9795
3569	74.369	75.0919	75.6403	63.988	63.988	65.9747
3570	74.2178	74.9407	75.4891	63.9533	63.9533	65.9401
3571	74.0468	74.7581	75.2945	63.8955	63.8955	65.8458
3572	73.773	74.2946	74.6904	63.7147	63.7147	65.1484
3573	73.439	73.7727	74.0259	63.4651	63.4651	64.3824
3574	73.0675	73.2134	73.3241	63.174	63.174	63.5748
3575	72.7259	72.7738	72.8414	62.8819	62.8819	62.8819
3576	72.5888	72.8507	73.2206	62.6772	62.6772	62.6772
3577	72.5712	73.0472	73.7194	62.517	62.517	62.517
3578	72.1778	72.2188	72.2499	62.4052	62.4052	62.5179
3579	71.8688	71.9019	71.9486	62.2679	62.2679	62.2679
3580	71.6599	71.7728	71.9321	62.1429	62.1429	62.1429
3581	71.4839	71.6398	71.8599	62.0246	62.0246	62.0246
3582	71.2068	71.2285	71.259	61.91	61.91	61.91
3583	73.4871	75.823	82.626	61.8018	61.8018	61.8018
3584	74.6366	76.5308	83.3761	61.6952	61.6952	61.6952
3585	75.0428	76.4732	82.9287	61.5895	61.5895	61.5895
3586	75.1478	76.43	82.5623	61.4848	61.4848	61.4848
3587	75.0916	83.1057	79.2323	65.2493	65.2493	80.2542
3588	73.18	73.1839	73.19	63.4533	63.4533	63.4533
3589	72.0482	72.0521	72.0582	62.4972	62.4972	62.4972
3590	71.34	71.3438	71.35	61.9636	61.9636	61.9636
3591	70.8621	70.866	70.8722	61.6426	61.6426	61.6426
3592	70.51	70.5138	70.52	61.4291	61.4291	61.4291
3593	70.9523	71.9293	73.5668	61.271	61.271	61.271
3594	71.1439	72.1112	73.7784	61.1408	61.1408	61.1408
3595	71.2001	72.1577	73.8545	61.0251	61.0251	61.0251
3596	71.1835	72.1313	73.8579	60.9171	60.9171	60.9171
3597	71.1279	72.0661	73.8223	60.8134	60.8134	60.8134
3598	71.0294	72.0114	73.6336	60.7124	60.7124	60.7124
3599	70.9254	71.9073	73.5298	60.6131	60.6131	60.6131
3600	70.8186	71.8006	73.4229	60.5152	60.5152	60.5152
3601	70.7108	71.6928	73.3151	60.4184	60.4184	60.4184
3602	70.6029	71.5846	73.2079	60.3227	60.3227	60.3227
3603	70.5209	71.4413	73.2519	60.2279	60.2279	60.2279
3604	70.4644	71.3527	73.3448	60.1341	60.1341	60.1341
3605	70.4292	71.2956	73.4632	60.0413	60.0413	60.0413
3606	70.4123	71.264	73.6131	59.9494	59.9494	59.9494
3607	70.4111	71.2547	73.7942	59.8584	59.8584	59.8584
3608	70.4242	71.2696	73.9948	59.7684	59.7684	59.7684
3609	70.4035	71.2503	73.9971	59.6792	59.6792	59.6792
3610	70.4051	71.27	74.1681	59.591	59.591	59.591
3611	70.4233	71.3069	74.3516	59.5036	59.5036	59.5036
3612	70.4156	71.3031	74.3778	59.4171	59.4171	59.4171
3613	71.2585	72.6797	78.397	59.3327	59.3327	59.3327
3614	71.9446	73.3881	79.8617	59.2495	59.2495	59.2495
3615	72.3015	73.6801	80.0641	59.167	59.167	59.167
3616	71.4181	72.1738	75.1693	59.0836	59.0836	59.0836
3617	70.8596	71.6108	74.4535	59.0009	59.0009	59.0009
3618	70.4773	71.2273	73.9062	58.9189	58.9189	58.9189
3619	70.1918	70.9463	73.457	58.8376	58.8376	58.8376

## SIMULACIONES, CALCULOS Y GRÁFICAS

ALSTOM

00012539

3620	69.96	70.7262	73.0701	58.757	58.757	58.757
3621	69.8159	70.5745	73.0115	58.6772	58.6772	58.6772
3622	69.6681	70.4399	72.7373	58.598	58.598	58.598
3623	69.5184	70.3078	72.4658	58.5196	58.5196	58.5196
3624	69.3707	70.1876	72.2154	58.4419	58.4419	58.4419
3625	69.2108	70.0982	71.8819	58.3648	58.3648	58.3648
3626	69.0801	69.9676	71.7512	58.2885	58.2885	58.2885
3627	68.9857	69.8531	71.6368	58.2129	58.2129	58.2129
3628	68.8603	69.7478	71.5314	58.1379	58.1379	58.1379
3629	68.7498	69.6709	71.3661	58.0637	58.0637	58.0637
3630	70.3743	81.5553	75.3286	62.7447	62.7447	60.6493
3631	71.8742	83.7858	79.0359	65.068	65.068	62.0587
3632	72.6497	84.0333	79.6538	66.1861	66.1861	62.2475
3633	72.9717	83.6038	79.7916	66.6764	66.6764	61.7837
3634	73.2287	83.6309	80.3262	66.8324	66.8324	60.9702
3635	73.6552	84.6441	81.2498	66.8062	66.8062	79.9738
3636	73.8058	84.4077	81.2448	66.6574	66.6574	78.8004
3637	73.9879	84.3557	82.1361	66.4419	66.4419	77.5852
3638	74.2645	84.7356	83.2441	66.1871	66.1871	76.3601
3639	74.5934	85.3574	84.3063	65.8949	65.8949	75.0796
3640	74.8884	85.8849	85.1914	65.5535	65.5535	73.6807
3641	75.1607	86.3187	86.1274	65.1879	65.1879	72.2957
3642	74.5134	82.1827	83.0211	63.9606	63.9606	66.4526
3643	73.7303	80.3201	81.6096	62.7528	62.7528	62.7528
3644	73.3708	81.3194	82.4547	62.128	62.128	62.128
3645	71.4348	71.4348	71.4348	61.8015	61.8015	61.8015
3646	70.3559	70.3559	70.3559	61.6304	61.6304	61.6304
3647	69.7532	69.7532	69.7532	61.5395	61.5395	61.5395
3648	69.4152	69.4152	69.4152	61.4901	61.4901	61.4901
3649	69.2242	69.2242	69.2242	61.462	61.462	61.462
3650	69.115	69.115	69.115	61.445	61.445	61.445
3651	69.0511	69.0511	69.0511	61.4337	61.4337	61.4337
3652	69.0124	69.0124	69.0124	61.4254	61.4254	61.4254
3653	68.9878	68.9878	68.9878	61.4185	61.4185	61.4185
3654	68.9709	68.9709	68.9709	61.4125	61.4125	61.4125
3655	68.9584	68.9584	68.9584	61.4069	61.4069	61.4069
3656	68.9483	68.9483	68.9483	61.4015	61.4015	61.4015
3657	68.9395	68.9395	68.9395	61.3962	61.3962	61.3962
3658	68.9315	68.9315	68.9315	61.3909	61.3909	61.3909
3659	68.9239	68.9239	68.9239	61.3857	61.3857	61.3857
3660	68.9165	68.9165	68.9165	61.3805	61.3805	61.3805
3661	68.9093	68.9093	68.9093	61.3753	61.3753	61.3753
3662	72.2148	87.2303	88.5996	61.3752	61.3752	61.3752
3663	74.1349	85.4666	88.5559	61.375	61.375	61.375
3664	75.2834	85.3341	88.3611	61.3749	61.3749	61.3749
3665	76.0009	84.8815	88.9127	61.3467	61.3467	61.3467
3666	76.4687	84.3854	89.3524	61.2826	61.2826	61.2826
3667	76.8139	83.865	89.6921	61.2009	61.2009	61.2009
3668	77.1045	83.3819	89.9935	61.1108	61.1108	61.1108
3669	77.3176	82.7007	90.2106	61.017	61.017	61.017
3670	77.5081	82.2898	90.2145	60.9218	60.9218	60.9218
3671	77.7079	82.1331	90.0289	60.8264	60.8264	60.8264
3672	78.2187	82.8332	91.5447	60.7318	60.7318	60.7318
3673	78.5576	82.8856	91.8981	60.6377	60.6377	60.6377
3674	78.4114	81.9292	90.0271	60.6438	60.6438	60.6438



## SIMULACIONES, CALCULOS Y GRÁFICAS

ALSTOM

00012600

3675	78.2841	81.509	89.3781	60.4506	60.4506	60.4506
3676	78.2419	81.3156	89.0871	60.3582	60.3582	60.3582
3677	78.2806	81.292	89.024	60.2666	60.2666	60.2666
3678	78.3704	81.3398	89.0453	60.1759	60.1759	60.1759
3679	78.2724	80.8302	88.2081	60.0858	60.0858	60.0858
3680	77.9393	79.8778	86.7585	59.996	59.996	59.996
3681	77.5203	78.9592	85.4265	59.9067	59.9067	59.9067
3682	77.2347	78.5689	84.8914	59.8182	59.8182	59.8182
3683	77.0195	78.252	84.4338	59.7303	59.7303	59.7303
3684	76.8184	77.9132	83.8872	59.6432	59.6432	59.6432
3685	76.6058	77.538	83.2574	59.5567	59.5567	59.5567
3686	76.3842	77.1579	82.6295	59.4709	59.4709	59.4709
3687	76.2356	76.9619	82.3886	59.3859	59.3859	59.3859
3688	76.1539	76.8704	82.3207	59.3017	59.3017	59.3017
3689	76.1087	76.8158	82.289	59.2183	59.2183	59.2183
3690	76.0808	76.7805	82.2633	59.1357	59.1357	59.1357
3691	76.081	76.7544	82.241	59.0539	59.0539	59.0539
3692	76.0458	76.7331	82.2234	58.9729	58.9729	58.9729
3693	76.0313	76.7137	82.1993	58.8926	58.8926	58.8926
3694	76.0143	76.6935	82.1623	58.8131	58.8131	58.8131
3695	75.996	76.6719	82.1244	58.7344	58.7344	58.7344
3696	75.6829	76.2306	80.7367	58.656	58.656	58.656
3697	74.1133	74.1805	74.2276	58.5762	58.5762	58.5762
3698	73.9653	77.3211	75.6463	61.0143	61.0143	71.2756
3699	75.1934	87.3658	77.7596	65.4243	65.4243	85.9498
3700	75.8664	88.1438	78.3859	67.9624	67.9624	88.5555
3701	76.2278	88.5424	78.7024	69.5359	69.5359	90.1267
3702	76.3657	88.3383	78.7847	70.5046	70.5046	90.7291
3703	76.569	88.1828	79.8336	71.0632	71.0632	90.6168
3704	76.8467	88.16	81.0963	71.3513	71.3513	90.0746
3705	77.1676	88.3944	82.26	71.4735	71.4735	89.321
3706	77.928	89.8629	85.16	71.4948	71.4948	88.4564
3707	78.2888	89.6534	85.2737	71.4461	71.4461	87.5086
3708	78.3402	88.9874	85.1575	71.3368	71.3368	86.4644
3709	78.4338	88.8138	85.5132	71.1763	71.1763	85.3457
3710	78.7692	89.7707	86.3694	70.9756	70.9756	84.1843
3711	78.8557	89.4773	86.3023	70.7237	70.7237	82.9162
3712	78.9763	89.3534	87.0793	70.4391	70.4391	81.6342
3713	79.1987	89.6516	88.1324	70.1327	70.1327	80.3599
3714	79.4872	90.2371	89.1654	69.7994	69.7994	79.0471
3715	79.7446	90.7313	90.0071	69.4197	69.4197	77.609
3716	79.9804	91.1288	90.9083	69.0184	69.0184	76.1889
3717	79.3671	87.2872	88.0727	67.8203	67.8203	70.6504
3718	78.5291	85.035	86.334	66.5434	66.5434	66.5434
3719	78.1385	86.0032	87.1481	65.8824	65.8824	65.8824
3720	76.1861	76.1861	76.1861	65.5368	65.5368	65.5368
3721	75.0975	75.0975	75.0975	65.3554	65.3554	65.3554
3722	74.4889	74.4889	74.4889	65.2587	65.2587	65.2587
3723	74.1471	74.1471	74.1471	65.2058	65.2058	65.2058
3724	73.9534	73.9534	73.9534	65.1756	65.1756	65.1756
3725	73.8421	73.8421	73.8421	65.157	65.157	65.157
3726	73.7765	73.7765	73.7765	65.1444	65.1444	65.1444
3727	73.7363	73.7363	73.7363	65.1349	65.1349	65.1349
3728	73.7103	73.7103	73.7103	65.1271	65.1271	65.1271
3729	73.6922	73.6922	73.6922	65.1201	65.1201	65.1201

ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

ALSTOM

00012601

3730	73.6784	73.6784	73.6784	65.1135	65.1135	65.1135
3731	73.667	73.667	73.667	65.1071	65.1071	65.1071
3732	73.657	73.657	73.657	65.1009	65.1009	65.1009
3733	73.6477	73.6477	73.6477	65.0947	65.0947	65.0947
3734	73.6388	73.6388	73.6388	65.0886	65.0886	65.0886
3735	73.6302	73.6302	73.6302	65.0824	65.0824	65.0824
3736	73.6217	73.6217	73.6217	65.0763	65.0763	65.0763
3737	76.9272	92.1085	93.4344	65.0752	65.0752	65.0752
3738	78.847	91.3445	93.392	65.074	65.074	65.074
3739	79.994	90.1174	93.0824	65.0728	65.0728	65.0728
3740	80.7242	89.6755	93.6452	65.0716	65.0716	65.0716
3741	81.201	89.1769	94.086	65.0331	65.0331	65.0331
3742	81.534	88.6329	94.4115	64.9466	64.9466	64.9466
3743	81.8024	88.1279	94.6911	64.8368	64.8368	64.8368
3744	81.9916	87.4323	94.8859	64.7157	64.7157	64.7157
3745	82.1506	86.9331	94.8808	64.5897	64.5897	64.5897
3746	82.3181	86.7641	94.6629	64.4618	64.4618	64.4618
3747	82.7752	87.3792	96.0393	64.3341	64.3341	64.3341
3748	83.1199	87.501	96.3802	64.2068	64.2068	64.2068
3749	82.9596	86.525	94.6649	64.0798	64.0798	64.0798
3750	82.7888	86.0238	93.8994	63.9535	63.9535	63.9535
3751	82.7085	85.7928	93.5711	63.8284	63.8284	63.8284
3752	82.709	85.7241	93.4583	63.7043	63.7043	63.7043
3753	82.7635	85.7371	93.4453	63.5815	63.5815	63.5815
3754	82.6756	85.3138	92.7563	63.4596	63.4596	63.4596
3755	82.3449	84.3804	91.3391	63.3383	63.3383	63.3383
3756	81.8818	83.3486	89.6471	63.2178	63.2178	63.2178
3757	81.5842	82.9299	89.2958	63.0983	63.0983	63.0983
3758	81.3286	82.6061	88.8501	62.9798	62.9798	62.9798
3759	81.1393	82.3359	88.4679	62.8624	62.8624	62.8624
3760	80.9505	82.0265	87.9711	62.746	62.746	62.746
3761	80.762	81.7235	87.4888	62.6306	62.6306	62.6306
3762	80.5765	81.4338	87.0361	62.5162	62.5162	62.5162
3763	80.3958	81.1592	86.6144	62.4027	62.4027	62.4027
3764	80.2596	80.9897	86.4071	62.2904	62.2904	62.2904
3765	80.1676	80.8925	86.3228	62.1791	62.1791	62.1791
3766	80.0999	80.8197	86.2621	62.0688	62.0688	62.0688
3767	80.0457	80.7605	86.215	61.9596	61.9596	61.9596
3768	79.999	80.7089	86.1752	61.8515	61.8515	61.8515
3769	79.9567	80.6618	86.1396	61.7444	61.7444	61.7444
3770	79.9154	80.617	86.0987	61.6383	61.6383	61.6383
3771	79.8743	80.5728	86.0564	61.5332	61.5332	61.5332
3772	79.8336	80.529	86.0144	61.4291	61.4291	61.4291
3773	79.7934	80.4854	85.9729	61.326	61.326	61.326
3774	79.754	80.442	85.9319	61.2239	61.2239	61.2239
3775	79.7153	80.3989	85.8906	61.1228	61.1228	61.1228
3776	79.6734	80.354	85.8303	61.0226	61.0226	61.0226
3777	79.6295	80.3068	85.7657	60.9234	60.9234	60.9234
3778	79.3971	79.9851	84.8387	60.8248	60.8248	60.8248
3779	78.3991	80.5327	80.086	62.5806	62.5806	70.3635
3780	77.7845	79.9281	79.4704	63.5333	63.5333	71.3412
3781	77.3783	79.532	79.0633	64.0823	64.0823	71.9152
3782	77.085	79.2419	78.7697	64.4239	64.4239	72.2645
3783	76.8532	79.01	78.5379	64.6588	64.6588	72.4994
3784	76.6552	78.8121	78.34	64.8396	64.8396	72.6802

3295



3785	76.4761	78.633	78.1609	64.9925	64.9925	72.8331
3786	76.3078	78.4647	77.9925	65.1309	65.1309	72.9715
3787	76.1458	78.3027	77.8306	65.2614	65.2614	73.1019
3788	75.9575	77.8345	77.6673	65.2099	65.2099	72.3572
3789	75.7554	77.3197	77.5117	65.0162	65.0162	71.3085
3790	75.5557	76.8471	77.3824	64.7367	64.7367	70.1565
3791	75.0549	75.6148	75.9355	63.9119	63.9119	66.3025
3792	74.8161	75.3584	76.1298	62.9242	62.9242	62.9242
3793	74.7163	75.2246	76.4899	62.3735	62.3735	62.3735
3794	74.6156	75.081	76.4981	62.0428	62.0428	62.0428
3795	74.4873	74.9528	76.3899	61.8231	61.8231	61.8231
3796	74.3668	74.8085	76.344	61.6597	61.6597	61.6597
3797	74.2337	74.6727	76.2256	61.525	61.525	61.525
3798	74.0944	74.5307	76.1011	61.4053	61.4053	61.4053
3799	73.9394	74.383	75.9058	61.2936	61.2936	61.2936
3800	73.7854	74.229	75.7518	61.1864	61.1864	61.1864
3801	73.6325	74.0761	75.5989	61.0819	61.0819	61.0819
3802	73.4808	73.9243	75.4471	60.9792	60.9792	60.9792
3803	73.3299	73.7735	75.2963	60.878	60.878	60.878
3804	73.1802	73.6239	75.1466	60.7779	60.7779	60.7779
3805	73.0316	73.4753	74.998	60.6788	60.6788	60.6788
3806	72.8841	73.3277	74.8505	60.5808	60.5808	60.5808
3807	73.2632	78.3209	76.0561	63.7674	63.7674	76.7663
3808	74.5361	86.7382	77.0921	67.8305	67.8305	88.3778
3809	75.2307	87.5186	77.7381	70.1779	70.1779	90.7704
3810	75.5865	87.7871	78.0425	71.607	71.607	92.0756
3811	75.7398	87.582	78.2373	72.4756	72.4756	92.5288
3812	76.0401	87.5051	79.8033	72.9228	72.9228	92.1516
3813	78.3315	87.5557	80.8573	73.1254	73.1254	91.4748
3814	76.8731	88.4132	82.9124	73.1852	73.1852	90.8406
3815	77.5258	89.3295	84.8718	73.1563	73.1563	89.7132
3816	77.6993	88.7355	84.452	73.0634	73.0634	88.71
3817	77.7331	88.0499	84.6054	72.9108	72.9108	87.5974
3818	77.9778	88.6726	85.3163	72.7155	72.7155	86.4443
3819	78.2113	89.0374	85.7408	72.4751	72.4751	85.2158
3820	78.2977	88.7876	85.9343	72.191	72.191	83.9216
3821	78.4646	88.7485	86.9641	71.8779	71.8779	82.6181
3822	78.7477	89.3475	88.0517	71.5489	71.5489	81.3387
3823	79.0285	89.8877	88.9754	71.1791	71.1791	79.9394
3824	79.2814	90.3424	89.8494	70.7746	70.7746	78.4949
3825	79.2855	89.5714	89.72	70.1336	70.1336	75.9173
3826	78.2503	84.1521	85.4809	68.5251	68.5251	68.8354
3827	77.6735	84.805	86.0331	67.602	67.602	67.602
3828	77.4285	85.9188	86.9927	67.1236	67.1236	67.1236
3829	75.5467	75.5467	75.5467	66.8721	66.8721	66.8721
3830	74.4975	74.4975	74.4975	66.7391	66.7391	66.7391
3831	73.9108	73.9108	73.9108	66.6674	66.6674	66.6674
3832	73.5811	73.5811	73.5811	66.6272	66.6272	66.6272
3833	73.3943	73.3943	73.3943	66.6033	66.6033	66.6033
3834	73.2869	73.2869	73.2869	66.5879	66.5879	66.5879
3835	73.2235	73.2235	73.2235	66.5768	66.5768	66.5768
3836	73.1847	73.1847	73.1847	66.5679	66.5679	66.5679
3837	73.1594	73.1594	73.1594	66.5602	66.5602	66.5602
3838	73.1418	73.1418	73.1418	66.5532	66.5532	66.5532
3839	73.1283	73.1283	73.1283	66.5464	66.5464	66.5464



ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS



00012693

3840	73.1172	73.1172	73.1172	66.5398	66.5398	66.5398
3841	73.1074	73.1074	73.1074	66.5333	66.5333	66.5333
3842	73.0983	73.0983	73.0983	66.5268	66.5268	66.5268
3843	73.0896	73.0896	73.0896	66.5203	66.5203	66.5203
3844	73.0811	73.0811	73.0811	66.5139	66.5139	66.5139
3845	73.0728	73.0728	73.0728	66.5075	66.5075	66.5075
3846	76.3738	90.3197	92.0018	66.5059	66.5059	66.5059
3847	78.2824	89.2892	91.713	66.5042	66.5042	66.5042
3848	79.4323	89.0138	92.4409	66.5026	66.5026	66.5026
3849	80.1435	88.6421	93.0466	66.48	66.48	66.48
3850	80.594	88.1286	93.4689	66.3647	66.3647	66.3647
3851	80.9259	87.6686	93.8085	66.2438	66.2438	66.2438
3852	81.1774	87.0994	94.0687	66.1107	66.1107	66.1107
3853	81.3549	86.3816	94.2495	65.972	65.972	65.972
3854	81.5299	86.1574	94.0826	65.8313	65.8313	65.8313
3855	81.8254	86.3201	94.5294	65.6905	65.6905	65.6905
3856	82.3858	87.0826	96.1247	65.5507	65.5507	65.5507
3857	82.4438	86.4383	94.9565	65.4113	65.4113	65.4113
3858	82.2017	85.5224	93.4534	65.2725	65.2725	65.2725
3859	82.0849	85.2462	93.0792	65.1349	65.1349	65.1349
3860	82.045	85.0833	92.8321	64.9985	64.9985	64.9985
3861	82.0799	85.0755	92.7975	64.8634	64.8634	64.8634
3862	82.1552	85.1098	92.808	64.7296	64.7296	64.7296
3863	81.9159	84.2509	91.45	64.5966	64.5966	64.5966
3864	81.7938	93.1913	87.4019	69.1329	69.1329	69.1329
3865	80.4316	84.0417	84.0255	68.9558	68.9558	77.276
3866	78.492	78.7487	78.9438	67.087	67.087	67.7928
3867	77.4345	77.8791	78.2165	66.209	66.209	67.4312
3868	76.8815	77.4941	77.974	65.8366	65.8366	67.5751
3869	76.5574	77.3778	78.0003	65.726	65.726	67.9809
3870	76.4051	77.4134	78.1785	65.7545	65.7545	68.5259
3871	75.887	76.1433	76.5052	65.0998	65.0998	65.0998
3872	75.5987	75.9893	76.5408	64.7043	64.7043	64.7043
3873	75.4408	75.9656	76.7068	64.4398	64.4398	64.4398
3874	75.3592	76.0183	76.9492	64.2418	64.2418	64.2418
3875	75.3248	76.118	77.2385	64.0779	64.0779	64.0779
3876	74.7935	74.948	75.1662	63.931	63.931	63.931
3877	74.408	74.5605	74.7787	63.7935	63.7935	63.7935
3878	74.097	74.2515	74.4897	63.6614	63.6614	63.6614
3879	73.8314	73.9859	74.2041	63.5326	63.5326	63.5326
3880	73.59	73.7446	73.9627	63.406	63.406	63.406
3881	73.3625	73.517	73.7352	63.2811	63.2811	63.2811
3882	73.1431	73.2976	73.5158	63.1577	63.1577	63.1577
3883	72.9289	73.0834	73.3016	63.0355	63.0355	63.0355
3884	72.7181	72.8726	73.0908	62.9145	62.9145	62.9145
3885	72.5099	72.6644	72.8828	62.7947	62.7947	62.7947
3886	72.3038	72.4583	72.6765	62.676	62.676	62.676
3887	72.0995	72.254	72.4721	62.5584	62.5584	62.5584
3888	71.8968	72.0513	72.2894	62.4419	62.4419	62.4419
3889	71.6956	71.8501	72.0683	62.3265	62.3265	62.3265
3890	71.498	71.6505	71.8688	62.2122	62.2122	62.2122
3891	71.2978	71.4523	71.6705	62.099	62.099	62.099
3892	70.9974	71.001	71.0036	61.9889	61.9889	61.9889
3893	71.1646	71.7891	72.571	61.8772	61.8772	61.8772
3894	71.1847	71.8092	72.6911	61.767	61.767	61.767



*[Handwritten signature]*



ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls



00012804

3895	71.1255	71.75	72.6319	61.6582	61.6582	61.6582
3896	71.0239	71.6484	72.5303	61.5504	61.5504	61.5504
3897	70.9782	71.7178	72.7622	61.4439	61.4439	61.4439
3898	70.49	70.6445	70.8626	61.3378	61.3378	61.3378
3899	70.1397	70.2942	70.5124	61.2326	61.2326	61.2326
3900	69.8649	70.0194	70.2375	61.1285	61.1285	61.1285
3901	69.6316	69.7861	70.0043	61.0254	61.0254	61.0254
3902	69.4214	69.5759	69.7941	60.9232	60.9232	60.9232
3903	69.2244	69.3789	69.5971	60.8219	60.8219	60.8219
3904	69.0351	69.1896	69.4078	60.7216	60.7216	60.7216
3905	68.8506	69.0051	69.2233	60.6223	60.6223	60.6223
3906	68.6893	68.8238	69.042	60.5238	60.5238	60.5238
3907	68.4903	68.6448	68.863	60.4263	60.4263	60.4263
3908	68.3131	68.4676	68.6858	60.3297	60.3297	60.3297
3909	68.1375	68.292	68.5102	60.234	60.234	60.234
3910	67.9633	68.1178	68.336	60.1391	60.1391	60.1391
3911	67.7905	67.945	68.1632	60.0452	60.0452	60.0452
3912	67.6189	67.7734	67.9916	59.9521	59.9521	59.9521
3913	67.4487	67.6032	67.8213	59.8599	59.8599	59.8599
3914	67.4594	68.0016	68.413	60.1134	60.1134	61.6037
3915	67.4608	68.1208	68.8217	60.2922	60.2922	62.1065
3916	67.4609	68.2389	68.8292	60.4382	60.4382	62.5765
3917	67.4643	68.3601	69.0398	60.5726	60.5726	63.0348
3918	67.4542	68.4319	69.1737	60.6829	60.6829	63.3702
3919	69.5285	71.8671	79.0691	60.1139	60.1139	60.1139
3920	70.3691	72.0555	78.734	59.7854	59.7854	59.7854
3921	70.6966	72.0848	78.4819	59.5782	59.5782	59.5782
3922	70.8301	72.1092	78.3555	59.4322	59.4322	59.4322
3923	70.8538	72.0212	78.1092	59.3174	59.3174	59.3174
3924	70.7847	71.7897	77.6233	59.2185	59.2185	59.2185
3925	70.6662	71.5186	77.1132	59.1279	59.1279	59.1279
3926	70.5389	71.271	76.6836	59.0419	59.0419	59.0419
3927	70.4863	71.2096	76.6435	58.9586	58.9586	58.9586
3928	70.4743	71.1893	76.6432	58.8771	58.8771	58.8771
3929	70.4841	71.1914	76.6639	58.7968	58.7968	58.7968
3930	70.5036	71.205	76.6868	58.7176	58.7176	58.7176
3931	70.5271	71.2237	76.7084	58.6392	58.6392	58.6392
3932	70.5526	71.2447	76.7321	58.5616	58.5616	58.5616
3933	70.5792	71.2669	76.757	58.4848	58.4848	58.4848
3934	70.6061	71.2897	76.7815	58.4087	58.4087	58.4087
3935	70.63	71.3111	76.7904	58.3334	58.3334	58.3334
3936	69.5636	70.0152	71.7664	58.2573	58.2573	58.2573
3937	69.387	69.8342	73.1175	58.1824	58.1824	58.1824
3938	69.8934	70.5717	76.0363	58.1092	58.1092	58.1092
3939	70.1883	70.8543	76.3188	58.0367	58.0367	58.0367
3940	70.8497	83.0092	73.4202	63.547	63.547	84.0633
3941	71.2319	83.5079	73.7541	68.644	66.644	87.2372
3942	71.4487	83.7524	73.9215	68.4979	68.4979	89.077
3943	71.5198	83.4511	73.9337	69.6034	69.6034	89.7944
3944	71.7383	83.3	75.1682	70.2094	70.2094	89.6541
3945	72.0253	83.3035	76.3833	70.5108	70.5108	89.0864
3946	72.4612	83.8236	77.9634	70.6342	70.6342	88.312
3947	73.2638	85.257	80.764	70.6528	70.6528	87.4331
3948	73.5296	84.753	80.4033	70.6003	70.6003	86.4727
3949	73.602	84.0958	80.4449	70.4859	70.4859	85.4087



00012605



3950	73.7905	84.317	80.9905	70.3237	70.3237	84.288
3951	74.1063	85.0262	81.6736	70.1188	70.1188	83.1097
3952	74.1978	84.7385	81.6222	69.8643	69.8643	81.8387
3953	74.38	84.7147	82.6672	69.5815	69.5815	80.5654
3954	74.6668	85.1868	83.7734	69.2786	69.2786	79.3014
3955	74.9853	85.7861	84.7888	68.9423	68.9423	77.9631
3956	75.2728	86.2941	85.6775	68.5648	68.5648	76.5359
3957	75.54	86.7227	86.508	68.1645	68.1645	75.1168
3958	74.7176	81.6982	82.7366	66.7457	66.7457	68.4029
3959	74.0007	80.7978	82.0637	65.6215	65.6215	65.6215
3960	73.6781	81.834	82.9458	65.0394	65.0394	65.0394
3961	71.7591	71.7591	71.7591	64.7348	64.7348	64.7348
3962	70.6897	70.6897	70.6897	64.5747	64.5747	64.5747
3963	70.0922	70.0922	70.0922	64.4892	64.4892	64.4892
3964	69.757	69.757	69.757	64.4422	64.4422	64.4422
3965	69.5676	69.5676	69.5676	64.4152	64.4152	64.4152
3966	69.4591	69.4591	69.4591	64.3984	64.3984	64.3984
3967	69.3957	69.3957	69.3957	64.387	64.387	64.387
3968	69.3572	69.3572	69.3572	64.3783	64.3783	64.3783
3969	69.3326	69.3326	69.3326	64.371	64.371	64.371
3970	69.3158	69.3158	69.3158	64.3644	64.3644	64.3644
3971	69.3032	69.3032	69.3032	64.3582	64.3582	64.3582
3972	69.2931	69.2931	69.2931	64.3522	64.3522	64.3522
3973	69.2842	69.2842	69.2842	64.3463	64.3463	64.3463
3974	69.2761	69.2761	69.2761	64.3405	64.3405	64.3405
3975	69.2684	69.2684	69.2684	64.3346	64.3346	64.3346
3976	69.2609	69.2609	69.2609	64.3288	64.3288	64.3288
3977	69.2536	69.2536	69.2536	64.3231	64.3231	64.3231
3978	72.5613	87.168	88.6831	64.322	64.322	64.322
3979	74.475	86.3971	88.5775	64.3208	64.3208	64.3208
3980	75.6239	85.4951	88.6752	64.3197	64.3197	64.3197
3981	76.3412	85.0757	89.2497	64.283	64.283	64.283
3982	76.8077	84.5783	89.6881	64.2007	64.2007	64.2007
3983	77.1559	84.0926	90.0393	64.0961	64.0961	64.0961
3984	77.4388	83.5801	90.3284	63.981	63.981	63.981
3985	77.6463	82.8931	90.54	63.861	63.861	63.861
3986	77.8392	82.5496	90.4868	63.7393	63.7393	63.7393
3987	78.0794	82.5239	90.5266	63.6174	63.6174	63.6174
3988	78.6184	83.2657	92.1039	63.4964	63.4964	63.4964
3989	78.8596	83.0583	91.7566	63.376	63.376	63.376
3990	78.6818	82.0637	90.0595	63.2559	63.2559	63.2559
3991	78.5573	81.7591	89.6133	63.1368	63.1368	63.1368
3992	78.5268	81.5801	89.3383	63.0188	63.0188	63.0188
3993	78.5766	81.5826	89.3111	62.9019	62.9019	62.9019
3994	78.6713	81.6363	89.339	62.7861	62.7861	62.7861
3995	78.5472	81.054	88.391	62.6711	62.6711	62.6711
3996	78.2092	80.119	86.9767	62.5568	62.5568	62.5568
3997	77.8006	79.239	85.7054	62.4431	62.4431	62.4431
3998	77.5235	78.8623	85.1911	62.3305	62.3305	62.3305
3999	77.3163	78.5592	84.7552	62.2188	62.2188	62.2188
4000	77.1301	78.2533	84.2716	62.1081	62.1081	62.1081
4001	76.9331	77.9046	83.6856	61.9983	61.9983	61.9983
4002	76.7274	77.5513	83.1014	61.8894	61.8894	61.8894
4003	76.5522	77.2824	82.6996	61.7815	61.7815	61.7815
4004	76.4544	77.1755	82.6146	61.6746	61.6746	61.6746



ANEXO 1E INVERTER TEMPERAT-EBRCL13.xls  
SIMULACIONES, CALCULOS Y GRÁFICAS



00012606

4005	76.3988	77.1111	82.5716	81.5687	61.5687	61.5687
4006	76.3683	77.0701	82.5505	81.4638	61.4638	61.4638
4007	76.3428	77.0407	82.5246	81.36	61.36	61.36
4008	76.3245	77.0165	82.504	81.2571	61.2571	61.2571
4009	76.7634	89.0686	79.2496	66.7615	66.7615	87.3529
4010	76.9676	89.028	79.3925	69.7328	69.7328	90.062
4011	77.102	88.8405	79.9474	71.3472	71.3472	91.1739
4012	77.375	88.7784	81.352	72.1936	72.1936	91.2632
4013	77.6189	88.8329	82.1752	72.6256	72.6256	90.9307
4014	78.0833	89.5666	83.951	72.8366	72.8366	90.3631
4015	77.0506	80.9763	80.7817	70.6299	70.6299	79.3636
4016	76.158	78.5408	79.4245	68.96	68.96	75.2734
4017	75.6232	77.9738	78.8856	68.1303	68.1303	74.3839
4018	75.3043	77.7344	78.5768	67.7741	67.7741	74.1749
4019	75.0869	77.3877	78.3254	67.569	67.569	73.7675
4020	74.8898	77.1845	78.1474	67.4745	67.4745	73.6198
4021	74.7315	76.8708	78.0076	67.3568	67.3568	73.1355
4022	74.5962	76.7134	77.8772	67.2987	67.2987	73.0207
4023	74.4787	76.5698	77.7605	67.2696	67.2696	72.9348
4024	74.3665	76.4319	77.6514	67.253	67.253	72.8576
4025	74.2584	76.2973	77.5465	67.2412	67.2412	72.7831
4026	74.1709	76.3387	77.4436	67.3218	67.3218	73.1677
4027	74.0806	76.2484	77.3533	67.3778	67.3778	73.2237
4028	73.9891	76.1568	77.2618	67.4213	67.4213	73.2672
4029	73.8972	76.065	77.1699	67.4583	67.4583	73.3042
4030	73.8054	75.9732	77.0781	67.492	67.492	73.3379
4031	73.714	75.8818	76.9867	67.5238	67.5238	73.3698
4032	73.6231	75.7909	76.8958	67.5546	67.5546	73.4006
4033	73.5327	75.7005	76.8054	67.5847	67.5847	73.4306
4034	73.443	75.6108	76.7157	67.6143	67.6143	73.4602
4035	73.3539	75.5216	76.6266	67.6435	67.6435	73.4894
4036	73.2654	75.4331	76.5381	67.6724	67.6724	73.5183
4037	73.1775	75.3453	76.4502	67.701	67.701	73.5469
4038	73.0903	75.258	76.363	67.7292	67.7292	73.5752
4039	73.0036	75.1714	76.2764	67.7572	67.7572	73.6032
4040	72.9176	75.0854	76.1904	67.785	67.785	73.6309
4041	72.8323	75.0001	76.105	67.8124	67.8124	73.6584
4042	72.7586	75.0206	76.0201	67.8949	67.8949	73.9632
4043	72.6854	74.9853	75.9424	67.9751	67.9751	74.1325
4044	72.6159	74.9549	75.8768	68.0521	68.0521	74.2841
4045	72.5414	74.8783	75.802	68.1086	68.1086	74.3368
4046	72.47	74.8332	75.7339	68.1679	68.1679	74.4449
4047	72.4527	73.5427	76.4875	66.7458	66.7458	66.7458
4048	73.7862	75.8063	82.7527	65.963	65.963	65.963
4049	74.2257	75.6561	82.1116	65.5006	65.5006	65.5006
4050	74.3992	75.7058	81.9901	65.1999	65.1999	65.1999
4051	74.4289	75.6195	81.7432	64.9811	64.9811	64.9811
4052	74.8163	86.1458	79.0158	69.8354	69.8354	88.6273
4053	75.1345	86.2686	79.9376	72.2541	72.2541	90.2225
4054	75.8703	87.6773	82.7157	73.4289	73.4289	90.5505
4055	76.3519	87.9001	83.4899	73.9576	73.9576	90.213
4056	76.4816	87.2984	83.2708	74.1365	74.1365	89.4903
4057	76.5225	86.7318	83.4616	74.1125	74.1125	88.5205
4058	76.8565	87.747	84.3558	73.9723	73.9723	87.426
4059	77.0251	87.7417	84.5105	73.7437	73.7437	86.1922



ANEXO 1E INVERTER TEMPERAT-EBRCL13.xls  
SIMULACIONES, CALCULOS Y GRÁFICAS

00012607



4060	77.1424	87.5732	85.027	73.4579	73.4579	84.9039
4061	77.3506	87.723	86.0815	73.1369	73.1369	83.6039
4062	77.6606	88.3505	87.1915	72.7923	72.7923	82.3071
4063	77.935	88.8624	88.0498	72.3975	72.3975	80.8536
4064	78.1889	89.2943	88.9454	71.9746	71.9746	79.4023
4065	77.8714	86.8977	87.3854	71.0169	71.0169	75.228
4066	76.93	83.093	84.431	69.5459	69.5459	69.5459
4067	76.4819	84.0038	85.1875	68.7843	68.7843	68.7843
4068	74.5034	74.5034	74.5034	68.3866	68.3866	68.3866
4069	73.4006	73.4006	73.4006	68.1781	68.1781	68.1781
4070	72.7842	72.7842	72.7842	68.0671	68.0671	68.0671
4071	72.4383	72.4383	72.4383	68.0066	68.0066	68.0066
4072	72.2425	72.2425	72.2425	67.9722	67.9722	67.9722
4073	72.1302	72.1302	72.1302	67.9511	67.9511	67.9511
4074	72.0643	72.0643	72.0643	67.9371	67.9371	67.9371
4075	72.0242	72.0242	72.0242	67.9266	67.9266	67.9266
4076	71.9984	71.9984	71.9984	67.9179	67.9179	67.9179
4077	71.9805	71.9805	71.9805	67.9102	67.9102	67.9102
4078	71.9671	71.9671	71.9671	67.903	67.903	67.903
4079	71.9561	71.9561	71.9561	67.8961	67.8961	67.8961
4080	71.9465	71.9465	71.9465	67.8893	67.8893	67.8893
4081	71.9377	71.9377	71.9377	67.8825	67.8825	67.8825
4082	71.9293	71.9293	71.9293	67.8759	67.8759	67.8759
4083	71.9211	71.9211	71.9211	67.8692	67.8692	67.8692
4084	71.9131	71.9131	71.9131	67.8625	67.8625	67.8625
4085	75.2311	91.0904	92.2893	67.8604	67.8604	67.8604
4086	77.1524	90.3272	92.2037	67.8583	67.8583	67.8583
4087	78.2966	88.717	91.4287	67.8562	67.8562	67.8562
4088	79.0239	88.2674	91.9828	67.854	67.854	67.854
4089	79.5052	87.7286	92.402	67.8074	67.8074	67.8074
4090	79.8401	87.1399	92.7204	67.7037	67.7037	67.7037
4091	80.1133	86.6337	92.9989	67.572	67.572	67.572
4092	80.3219	85.986	93.2137	67.4271	67.4271	67.4271
4093	80.4867	85.3543	93.3142	67.2762	67.2762	67.2762
4094	80.6626	85.1935	93.1047	67.1231	67.1231	67.1231
4095	81.0512	85.6042	94.0539	66.97	66.97	66.97
4096	81.5578	86.1591	95.2126	66.8177	66.8177	66.8177
4097	81.4849	85.2478	93.5618	66.6658	66.6658	66.6658
4098	81.2783	84.553	92.4543	66.5148	66.5148	66.5148
4099	81.1839	84.3054	92.1078	66.3651	66.3651	66.3651
4100	81.1711	84.1972	91.9383	66.2167	66.2167	66.2167
4101	81.2234	84.2078	91.9227	66.0698	66.0698	66.0698
4102	81.2379	84.0578	91.8481	65.9241	65.9241	65.9241
4103	80.9826	83.2179	90.3369	65.7794	65.7794	65.7794
4104	80.5792	82.2585	88.9313	65.6357	65.6357	65.6357
4105	80.2183	81.6227	88.0421	65.4931	65.4931	65.4931
4106	79.9632	81.276	87.5687	65.3518	65.3518	65.3518
4107	79.7636	80.9872	87.1587	65.2118	65.2118	65.2118
4108	79.5727	80.6751	86.6609	65.073	65.073	65.073
4109	79.3717	80.3338	86.0999	64.9353	64.9353	64.9353
4110	79.1627	79.9881	85.5405	64.7989	64.7989	64.7989
4111	78.9762	79.7072	85.1225	64.6637	64.6637	64.6637
4112	78.8638	79.5864	85.022	64.5297	64.5297	64.5297
4113	78.7918	79.5063	84.9616	64.3971	64.3971	64.3971
4114	78.7422	79.4488	84.9233	64.2657	64.2657	64.2657





ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

00012608



4115	78.7024	79.4027	84.8852	64.1355	64.1355	64.1355
4116	78.6672	79.3622	84.8479	64.0066	64.0066	64.0066
4117	78.6347	79.3244	84.8133	63.879	63.879	63.879
4118	78.6039	79.2884	84.7804	63.7525	63.7525	63.7525
4119	78.5706	79.252	84.7323	63.6272	63.6272	63.6272
4120	78.5355	79.214	84.68	63.5032	63.5032	63.5032
4121	78.4993	79.1752	84.6271	63.3803	63.3803	63.3803
4122	78.4626	79.1359	84.5741	63.2585	63.2585	63.2585
4123	77.2494	77.7352	79.0552	63.1363	63.1363	63.1363
4124	76.5125	76.9982	78.3182	63.0153	63.0153	63.0153
4125	76.0344	76.5201	77.9402	62.8954	62.8954	62.8954
4126	75.6973	76.183	77.503	62.7766	62.7766	62.7766
4127	75.4371	75.9229	77.2429	62.659	62.659	62.659
4128	75.2194	75.7051	77.0251	62.5424	62.5424	62.5424
4129	75.0251	75.5108	76.8309	62.4269	62.4269	62.4269
4130	74.8388	75.3351	76.6199	62.3125	62.3125	62.3125
4131	74.6459	75.1756	76.3499	62.1992	62.1992	62.1992
4132	74.4508	75.0204	76.0818	62.0869	62.0869	62.0869
4133	74.2738	74.8257	75.9303	61.9756	61.9756	61.9756
4134	74.0925	74.6816	75.6953	61.8654	61.8654	61.8654
4135	73.9088	74.5352	75.4579	61.7562	61.7562	61.7562
4136	73.405	73.6018	73.8518	61.6476	61.6476	61.6476
4137	73.6782	76.6764	75.3482	63.8778	63.8778	73.4822
4138	75.1815	87.3491	77.7492	68.3361	68.3361	88.8583
4139	76.0031	88.2793	78.525	70.8856	70.8856	91.4788
4140	76.4441	88.7576	78.9201	72.451	72.451	93.0418
4141	76.626	88.6099	79.0469	73.4058	73.4058	93.6423
4142	76.842	88.4703	80.0572	73.9504	73.9504	93.5362
4143	77.129	88.453	81.3459	74.2229	74.2229	92.9921
4144	77.4162	88.5897	82.3476	74.3309	74.3309	92.245
4145	77.0582	83.8002	81.9132	72.9827	72.9827	85.4543
4146	75.2098	75.6721	76.0228	69.5856	69.5856	70.8561
4147	74.0923	74.5018	74.8125	67.7913	67.7913	68.9168
4148	73.4993	74.1012	74.5579	66.9568	66.9568	68.6112
4149	73.0956	73.6976	74.1543	66.4899	66.4899	68.1443
4150	72.7953	73.3972	73.8539	66.2081	66.2081	67.8625
4151	72.7118	73.4106	74.3973	65.6374	65.6374	65.6374
4152	72.6885	73.5196	74.696	65.2814	65.2814	65.2814
4153	72.6984	73.6657	75.0317	65.034	65.034	65.034
4154	72.7185	73.7917	75.316	64.8418	64.8418	64.8418
4155	72.6789	73.7445	75.3027	64.6779	64.6779	64.6779
4156	72.301	72.9445	73.8533	64.5284	64.5284	64.5284
4157	72.0246	72.6682	73.5769	64.3871	64.3871	64.3871
4158	71.8039	72.4474	73.3562	64.2504	64.2504	64.2504
4159	71.6138	72.2573	73.1661	64.1168	64.1168	64.1168
4160	71.4409	72.0844	72.9931	63.9852	63.9852	63.9852
4161	71.2777	71.9213	72.83	63.8553	63.8553	63.8553
4162	71.2251	72.0221	73.1476	63.7269	63.7269	63.7269
4163	71.2462	72.2079	73.5659	63.6	63.6	63.6
4164	71.2808	72.3526	73.8832	63.4745	63.4745	63.4745
4165	71.2551	72.3176	73.8897	63.3502	63.3502	63.3502
4166	71.1973	72.2507	73.8642	63.227	63.227	63.227
4167	71.123	72.1671	73.8221	63.1051	63.1051	63.1051
4168	71.0404	72.0753	73.7717	62.9843	62.9843	62.9843
4169	70.9205	71.9908	73.5282	62.8646	62.8646	62.8646



ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

ALSTOM

00012600

4170	70.8072	71.8758	73.4208	62.746	62.746	62.746
4171	70.8978	71.7848	73.3161	62.6286	62.6286	62.6286
4172	70.5836	71.858	73.1751	62.5122	62.5122	62.5122
4173	70.6412	71.6562	73.8997	62.3972	62.3972	62.3972
4174	71.9007	73.7829	79.7345	62.2849	62.2849	62.2849
4175	73.4894	85.3063	80.8481	66.5167	66.5167	83.0919
4176	74.1779	85.2292	80.9281	68.5758	68.5758	84.2425
4177	74.5004	84.83	81.3694	69.5152	69.5152	84.2211
4178	74.9038	85.5843	82.2305	69.8795	69.8795	83.6283
4179	75.2413	86.0754	82.774	69.9313	69.9313	82.6933
4180	75.3889	85.8832	83.0075	69.8044	69.8044	81.5558
4181	75.5984	85.8866	84.0798	69.5811	69.5811	80.342
4182	75.9123	88.5054	85.1994	69.3073	69.3073	79.117
4183	76.2209	87.0751	86.1556	68.9781	68.9761	77.7586
4184	76.4982	87.5558	87.0522	68.601	68.601	76.3427
4185	76.548	86.9258	87.0497	68.0066	68.0066	73.9051
4186	75.5479	81.5416	82.8457	66.4331	66.4331	66.8583
4187	74.9722	82.0752	83.3065	65.5067	65.5067	65.5067
4188	74.7281	83.1899	84.267	65.0268	65.0268	65.0268
4189	72.8478	72.8478	72.8476	64.7749	64.7749	64.7749
4190	71.7994	71.7994	71.7994	64.6422	64.6422	64.6422
4191	71.2138	71.2136	71.2136	64.5708	64.5708	64.5708
4192	70.8847	70.8847	70.8847	64.5313	64.5313	64.5313
4193	70.6987	70.6987	70.6987	64.5081	64.5081	64.5081
4194	70.592	70.592	70.592	64.4933	64.4933	64.4933
4195	70.5294	70.5294	70.5294	64.4829	64.4829	64.4829
4196	70.4912	70.4912	70.4912	64.4748	64.4748	64.4748
4197	70.4667	70.4667	70.4667	64.4679	64.4679	64.4679
4198	70.4498	70.4498	70.4498	64.4615	64.4615	64.4615
4199	70.437	70.437	70.437	64.4555	64.4555	64.4555
4200	70.4266	70.4266	70.4266	64.4496	64.4496	64.4496
4201	70.4175	70.4175	70.4175	64.4439	64.4439	64.4439
4202	70.4091	70.4091	70.4091	64.4381	64.4381	64.4381
4203	70.4011	70.4011	70.4011	64.4324	64.4324	64.4324
4204	70.3934	70.3934	70.3934	64.4267	64.4267	64.4267
4205	70.3857	70.3857	70.3857	64.421	64.421	64.421
4206	70.3782	70.3782	70.3782	64.4153	64.4153	64.4153
4207	70.3706	70.3706	70.3706	64.4096	64.4096	64.4096
4208	70.3631	70.3631	70.3631	64.4039	64.4039	64.4039
4209	70.3556	70.3556	70.3556	64.3983	64.3983	64.3983
4210	70.3482	70.3482	70.3482	64.3926	64.3926	64.3926
4211	70.3407	70.3407	70.3407	64.3869	64.3869	64.3869
4212	70.3332	70.3332	70.3332	64.3812	64.3812	64.3812
4213	70.3258	70.3258	70.3258	64.3756	64.3756	64.3756
4214	70.3183	70.3183	70.3183	64.3699	64.3699	64.3699
4215	70.3108	70.3108	70.3108	64.3642	64.3642	64.3642
4216	70.3034	70.3034	70.3034	64.3585	64.3585	64.3585
4217	70.2959	70.2959	70.2959	64.3529	64.3529	64.3529
4218	70.2885	70.2885	70.2885	64.3472	64.3472	64.3472
4219	70.281	70.281	70.281	64.3416	64.3416	64.3416
4220	70.2736	70.2736	70.2736	64.3359	64.3359	64.3359
4221	70.2661	70.2661	70.2661	64.3302	64.3302	64.3302
4222	70.2587	70.2587	70.2587	64.3246	64.3246	64.3246
4223	70.2512	70.2512	70.2512	64.3189	64.3189	64.3189
4224	70.2438	70.2438	70.2438	64.3133	64.3133	64.3133

ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

ALSTOM

00012610

4225	70.2363	70.2363	70.2363	64.3076	64.3076	64.3076
4226	70.2289	70.2289	70.2289	64.302	64.302	64.302
4227	70.2214	70.2214	70.2214	64.2983	64.2983	64.2983
4228	70.214	70.214	70.214	64.2907	64.2907	64.2907
4229	70.2066	70.2066	70.2066	64.285	64.285	64.285
4230	70.1991	70.1991	70.1991	64.2794	64.2794	64.2794
4231	70.1917	70.1917	70.1917	64.2738	64.2738	64.2738
4232	70.1843	70.1843	70.1843	64.2681	64.2681	64.2681
4233	70.1769	70.1769	70.1769	64.2625	64.2625	64.2625
4234	70.1694	70.1694	70.1694	64.2569	64.2569	64.2569
4235	70.162	70.162	70.162	64.2512	64.2512	64.2512
4236	70.1546	70.1546	70.1546	64.2456	64.2456	64.2456
4237	70.1472	70.1472	70.1472	64.24	64.24	64.24
4238	70.1398	70.1398	70.1398	64.2343	64.2343	64.2343
4239	70.1324	70.1324	70.1324	64.2287	64.2287	64.2287
4240	70.1249	70.1249	70.1249	64.2231	64.2231	64.2231
4241	70.1175	70.1175	70.1175	64.2175	64.2175	64.2175
4242	70.1101	70.1101	70.1101	64.2119	64.2119	64.2119
4243	70.1027	70.1027	70.1027	64.2062	64.2062	64.2062
4244	70.0953	70.0953	70.0953	64.2006	64.2006	64.2006
4245	70.0879	70.0879	70.0879	64.195	64.195	64.195
4246	70.0805	70.0805	70.0805	64.1894	64.1894	64.1894
4247	70.0731	70.0731	70.0731	64.1838	64.1838	64.1838
4248	70.0657	70.0657	70.0657	64.1782	64.1782	64.1782
4249	70.0583	70.0583	70.0583	64.1726	64.1726	64.1726
4250	70.0509	70.0509	70.0509	64.167	64.167	64.167
4251	70.0435	70.0435	70.0435	64.1614	64.1614	64.1614
4252	70.0362	70.0362	70.0362	64.1558	64.1558	64.1558
4253	70.0288	70.0288	70.0288	64.1502	64.1502	64.1502
4254	70.0214	70.0214	70.0214	64.1446	64.1446	64.1446
4255	70.014	70.014	70.014	64.139	64.139	64.139
4256	70.0066	70.0066	70.0066	64.1334	64.1334	64.1334
4257	69.9992	69.9992	69.9992	64.1278	64.1278	64.1278
4258	69.9919	69.9919	69.9919	64.1222	64.1222	64.1222
4259	69.9845	69.9845	69.9845	64.1166	64.1166	64.1166
4260	69.9771	69.9771	69.9771	64.111	64.111	64.111
4261	69.9697	69.9697	69.9697	64.1055	64.1055	64.1055
4262	69.9624	69.9624	69.9624	64.0999	64.0999	64.0999
4263	69.955	69.955	69.955	64.0943	64.0943	64.0943
4264	69.9476	69.9476	69.9476	64.0887	64.0887	64.0887
4265	69.9403	69.9403	69.9403	64.0832	64.0832	64.0832
4266	69.9329	69.9329	69.9329	64.0776	64.0776	64.0776
4267	69.9256	69.9256	69.9256	64.072	64.072	64.072
4268	69.9182	69.9182	69.9182	64.0664	64.0664	64.0664
4269	69.9108	69.9108	69.9108	64.0609	64.0609	64.0609
4270	69.9035	69.9035	69.9035	64.0553	64.0553	64.0553
4271	69.8961	69.8961	69.8961	64.0497	64.0497	64.0497
4272	69.8888	69.8888	69.8888	64.0442	64.0442	64.0442
4273	69.8814	69.8814	69.8814	64.0386	64.0386	64.0386
4274	69.8741	69.8741	69.8741	64.0331	64.0331	64.0331
4275	69.8668	69.8668	69.8668	64.0275	64.0275	64.0275
4276	69.8594	69.8594	69.8594	64.022	64.022	64.022
4277	69.8521	69.8521	69.8521	64.0164	64.0164	64.0164
4278	69.8447	69.8447	69.8447	64.0109	64.0109	64.0109
4279	69.8374	69.8374	69.8374	64.0053	64.0053	64.0053

Handwritten signature or initials in blue ink.

Handwritten signature or initials in red ink.

ANEXO 1E  
SIMULACIONES, CALCULOS Y GRÁFICAS

INVERTER TEMPERAT-EBRCL13.xls

ALSTOM

00012611

4280	69.8301	69.8301	69.8301	63.9998	63.9998	63.9998
4281	69.8227	69.8227	69.8227	63.9942	63.9942	63.9942
4282	69.8154	69.8154	69.8154	63.9887	63.9887	63.9887
4283	69.8081	69.8081	69.8081	63.9831	63.9831	63.9831
4284	69.8007	69.8007	69.8007	63.9776	63.9776	63.9776
4285	69.7934	69.7934	69.7934	63.972	63.972	63.972
4286	69.7861	69.7861	69.7861	63.9665	63.9665	63.9665
4287	69.7788	69.7788	69.7788	63.961	63.961	63.961
4288	69.7715	69.7715	69.7715	63.9554	63.9554	63.9554
4289	69.7641	69.7641	69.7641	63.9499	63.9499	63.9499
4290	69.7568	69.7568	69.7568	63.9444	63.9444	63.9444
4291	69.7495	69.7495	69.7495	63.9389	63.9389	63.9389
4292	69.7422	69.7422	69.7422	63.9333	63.9333	63.9333
4293	69.7349	69.7349	69.7349	63.9278	63.9278	63.9278
4294	69.7276	69.7276	69.7276	63.9223	63.9223	63.9223
4295	69.7203	69.7203	69.7203	63.9168	63.9168	63.9168
4296	69.713	69.713	69.713	63.9113	63.9113	63.9113
4297	69.7057	69.7057	69.7057	63.9057	63.9057	63.9057
4298	69.6984	69.6984	69.6984	63.9002	63.9002	63.9002
4299	69.6911	69.6911	69.6911	63.8947	63.8947	63.8947
4300	69.6838	69.6838	69.6838	63.8892	63.8892	63.8892
4301	69.6765	69.6765	69.6765	63.8837	63.8837	63.8837
4302	69.6692	69.6692	69.6692	63.8782	63.8782	63.8782
4303	69.6619	69.6619	69.6619	63.8727	63.8727	63.8727
4304	69.6546	69.6546	69.6546	63.8672	63.8672	63.8672
4305	69.6473	69.6473	69.6473	63.8617	63.8617	63.8617
4306	69.6401	69.6401	69.6401	63.8562	63.8562	63.8562
4307	69.6328	69.6328	69.6328	63.8507	63.8507	63.8507
4308	69.6255	69.6255	69.6255	63.8452	63.8452	63.8452
4309	69.6182	69.6182	69.6182	63.8397	63.8397	63.8397
4310	69.6109	69.6109	69.6109	63.8342	63.8342	63.8342
4311	69.6037	69.6037	69.6037	63.8287	63.8287	63.8287
4312	69.5964	69.5964	69.5964	63.8232	63.8232	63.8232
4313	69.5891	69.5891	69.5891	63.8177	63.8177	63.8177
4314	69.5819	69.5819	69.5819	63.8123	63.8123	63.8123
4315	69.5746	69.5746	69.5746	63.8068	63.8068	63.8068
4316	69.5673	69.5673	69.5673	63.8013	63.8013	63.8013
4317	69.5601	69.5601	69.5601	63.7958	63.7958	63.7958
4318	69.5528	69.5528	69.5528	63.7903	63.7903	63.7903
4319	69.5455	69.5455	69.5455	63.7849	63.7849	63.7849
4320	69.5383	69.5383	69.5383	63.7794	63.7794	63.7794
4321	69.531	69.531	69.531	63.7739	63.7739	63.7739
4322	69.5238	69.5238	69.5238	63.7684	63.7684	63.7684
4323	69.5165	69.5165	69.5165	63.763	63.763	63.763
4324	69.5093	69.5093	69.5093	63.7575	63.7575	63.7575
4325	69.502	69.502	69.502	63.752	63.752	63.752
4326	69.4948	69.4948	69.4948	63.7466	63.7466	63.7466
4327	69.4875	69.4875	69.4875	63.7411	63.7411	63.7411
4328	69.4803	69.4803	69.4803	63.7357	63.7357	63.7357
4329	69.473	69.473	69.473	63.7302	63.7302	63.7302
4330	69.4658	69.4658	69.4658	63.7248	63.7248	63.7248
4331	69.4586	69.4586	69.4586	63.7193	63.7193	63.7193
4332	69.4513	69.4513	69.4513	63.7138	63.7138	63.7138
4333	69.4441	69.4441	69.4441	63.7084	63.7084	63.7084
4334	69.4369	69.4369	69.4369	63.7029	63.7029	63.7029

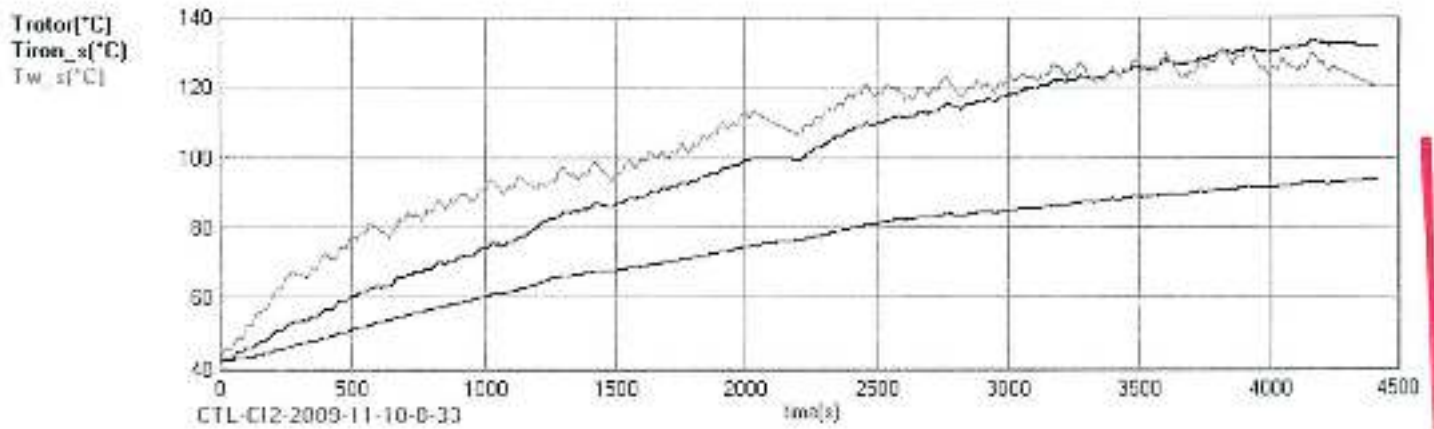


4335	69.4296	69.4296	69.4296	63.6975	63.6975	63.6975
4336	69.4224	69.4224	69.4224	63.6921	63.6921	63.6921
4337	69.4152	69.4152	69.4152	63.6866	63.6866	63.6866
4338	69.408	69.408	69.408	63.6812	63.6812	63.6812
4339	69.4008	69.4008	69.4008	63.6757	63.6757	63.6757
4340	69.3935	69.3935	69.3935	63.6703	63.6703	63.6703
4341	69.3863	69.3863	69.3863	63.6649	63.6649	63.6649
4342	69.3791	69.3791	69.3791	63.6594	63.6594	63.6594
4343	69.3719	69.3719	69.3719	63.654	63.654	63.654
4344	69.3647	69.3647	69.3647	63.6486	63.6486	63.6486
4345	69.3575	69.3575	69.3575	63.6431	63.6431	63.6431
4346	69.3503	69.3503	69.3503	63.6377	63.6377	63.6377
4347	69.3431	69.3431	69.3431	63.6323	63.6323	63.6323
4348	69.3359	69.3359	69.3359	63.6269	63.6269	63.6269
4349	69.3288	69.3288	69.3288	63.6214	63.6214	63.6214
4350	69.3214	69.3214	69.3214	63.616	63.616	63.616
4351	69.3143	69.3143	69.3143	63.6106	63.6106	63.6106
4352	69.3071	69.3071	69.3071	63.6052	63.6052	63.6052
4353	69.2999	69.2999	69.2999	63.5998	63.5998	63.5998
4354	69.2927	69.2927	69.2927	63.5944	63.5944	63.5944
4355	69.2855	69.2855	69.2855	63.589	63.589	63.589
4356	69.2783	69.2783	69.2783	63.5835	63.5835	63.5835
4357	69.2711	69.2711	69.2711	63.5781	63.5781	63.5781
4358	69.2639	69.2639	69.2639	63.5727	63.5727	63.5727
4359	69.2567	69.2567	69.2567	63.5673	63.5673	63.5673
4360	69.2496	69.2496	69.2496	63.5619	63.5619	63.5619
4361	69.2424	69.2424	69.2424	63.5565	63.5565	63.5565
4362	69.2352	69.2352	69.2352	63.5511	63.5511	63.5511
4363	69.228	69.228	69.228	63.5457	63.5457	63.5457
4364	69.2208	69.2208	69.2208	63.5403	63.5403	63.5403
4365	69.2137	69.2137	69.2137	63.5349	63.5349	63.5349
4366	69.2065	69.2065	69.2065	63.5296	63.5296	63.5296
4367	69.1993	69.1993	69.1993	63.5242	63.5242	63.5242
4368	69.1922	69.1922	69.1922	63.5188	63.5188	63.5188
4369	69.185	69.185	69.185	63.5134	63.5134	63.5134

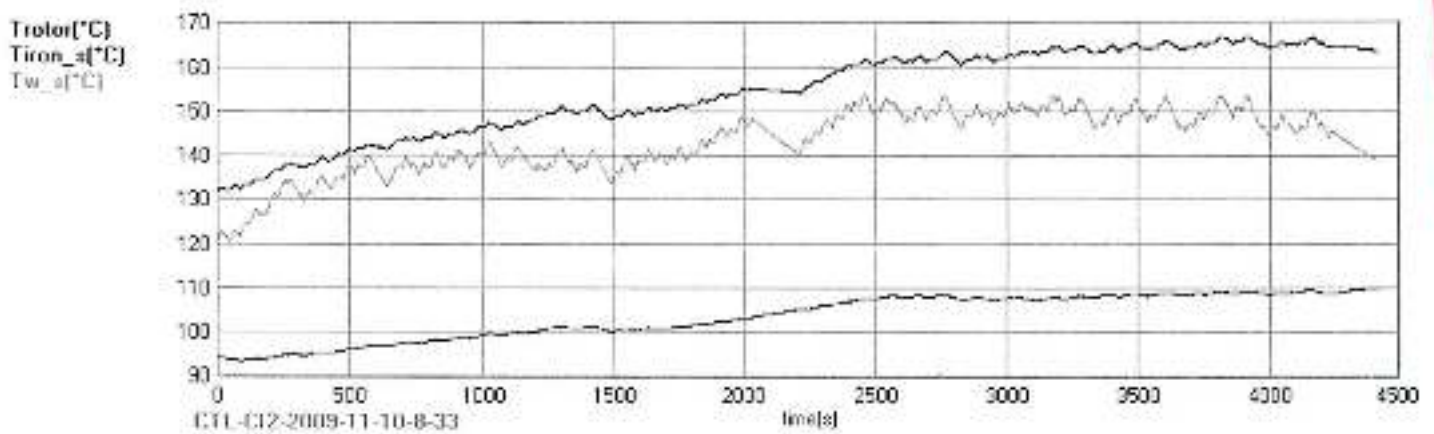


00012613

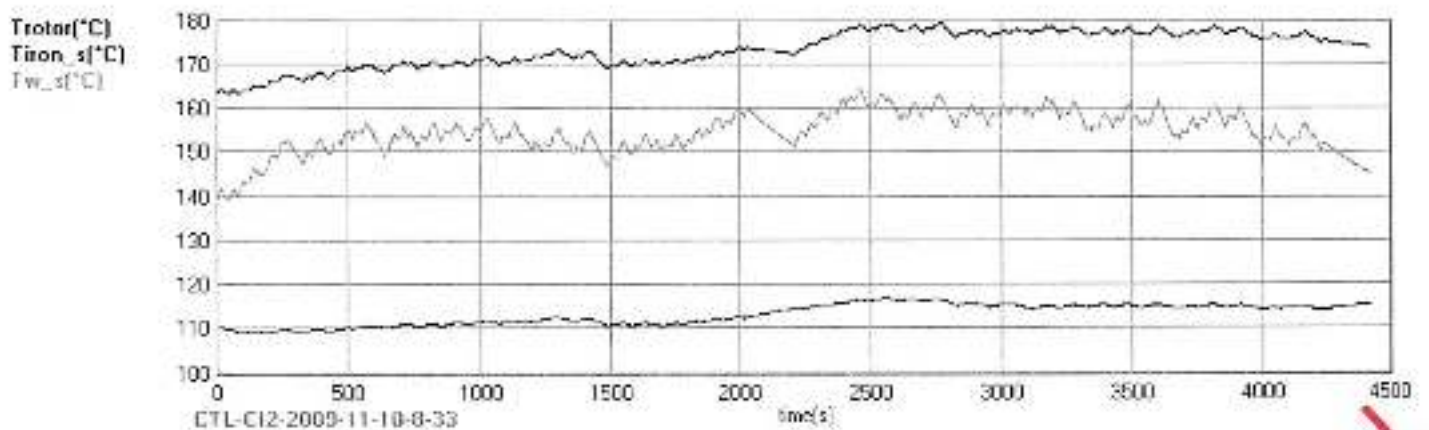
1 Cycle Traction motor temperature 4 LCA 2132\_IndF



2 Cycle Traction motor temperature 4 LCA 2132\_IndF

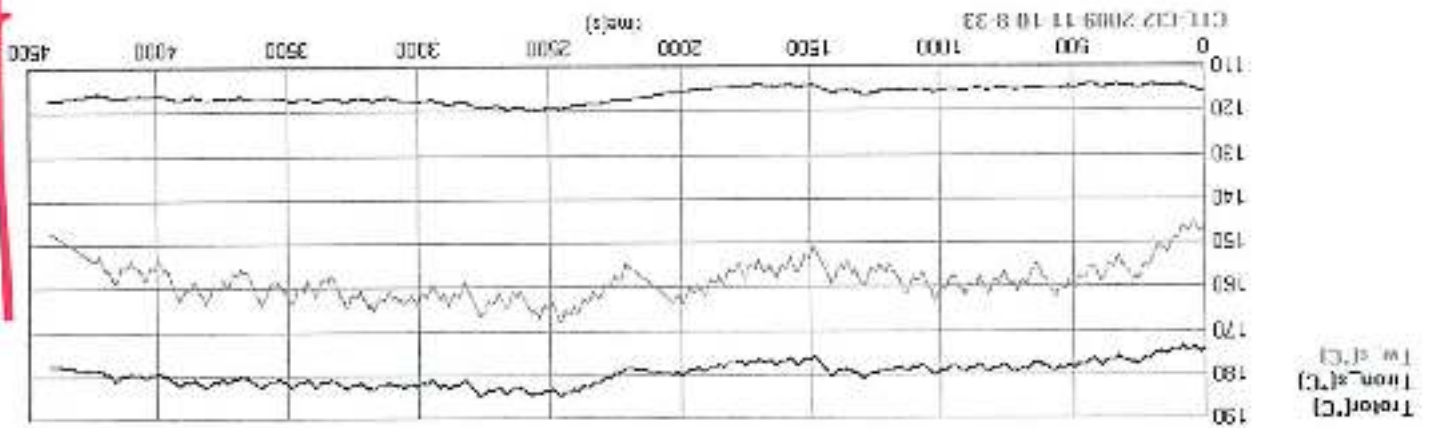


3 Cycle Traction motor temperature 4 LCA 2132\_IndF

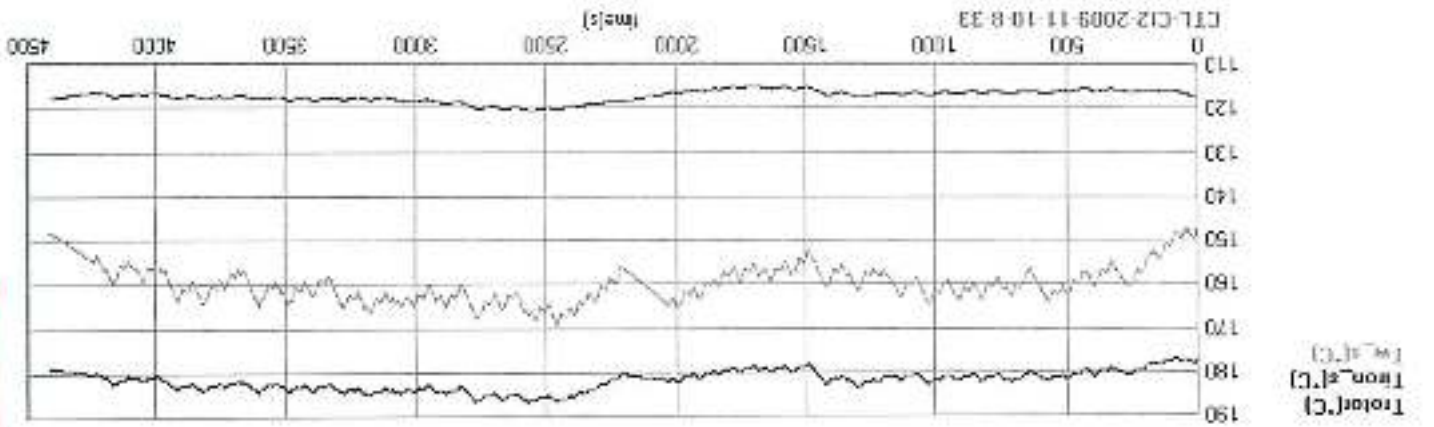


00012614

4Cycle Traction motor temperature 4\_LCA 2132\_IndF



5Cycle Traction motor temperature 4\_LCA 2132\_IndF



A



00012015

	AW2 6p/m <sup>2</sup> All-out running	AW2 6p/m <sup>2</sup> Coasting
Time [s]	4310	4424
Distance [m]	47941	47941
Commercial Speed [Km/h]	40.04	39.01
Total Stop Time [s]	972	972
Running Time [s]	3338	3452

Coasting 3.45%  
AW2 6p/m<sup>2</sup> nominal load

time(s)	distance(m)	speed(km/h)	F_elec(kN)	gamma(m/s <sup>2</sup> )
0	0	0	5.82148	0
1	0.576285	2.39115	231.356	0.607654
2	1.39795	5.15367	397.181	1.0542
3	3.31793	8.9466	397.181	1.05338
4	6.32105	12.737	397.181	1.05263
5	10.3822	16.5247	397.181	1.05185
6	15.4964	20.3086	397.181	1.05102
7	21.6619	24.0915	397.181	1.05014
8	28.8771	27.8701	397.187	1.04921
9	37.143	31.6416	394.882	1.04363
10	46.4516	35.387	385.529	1.02555
11	56.7661	38.8293	341.878	0.907414
12	67.9858	41.9082	312.016	0.821076
13	80.0257	44.7422	289.586	0.758976
14	92.8246	47.3818	273.617	0.71343
15	106.335	49.8715	252.22	0.673
16	120.4	50.8801	0	-2.82E-02
17	134.52	50.7788	0	-2.81E-02
18	148.611	50.6777	0	-2.81E-02
19	162.674	50.5766	0	-2.80E-02
20	176.709	50.4757	0	-2.80E-02
21	190.707	50.2802	0	-6.70E-02
22	204.64	50.0321	0	-7.06E-02
23	218.497	49.718	0	-9.93E-02
24	232.256	49.345	0	-0.107255
25	245.908	48.9438	0	-0.115089
26	259.448	48.5581	0	-0.102478
27	272.885	48.181	0	-0.10667
28	286.214	47.7909	0	-0.10885
29	299.436	47.3993	0	-0.108715
30	312.547	47.0082	0	-0.10858
31	325.551	46.6176	0	-0.108446
32	338.446	46.2274	0	-0.108313
33	351.233	45.8377	0	-0.10818
34	363.912	45.4485	0	-0.108049
35	376.482	45.0598	0	-0.107919
36	388.945	44.6716	0	-0.107789
37	401.3	44.2838	0	-0.10766
38	413.547	43.8965	0	-0.107532
39	425.687	43.5096	0	-0.107405
40	437.725	43.1805	0	-8.65E-02
41	449.677	42.8755	0	-8.32E-02

*[Handwritten signature]*

*[Red mark]*



ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls  
03/11/2010



42	461.546	42.5821	0	-8.00E-02
43	473.335	42.2978	0	-8.02E-02
44	485.048	42.1144	102.34	0.131214
45	496.944	43.9395	295.939	0.728279
46	509.505	46.4702	278.948	0.682984
47	522.747	48.8537	265.009	0.844288
48	536.633	51.1042	252.789	0.609943
49	551.125	53.2089	242.275	0.58632
50	566.183	55.1916	232.528	0.537433
51	581.778	57.0811	224.645	0.513889
52	597.887	58.8875	217.109	0.491216
53	614.488	60.6202	210.602	0.477994
54	631.562	62.3133	205.509	0.463528
55	649.1	63.9552	200.57	0.44949
56	667.087	65.5477	195.981	0.438322
57	685.511	67.0995	191.882	0.428313
58	704.364	68.6354	187.825	0.425182
59	723.641	70.1605	183.793	0.422309
60	743.341	71.6757	179.759	0.419612
61	763.462	73.2032	175.692	0.425206
62	784.009	74.7329	171.619	0.424721
63	804.981	76.2614	167.552	0.424474
64	826.378	77.7852	163.497	0.419518
65	848.191	79.2739	159.536	0.408094
66	870.359	79.973	0	-2.26E-02
67	892.562	79.8918	0	-2.26E-02
68	914.743	79.8106	0	-2.25E-02
69	936.902	79.7297	0	-2.25E-02
70	959.037	79.6488	0	-2.24E-02
71	981.151	79.5681	0	-2.24E-02
72	1003.24	79.4876	0	-2.24E-02
73	1025.31	79.4071	0	-2.23E-02
74	1047.36	79.3269	0	-2.23E-02
75	1069.38	79.2467	0	-2.22E-02
76	1091.38	79.1668	0	-2.22E-02
77	1113.36	79.0869	0	-2.22E-02
78	1135.31	78.9519	0	-3.90E-02
79	1157.22	78.8074	0	-4.12E-02
80	1179.09	78.6548	0	-4.34E-02
81	1200.92	78.5173	0	-3.68E-02
82	1222.71	78.3857	0	-3.65E-02
83	1244.47	78.2544	0	-3.64E-02
84	1266.19	78.1233	0	-3.64E-02
85	1287.47	74.6672	-334.09	-1.09891
86	1307.66	70.7062	-352.444	-1.1015
87	1326.75	66.7361	-364.941	-1.10396
88	1344.74	62.7574	-369.848	-1.10627
89	1361.62	58.7706	-369.849	-1.10845
90	1377.39	54.7972	-369.849	-1.10201
91	1392.06	50.8294	-369.845	-1.10235
92	1405.63	46.8603	-369.845	-1.10266
93	1418.09	42.8915	-369.845	-1.10193
94	1429.45	38.9269	-369.847	-1.10074
95	1439.72	34.9661	-369.851	-1.1
96	1448.88	31.0062	-369.851	-1.09999

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00012617

97	1456.94	27.0462	-369.851	-1.09999
98	1463.91	23.0862	-369.852	-1.09999
99	1469.77	19.1263	-369.852	-1.09999
100	1474.53	15.1663	-369.852	-1.09999
101	1478.19	11.2064	-369.852	-1.09999
102	1480.74	7.24647	-166.848	-1.09996
103	1482.12	3.62694	-0.890053	-1.04555
104	1482.7	1.24829	-0.306331	-0.793179
105	1483	0	0	0
106	1483	0	0	0
107	1483	0	0	0
108	1483	0	0	0
109	1483	0	0	0
110	1483	0	0	0
111	1483	0	0	0
112	1483	0	0	0
113	1483	0	0	0
114	1483	0	0	0
115	1483	0	0	0
116	1483	0	0	0
117	1483	0	0	0
118	1483	0	0	0
119	1483	0	0	0
120	1483	0	0	0
121	1483	0	0	0
122	1483.27	1.12059	397.182	0.286761
123	1483.84	3.47868	397.182	0.890199
124	1485.13	6.88173	397.181	1.05382
125	1487.57	10.6734	397.181	1.05304
126	1491.04	14.4627	397.181	1.05228
127	1495.59	18.2491	397.181	1.05148
128	1501.18	22.0327	397.181	1.05063
129	1507.83	25.8131	397.182	1.04972
130	1515.52	29.5901	397.191	1.04877
131	1524.26	33.3458	392.484	1.03659
132	1534.04	38.9944	385.012	0.936957
133	1544.77	40.227	325.322	0.841556
134	1556.35	43.1038	302.554	0.784238
135	1568.7	45.7167	283.354	0.695537
136	1581.73	48.1158	289.325	0.641422
137	1595.41	50.3246	256.684	0.590053
138	1609.67	52.3621	246.505	0.545129
139	1624.48	54.2297	237.175	0.494264
140	1639.79	55.9297	229.449	0.453856
141	1655.54	57.3024	-361.479	-0.401528
142	1670.84	52.9793	-270.097	-0.987034
143	1685.21	50.9689	27.5183	-0.186011
144	1699.29	50.3406	0	-0.19749
145	1713.18	49.6301	0	-0.197236
146	1726.86	48.9093	0	-0.203707
147	1740.35	48.1718	0	-0.205866
148	1753.62	47.4264	0	-0.20812
149	1766.69	46.6284	0	-0.228866
150	1779.53	45.7998	0	-0.231299
151	1792.13	44.9624	0	-0.233763

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00012618

152	1804.5	44.1151	0	-0.236728
153	1816.64	43.2572	0	-0.239631
154	1828.54	42.4161	57.1353	-0.138076
155	1840.38	43.3452	300.642	0.589366
156	1852.71	45.3802	285.322	0.546117
157	1865.58	47.2859	274.178	0.515204
158	1878.97	49.0839	263.663	0.486038
159	1892.84	50.7238	175.516	0.302716
160	1906.92	50.3353	0	-0.226879
161	1920.79	49.5191	0	-0.226587
162	1934.43	48.7039	0	-0.226299
163	1947.85	47.8898	0	-0.226015
164	1961.04	47.0767	0	-0.225733
165	1974	46.2646	0	-0.225455
166	1986.74	45.4535	0	-0.225181
167	1999.25	44.6434	0	-0.22491
168	2011.54	43.8342	0	-0.224642
169	2023.6	43.026	0	-0.224377
170	2035.45	42.3447	112.092	9.86E-03
171	2047.35	43.7057	297.79	0.581492
172	2059.77	45.715	283.364	0.540585
173	2072.73	47.6391	272.112	0.526974
174	2086.23	49.4874	261.303	0.501835
175	2100.21	50.8493	0	-0.202997
176	2114.23	50.1088	0	-0.20322
177	2128.05	49.388	0	-0.197743
178	2141.7	49.2693	210.997	0.314522
179	2155.62	51.0069	253.275	0.502827
180	2170.04	52.8077	244.279	0.496801
181	2184.96	54.5881	235.385	0.491464
182	2200.36	56.3491	227.699	0.488006
183	2216.26	58.1026	220.384	0.486378
184	2232.64	59.8515	213.088	0.485371
185	2249.51	61.6053	207.639	0.489389
186	2266.87	63.3765	202.311	0.49439
187	2284.72	65.1658	196.989	0.497704
188	2303.07	66.9321	192.324	0.484332
189	2321.9	68.6509	187.784	0.47131
190	2341.21	70.3235	183.359	0.458612
191	2360.97	71.9509	179.026	0.446168
192	2381.17	73.5342	174.811	0.434051
193	2401.81	75.0744	170.71	0.422253
194	2422.75	74.5092	-334.822	-0.977414
195	2442.9	70.5755	-353.049	-1.09999
196	2461.96	66.6155	-365.282	-1.09999
197	2479.91	62.6556	-369.848	-1.09999
198	2496.77	58.6956	-369.849	-1.09999
199	2512.52	54.7356	-369.849	-1.1
200	2527.18	50.7757	-369.845	-1.09999
201	2540.73	46.8157	-369.845	-1.09999
202	2553.18	42.8557	-369.845	-1.09999
203	2564.54	38.8958	-369.847	-1.09999
204	2574.79	34.9358	-369.851	-1.1
205	2583.95	30.9758	-369.851	-1.09999
206	2592	27.0159	-369.851	-1.09999

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00012619

207	2598.96	23.0559	-369.852	-1.09999
208	2604.81	19.096	-369.852	-1.09999
209	2609.56	15.136	-369.852	-1.09999
210	2613.21	11.176	-369.852	-1.09999
211	2615.75	7.21614	-164.612	-1.09996
212	2617.13	3.60872	-0.685583	-1.04362
213	2617.7	1.23007	-0.30186	-0.791247
214	2618	0	0	0
215	2618	0	0	0
216	2618	0	0	0
217	2618	0	0	0
218	2618	0	0	0
219	2618	0	0	0
220	2618	0	0	0
221	2618	0	0	0
222	2618	0	0	0
223	2618	0	0	0
224	2618	0	0	0
225	2618	0	0	0
226	2618	0	0	0
227	2618	0	0	0
228	2618	0	0	0
229	2618	0	0	0
230	2618	0	0	0
231	2618.28	1.13865	397.182	0.291382
232	2618.85	3.49574	397.182	0.89482
233	2620.14	6.91077	397.181	1.05381
234	2622.59	10.7025	397.181	1.05303
235	2626.07	14.4917	397.181	1.05227
236	2630.63	18.2781	397.181	1.05148
237	2636.23	22.0616	397.181	1.05062
238	2642.88	25.842	397.182	1.04971
239	2650.58	29.6191	397.191	1.04876
240	2659.33	33.3743	392.444	1.03648
241	2669.12	37.0247	364.63	0.970537
242	2679.87	40.2924	324.804	0.858906
243	2691.47	43.2483	301.409	0.791704
244	2703.87	45.9842	281.79	0.736128
245	2717.01	48.5626	266.711	0.699767
246	2730.84	51.0179	253.22	0.66811
247	2745.34	53.3723	241.459	0.641898
248	2760.48	55.636	230.674	0.618323
249	2776.24	57.8263	221.536	0.599841
250	2792.6	59.9521	212.669	0.582371
251	2809.54	62.0273	208.389	0.571738
252	2827.06	64.0673	200.233	0.562195
253	2845.13	66.0748	194.588	0.553981
254	2863.76	68.0408	189.395	0.539089
255	2882.93	69.954	184.342	0.524582
256	2902.62	71.8155	179.387	0.510365
257	2922.82	73.6265	174.565	0.496493
258	2943.52	75.3883	169.875	0.482996
259	2964.65	76.3675	-5.01804	0
260	2986.87	76.3675	-1.99798	0
261	3007.08	76.3675	-1.0798	0



00012620

262	3028.29	76.3675	-8.23E-02	0
263	3049.5	76.3539	0	-1.01E-02
264	3070.7	76.2829	0	-2.85E-02
265	3091.88	76.1459	0	-4.88E-02
266	3113	75.943	0	-6.51E-02
267	3133.94	74.0125	-337.124	-1.07778
268	3153.92	69.8654	-358.097	-1.16196
269	3172.75	65.6527	-368.003	-1.17488
270	3190.4	61.444	-369.848	-1.16547
271	3206.88	57.252	-369.849	-1.16355
272	3222.21	53.1307	-325.289	-1.0215
273	3236.6	50.9965	-28.106	-0.220419
274	3250.72	50.6897	0	-8.66E-02
275	3264.75	50.358	0	-8.65E-02
276	3278.7	50.0467	0	-8.64E-02
277	3292.56	49.7358	0	-8.63E-02
278	3306.33	49.4253	0	-8.62E-02
279	3320	49.0146	0	-0.125393
280	3333.56	48.5568	0	-0.128788
281	3346.98	48.0865	0	-0.132146
282	3360.27	47.6043	0	-0.135486
283	3373.42	47.1103	0	-0.138747
284	3386.44	46.639	0	-0.121968
285	3399.34	46.2002	0	-0.121818
286	3412.11	45.762	0	-0.12167
287	3424.78	45.3242	0	-0.121522
288	3437.29	44.887	0	-0.121376
289	3449.7	44.4504	0	-0.12123
290	3462.01	44.4816	193.33	0.334847
291	3474.64	46.5782	278.316	0.630756
292	3487.88	48.7794	265.443	0.595029
293	3501.72	50.7589	157.555	0.357887
294	3515.82	50.5391	0	-0.123337
295	3529.8	50.0954	0	-0.123178
296	3543.65	49.6523	0	-0.12302
297	3557.38	49.2097	0	-0.122863
298	3570.99	48.7677	0	-0.122707
299	3584.47	48.3282	0	-0.122552
300	3597.84	47.8854	0	-0.122398
301	3611.08	47.4556	0	-0.118014
302	3624.2	47.0178	0	-0.13509
303	3637.19	46.5316	0	-0.134924
304	3650.05	46.0462	0	-0.134758
305	3662.77	45.5614	0	-0.134594
306	3675.38	45.0762	0	-0.135631
307	3687.82	44.5819	0	-0.138734
308	3700.14	44.2239	99.9841	8.31E-02
309	3712.58	45.8374	282.648	0.64278
310	3725.64	48.0805	269.53	0.606372
311	3739.29	50.1967	251.304	0.572139
312	3753.38	50.6794	0	-0.123388
313	3767.39	50.2355	0	-0.123228
314	3781.29	49.7922	0	-0.12307
315	3795.06	49.3494	0	-0.122912
316	3808.7	48.9072	0	-0.122756



00012621

317	3822.23	48.4656	0	-0.122601
318	3835.63	48.0246	0	-0.122447
319	3848.91	47.584	0	-0.122294
320	3862.06	47.1441	0	-0.122142
321	3875.1	46.7047	0	-0.121991
322	3888.01	46.2658	0	-0.121841
323	3900.8	45.8274	0	-0.121692
324	3913.47	45.3896	0	-0.121544
325	3926.02	45.0061	0	-9.80E-02
326	3938.48	44.6699	0	-8.94E-02
327	3950.84	44.3646	0	-8.09E-02
328	3963.15	44.5713	194.628	0.387776
329	3975.83	46.8543	276.702	0.683825
330	3989.18	49.2575	262.647	0.653524
331	4003.19	51.5532	250.546	0.625353
332	4017.81	53.757	239.537	0.600826
333	4033.04	55.8766	229.67	0.579366
334	4048.71	55.4878	-369.849	-1.10441
335	4063.57	51.5028	-369.845	-1.09999
336	4077.32	47.5429	-369.844	-1.09999
337	4089.98	43.5829	-369.845	-1.09999
338	4101.54	39.6229	-369.846	-1.1
339	4111.99	35.663	-369.85	-1.09999
340	4121.35	31.703	-369.851	-1.09999
341	4129.6	27.7431	-369.851	-1.09999
342	4136.76	23.7831	-369.852	-1.09999
343	4142.82	19.8231	-369.852	-1.09999
344	4147.77	15.8632	-369.852	-1.09999
345	4151.62	11.9032	-369.852	-1.09999
346	4154.36	7.94329	-218.221	-1.09997
347	4156.02	4.04552	-0.992772	-1.08998
348	4156.6	1.66587	-0.40905	-0.83759
349	4157	0	0	0
350	4157	0	0	0
351	4157	0	0	0
352	4157	0	0	0
353	4157	0	0	0
354	4157	0	0	0
355	4157	0	0	0
356	4157	0	0	0
357	4157	0	0	0
358	4157	0	0	0
359	4157	0	0	0
360	4157	0	0	0
361	4157	0	0	0
362	4157	0	0	0
363	4157	0	0	0
364	4157	0	0	0
365	4157	0	0	0
366	4157.17	0.705631	397.182	0.180572
367	4157.74	3.06372	397.182	0.78401
368	4158.83	8.21419	397.181	1.05396
369	4161.05	10.0064	397.181	1.05317
370	4164.36	13.796	397.181	1.05242
371	4168.71	17.583	397.181	1.05163

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00012622

372	4174.12	21.3671	397.181	1.05078
373	4180.58	25.1481	397.181	1.04958
374	4188.09	28.9257	397.189	1.04894
375	4196.65	32.6887	393.409	1.0393
376	4206.25	36.3788	372.773	0.993155
377	4216.82	39.7223	330.619	0.876218
378	4228.28	42.7228	305.589	0.803221
379	4240.54	45.4959	284.645	0.744059
380	4253.54	48.0937	269.453	0.703161
381	4267.24	50.553	255.542	0.666763
382	4281.61	52.8956	243.84	0.636946
383	4296.62	55.134	232.768	0.608757
384	4312.24	57.2827	223.804	0.586588
385	4328.44	59.3539	215.163	0.56551
386	4345.2	61.3516	208.402	0.539364
387	4362.51	63.2661	202.643	0.525132
388	4380.35	65.1303	197.083	0.511413
389	4398.69	66.9466	192.285	0.497637
390	4417.53	68.7144	187.616	0.488084
391	4436.86	70.4466	183.031	0.474927
392	4456.67	72.1319	178.544	0.462039
393	4476.93	73.7714	174.179	0.449489
394	4497.66	75.3664	169.933	0.43727
395	4518.8	76.9181	165.804	0.425379
396	4540.32	77.6754	0	-2.23E-02
397	4561.89	77.5953	0	-2.22E-02
398	4583.43	77.5154	0	-2.22E-02
399	4604.95	77.4356	0	-2.21E-02
400	4626.45	77.356	0	-2.21E-02
401	4647.93	77.2789	0	-1.70E-02
402	4669.39	77.2207	0	-1.54E-02
403	4690.83	77.1628	0	-2.27E-02
404	4712.25	77.0242	0	-5.29E-02
405	4733.61	76.7752	0	-8.42E-02
406	4754.89	76.4131	0	-0.115481
407	4776.05	75.9387	0	-0.146579
408	4797.07	75.3528	0	-0.177408
409	4817.9	74.6565	0	-0.207922
410	4838.53	73.8789	0	-0.217883
411	4858.95	73.0932	0	-0.217518
412	4879.14	72.3108	0	-0.217157
413	4899.12	71.5297	0	-0.2168
414	4918.88	70.7499	0	-0.216445
415	4938.42	69.9714	0	-0.216094
416	4957.75	69.1941	0	-0.215747
417	4976.87	68.418	0	-0.215402
418	4995.76	67.6432	0	-0.215061
419	5014.45	66.8697	0	-0.214724
420	5032.92	66.163	0	-0.17752
421	5051.22	65.6125	3.33781	-0.130978
422	5069.49	66.375	193.795	0.437733
423	5088.18	68.0167	189.459	0.47259
424	5107.29	69.7876	184.781	0.511237
425	5126.94	71.6981	179.705	0.547306
426	5147.14	73.7349	174.276	0.583753

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00013623

427	5167.91	75.8768	188.575	0.593792
428	5189.27	77.6627	5.81207	0.203169
429	5210.85	77.7026	-51.9149	0
430	5232.44	77.7026	-52.2147	0
431	5254.02	77.7026	-52.2147	0
432	5275.61	77.7026	-52.2147	0
433	5297.19	77.7026	-52.2147	0
434	5318.77	77.7026	-49.9721	0
435	5340.36	77.7026	-39.6617	0
436	5361.94	77.7026	-29.3513	0
437	5383.52	77.5528	-162.319	-0.348786
438	5404.75	74.8309	-333.331	-1.03524
439	5425.01	71.0544	-350.83	-1.08131
440	5444.22	67.1864	-363.668	-1.08602
441	5462.33	63.2399	-369.848	-1.09999
442	5479.35	59.28	-369.849	-1.09999
443	5495.27	55.32	-369.849	-1.1
444	5510.08	51.36	-369.845	-1.09999
445	5523.8	47.4001	-369.845	-1.09999
446	5538.41	43.4401	-369.845	-1.09999
447	5547.93	39.4801	-369.846	-1.09999
448	5558.35	35.5202	-369.85	-1.09999
449	5567.66	31.5602	-369.851	-1.09999
450	5575.88	27.6003	-369.851	-1.09999
451	5583	23.6403	-369.852	-1.09999
452	5589.02	19.6803	-369.852	-1.09999
453	5593.93	15.7204	-369.852	-1.09999
454	5597.74	11.7604	-369.852	-1.09999
455	5600.44	7.80049	-207.694	-1.09996
456	5602.04	3.95974	-0.971723	-1.08086
457	5602.62	1.58109	-0.388001	-0.828489
458	5603	0	0	0
459	5603	0	0	0
460	5603	0	0	0
461	5603	0	0	0
462	5603	0	0	0
463	5603	0	0	0
464	5603	0	0	0
465	5603	0	0	0
466	5603	0	0	0
467	5603	0	0	0
468	5603	0	0	0
469	5603	0	0	0
470	5603	0	0	0
471	5603	0	0	0
472	5603	0	0	0
473	5603	0	0	0
474	5603	0	0	0
475	5603.19	0.790665	397.182	0.202332
476	5603.76	3.14875	397.182	0.80577
477	5604.88	6.351	397.181	1.05393
478	5607.15	10.1431	397.181	1.05314
479	5610.5	13.9327	397.181	1.05239
480	5614.89	17.7195	397.181	1.0516
481	5620.34	21.5035	397.181	1.05075



ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00012624

482	5626.83	25.2843	397.181	1.04955
483	5634.38	29.0619	397.19	1.0489
484	5642.98	32.8236	393.219	1.03875
485	5652.61	36.5067	371.161	0.988677
486	5663.22	39.8332	329.275	0.870618
487	5674.71	42.8132	304.853	0.795541
488	5686.99	45.5578	284.284	0.735191
489	5700	48.117	269.317	0.690265
490	5713.7	50.5196	255.709	0.648525
491	5728.06	52.7862	244.386	0.613279
492	5743.02	54.9291	233.882	0.579592
493	5758.56	56.9506	225.148	0.551383
494	5774.65	58.8942	217.081	0.524629
495	5791.27	60.7349	210.257	0.500791
496	5808.39	62.5046	204.934	0.4843
497	5825.99	64.22	199.773	0.469631
498	5844.06	65.8843	195.091	0.456175
499	5862.59	67.5032	190.815	0.443918
500	5881.52	68.4379	0	-7.13E-02
501	5900.48	68.1816	0	-7.11E-02
502	5919.4	67.9257	0	-7.10E-02
503	5938.23	67.6702	0	-7.09E-02
504	5956.99	67.4151	0	-7.08E-02
505	5975.68	67.1605	0	-7.07E-02
506	5994.3	66.9062	0	-7.06E-02
507	6012.85	66.6523	0	-7.05E-02
508	6031.33	66.3988	0	-7.04E-02
509	6049.74	66.1457	0	-7.03E-02
510	6068.08	65.893	0	-7.01E-02
511	6086.35	65.6407	0	-7.00E-02
512	6104.55	65.3888	0	-6.99E-02
513	6122.68	65.1373	0	-6.98E-02
514	6140.74	64.8937	0	-6.54E-02
515	6158.73	64.6671	0	-6.07E-02
516	6176.66	64.4576	0	-5.60E-02
517	6194.36	61.9958	-369.848	-1.11793
518	6211.02	57.9795	-369.849	-1.11364
519	6226.57	53.9782	-369.848	-1.10964
520	6241.01	49.9907	-369.844	-1.10594
521	6254.34	46.0161	-369.845	-1.1025
522	6266.57	42.0529	-369.846	-1.09999
523	6277.71	38.093	-369.848	-1.09999
524	6287.74	34.133	-369.851	-1.09999
525	6296.67	30.173	-369.851	-1.1
526	6304.5	26.2131	-369.851	-1.09999
527	6311.23	22.2531	-369.852	-1.09998
528	6316.86	18.2932	-369.852	-1.09999
529	6321.39	14.3332	-369.852	-1.09999
530	6324.82	10.3732	-369.852	-1.09999
531	6327.13	6.41341	-105.431	-1.09993
532	6328.24	3.1265	-0.767248	-0.992458
533	6328.82	0.747853	-0.183524	-0.740083
534	6329	0	0	0
535	6329	0	0	0
536	6329	0	0	0

ALSTOM

00013625

537	6329	0	0	0
538	6329	0	0	0
539	6329	0	0	0
540	6329	0	0	0
541	6329	0	0	0
542	6329	0	0	0
543	6329	0	0	0
544	6329	0	0	0
545	6329	0	0	0
546	6329	0	0	0
547	6329	0	0	0
548	6329	0	0	0
549	6329	0	0	0
550	6329	0	0	0
551	6329.39	1.6167	397.182	0.413716
552	6329.96	3.97479	397.182	1.01715
553	6331.57	7.67962	397.181	1.05364
554	6334.21	11.4709	397.181	1.05288
555	6337.91	15.2595	397.181	1.05212
556	6342.68	19.0454	397.181	1.05131
557	6348.49	22.8283	397.181	1.05044
558	6356.36	26.608	397.184	1.04952
559	6363.27	30.3842	396.651	1.04829
560	6372.24	34.129	391.382	1.03336
561	6382.22	37.7203	355.859	0.946191
562	6393.15	40.9106	319.912	0.842953
563	6404.92	43.7791	297.209	0.749645
564	6417.45	46.3681	279.545	0.69688
565	6430.67	48.7948	265.353	0.654691
566	6444.54	51.0761	252.929	0.616852
567	6459.03	53.2329	242.155	0.58379
568	6474.11	55.2878	232.126	0.56778
569	6489.73	56.921	6.1119	5.48E-02
570	6505.51	56.7095	0	-5.97E-02
571	6521.23	56.506	0	-4.90E-02
572	6536.91	56.3684	0	-2.88E-02
573	6552.56	56.3035	0	-8.60E-03
574	6568.19	56.3111	0	1.15E-02
575	6583.85	56.3911	0	3.16E-02
576	6599.54	56.5978	0	6.95E-02
577	6615.3	56.8928	-4.17107	9.29E-02
578	6631.11	56.921	-43.8295	0
579	6646.92	56.921	-52.6143	0
580	6662.75	57.1735	0	0.149675
581	6678.7	57.3482	-369.849	-0.858736
582	6694.19	54.4946	-220.05	-0.495133
583	6709.22	54	-65.9992	0
584	6724.22	54	-65.7243	0
585	6739.22	54	-47.4842	0
586	6754.22	54	-39.2441	0
587	6769.22	54	-31.0041	0
588	6784.22	54	-9.64126	0
589	6799.22	54	-0.189276	0
590	6814.22	53.9577	0	-2.37E-02
591	6829.19	53.8232	0	-4.93E-02

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00012626

592	6844.11	53.6012	0	-5.83E-02
593	6858.97	53.3491	0	-8.02E-02
594	6873.74	53.0348	0	-8.86E-02
595	6888.43	52.716	0	-8.85E-02
596	6903.03	52.3975	0	-8.84E-02
597	6917.54	52.0795	0	-8.83E-02
598	6931.96	51.7619	0	-8.82E-02
599	6946.3	51.4448	0	-8.80E-02
600	6960.54	51.128	0	-8.79E-02
601	6974.7	50.8117	0	-8.78E-02
602	6988.77	50.4958	0	-8.77E-02
603	7002.75	50.1802	0	-8.76E-02
604	7016.65	49.9088	0	-6.90E-02
605	7030.48	49.6667	0	-6.57E-02
606	7044.25	49.4386	0	-6.24E-02
607	7057.95	49.2182	0	-5.91E-02
608	7071.59	49.0116	0	-5.59E-02
609	7085.22	49.4733	222.487	0.486479
610	7099.27	51.698	249.822	0.619762
611	7113.93	53.8708	238.968	0.589527
612	7129.19	55.9302	102.896	0.503108
613	7144.26	52.4472	-275.932	-0.85431
614	7158.55	50.9149	4.45875	-5.35E-02
615	7172.67	50.7194	0	-5.51E-02
616	7186.73	50.5194	0	-5.71E-02
617	7200.73	50.3026	0	-6.29E-02
618	7214.67	50.0649	0	-6.87E-02
619	7228.55	49.8067	0	-7.44E-02
620	7242.33	49.3938	0	-0.120153
621	7255.98	48.9436	0	-0.129292
622	7269.51	48.4806	0	-0.138331
623	7282.9	47.9453	0	-0.147267
624	7296.15	47.3981	0	-0.156092
625	7309.24	46.8749	0	-0.14385
626	7322.19	46.3469	0	-0.148898
627	7334.99	45.8113	0	-0.148717
628	7347.64	45.2762	0	-0.148536
629	7360.14	44.7418	0	-0.148357
630	7372.49	44.2081	0	-0.14818
631	7384.7	43.675	0	-0.148004
632	7396.76	43.1425	0	-0.14783
633	7408.67	42.6107	0	-0.147657
634	7420.43	42.0795	0	-0.147244
635	7432.05	41.5636	0	-0.140004
636	7443.52	41.0736	0	-0.132831
637	7454.87	40.6145	0	-0.109642
638	7466.1	40.2479	0	-9.73E-02
639	7477.26	40.3655	190.835	0.356003
640	7488.76	42.733	306.488	0.749712
641	7501	45.3411	285.561	0.704135
642	7513.94	47.8194	271.057	0.675252
643	7527.58	50.1978	257.317	0.647871
644	7541.82	52.4851	245.89	0.62473
645	7556.71	54.6923	234.864	0.603142
646	7572.2	56.8193	225.738	0.579355

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00012627

647	7588.27	58.8591	217.228	0.55551
648	7604.89	60.8168	210.011	0.534825
649	7622.05	62.7112	204.312	0.518634
650	7639.72	64.5483	198.786	0.502921
651	7657.9	66.3314	193.911	0.488681
652	7676.57	68.0663	189.328	0.47574
653	7695.71	69.7547	184.868	0.462941
654	7715.32	71.3975	180.499	0.450401
655	7735.37	72.9957	176.244	0.438173
656	7755.87	74.5506	172.105	0.426266
657	7776.79	76.0632	168.079	0.414678
658	7798.1	76.822	-231.319	-0.624771
659	7819	73.331	-340.281	-1.09999
660	7838.82	69.3711	-357.494	-1.09999
661	7857.54	65.4111	-368.686	-1.09999
662	7875.15	61.4512	-369.848	-1.09999
663	7891.67	57.4912	-369.849	-1.09999
664	7907.09	53.5312	-369.848	-1.09999
665	7921.41	49.5713	-369.844	-1.1
666	7934.63	45.6113	-369.846	-1.09999
667	7946.75	41.6513	-369.846	-1.09999
668	7957.77	37.6914	-369.848	-1.09999
669	7967.69	33.7314	-369.851	-1.09999
670	7976.51	29.7714	-369.851	-1.1
671	7984.23	25.8115	-369.851	-1.09999
672	7990.85	21.8515	-369.852	-1.09999
673	7996.37	17.8916	-369.852	-1.09998
674	8000.79	13.9316	-369.852	-1.09999
675	8004.11	9.97164	-367.761	-1.09999
676	8006.28	6.01187	-75.8274	-1.09991
677	8007.3	2.88527	-0.708047	-0.966863
678	8007.88	0.50662	-0.124325	-0.714488
679	8008	0	0	0
680	8008	0	0	0
681	8008	0	0	0
682	8008	0	0	0
683	8008	0	0	0
684	8008	0	0	0
685	8008	0	0	0
686	8008	0	0	0
687	8008	0	0	0
688	8008	0	0	0
689	8008	0	0	0
690	8008	0	0	0
691	8008	0	0	0
692	8008	0	0	0
693	8008	0	0	0
694	8008	0	0	0
695	8008	0	0	0
696	8008.45	1.85586	397.182	0.474914
697	8009.06	4.27085	397.182	1.0544
698	8010.78	8.06424	397.181	1.05356
699	8013.54	11.8552	397.181	1.0528
700	8017.35	15.8436	397.181	1.05204
701	8022.22	19.4292	397.181	1.05122

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ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



00012628

702	8028.14	23.2118	397.181	1.05035
703	8036.11	26.9911	397.185	1.04943
704	8043.13	30.7666	396.113	1.04723
705	8052.2	34.5058	390.852	1.0318
706	8062.29	38.0618	351.554	0.934247
707	8073.31	41.216	317.494	0.835253
708	8085.16	44.1024	294.65	0.772991
709	8097.79	46.7761	277.159	0.694019
710	8111.12	49.1651	263.188	0.643943
711	8125.07	50.9105	0	2.49E-02
712	8139.17	50.6437	0	-7.58E-02
713	8153.2	50.3639	0	-7.94E-02
714	8167.15	50.072	0	-8.02E-02
715	8181.03	49.8396	0	-6.45E-02
716	8194.84	49.6075	0	-6.44E-02
717	8208.59	49.3756	0	-6.44E-02
718	8222.27	49.1441	0	-6.43E-02
719	8235.89	48.9129	0	-6.42E-02
720	8249.44	48.6819	0	-6.41E-02
721	8262.93	48.4513	0	-6.40E-02
722	8276.36	48.27	0	-4.33E-02
723	8289.75	48.124	0	-3.58E-02
724	8303.1	48.0236	0	-2.11E-02
725	8316.44	47.976	0	-6.44E-03
726	8329.76	47.9812	0	8.21E-03
727	8343.12	48.4394	177.65	0.441251
728	8356.89	50.8708	253.955	0.718717
729	8371.38	53.413	241.255	0.695488
730	8386.56	55.8761	229.672	0.675534
731	8402.42	58.2793	219.646	0.660736
732	8418.93	60.6324	210.566	0.648813
733	8436.09	62.9251	203.669	0.623207
734	8453.85	65.1112	197.133	0.593041
735	8472.26	67.1937	191.833	0.565418
736	8491.2	69.1775	186.393	0.538171
737	8510.85	71.064	181.387	0.51125
738	8530.67	72.8542	176.621	0.484671
739	8551.04	73.4736	0	-5.25E-03
740	8571.45	73.4392	0	-1.05E-02
741	8591.84	73.4016	0	-1.04E-02
742	8612.23	73.3641	0	-1.04E-02
743	8632.6	73.3266	0	-1.04E-02
744	8652.97	73.2892	0	-1.04E-02
745	8673.32	73.2518	0	-1.04E-02
746	8693.66	73.2146	0	-1.03E-02
747	8713.99	73.1773	0	-1.03E-02
748	8734.31	73.1402	0	-1.03E-02
749	8754.63	73.1031	0	-1.03E-02
750	8774.93	73.0661	0	-1.03E-02
751	8795.22	73.0291	0	-1.03E-02
752	8815.5	72.9922	0	-1.02E-02
753	8835.77	72.9553	0	-1.02E-02
754	8856.03	72.9185	0	-1.02E-02
755	8876.28	72.8791	0	-1.10E-02
756	8896.52	72.8395	0	-1.10E-02



00013629

757	8916.75	72.8016	0	-1.02E-02
758	8936.96	72.7648	0	-1.03E-02
759	8957.17	72.7279	0	-1.02E-02
760	8977.37	72.6906	0	-1.13E-02
761	8997.56	72.6427	0	-1.51E-02
762	9017.72	72.5809	0	-1.90E-02
763	9037.88	72.5052	0	-2.29E-02
764	9057.65	69.3537	-357.543	-1.08962
765	9076.37	65.4241	-368.649	-1.09324
766	9094	61.482	-369.848	-1.09664
767	9110.53	57.5279	-369.849	-1.09982
768	9125.96	53.5679	-369.848	-1.09999
769	9140.29	49.608	-369.844	-1.1
770	9153.52	45.648	-369.845	-1.09999
771	9165.65	41.6881	-369.846	-1.09999
772	9176.68	37.7281	-369.848	-1.09999
773	9186.61	33.7681	-369.851	-1.09999
774	9195.43	29.8082	-369.851	-1.1
775	9203.17	25.8482	-369.851	-1.09999
776	9209.79	21.8882	-369.852	-1.09999
777	9215.32	17.9283	-369.852	-1.09998
778	9219.75	13.9683	-369.852	-1.09999
779	9223.08	10.0084	-369.852	-1.09999
780	9225.27	6.04859	-76.5343	-1.09992
781	9226.3	2.90733	-0.71346	-0.969203
782	9226.87	0.528678	-0.129738	-0.716829
783	9227	0	0	0
784	9227	0	0	0
785	9227	0	0	0
786	9227	0	0	0
787	9227	0	0	0
788	9227	0	0	0
789	9227	0	0	0
790	9227	0	0	0
791	9227	0	0	0
792	9227	0	0	0
793	9227	0	0	0
794	9227	0	0	0
795	9227	0	0	0
796	9227	0	0	0
797	9227	0	0	0
798	9227	0	0	0
799	9227	0	0	0
800	9227.45	1.83398	397.182	0.469318
801	9228.05	4.23587	397.182	1.05441
802	9229.76	8.02907	397.181	1.05357
803	9232.51	11.8201	397.181	1.05281
804	9236.31	15.8085	397.181	1.05204
805	9241.17	19.3941	397.181	1.05123
806	9247.08	23.1767	397.181	1.05036
807	9254.04	26.9561	397.185	1.04944
808	9262.06	30.7317	396.162	1.04738
809	9271.11	34.4714	390.9	1.03195
810	9281.19	38.0309	351.945	0.935329
811	9292.2	41.1883	317.714	0.836862

ALSTOM

00012630

812	9304.05	44.0784	294.839	0.774835
813	9316.67	46.7583	277.204	0.727258
814	9330.02	49.3111	262.333	0.688549
815	9344.05	51.7239	249.693	0.655668
816	9358.74	54.0278	238.184	0.626468
817	9374.06	56.2321	228.187	0.601181
818	9389.98	58.3546	219.332	0.579453
819	9406.47	60.4011	211.262	0.559597
820	9423.53	62.3894	205.28	0.545904
821	9441.13	64.329	199.446	0.531871
822	9459.26	66.2143	194.22	0.516835
823	9477.91	68.0484	189.375	0.502942
824	9497.06	69.8333	184.66	0.48941
825	9516.7	71.57	180.04	0.476146
826	9536.77	72.567	0	-1.00E-02
827	9556.93	72.5309	0	-1.00E-02
828	9577.07	72.4948	0	-1.00E-02
829	9597.2	72.4587	0	-1.00E-02
830	9617.32	72.4228	0	-9.98E-03
831	9637.44	72.3869	0	-9.96E-03
832	9657.54	72.351	0	-9.95E-03
833	9677.63	72.3153	0	-9.93E-03
834	9697.71	72.2795	0	-9.92E-03
835	9717.79	72.2439	0	-9.90E-03
836	9737.85	72.2083	0	-9.88E-03
837	9757.9	72.1727	0	-9.87E-03
838	9777.94	72.1372	0	-9.85E-03
839	9797.98	72.1018	0	-9.83E-03
840	9818	72.0664	0	-9.82E-03
841	9838.01	72.0311	0	-9.80E-03
842	9858.02	71.9959	0	-9.79E-03
843	9878.01	71.9607	0	-9.77E-03
844	9898	71.9255	0	-9.75E-03
845	9917.97	71.8904	0	-9.74E-03
846	9937.94	71.8554	0	-9.72E-03
847	9957.89	71.8205	0	-9.71E-03
848	9977.84	71.7855	0	-9.69E-03
849	9997.77	71.7507	0	-9.67E-03
850	10017.7	71.7159	0	-9.66E-03
851	10037.6	71.6809	0	-1.10E-02
852	10057.5	71.6383	0	-1.19E-02
853	10077.4	71.5919	0	-1.46E-02
854	10097.3	71.5324	0	-1.83E-02
855	10117.2	71.4637	0	-2.05E-02
856	10136.6	68.0937	-361.104	-1.08748
857	10155	64.1723	-369.848	-1.09084
858	10172.2	60.2392	-369.849	-1.094
859	10188.4	56.2949	-369.849	-1.0971
860	10203.5	52.3397	-369.846	-1.09995
861	10217.5	48.3797	-369.844	-1.09999
862	10230.4	44.4198	-369.845	-1.09999
863	10242.2	40.4598	-369.846	-1.1
864	10252.9	36.4998	-369.849	-1.09999
865	10262.5	32.5399	-369.851	-1.09998
866	10271	28.5799	-369.851	-1.09999

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00012831

867	10278.3	24.6199	-369.852	-1.1
868	10284.6	20.66	-369.852	-1.09999
869	10289.8	16.7	-369.852	-1.09999
870	10293.9	12.7401	-369.852	-1.09998
871	10296.9	8.78013	-279.917	-1.09998
872	10298.7	4.82053	-1.18296	-1.09985
873	10299.5	2.16955	-0.532408	-0.890925
874	10300	0	0	0
875	10300	0	0	0
876	10300	0	0	0
877	10300	0	0	0
878	10300	0	0	0
879	10300	0	0	0
880	10300	0	0	0
881	10300	0	0	0
882	10300	0	0	0
883	10300	0	0	0
884	10300	0	0	0
885	10300	0	0	0
886	10300	0	0	0
887	10300	0	0	0
888	10300	0	0	0
889	10300	0	0	0
890	10300	0	0	0
891	10300.1	0.207294	397.182	5.30E-02
892	10300.6	2.56538	397.182	0.656485
893	10301.5	5.41242	397.181	1.05414
894	10303.5	9.20518	397.181	1.05333
895	10306.6	12.9954	397.181	1.05258
896	10310.7	16.7829	397.181	1.0518
897	10315.9	20.5677	397.181	1.05097
898	10322.1	24.3493	397.181	1.05008
899	10329.4	28.1277	397.188	1.04914
900	10337.8	31.8974	394.522	1.04257
901	10347.1	35.6141	382.414	1.01674
902	10357.5	39.0085	339.619	0.883438
903	10368.8	41.9831	311.423	0.787219
904	10380.8	44.6714	290.146	0.712728
905	10393.6	47.0956	275.29	0.616441
906	10406.9	49.2081	262.936	0.561336
907	10420.9	50.8949	85.5594	0.196518
908	10434.9	50.3019	0	-0.193258
909	10448.8	49.565	0	-0.21449
910	10462.5	48.7596	0	-0.216746
911	10475.9	47.9464	0	-0.233752
912	10489.1	47.0782	0	-0.243754
913	10502	46.2013	0	-0.243454
914	10514.8	45.3254	0	-0.243158
915	10527.3	45.4246	287.722	0.414671
916	10540.2	47.2372	274.462	0.497894
917	10553.5	48.9747	264.301	0.469713
918	10567.4	50.6123	227.001	0.423593
919	10581.4	50.3189	0	-0.244893
920	10595.3	49.4379	0	-0.244578
921	10608.9	48.558	0	-0.244268



ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00012632

922	10622.3	47.6793	0	-0.243961
923	10635.4	46.8016	0	-0.243659
924	10648.3	45.925	0	-0.24336
925	10660.9	45.0838	69.0622	-0.120831
926	10673.5	46.0309	281.517	0.51746
927	10686.6	47.8561	270.843	0.498628
928	10700.1	49.6039	260.621	0.47706
929	10714.1	50.8549	0	-0.204437
930	10728.1	50.1631	0	-0.181707
931	10742	49.5511	0	-0.16002
932	10756.7	49.0259	0	-0.145955
933	10769.2	48.4872	0	-0.141911
934	10782.6	48.0083	0	-0.125424
935	10795.9	47.5884	0	-0.10911
936	10809	47.2269	0	-9.30E-02
937	10822.1	46.9234	0	-7.69E-02
938	10835.1	46.7327	0	-4.01E-02
939	10848.1	46.6009	0	-3.64E-02
940	10861	46.4701	0	-3.63E-02
941	10873.9	46.3394	0	-3.63E-02
942	10886.8	46.209	0	-3.62E-02
943	10899.6	46.0786	0	-3.62E-02
944	10912.4	45.9485	0	-3.61E-02
945	10925.1	45.8184	0	-3.61E-02
946	10937.8	45.6886	0	-3.61E-02
947	10950.5	45.5589	0	-3.60E-02
948	10963.1	45.4294	0	-3.60E-02
949	10975.7	45.3	0	-3.59E-02
950	10988.3	45.3405	118.178	0.237378
951	11001.1	47.4228	273.376	0.724685
952	11014.7	49.9585	245.068	0.687072
953	11028.7	50.8976	0	-9.05E-03
954	11042.9	50.8722	0	-5.33E-03
955	11057	50.8601	20.9721	-1.48E-03
956	11071.3	52.2573	247.028	0.666221
957	11086.1	54.593	235.361	0.633709
958	11101.6	56.8162	225.75	0.603996
959	11117.7	58.937	216.903	0.578091
960	11134.3	60.9618	209.575	0.55184
961	11151.5	62.9102	203.714	0.531858
962	11169.3	64.7878	198.066	0.512367
963	11187.5	66.5984	193.205	0.494823
964	11206.3	68.3477	188.584	0.477947
965	11225.5	70.0271	184.148	0.457979
966	11245.2	71.6141	118.692	0.319853
967	11265.1	71.7431	0	-4.02E-02
968	11285	71.4016	-185.305	-0.496305
969	11304.4	68.2072	-360.783	-1.10056
970	11322.8	64.2458	-369.848	-1.10024
971	11340.1	60.2855	-369.849	-1.1
972	11358.3	56.3255	-369.849	-1.09999
973	11371.4	52.3856	-369.848	-1.09999
974	11385.4	48.4056	-369.844	-1.09999
975	11398.3	44.4456	-369.845	-1.09999
976	11410.1	40.4857	-369.846	-1.09999

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00012833

977	11420.8	36.5257	-369.849	-1.09999
978	11430.4	32.5657	-389.851	-1.09998
979	11438.9	28.6058	-369.851	-1.09999
980	11446.3	24.6458	-369.852	-1.1
981	11452.6	20.6859	-369.852	-1.09999
982	11457.8	16.7259	-369.852	-1.09999
983	11461.9	12.7659	-369.852	-1.09998
984	11464.9	8.806	-281.824	-1.09998
985	11466.7	4.8464	-1.18931	-1.09985
986	11467.5	2.18509	-0.536222	-0.892574
987	11468	0	0	0
988	11468	0	0	0
989	11468	0	0	0
990	11468	0	0	0
991	11468	0	0	0
992	11468	0	0	0
993	11468	0	0	0
994	11468	0	0	0
995	11468	0	0	0
996	11468	0	0	0
997	11468	0	0	0
998	11468	0	0	0
999	11468	0	0	0
1000	11468	0	0	0
1001	11468	0	0	0
1002	11468	0	0	0
1003	11468	0	0	0
1004	11468	0.191889	397.182	4.91E-02
1005	11468.6	2.54998	397.182	0.652543
1006	11469.5	5.38763	397.181	1.05415
1007	11471.5	9.18041	397.181	1.05333
1008	11474.8	12.9706	397.181	1.05258
1009	11478.7	16.7582	397.181	1.0518
1010	11483.9	20.5429	397.181	1.05097
1011	11490.1	24.3246	397.181	1.05008
1012	11497.4	28.103	397.188	1.04915
1013	11505.7	31.8729	394.558	1.04267
1014	11515.1	35.6936	382.673	1.02067
1015	11525.4	39.0289	339.362	0.90044
1016	11536.7	42.0893	310.582	0.817106
1017	11548.8	44.9097	288.26	0.755308
1018	11561.8	47.5395	272.694	0.710889
1019	11575.2	50.0204	258.213	0.670583
1020	11589.4	52.3699	246.466	0.637524
1021	11604.3	54.5936	235.357	0.5974
1022	11619.7	56.6652	226.38	0.557019
1023	11635.7	58.5329	218.588	0.493192
1024	11652.2	60.2345	211.763	0.45487
1025	11669.2	61.8094	207.025	0.422054
1026	11686.5	62.1163	0	-0.15632
1027	11703.6	61.5645	0	-0.144559
1028	11720.7	61.0654	0	-0.133394
1029	11737.6	60.6074	0	-0.119654
1030	11754.4	60.2285	0	-8.25E-02
1031	11771	59.9469	0	-6.55E-02

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



00013034

1032	11787.7	59.7623	0	-3.57E-02
1033	11804.3	59.6739	0	-1.20E-02
1034	11820.8	59.6816	0	1.47E-02
1035	11837.4	59.7809	0	3.40E-02
1036	11854	59.9034	0	3.40E-02
1037	11870.7	60.0257	0	3.40E-02
1038	11887.4	60.1478	0	3.39E-02
1039	11904.1	60.2698	0	3.38E-02
1040	11920.9	60.3778	0	2.64E-02
1041	11937.7	60.4584	0	1.88E-02
1042	11954.5	60.5118	0	1.12E-02
1043	11971.3	60.5702	0	1.48E-02
1044	11988.1	60.6158	0	1.07E-02
1045	12004.9	60.6402	0	2.37E-03
1046	12021.8	60.6384	0	-3.07E-03
1047	12038.7	61.2977	208.564	0.536464
1048	12058	63.2313	202.748	0.529241
1049	12073.7	64.2896	0	-1.31E-02
1050	12091.8	64.2426	0	-1.30E-02
1051	12109.4	64.2072	0	-8.97E-03
1052	12127.3	64.1766	0	-8.10E-03
1053	12145.1	64.1491	0	-7.24E-03
1054	12162.9	64.1246	0	-6.38E-03
1055	12180.7	64.1019	0	-6.31E-03
1056	12198.5	64.0792	0	-6.30E-03
1057	12216.3	64.0565	0	-6.29E-03
1058	12234.1	64.0339	0	-6.28E-03
1059	12251.9	64.0113	0	-6.27E-03
1060	12269.7	63.9887	0	-6.26E-03
1061	12287.4	63.9662	0	-6.25E-03
1062	12305.2	63.9437	0	-6.24E-03
1063	12323	63.9213	0	-6.23E-03
1064	12340.7	63.8988	0	-6.22E-03
1065	12358.5	63.8255	0	-2.89E-02
1066	12376.2	63.7165	0	-3.15E-02
1067	12393.9	63.5981	0	-3.41E-02
1068	12411.5	63.4703	0	-3.67E-02
1069	12429.1	63.3681	0	-2.70E-02
1070	12446.7	63.271	0	-2.70E-02
1071	12464.3	63.1727	0	-2.84E-02
1072	12481.8	63.0641	0	-3.17E-02
1073	12499.3	62.9436	0	-3.51E-02
1074	12516.7	61.6902	-369.848	-1.0746
1075	12533.3	57.7052	-369.849	-1.10876
1076	12548.8	53.7079	-369.848	-1.11175
1077	12563.1	49.7091	-369.844	-1.10365
1078	12576.4	45.7349	-369.845	-1.10422
1079	12588.6	41.7587	-369.846	-1.10474
1080	12599.6	37.781	-369.848	-1.10463
1081	12609.5	33.8074	-369.851	-1.10315
1082	12618.4	29.8387	-369.851	-1.10183
1083	12626.1	25.8746	-369.851	-1.10066
1084	12632.8	21.914	-369.852	-1.09999
1085	12638.3	17.954	-369.852	-1.09998
1086	12642.7	13.9941	-369.852	-1.09999



00012635

1087	12646.1	10.0341	-369.852	-1.1
1088	12648.3	5.07434	-80.4331	-1.09992
1089	12649.3	2.9229	-0.717257	-0.970845
1090	12649.9	0.544151	-0.133535	-0.71847
1091	12650	0	0	0
1092	12650	0	0	0
1093	12650	0	0	0
1094	12650	0	0	0
1095	12650	0	0	0
1096	12650	0	0	0
1097	12650	0	0	0
1098	12650	0	0	0
1099	12650	0	0	0
1100	12650	0	0	0
1101	12650	0	0	0
1102	12650	0	0	0
1103	12650	0	0	0
1104	12650	0	0	0
1105	12650	0	0	0
1106	12650	0	0	0
1107	12650	0	0	0
1108	12650.4	1.81864	397.182	0.465393
1109	12651	4.21099	397.182	1.05441
1110	12652.7	8.0044	397.181	1.05357
1111	12655.5	11.7954	397.181	1.05282
1112	12659.3	15.5838	397.181	1.05205
1113	12664.1	19.3695	397.181	1.05124
1114	12670	23.1521	397.181	1.05036
1115	12677	26.9315	397.185	1.04944
1116	12685	30.7072	396.197	1.04748
1117	12694	34.4457	390.936	1.03092
1118	12704.1	38.0004	352.329	0.933285
1119	12715.1	41.1463	318.046	0.832548
1120	12727	44.0156	295.336	0.787362
1121	12739.6	46.6692	277.784	0.715043
1122	12752.9	49.1587	263.225	0.687431
1123	12766.6	51.4744	250.939	0.626569
1124	12781.5	53.6654	239.994	0.593143
1125	12796.7	55.7376	230.25	0.561041
1126	12812.4	57.7037	222.048	0.533087
1127	12828.7	59.5817	214.213	0.511202
1128	12845.5	61.3944	208.273	0.498524
1129	12862.8	63.1518	202.987	0.479479
1130	12880.6	64.8599	197.849	0.470076
1131	12898.8	66.5372	193.367	0.462303
1132	12917.5	68.1888	189.01	0.454585
1133	12936.7	69.8345	184.657	0.457887
1134	12956.3	71.4735	180.297	0.452941
1135	12976.3	71.9417	0	-2.81E-02
1136	12996.3	71.8406	0	-2.81E-02
1137	13016.2	71.7396	0	-2.80E-02
1138	13036.1	71.6387	0	-2.80E-02
1139	13056	71.5537	0	-1.91E-02
1140	13075.9	71.4915	0	-1.66E-02
1141	13095.7	71.4358	0	-1.43E-02

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00012836

1142	13115.6	71.3886	0	-1.21E-02
1143	13135.4	71.3459	0	-8.94E-03
1144	13155.2	71.3562	0	1.36E-02
1145	13175.1	71.4461	0	3.53E-02
1146	13194.9	71.6139	0	5.69E-02
1147	13214.8	71.8598	0	7.86E-02
1148	13234.8	72.1838	0	0.100338
1149	13255	72.5862	0	0.122147
1150	13275.2	73.0662	0	0.140904
1151	13295.5	73.573	0	0.140868
1152	13316	73.6405	-52.1941	0
1153	13336.5	73.6405	-52.1941	0
1154	13356.9	73.6405	-52.1941	0
1155	13377.4	73.6405	-52.1941	0
1156	13397.8	73.6405	-52.1941	0
1157	13418.3	73.6405	-52.1941	0
1158	13438.7	73.6405	-52.1941	0
1159	13459.2	73.6405	-52.1941	0
1160	13479.6	73.6405	-52.1941	0
1161	13500.1	73.6405	-52.1941	0
1162	13520.6	73.6405	-52.1941	0
1163	13541	73.6405	-52.1941	0
1164	13561.5	73.6405	-52.1941	0
1165	13581.9	73.6405	-52.1941	0
1166	13602.4	73.6405	-52.1941	0
1167	13622.8	73.6405	-52.4101	0
1168	13643.3	73.6405	-52.4189	0
1169	13663.7	73.6405	-52.3962	0
1170	13684.2	73.6405	-51.7429	0
1171	13704.7	73.6405	-51.0509	0
1172	13725.1	73.6405	-51.0487	0
1173	13745.6	73.6405	-51.8403	0
1174	13766	73.6405	-52.4326	0
1175	13786.5	73.6405	-52.592	0
1176	13806.9	73.6405	-52.7514	0
1177	13827.4	73.6405	-51.8124	0
1178	13847.8	73.6405	-50.6113	0
1179	13868.3	73.6405	-49.3899	0
1180	13888.8	73.6405	-48.1885	0
1181	13909.2	73.6405	-46.947	0
1182	13929.7	73.6405	-45.7256	0
1183	13950.1	73.6405	-44.5715	0
1184	13970.6	73.6405	-44.5715	0
1185	13991	73.6405	-44.5715	0
1186	14011.5	73.6405	-44.5715	0
1187	14032	73.6405	-44.5715	0
1188	14052.4	73.6405	-44.5715	0
1189	14072.9	73.6405	-44.5715	0
1190	14093.3	73.6405	-44.5715	0
1191	14113.8	73.6405	-44.5715	0
1192	14134.2	73.6405	-44.5715	0
1193	14154.7	73.6405	-44.5715	0
1194	14175.1	73.6405	-44.5715	0
1195	14195.6	73.6405	-44.5715	0
1196	14216.1	73.6405	-44.5715	0

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Handwritten signature in red ink.

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00013637

1197	14238.5	73.6405	-44.5715	0
1198	14257	73.6405	-44.5715	0
1199	14277.4	73.6405	-44.5715	0
1200	14297.9	73.6405	-44.5715	0
1201	14318.3	73.6405	-44.5715	0
1202	14338.8	73.6405	-44.5715	0
1203	14359.2	72.4768	-327.901	-0.723016
1204	14378.8	69.175	-358.048	-0.94233
1205	14397.6	65.7826	-367.636	-0.942331
1206	14416.4	62.3902	-369.848	-0.942325
1207	14432.2	58.9978	-369.849	-0.942331
1208	14448.2	55.6055	-369.849	-0.942333
1209	14463.1	52.2738	-326.645	-0.806365
1210	14477.4	50.9117	-48.0624	-1.70E-02
1211	14491.5	50.9117	-48.0624	0
1212	14505.7	50.9117	-48.0624	0
1213	14519.8	50.9117	-48.0624	0
1214	14534	50.9117	-48.0624	0
1215	14548.1	50.9117	-34.2519	0
1216	14562.3	50.9117	-32.8746	0
1217	14576.4	50.9117	-31.4973	0
1218	14590.5	50.9117	-30.12	0
1219	14604.7	50.9117	-28.7428	0
1220	14618.8	50.9117	-34.4282	0
1221	14633	50.9117	-34.4282	0
1222	14647.1	50.9117	-34.4282	0
1223	14661.2	50.9117	-34.4282	0
1224	14675.4	50.9117	-34.4282	0
1225	14689.5	50.9117	-34.4282	0
1226	14703.7	50.9117	-34.4282	0
1227	14717.8	50.9117	-34.4282	0
1228	14732	50.9117	-34.4282	0
1229	14746.1	50.9117	-34.4282	0
1230	14760.2	50.9117	-34.4282	0
1231	14774.4	50.9117	-34.4282	0
1232	14788.5	50.9117	-31.4912	0
1233	14802.7	50.9117	-25.5801	0
1234	14816.8	50.9117	-19.669	0
1235	14831	50.9117	-13.7579	0
1236	14845.1	50.9117	-7.84688	0
1237	14859.2	50.9117	-1.9358	0
1238	14873.3	50.1733	-286.424	-0.724476
1239	14888.8	46.5004	-369.845	-1.09653
1240	14899.2	42.5254	-369.845	-1.11045
1241	14910.4	38.5025	-369.847	-1.12313
1242	14920.6	34.4363	-369.851	-1.13454
1243	14929.6	30.3964	-369.851	-1.11686
1244	14937.4	26.3801	-369.851	-1.11478
1245	14944.2	22.3706	-369.852	-1.113
1246	14949.9	18.367	-369.852	-1.11151
1247	14954.4	14.3683	-369.852	-1.11033
1248	14957.8	10.3733	-369.852	-1.10943
1249	14960.1	6.38121	-103.056	-1.10876
1250	14961.3	3.09635	-0.759847	-0.995997
1251	14961.8	0.713839	-0.175176	-0.738785

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



00012638

1252	14962	0	0	0
1253	14962	0	0	0
1254	14962	0	0	0
1255	14962	0	0	0
1256	14962	0	0	0
1257	14962	0	0	0
1258	14962	0	0	0
1259	14962	0	0	0
1260	14962	0	0	0
1261	14962	0	0	0
1262	14962	0	0	0
1263	14962	0	0	0
1264	14962	0	0	0
1265	14962	0	0	0
1266	14962	0	0	0
1267	14962	0	0	0
1268	14962	0	0	0
1269	14962.4	1.64576	397.182	0.418662
1270	14963	3.99557	397.182	1.01642
1271	14964.6	7.69031	397.181	1.04597
1272	14967.2	11.4556	397.181	1.04591
1273	14970.9	15.2212	397.181	1.04612
1274	14975.7	18.9882	397.181	1.04656
1275	14981.5	22.7571	397.181	1.04722
1276	14988.3	26.5247	397.184	1.04696
1277	14996.2	30.2972	396.774	1.04842
1278	15005.1	34.0433	391.503	1.03371
1279	15015.1	37.6422	358.845	0.948924
1280	15026	40.8408	320.464	0.844483
1281	15037.8	43.7553	297.397	0.780598
1282	15050.3	46.4567	279.027	0.728454
1283	15063.6	48.9456	264.471	0.685754
1284	15077.5	51.2352	252.134	0.611539
1285	15092	53.3415	241.612	0.582115
1286	15107.1	55.3022	232.067	0.52657
1287	15122.7	57.1154	224.502	0.483408
1288	15138.8	58.7677	217.609	0.435856
1289	15155.3	60.239	211.749	0.390064
1290	15172.3	61.5829	207.707	0.358029
1291	15189.6	62.8096	204.016	0.325478
1292	15207.2	63.9397	200.617	0.312913
1293	15225.1	65.0688	197.246	0.311904
1294	15243.3	66.1783	194.315	0.303326
1295	15261.8	67.2607	191.456	0.301044
1296	15280.7	68.3781	188.504	0.318754
1297	15299.8	69.5621	185.377	0.33646
1298	15319.3	70.7936	182.108	0.345743
1299	15339.2	72.0575	178.742	0.357944
1300	15359.4	73.3748	154.982	0.359342
1301	15379.8	73.4088	0	-7.23E-02
1302	15400.1	73.2151	0	-4.01E-02
1303	15420.5	73.0701	0	-4.03E-02
1304	15440.7	72.9271	0	-3.93E-02
1305	15461	72.787	0	-3.86E-02
1306	15481.2	72.6514	0	-4.07E-02

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00012639

1307	15501.3	72.5042	0	-4.11E-02
1308	15521.5	72.3512	0	-4.35E-02
1309	15541.5	72.1948	0	-4.34E-02
1310	15561.6	72.0467	0	-4.03E-02
1311	15581.6	71.9021	0	-3.85E-02
1312	15601.5	71.7646	0	-3.79E-02
1313	15621.4	71.6291	0	-3.74E-02
1314	15641.3	71.4955	0	-3.68E-02
1315	15661.1	71.3799	0	-2.21E-02
1316	15681	71.3488	0	3.47E-03
1317	15700.8	71.4095	0	2.90E-02
1318	15720.6	71.5819	0	5.44E-02
1319	15740.6	71.7822	0	6.99E-02
1320	15760.5	72.0819	0	9.53E-02
1321	15780.6	72.4736	0	0.12107
1322	15800.8	72.949	0	0.136821
1323	15821.1	73.4509	0	0.140355
1324	15841.6	73.6207	-43.9615	0
1325	15862	73.6207	-34.5246	0
1326	15882.5	73.6207	-24.9501	0
1327	15902.9	73.6207	-15.4934	0
1328	15923.4	73.6207	-6.70148	0
1329	15943.8	73.6188	0	-4.47E-03
1330	15964.3	73.558	0	-2.81E-02
1331	15984.7	73.4589	0	-2.63E-02
1332	16005.1	73.3694	0	-2.36E-02
1333	16025.3	71.3412	-349.501	-1.04686
1334	16044.6	67.4467	-362.932	-1.08197
1335	16062.8	63.5516	-369.848	-1.08197
1336	16079.9	59.6557	-369.849	-1.08294
1337	16096	57.1263	-96.9349	-0.327291
1338	16111.8	56.8831	0	-1.75E-02
1339	16127.6	56.8164	0	-1.95E-02
1340	16143.4	56.7424	0	-2.15E-02
1341	16159.2	56.6613	0	-2.35E-02
1342	16174.9	56.5534	0	-5.53E-02
1343	16190.6	56.3445	0	-6.05E-02
1344	16206.2	56.1168	0	-6.57E-02
1345	16221.7	55.8718	0	-6.97E-02
1346	16237.2	55.615	0	-7.28E-02
1347	16252.6	55.3859	0	-5.92E-02
1348	16268	55.1728	0	-5.91E-02
1349	16283.3	54.9801	0	-5.91E-02
1350	16298.5	54.7476	0	-5.90E-02
1351	16313.7	54.5354	0	-5.89E-02
1352	16328.8	54.324	0	-5.69E-02
1353	16343.9	54.1243	0	-5.47E-02
1354	16358.9	53.8941	0	-6.88E-02
1355	16373.8	53.6465	0	-6.87E-02
1356	16388.7	53.3992	0	-6.87E-02
1357	16403.5	53.088	0	-6.61E-02
1358	16418.2	52.7787	0	-6.57E-02
1359	16432.8	52.5637	0	-5.82E-02
1360	16447.4	52.0433	-369.846	-0.987646
1361	16461.3	47.9871	-369.844	-1.11439



ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00012640

1362	16474.1	43.9806	-369.845	-1.11171
1363	16485.7	39.9833	-369.846	-1.10927
1364	16496.3	35.9943	-369.85	-1.10705
1365	16505.7	32.013	-369.851	-1.10506
1366	16514	28.0383	-369.851	-1.10331
1367	16521.3	24.0696	-369.852	-1.1018
1368	16527.4	20.1059	-369.852	-1.10052
1369	16532.5	16.1456	-369.852	-1.09999
1370	16536.4	12.1857	-369.852	-1.09998
1371	16539.2	8.22576	-239.046	-1.09997
1372	16541	4.26623	-1.04694	-1.09983
1373	16541.6	1.83654	-0.450689	-0.855593
1374	16542	0	0	0
1375	16542	0	0	0
1376	16542	0	0	0
1377	16542	0	0	0
1378	16542	0	0	0
1379	16542	0	0	0
1380	16542	0	0	0
1381	16542	0	0	0
1382	16542	0	0	0
1383	16542	0	0	0
1384	16542	0	0	0
1385	16542	0	0	0
1386	16542	0	0	0
1387	16542	0	0	0
1388	16542	0	0	0
1389	16542	0	0	0
1390	16542	0	0	0
1391	16542.1	0.537421	397.182	0.137527
1392	16542.7	2.89551	397.182	0.740966
1393	16543.7	5.94356	397.181	1.05402
1394	16545.9	9.73597	397.181	1.05322
1395	16549.1	13.5258	397.181	1.05247
1396	16553.4	17.313	397.181	1.05168
1397	16558.7	21.0973	397.181	1.05085
1398	16565.1	24.8785	397.181	1.04995
1399	16572.5	28.6564	397.189	1.04901
1400	16581	32.422	393.784	1.04041
1401	16590.5	36.1238	375.988	1.00209
1402	16601	39.4978	333.453	0.884066
1403	16612.4	42.5165	307.201	0.807741
1404	16624.6	45.3049	285.763	0.747258
1405	16637.6	47.9132	270.509	0.706283
1406	16651.2	50.3865	256.374	0.671026
1407	16665.6	52.7474	244.58	0.642795
1408	16680.5	55.01	233.311	0.616134
1409	16696.1	57.1876	224.201	0.595414
1410	16712.3	59.2938	215.414	0.57801
1411	16729.1	61.3365	208.448	0.561347
1412	16746.4	63.3353	202.435	0.549841
1413	16764.2	65.2937	198.651	0.539026
1414	16782.6	67.2145	191.578	0.527305
1415	16801.6	69.0859	186.835	0.513122
1416	16821	70.9069	181.806	0.499262

ALSTOM

09012641

1417	16841	72.6785	177.089	0.485708
1418	16861.4	74.402	172.5	0.47251
1419	16882.3	76.0787	168.038	0.459863
1420	16903.7	77.7099	154.795	0.447157
1421	16925.3	78.1419	-1.92513	0
1422	16947	78.1419	-0.369825	0
1423	16968.8	78.1378	0	-3.00E-03
1424	16990.5	78.1191	0	-7.18E-03
1425	17012.2	78.0854	0	-1.14E-02
1426	17033.8	78.0367	0	-1.55E-02
1427	17055.5	77.973	0	-1.97E-02
1428	17077.2	77.8967	0	-2.16E-02
1429	17098.8	77.8191	0	-2.15E-02
1430	17120.4	77.7416	0	-2.15E-02
1431	17142	77.6643	0	-2.15E-02
1432	17163.5	77.5871	0	-2.14E-02
1433	17185.1	77.51	0	-2.14E-02
1434	17206.6	77.4331	0	-2.14E-02
1435	17228.1	77.3563	0	-2.13E-02
1436	17249.6	77.2796	0	-2.13E-02
1437	17271	77.203	0	-2.13E-02
1438	17292.5	77.121	0	-2.28E-02
1439	17313.9	77.0413	0	-2.12E-02
1440	17335.3	76.9651	0	-2.11E-02
1441	17356.8	76.8885	0	-2.13E-02
1442	17378	76.8124	0	-2.11E-02
1443	17399.3	76.7366	0	-2.10E-02
1444	17420.6	76.661	0	-2.10E-02
1445	17441.9	76.5856	0	-2.09E-02
1446	17463.2	76.5102	0	-2.09E-02
1447	17484.4	76.435	0	-2.09E-02
1448	17505.6	76.3599	0	-2.08E-02
1449	17526.8	76.285	0	-2.08E-02
1450	17548	76.2101	0	-2.08E-02
1451	17569.2	76.1354	0	-2.07E-02
1452	17590.3	76.0609	0	-2.07E-02
1453	17611.4	75.9864	0	-2.07E-02
1454	17632.5	75.9121	0	-2.06E-02
1455	17653.6	75.8379	0	-2.06E-02
1456	17674.6	75.7639	0	-2.06E-02
1457	17695.7	75.6899	0	-2.05E-02
1458	17716.7	75.6161	0	-2.05E-02
1459	17737.7	75.5425	0	-2.04E-02
1460	17758.7	75.4689	0	-2.04E-02
1461	17779.6	75.3955	0	-2.04E-02
1462	17800.5	75.3222	0	-2.03E-02
1463	17821.5	75.249	0	-2.03E-02
1464	17842.4	75.176	0	-2.03E-02
1465	17863.2	75.103	0	-2.02E-02
1466	17884.1	75.0286	0	-2.37E-02
1467	17904.9	74.9131	0	-3.97E-02
1468	17925.7	74.7401	0	-5.57E-02
1469	17946.4	74.5096	0	-7.16E-02
1470	17967.1	74.2221	0	-8.74E-02
1471	17987.7	73.8778	0	-0.103111

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



00012312

1472	18008.1	73.4771	0	-0.118731
1473	18028.5	73.0284	0	-0.127389
1474	18048.7	72.5682	0	-0.127177
1475	18068.8	72.1107	0	-0.128967
1476	18088.8	71.654	0	-0.126757
1477	18108.6	71.216	0	-0.115622
1478	18128.3	70.8241	0	-0.102749
1479	18147.9	70.4784	0	-9.00E-02
1480	18167.5	70.1786	0	-7.73E-02
1481	18186.9	69.9244	0	-6.46E-02
1482	18206.3	69.7156	0	-5.20E-02
1483	18225.7	69.552	0	-3.95E-02
1484	18245	69.4218	0	-3.57E-02
1485	18264.2	69.2935	0	-3.56E-02
1486	18283.5	69.1555	0	-3.55E-02
1487	18302.7	69.0377	0	-3.55E-02
1488	18321.8	68.9101	0	-3.54E-02
1489	18340.8	68.6531	-365.176	-1.09999
1490	18358.7	62.6931	-369.848	-1.09999
1491	18375.6	58.7331	-369.849	-1.09999
1492	18391.4	54.7732	-369.849	-1.1
1493	18406	50.8132	-369.845	-1.09999
1494	18419.6	46.8532	-369.845	-1.09999
1495	18432.1	42.8933	-369.845	-1.09999
1496	18443.4	38.9333	-369.847	-1.09999
1497	18453.7	34.9733	-369.851	-1.1
1498	18462.9	31.0134	-369.851	-1.09999
1499	18470.9	27.0534	-369.851	-1.09999
1500	18477.9	23.0934	-369.852	-1.09999
1501	18483.8	19.1335	-369.852	-1.09999
1502	18488.5	15.1735	-369.852	-1.09999
1503	18492.2	11.2136	-369.852	-1.09999
1504	18494.7	7.25368	-167.379	-1.09996
1505	18496.1	3.63127	-0.891116	-1.04601
1506	18496.7	1.25262	-0.307393	-0.793639
1507	18497	0	0	0
1508	18497	0	0	0
1509	18497	0	0	0
1510	18497	0	0	0
1511	18497	0	0	0
1512	18497	0	0	0
1513	18497	0	0	0
1514	18497	0	0	0
1515	18497	0	0	0
1516	18497	0	0	0
1517	18497	0	0	0
1518	18497	0	0	0
1519	18497	0	0	0
1520	18497	0	0	0
1521	18497	0	0	0
1522	18497	0	0	0
1523	18497	0	0	0
1524	18497.3	1.1163	397.182	0.285662
1525	18497.8	3.47439	397.182	0.8891
1526	18499.1	6.87482	397.181	1.05382



00010043

1527	18501.8	10.6865	397.181	1.05304
1528	18506	14.4558	397.181	1.05228
1529	18509.6	18.2422	397.181	1.05148
1530	18515.2	22.0258	397.181	1.05063
1531	18521.8	25.8062	397.182	1.04972
1532	18529.5	29.5833	397.191	1.04877
1533	18538.2	33.339	392.494	1.03682
1534	18548	36.9919	365.044	0.971685
1535	18558.8	40.2632	325.035	0.857853
1536	18570.4	43.2214	301.623	0.792294
1537	18582.8	45.9591	281.937	0.738536
1538	18595.9	48.5293	266.906	0.694795
1539	18609.7	50.9554	253.532	0.657218
1540	18624.2	53.2594	242.022	0.625154
1541	18639.3	55.4514	231.444	0.595338
1542	18655	57.5475	222.899	0.570843
1543	18671.2	59.5574	214.315	0.547346
1544	18688.1	61.478	208.022	0.521439
1545	18705.4	63.3232	202.471	0.504754
1546	18723.2	65.1007	197.161	0.484501
1547	18741.5	66.82	192.62	0.471476
1548	18760.3	68.5056	188.167	0.465054
1549	18779.6	70.158	183.805	0.452535
1550	18799.3	71.7739	179.497	0.444675
1551	18819.5	73.3538	175.291	0.433449
1552	18840.1	74.8521	114.287	0.301172
1553	18860.9	74.8822	0	-5.03E-02
1554	18881.7	74.6898	0	-5.63E-02
1555	18902.4	74.4761	0	-6.22E-02
1556	18923	74.2412	0	-6.80E-02
1557	18943.6	73.9852	0	-7.39E-02
1558	18964.1	73.7091	0	-7.82E-02
1559	18984.6	73.428	0	-7.80E-02
1560	19004.9	73.1474	0	-7.79E-02
1561	19025.2	72.8672	0	-7.78E-02
1562	19045.4	72.5749	0	-8.15E-02
1563	19065.5	72.2818	0	-8.14E-02
1564	19085.6	71.9892	0	-8.12E-02
1565	19105.5	71.7014	0	-7.83E-02
1566	19125.4	71.4203	0	-7.79E-02
1567	19145.2	71.141	0	-7.74E-02
1568	19164.9	70.8633	0	-7.69E-02
1569	19184.6	70.5869	0	-7.67E-02
1570	19204.1	70.3109	0	-7.66E-02
1571	19223.6	70.0354	0	-7.65E-02
1572	19243	69.7603	0	-7.63E-02
1573	19262.4	69.4857	0	-7.62E-02
1574	19281.6	69.2116	0	-7.61E-02
1575	19300.8	68.9378	0	-7.60E-02
1576	19319.9	68.6646	0	-7.55E-02
1577	19339	68.4034	0	-6.99E-02
1578	19357.9	68.1824	0	-6.43E-02
1579	19376.9	67.9415	0	-5.87E-02
1580	19395.3	64.4775	-369.848	-1.11838
1581	19412.7	60.461	-369.849	-1.11335



00012644

1582	19428.9	56.462	-369.849	-1.10864
1583	19444	52.4794	-369.846	-1.10426
1584	19458.1	48.512	-369.844	-1.10021
1585	19471	44.552	-369.845	-1.09999
1586	19482.8	40.5921	-369.846	-1.09999
1587	19493.5	36.6321	-369.849	-1.09999
1588	19503.2	32.6721	-369.851	-1.09998
1589	19511.7	28.7122	-369.851	-1.09999
1590	19519.1	24.7522	-369.852	-1.1
1591	19525.4	20.7922	-369.852	-1.09999
1592	19530.7	16.8323	-369.852	-1.09999
1593	19534.8	12.8723	-369.852	-1.09998
1594	19537.8	8.91238	-289.667	-1.09998
1595	19539.7	4.95276	-1.21541	-1.09986
1596	19540.5	2.24899	-0.551904	-0.899354
1597	19541	0	0	0
1598	19541	0	0	0
1599	19541	0	0	0
1600	19541	0	0	0
1601	19541	0	0	0
1602	19541	0	0	0
1603	19541	0	0	0
1604	19541	0	0	0
1605	19541	0	0	0
1606	19541	0	0	0
1607	19541	0	0	0
1608	19541	0	0	0
1609	19541	0	0	0
1610	19541	0	0	0
1611	19541	0	0	0
1612	19541	0	0	0
1613	19541	0	0	0
1614	19541	0.128538	397.182	3.29E-02
1615	19541.8	2.48663	397.182	0.638331
1616	19542.5	5.28571	397.181	1.05417
1617	19544.4	9.07855	397.181	1.05336
1618	19547.5	12.8688	397.181	1.0526
1619	19551.6	16.6585	397.181	1.05182
1620	19556.7	20.4413	397.181	1.05099
1621	19562.9	24.2231	397.181	1.05011
1622	19570.2	28.0015	397.187	1.04917
1623	19578.5	31.7755	394.694	1.04544
1624	19587.8	35.5142	383.673	1.02879
1625	19598.2	38.9885	339.87	0.912581
1626	19609.4	42.0981	310.513	0.832339
1627	19621.5	44.9805	287.793	0.77427
1628	19634.4	47.6878	271.827	0.734342
1629	19648	50.1919	257.346	0.670855
1630	19662.3	52.5497	245.568	0.641302
1631	19677.2	54.8043	234.305	0.613323
1632	19692.7	56.9678	225.118	0.590826
1633	19708.8	59.0571	201.699	0.581204
1634	19725.4	59.6992	-0.119185	0
1635	19742	59.6992	-0.119185	0
1636	19758.5	59.6992	-0.119185	0

ALSTOM

00012645

1637	19775.1	59.6992	-0.119185	0
1638	19791.7	59.6992	-0.119185	0
1639	19808.3	59.6992	-0.119185	0
1640	19824.9	59.6992	-0.119185	0
1641	19841.5	59.6992	-0.119185	0
1642	19858	59.6992	-0.119185	0
1643	19874.6	59.6992	-0.119185	0
1644	19891.2	59.6992	-0.119185	0
1645	19907.8	59.6992	-0.119185	0
1646	19924.4	59.6992	-0.119185	0
1647	19941	59.6992	-0.119185	0
1648	19957.5	59.6992	-0.119185	0
1649	19974.1	59.6992	-0.119185	0
1650	19990.7	59.6992	-0.119185	0
1651	20007.3	59.6992	-0.119185	0
1652	20023.9	59.6993	-3.06113	-5.94E-04
1653	20040.5	59.6992	-0.781085	0
1654	20057	59.6952	0	-3.44E-03
1655	20073.6	59.8715	0	-9.34E-03
1656	20090.2	59.6277	21.511	-5.94E-03
1657	20106.9	60.906	209.743	0.541448
1658	20124.1	62.8063	204.026	0.51579
1659	20141.8	64.8152	198.585	0.49062
1660	20160	66.3389	193.89	0.470779
1661	20178.6	68.0097	189.477	0.458125
1662	20197.7	69.6355	185.183	0.445801
1663	20217.3	71.2175	180.979	0.433734
1664	20237.3	72.7566	176.881	0.42196
1665	20257.7	74.2539	172.894	0.410496
1666	20278.5	75.7106	169.017	0.399338
1667	20299.8	77.1277	165.247	0.388477
1668	20321.4	78.5062	161.578	0.377904
1669	20343.4	79.8302	113.246	0.282642
1670	20365.6	79.8519	0	-5.86E-02
1671	20387.7	79.6412	0	-5.85E-02
1672	20409.7	77.8741	-319.239	-0.977599
1673	20430.8	73.8817	-337.73	-1.12126
1674	20450.8	69.8182	-356.23	-1.1354
1675	20469.6	65.7053	-367.854	-1.14872
1676	20487.2	61.5459	-369.848	-1.16123
1677	20503.8	57.9152	-198.772	-0.689862
1678	20519.7	56.8513	0	-0.114597
1679	20535.4	56.4177	0	-0.125567
1680	20551	55.9448	0	-0.136433
1681	20566.5	55.4331	0	-0.146909
1682	20581.8	54.9043	0	-0.146779
1683	20597	54.3039	0	-0.178016
1684	20612	53.6574	0	-0.180923
1685	20626.8	53.0006	0	-0.183788
1686	20641.4	52.3335	0	-0.186613
1687	20655.9	51.6583	0	-0.189397
1688	20670.1	51.0228	0	-0.174729
1689	20684.2	50.3942	0	-0.174503
1690	20698.1	49.7654	0	-0.174278
1691	20711.9	49.1394	0	-0.174055

ALSTOM

00012646

1692	20725.4	48.5132	0	-0.173835
1693	20738.8	47.8679	0	-0.173616
1694	20752	47.2633	0	-0.1734
1695	20765.1	46.6394	0	-0.173186
1696	20777.9	46.0164	0	-0.172973
1697	20790.6	45.3941	0	-0.172763
1698	20803.2	44.7725	0	-0.172555
1699	20815.5	44.1517	0	-0.172349
1700	20827.7	43.5376	0	-0.1668
1701	20839.7	43.281	164.102	0.21975
1702	20852	45.179	286.499	0.627824
1703	20864.8	47.3899	273.569	0.602716
1704	20878.3	49.5144	261.145	0.579547
1705	20892.1	48.3148	-369.844	-1.18726
1706	20904.9	44.0617	-369.845	-1.17653
1707	20918.6	39.8456	-369.846	-1.16679
1708	20927.1	35.6627	-369.85	-1.15802
1709	20938.4	31.5097	-369.851	-1.15021
1710	20944.6	27.4222	-369.851	-1.12752
1711	20951.6	23.3786	-369.852	-1.12014
1712	20957.6	19.3596	-369.852	-1.11393
1713	20962.4	15.3598	-369.852	-1.1098
1714	20966.1	11.3664	-369.852	-1.10901
1715	20968.7	7.37545	-176.358	-1.10844
1716	20970.1	3.69055	-0.905663	-1.05942
1717	20970.7	1.30819	-0.321031	-0.802724
1718	20971	0	0	0
1719	20971	0	0	0
1720	20971	0	0	0
1721	20971	0	0	0
1722	20971	0	0	0
1723	20971	0	0	0
1724	20971	0	0	0
1725	20971	0	0	0
1726	20971	0	0	0
1727	20971	0	0	0
1728	20971	0	0	0
1729	20971	0	0	0
1730	20971	0	0	0
1731	20971	0	0	0
1732	20971	0	0	0
1733	20971	0	0	0
1734	20971	0	0	0
1735	20971.3	1.05963	397.182	0.269614
1736	20971.6	3.40974	397.182	0.867581
1737	20973.1	6.75217	397.181	1.04628
1738	20975.5	10.518	397.181	1.04601
1739	20978.9	14.2835	397.181	1.04598
1740	20983.4	18.0493	397.181	1.04613
1741	20988.9	21.816	397.181	1.04644
1742	20995.5	25.5841	397.182	1.04692
1743	21003.1	29.3543	397.19	1.04758
1744	21011.8	33.1114	392.814	1.03756
1745	21021.5	36.7783	367.736	0.979163
1746	21032.2	40.075	326.525	0.863948

ALSTOM

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1747	21043.8	43.0475	302.999	0.796104
1748	21056.1	45.7974	282.882	0.739182
1749	21069.2	48.3788	267.798	0.697272
1750	21083	50.8112	254.253	0.659225
1751	21097.4	53.1155	242.741	0.622738
1752	21112.5	55.2879	232.126	0.587
1753	21128.1	56.9094	0	-4.67E-02
1754	21143.9	56.7298	0	-5.27E-02
1755	21159.6	56.5286	0	-5.87E-02
1756	21175.3	56.3058	0	-6.47E-02
1757	21190.9	55.985	0	-0.102132
1758	21206.4	55.5999	0	-0.111222
1759	21221.8	55.1822	0	-0.120234
1760	21237	54.7382	0	-0.124905
1761	21252.2	54.2906	0	-0.112888
1762	21267.2	53.8845	0	-0.112715
1763	21282.1	53.479	0	-0.112563
1764	21296.9	53.0741	0	-0.112412
1765	21311.8	52.6697	0	-0.112262
1766	21326.2	52.2659	0	-0.112113
1767	21340.6	51.8638	0	-0.110176
1768	21355	51.4781	0	-0.104493
1769	21369.2	51.1128	0	-9.89E-02
1770	21383.4	50.7709	0	-9.02E-02
1771	21397.4	50.4601	0	-8.31E-02
1772	21411.4	50.145	0	-9.18E-02
1773	21425.3	49.8253	0	-8.63E-02
1774	21439.1	49.5252	0	-8.08E-02
1775	21452.8	49.2442	0	-7.61E-02
1776	21466.5	48.975	0	-7.36E-02
1777	21480	48.7384	0	-5.68E-02
1778	21493.8	49.5878	260.716	0.828022
1779	21507.7	51.8529	249.049	0.615239
1780	21522.4	54.0097	238.274	0.585225
1781	21537.7	56.0634	228.891	0.55872
1782	21553.5	56.8739	0	-5.98E-02
1783	21569.2	56.54	-169.746	-0.465958
1784	21584.8	53.3912	-369.847	-1.12937
1785	21598.8	49.3255	-369.844	-1.12938
1786	21612	45.3036	-369.845	-1.11272
1787	21624	41.3028	-369.846	-1.11019
1788	21634.9	37.3107	-369.849	-1.1079
1789	21644.7	33.3264	-369.851	-1.10584
1790	21653.4	29.3491	-369.851	-1.10402
1791	21661	25.3779	-369.852	-1.10243
1792	21667.5	21.4121	-369.852	-1.10105
1793	21672.9	17.4508	-369.852	-1.09999
1794	21677.2	13.4908	-369.852	-1.09999
1795	21680.4	9.53084	-335.264	-1.09999
1796	21682.5	5.57114	-43.3348	-1.09989
1797	21683.4	2.62049	-0.643071	-0.93877
1798	21683.9	0.241843	-5.93E-02	-0.686396
1799	21684	0	0	0
1800	21684	0	0	0
1801	21684	0	0	0





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1802	21684	0	0	0
1803	21684	0	0	0
1804	21684	0	0	0
1805	21684	0	0	0
1806	21684	0	0	0
1807	21684	0	0	0
1808	21684	0	0	0
1809	21684	0	0	0
1810	21684	0	0	0
1811	21684	0	0	0
1812	21684	0	0	0
1813	21684	0	0	0
1814	21684	0	0	0
1815	21684	0	0	0
1816	21684.5	2.11834	397.182	0.542085
1817	21685.2	4.69317	397.182	1.0543
1818	21687	8.48639	397.181	1.05347
1819	21689.9	12.2771	397.181	1.05272
1820	21693.8	16.0651	397.181	1.05195
1821	21698.8	19.8504	397.181	1.05113
1822	21704.9	23.6326	397.181	1.05025
1823	21712	27.4116	397.186	1.04932
1824	21720.1	31.1796	395.532	1.04094
1825	21729.3	34.8802	389.857	1.01738
1826	21739.4	38.3368	348.087	0.902345
1827	21750.5	41.3686	316.267	0.800682
1828	21762.4	44.1122	294.572	0.729795
1829	21776	46.6362	277.977	0.681195
1830	21788.3	49.0133	264.075	0.642602
1831	21802.2	51.2586	252.018	0.608699
1832	21816.8	53.3925	241.358	0.579008
1833	21831.9	55.4227	231.564	0.551408
1834	21847.5	57.3641	223.465	0.528726
1835	21863.7	59.2341	215.863	0.514787
1836	21880.5	61.0779	209.225	0.511343
1837	21897.7	62.9146	203.7	0.50503
1838	21915.4	64.678	192.087	0.472803
1839	21933.5	64.9933	0	-8.59E-02
1840	21951.5	64.6401	0	-0.108956
1841	21969.4	64.2044	0	-0.131807
1842	21987.1	63.6868	0	-0.154455
1843	22004.7	63.088	0	-0.17687
1844	22022.2	62.409	0	-0.199024
1845	22039.4	61.6574	0	-0.21252
1846	22056.4	60.893	0	-0.212207
1847	22073.2	60.1297	0	-0.211623
1848	22089.8	59.4089	0	-0.190064
1849	22106.2	58.7656	0	-0.168684
1850	22122.5	58.1998	0	-0.147552
1851	22138.6	57.7076	0	-0.12864
1852	22154.6	57.2914	0	-0.105921
1853	22170.4	56.9394	-190.759	-0.129636
1854	22185.7	52.9461	-369.847	-1.13523
1855	22199.8	48.8948	-369.844	-1.11704
1856	22212.9	44.9054	-369.845	-1.10029



00012649

1857	22224.8	40.9464	-369.846	-1.09999
1858	22235.6	36.9864	-369.849	-1.09999
1859	22245.3	33.0265	-369.851	-1.09999
1860	22254	29.0665	-369.851	-1.09999
1861	22261.5	25.1065	-369.852	-1.1
1862	22267.9	21.1466	-369.852	-1.09999
1863	22273.2	17.1866	-369.852	-1.09998
1864	22277.5	13.2267	-369.852	-1.09999
1865	22280.6	9.26672	-315.791	-1.09998
1866	22282.6	5.30705	-23.8646	-1.09998
1867	22283.4	2.46184	-0.604136	-0.921937
1868	22284	8.32E-02	-2.04E-02	-0.669562
1869	22284	0	0	0
1870	22284	0	0	0
1871	22284	0	0	0
1872	22284	0	0	0
1873	22284	0	0	0
1874	22284	0	0	0
1875	22284	0	0	0
1876	22284	0	0	0
1877	22284	0	0	0
1878	22284	0	0	0
1879	22284	0	0	0
1880	22284	0	0	0
1881	22284	0	0	0
1882	22284	0	0	0
1883	22284	0	0	0
1884	22284	0	0	0
1885	22284	0	0	0
1886	22284.6	2.27662	397.182	0.582334
1887	22285.3	4.94622	397.181	1.05425
1888	22287.2	8.73928	397.181	1.05342
1889	22290.1	12.5296	397.181	1.05267
1890	22294.1	16.3177	397.181	1.0519
1891	22299.2	20.1028	397.181	1.05107
1892	22305.3	23.8848	397.181	1.05019
1893	22312.5	27.6636	397.187	1.04928
1894	22320.7	31.4382	395.171	1.04447
1895	22329.9	35.1656	387.909	1.02908
1896	22340.2	38.651	344.126	0.913645
1897	22351.4	41.7465	313.295	0.82462
1898	22363.4	44.5825	290.85	0.75536
1899	22376.1	47.1885	274.747	0.699577
1900	22389.6	49.6104	260.583	0.649828
1901	22403.7	51.8639	248.994	0.606256
1902	22418.4	53.968	238.483	0.565586
1903	22433.6	55.9304	229.446	0.528246
1904	22449.4	57.7675	221.782	0.494553
1905	22465.7	59.4853	214.615	0.461866
1906	22482.5	61.0912	209.188	0.433263
1907	22499.6	62.6038	204.635	0.411251
1908	22517.2	64.0605	200.253	0.398797
1909	22535.2	65.4734	196.177	0.387103
1910	22553.6	66.8472	192.548	0.378707
1911	22572.4	68.1841	189.017	0.366583

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

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ALSTOM

00012650

1912	22591.5	69.485	185.58	0.356723
1913	22611	70.7509	182.221	0.347084
1914	22630.8	71.9826	178.942	0.337667
1915	22650.9	73.1808	162.187	0.3285
1916	22671.3	73.0659	0	-0.145427
1917	22691.5	72.5429	0	-0.145185
1918	22711.6	72.0206	0	-0.144945
1919	22731.5	71.4963	0	-0.147758
1920	22751.3	70.9609	0	-0.149396
1921	22770.9	70.4234	0	-0.149195
1922	22790.4	69.8868	0	-0.148882
1923	22809.8	69.3564	0	-0.146679
1924	22829	68.8347	0	-0.14459
1925	22848	68.3125	0	-0.145027
1926	22866.9	67.7904	0	-0.145043
1927	22885.7	67.2706	0	-0.142819
1928	22904.3	66.7504	0	-0.148934
1929	22922.8	66.2132	0	-0.149509
1930	22941.1	65.6627	0	-0.153095
1931	22959.2	65.118	0	-0.146384
1932	22977.3	64.626	0	-0.127448
1933	22995.1	64.1945	0	-0.11035
1934	23012.9	63.8252	0	-9.57E-02
1935	23030.3	60.7747	-369.848	-1.14823
1936	23046.7	56.6667	-369.849	-1.13492
1937	23061.8	52.605	-369.847	-1.12254
1938	23075.9	48.5854	-369.844	-1.11158
1939	23088.8	44.6034	-369.845	-1.10159
1940	23100.7	40.6431	-369.846	-1.09999
1941	23111.4	36.6832	-369.849	-1.09999
1942	23121	32.7232	-369.851	-1.09998
1943	23129.6	28.7632	-369.851	-1.09999
1944	23137	24.8033	-369.852	-1.1
1945	23143.4	20.8433	-369.852	-1.09999
1946	23148.6	16.8834	-369.852	-1.09999
1947	23152.7	12.9234	-369.852	-1.09998
1948	23155.8	8.96345	-293.433	-1.09998
1949	23157.7	5.00383	-1.50941	-1.09988
1950	23158.4	2.27967	-0.559432	-0.902609
1951	23159	0	0	0
1952	23159	0	0	0
1953	23159	0	0	0
1954	23159	0	0	0
1955	23159	0	0	0
1956	23159	0	0	0
1957	23159	0	0	0
1958	23159	0	0	0
1959	23159	0	0	0
1960	23159	0	0	0
1961	23159	0	0	0
1962	23159	0	0	0
1963	23159	0	0	0
1964	23159	0	0	0
1965	23159	0	0	0
1966	23159	0	0	0

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00012851

1967	23159	0	0	0
1968	23159	9.81E-02	397.182	2.51E-02
1969	23159.8	2.45821	397.182	0.628548
1970	23160.4	5.23677	397.181	1.05418
1971	23162.4	9.02965	397.181	1.05336
1972	23165.4	12.82	397.181	1.05261
1973	23169.5	16.6077	397.181	1.05183
1974	23174.6	20.3925	397.181	1.05101
1975	23180.8	24.1743	397.181	1.05012
1976	23188.1	27.9528	397.187	1.04912
1977	23196.3	31.7029	394.796	1.03275
1978	23205.7	35.3663	385.538	1.00315
1979	23216	38.7277	343.16	0.874692
1980	23227.1	41.6649	313.942	0.775831
1981	23239.1	44.3141	292.974	0.70232
1982	23251.7	46.7192	277.492	0.641928
1983	23265	48.9227	264.605	0.585912
1984	23278.9	50.9324	253.647	0.535389
1985	23293.3	52.7743	244.446	0.491101
1986	23308.2	54.4601	236.024	0.448416
1987	23323.5	55.9977	229.165	0.409294
1988	23339.3	57.425	223.211	0.388671
1989	23355.4	58.7982	217.482	0.374381
1990	23372	60.1171	212.116	0.359445
1991	23388.8	61.391	208.284	0.34892
1992	23406.1	62.6268	204.566	0.338221
1993	23423.6	63.8262	200.958	0.328603
1994	23441.5	64.9902	197.461	0.318649
1995	23459.7	66.1208	194.467	0.310025
1996	23478.2	67.2048	191.603	0.295144
1997	23497.1	68.2493	188.844	0.282739
1998	23516.2	69.2525	186.195	0.27503
1999	23535.5	70.0784	0	-9.85E-02
2000	23554.9	69.279	0	-0.221907
2001	23574	68.4883	0	-0.218126
2002	23592.9	67.7033	0	-0.216954
2003	23611.6	66.9244	0	-0.215796
2004	23630.1	66.1497	0	-0.214652
2005	23648.4	65.3784	0	-0.21408
2006	23666.4	64.6102	0	-0.209465
2007	23684.3	63.9005	0	-0.186193
2008	23701.9	63.274	0	-0.163198
2009	23719.4	62.7298	0	-0.140448
2010	23736.8	62.2672	0	-0.117913
2011	23754	61.8853	0	-9.56E-02
2012	23771.2	61.5836	0	-7.34E-02
2013	23788.3	61.3616	0	-5.13E-02
2014	23805.3	61.2178	0	-3.21E-02
2015	23822.3	61.1022	0	-3.21E-02
2016	23839.2	60.9426	-351.351	-0.238393
2017	23855.6	60.7084	-369.849	-1.09999
2018	23870.9	60.4885	-369.847	-1.09999
2019	23885.1	60.2885	-369.844	-1.09999
2020	23898.2	60.1085	-369.845	-1.1
2021	23910.2	60.1685	-369.846	-1.09999

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

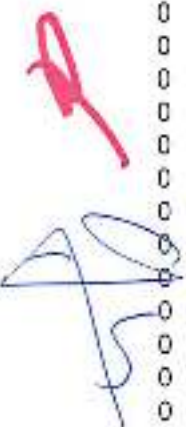


00012052

2022	23921	37.2086	-368.849	-1.09999
2023	23930.8	33.2487	-369.851	-1.09999
2024	23939.5	29.2887	-369.851	-1.09999
2025	23947.1	25.3287	-369.852	-1.1
2026	23953.6	21.3688	-369.852	-1.09999
2027	23959	17.4088	-369.852	-1.09998
2028	23963.2	13.4488	-369.852	-1.09999
2029	23968.4	9.48889	-332.171	-1.09999
2030	23968.5	5.5292	-40.2422	-1.09989
2031	23969.4	2.59529	-0.636887	-0.936096
2032	23969.9	0.216644	-5.32E-02	-0.683722
2033	23970	0	0	0
2034	23970	0	0	0
2035	23970	0	0	0
2036	23970	0	0	0
2037	23970	0	0	0
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2039	23970	0	0	0
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2053	23970	0	0	0
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2062	23970	0	0	0
2063	23970	0	0	0
2064	23970	0	0	0
2065	23970	0	0	0
2066	23970	0	0	0
2067	23970	0	0	0
2068	23970	0	0	0
2069	23970	0	0	0
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2071	23970	0	0	0
2072	23970	0	0	0
2073	23970	0	0	0
2074	23970	0	0	0
2075	23970	0	0	0
2076	23970	0	0	0

00012353

2077	23970	0	0	0	0
2078	23970	0	0	0	0
2079	23970	0	0	0	0
2080	23970	0	0	0	0
2081	23970	0	0	0	0
2082	23970	0	0	0	0
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2089	23970	0	0	0	0
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2098	23970	0	0	0	0
2099	23970	0	0	0	0
2100	23970	0	0	0	0
2101	23970	0	0	0	0
2102	23970	0	0	0	0
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2104	23970	0	0	0	0
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2110	23970	0	0	0	0
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2121	23970	0	0	0	0
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2126	23970	0	0	0	0
2127	23970	0	0	0	0
2128	23970	0	0	0	0
2129	23970	0	0	0	0
2130	23970	0	0	0	0
2131	23970	0	0	0	0



00012054

2132	23970	0	0	0
2133	23970	0	0	0
2134	23970	0	0	0
2135	23970	0	0	0
2136	23970	0	0	0
2137	23970	0	0	0
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2140	23970	0	0	0
2141	23970	0	0	0
2142	23970	0	0	0
2143	23970	0	0	0
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2177	23970	0	0	0
2178	23970	0	0	0
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2182	23970	0	0	0
2183	23970	0	0	0
2184	23970	0	0	0
2185	23970	0	0	0
2186	23970	0	0	0
2186	23970	0	0	0

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00012855

2187	23970	0	0	0
2188	23970	0	0	0
2189	23970	0	0	0
2190	23970	0	0	0
2191	23970	0	0	0
2192	23970	0	0	0
2193	23970	0	0	0
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2208	23970	0	0	0
2209	23970	0	0	0
2210	23970	0	0	0
2211	23970	0	0	0
2212	23970	0	0	0
2213	23970.6	2.14332	397.182	0.548478
2214	23971.2	4.73336	397.182	1.0543
2215	23973	8.52656	397.181	1.05346
2216	23975.9	12.3172	397.181	1.05271
2217	23979.9	16.1052	397.181	1.05194
2218	23984.9	19.8905	397.181	1.05112
2219	23990.9	23.6727	397.181	1.05024
2220	23998	27.4516	397.186	1.04931
2221	24006.2	31.2253	395.468	1.04534
2222	24015.4	34.9578	389.391	1.02994
2223	24025.6	38.4668	346.451	0.920093
2224	24036.7	41.6802	314.612	0.828269
2225	24048.7	44.439	291.986	0.765619
2226	24061.4	47.0969	275.283	0.718057
2227	24074.8	49.6028	260.628	0.677364
2228	24088.9	51.9731	248.448	0.643056
2229	24103.7	54.2274	237.187	0.611681
2230	24119	56.3751	227.59	0.584545
2231	24136	58.4333	219.004	0.560489
2232	24151.6	60.4353	211.159	0.555874
2233	24168.6	62.4454	205.112	0.560699
2234	24186.2	64.474	199.01	0.566073
2235	24204.4	66.5248	193.4	0.573368
2236	24223.2	68.5968	153.954	0.532795
2237	24242.3	69.137	-37.2748	0
2238	24261.5	69.137	-46.4487	0
2239	24280.7	69.137	-53.6925	0
2240	24299.9	69.137	-53.6925	0
2241	24319.1	69.137	-53.6925	0





00012656

2242	24338.4	69.137	-53.6925	0
2243	24357.6	69.137	-53.6925	0
2244	24376.8	69.137	-51.3785	0
2245	24396	69.137	-51.0668	0
2246	24415.2	69.137	-49.5208	0
2247	24434.4	69.137	-49.5238	0
2248	24453.6	69.137	-51.4201	0
2249	24472.8	69.137	-51.4201	0
2250	24492	69.137	-52.8484	0
2251	24511.2	69.137	-53.1601	0
2252	24530.4	69.137	-53.344	0
2253	24549.6	69.137	-53.6925	0
2254	24568.8	69.137	-53.6925	0
2255	24588	69.137	-53.6925	0
2256	24607.1	68.0203	-349.645	-0.757587
2257	24625.6	64.7189	-369.848	-0.941328
2258	24643.1	61.2669	-369.848	-0.963876
2259	24659.6	57.776	-369.849	-0.9851
2260	24675.2	54.1942	-369.848	-1.00318
2261	24689.7	50.5498	-369.845	-1.02027
2262	24703.3	46.8433	-369.845	-1.03738
2263	24715.7	43.0776	-369.845	-1.05319
2264	24727.2	39.2573	-369.847	-1.06768
2265	24737.6	35.3874	-369.851	-1.08081
2266	24746.8	31.4727	-369.851	-1.09256
2267	24755	27.5204	-369.851	-1.09999
2268	24762.1	23.5605	-369.852	-1.09999
2269	24768.1	19.6005	-369.852	-1.09999
2270	24773	15.6406	-369.852	-1.09999
2271	24776.8	11.6806	-369.852	-1.09999
2272	24779.5	7.72088	-201.809	-1.09996
2273	24781.1	3.9118	-0.959957	-1.07578
2274	24781.6	1.53315	-0.378235	-0.823403
2275	24782	0	0	0
2276	24782	0	0	0
2277	24782	0	0	0
2278	24782	0	0	0
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2287	24782	0	0	0
2288	24782	0	0	0
2289	24782	0	0	0
2290	24782	0	0	0
2291	24782	0	0	0
2292	24782.2	0.838194	397.182	0.214495
2293	24782.8	3.19628	397.182	0.817933
2294	24783.6	6.42747	397.181	1.05392
2295	24786.2	10.2195	397.181	1.05313
2296	24789.6	14.009	397.181	1.05237

ALSTOM

00012657

2297	24794	17.7958	397.181	1.05158
2298	24799.5	21.5797	397.181	1.05073
2299	24806	25.3605	397.181	1.04983
2300	24813.5	29.138	397.19	1.04888
2301	24822.2	32.8988	393.113	1.03844
2302	24831.8	36.5781	370.26	0.986174
2303	24842.4	39.898	328.516	0.870083
2304	24853.9	42.8869	304.27	0.80277
2305	24866.3	45.6768	283.588	0.753808
2306	24879.3	48.3262	268.094	0.720905
2307	24893.1	50.863	253.994	0.691974
2308	24907.6	53.3097	241.771	0.669131
2309	24922.7	55.6781	230.498	0.649059
2310	24938.5	57.9861	220.869	0.634304
2311	24954.9	60.2313	211.772	0.614568
2312	24971.9	62.4307	205.156	0.604792
2313	24989.6	64.5975	198.638	0.599516
2314	25007.8	66.7244	192.872	0.583236
2315	25026.7	68.8039	187.379	0.572283
2316	25046	70.7003	75.8752	0.314251
2317	25065.7	70.886	-25.5437	0
2318	25085.4	70.886	-25.9122	0
2319	25105.1	70.886	-26.1909	0
2320	25124.8	70.886	-26.6504	0
2321	25144.5	70.886	-24.8436	0
2322	25164.2	70.886	-24.806	0
2323	25183.9	70.886	-24.8115	0
2324	25203.6	70.886	-25.5597	0
2325	25223.3	70.886	-26.1795	0
2326	25242.9	70.886	-26.3329	0
2327	25262.6	70.886	-26.4863	0
2328	25282.3	70.886	-26.6397	0
2329	25302	70.886	-26.6504	0
2330	25321.7	70.886	-26.8504	0
2331	25341.4	70.886	-26.6504	0
2332	25361.1	70.886	-26.8504	0
2333	25380.8	70.886	-26.6504	0
2334	25400.5	70.886	-26.8504	0
2335	25420.2	70.886	-26.6504	0
2336	25439.9	70.886	-26.8504	0
2337	25459.5	70.886	-22.6545	0
2338	25479.2	70.0395	-273.799	-0.650241
2339	25498.2	66.6272	-365.249	-1.03172
2340	25516.2	62.8863	-369.848	-1.04561
2341	25533.1	59.0969	-369.849	-1.0587
2342	25549	55.2619	-369.849	-1.07097
2343	25563.8	51.3842	-369.845	-1.0824
2344	25577.6	47.4668	-369.844	-1.093
2345	25590.2	43.5147	-369.845	-1.09999
2346	25601.7	39.5547	-369.846	-1.1
2347	25612.2	35.5948	-369.85	-1.09999
2348	25621.5	31.6348	-369.851	-1.09999
2349	25629.7	27.6748	-369.851	-1.09999
2350	25636.9	23.7149	-369.852	-1.09999
2351	25642.9	19.7549	-369.852	-1.09999

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00012358

2352	25647.8	15.795	-389.852	-1.09999
2353	25651.7	11.835	-389.852	-1.09999
2354	25654.4	7.87507	-213.192	-1.09999
2355	25656	4.00454	-0.982716	-1.08562
2356	25656.6	1.62589	-0.398994	-0.833243
2357	25657	0	0	0
2358	25657	0	0	0
2359	25657	0	0	0
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2368	25657	0	0	0
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2370	25657	0	0	0
2371	25657	0	0	0
2372	25657	0	0	0
2373	25657	0	0	0
2374	25657.2	0.746255	397.182	0.190968
2375	25657.8	3.10434	397.182	0.794408
2376	25658.9	6.27955	397.181	1.05395
2377	25661.1	10.0717	397.181	1.05318
2378	25664.4	13.8613	397.181	1.0524
2379	25668.8	17.6482	397.181	1.05161
2380	25674.2	21.4323	397.181	1.05077
2381	25680.7	25.2132	397.181	1.04986
2382	25688.2	28.9908	397.19	1.04892
2383	25696.8	32.7531	393.318	1.03904
2384	25706.4	36.4399	372.003	0.991016
2385	25717	39.7785	329.939	0.874324
2386	25728.5	42.7727	305.174	0.803144
2387	25740.8	45.5753	284.181	0.759654
2388	25753.8	48.2577	268.494	0.732936
2389	25767.6	50.8496	254.06	0.710173
2390	25782	53.3742	241.449	0.693727
2391	25797.2	55.8437	229.807	0.680455
2392	25813.1	58.2777	219.653	0.672452
2393	25829.6	60.686	210.404	0.667305
2394	25846.8	63.0911	190.032	0.668904
2395	25864.5	64	-53.4643	0
2396	25882.3	64	-54.519	0
2397	25900	64	-54.519	0
2398	25917.8	64	-49.3	0
2399	25935.6	64	-40.8078	0
2400	25953.4	64	-32.3156	0
2401	25971.2	64	-23.8234	0
2402	25988.9	64	-15.3312	0
2403	26006.7	64	-6.83899	0
2404	26024.5	63.9989	0	-3.17E-03
2405	26042.3	63.9473	0	-2.11E-02
2406	26060	63.8791	0	-1.23E-02

3352

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



00012659

2407	26077.8	63.8652	0	3.68E-03
2408	26095.5	63.8992	0	1.09E-02
2409	26113.2	62.986	-303.728	-0.761204
2410	26130.2	59.3522	-369.849	-1.05585
2411	26146.2	55.5511	-369.849	-1.05585
2412	26161.1	51.7501	-369.846	-1.05584
2413	26174.9	47.949	-369.844	-1.05584
2414	26187.7	44.1312	-369.845	-1.05568
2415	26199.4	40.2738	-369.846	-1.07625
2416	26210.1	36.3801	-369.85	-1.08584
2417	26219.6	32.4537	-369.851	-1.09444
2418	26228.1	28.4996	-369.851	-1.09999
2419	26235.5	24.5397	-369.852	-1.09999
2420	26241.7	20.5797	-369.852	-1.09999
2421	26246.9	16.6197	-369.852	-1.09999
2422	26251	12.6598	-369.852	-1.09998
2423	26253.9	8.69984	-273.998	-1.09997
2424	26255.8	4.74025	-1.18326	-1.09985
2425	26256.5	2.12132	-0.520573	-0.885808
2426	26257	0	0	0
2427	26257	0	0	0
2428	26257	0	0	0
2429	26257	0	0	0
2430	26257	0	0	0
2431	26257	0	0	0
2432	26257	0	0	0
2433	26257	0	0	0
2434	26257	0	0	0
2435	26257	0	0	0
2436	26257	0	0	0
2437	26257	0	0	0
2438	26257	0	0	0
2439	26257	0	0	0
2440	26257	0	0	0
2441	26257	0	0	0
2442	26257	0	0	0
2443	26257.1	0.265106	397.182	6.53E-02
2444	26257.6	2.61319	397.182	0.66872
2445	26258.5	5.48934	397.181	1.05413
2446	26260.6	9.28205	397.181	1.05331
2447	26263.6	13.0722	397.181	1.05256
2448	26267.8	16.8597	397.181	1.05178
2449	26273	20.6444	397.181	1.05095
2450	26279.3	24.4259	397.181	1.05008
2451	26286.6	28.2042	397.188	1.04912
2452	26294.9	31.9735	394.415	1.04286
2453	26304.3	35.691	381.444	1.01726
2454	26314.7	39.1153	338.272	0.897421
2455	26328	42.168	309.96	0.815381
2456	26338.1	44.9816	287.738	0.749661
2457	26351	47.5013	272.918	0.679275
2458	26364.5	49.8685	259.086	0.638024
2459	26378.7	52.0952	247.838	0.603341
2460	26393.4	54.2045	228.901	0.570879
2461	26408.7	54.8848	0	-6.40E-02

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



00012660

2462	26423.9	54.6725	0	-5.90E-02
2463	26439	54.4804	0	-5.89E-02
2464	26454.1	54.2486	0	-5.88E-02
2465	26469.2	54.0382	0	-5.71E-02
2466	26484.2	53.844	0	-5.12E-02
2467	26499.1	53.6709	0	-4.54E-02
2468	26514	53.5187	0	-3.96E-02
2469	26528.8	53.3874	0	-3.38E-02
2470	26543.6	53.2825	0	-2.45E-02
2471	26558.4	53.2083	0	-1.73E-02
2472	26573.2	53.1139	0	-2.61E-02
2473	26587.9	53.031	0	-2.04E-02
2474	26602.7	52.9687	0	-1.47E-02
2475	26617.4	52.9157	0	-1.60E-02
2476	26632.1	52.856	0	-4.21E-03
2477	26646.7	52.8408	0	-4.21E-03
2478	26661.4	52.8257	0	-4.20E-03
2479	26676.1	52.8106	0	-4.19E-03
2480	26690.7	52.7955	0	-4.19E-03
2481	26705.4	52.7804	0	-4.18E-03
2482	26720.1	52.7639	0	-3.17E-03
2483	26734.7	52.7308	0	-1.18E-02
2484	26749.4	52.6774	0	-1.75E-02
2485	26764	52.6186	0	-7.61E-03
2486	26778.6	52.5863	0	-1.02E-02
2487	26793.2	52.5448	0	-1.27E-02
2488	26807.8	52.494	0	-1.53E-02
2489	26822.4	52.4341	0	-1.78E-02
2490	26836.9	52.3637	0	-2.18E-02
2491	26851.5	52.2747	0	-2.73E-02
2492	26866	52.172	0	-2.86E-02
2493	26880.3	50.1734	-369.844	-1.1
2494	26893.7	48.2134	-369.845	-1.09999
2495	26906	42.2535	-369.846	-1.09999
2496	26917.2	38.2935	-369.848	-1.09999
2497	26927.3	34.3335	-369.851	-1.09999
2498	26938.2	30.3736	-369.851	-1.1
2499	26944.1	26.4136	-369.851	-1.09999
2500	26950.9	22.4537	-369.852	-1.09998
2501	26956.6	18.4937	-369.852	-1.09999
2502	26961.2	14.5337	-369.852	-1.09999
2503	26964.7	10.5738	-369.852	-1.09999
2504	26967.1	6.61391	-120.213	-1.09995
2505	26968.2	3.24696	-0.796805	-1.00524
2506	26968.8	0.888306	-0.213083	-0.752863
2507	26969	0	0	0
2508	26969	0	0	0
2509	26969	0	0	0
2510	26969	0	0	0
2511	26969	0	0	0
2512	26969	0	0	0
2513	26969	0	0	0
2514	26969	0	0	0
2515	26969	0	0	0
2516	26969	0	0	0

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00012661

2517	26969	0	0	0
2518	26969	0	0	0
2519	26969	0	0	0
2520	26969	0	0	0
2521	26969	0	0	0
2522	26969	0	0	0
2523	26969	0	0	0
2524	26969.4	1.49729	397.182	0.383158
2525	26969.9	3.85538	397.182	0.986596
2526	26971.5	7.48757	397.181	1.05368
2527	26974	11.279	397.181	1.05292
2528	26977.7	15.0677	397.181	1.05216
2529	26982.4	18.8573	397.181	1.05379
2530	26988.2	22.659	397.181	1.05774
2531	26995	26.4765	397.184	1.08252
2532	27002.9	30.2904	396.766	1.03851
2533	27011.8	34.0114	391.547	1.02936
2534	27021.8	37.6092	357.261	0.951863
2535	27032.7	40.83	320.549	0.853373
2536	27044.4	43.7891	297.13	0.795921
2537	27057	46.559	278.428	0.750727
2538	27070.3	49.1944	263.016	0.716296
2539	27084.3	51.7682	249.472	0.704402
2540	27099	54.2608	237.02	0.682065
2541	27114.4	56.565	124.728	0.441068
2542	27130.2	56.921	-21.2703	0
2543	27146.1	56.921	-21.2703	0
2544	27161.9	56.921	-21.2703	0
2545	27177.7	56.921	-21.2703	0
2546	27193.5	56.921	-21.2703	0
2547	27209.3	56.921	-21.2703	0
2548	27225.1	56.921	-21.2703	0
2549	27240.9	56.921	-21.2703	0
2550	27256.7	56.921	-21.2703	0
2551	27272.5	56.921	-21.2703	0
2552	27288.4	56.921	-21.2703	0
2553	27304.2	56.921	-21.2703	0
2554	27320	56.921	-21.2703	0
2555	27335.8	56.921	-21.2703	0
2556	27351.6	56.921	-21.2703	0
2557	27367.4	56.921	-27.8703	0
2558	27383.2	56.921	-26.5999	0
2559	27399	56.921	-23.6776	0
2560	27414.8	56.921	-20.7554	0
2561	27430.7	57.3543	164.236	0.438435
2562	27448.9	59.5305	214.427	0.613535
2563	27463.7	61.6764	207.425	0.581665
2564	27481.2	63.7137	201.297	0.551893
2565	27499.1	65.6452	195.723	0.523158
2566	27517.6	67.4782	190.881	0.498241
2567	27536.6	69.2463	186.211	0.48484
2568	27556.1	70.9689	181.646	0.471737
2569	27576	72.6409	177.189	0.458931
2570	27596.4	73.4612	0	-1.95E-02
2571	27616.8	73.3912	0	-1.94E-02

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00012662

2572	27637.2	73.3212	0	-1.94E-02
2573	27657.5	73.2514	0	-1.94E-02
2574	27677.8	73.1817	0	-1.93E-02
2575	27698.2	73.1122	0	-1.93E-02
2576	27718.5	73.0427	0	-1.93E-02
2577	27738.7	72.9734	0	-1.92E-02
2578	27759	72.9042	0	-1.92E-02
2579	27779.2	72.1127	-323.074	-0.84927
2580	27798.7	68.3147	-360.479	-1.08806
2581	27817.2	64.3783	-369.848	-1.09815
2582	27834.5	60.786	-234.275	-0.718847
2583	27851.2	59.6764	0	-4.83E-02
2584	27867.7	59.4854	0	-5.73E-02
2585	27884.2	59.2622	0	-6.62E-02
2586	27900.7	59.0069	0	-7.51E-02
2587	27917	58.7198	0	-8.39E-02
2588	27933.3	58.3145	0	-0.118903
2589	27949.4	57.8809	0	-0.121812
2590	27965.4	57.4368	0	-0.124694
2591	27981.3	56.9825	0	-0.127549
2592	27997.1	56.544	0	-0.115562
2593	28012.7	56.1283	0	-0.115402
2594	28028.3	55.7132	0	-0.115242
2595	28043.7	55.2986	0	-0.115083
2596	28059	54.8846	0	-0.114926
2597	28074.2	54.4712	0	-0.114769
2598	28089.2	54.0583	0	-0.114613
2599	28104.2	53.646	0	-0.114459
2600	28119.1	53.2342	0	-0.114305
2601	28133.8	52.823	0	-0.114152
2602	28148.4	52.4124	0	-0.114
2603	28162.9	52.0023	0	-0.11385
2604	28177.3	51.5927	0	-0.1137
2605	28191.6	51.1837	0	-0.113551
2606	28205.7	50.7752	0	-0.113403
2607	28219.8	50.3672	0	-0.113256
2608	28233.7	49.9618	0	-0.110724
2609	28247.5	49.5747	0	-0.104803
2610	28261.2	49.2087	0	-9.89E-02
2611	28274.9	48.8638	0	-9.31E-02
2612	28288.4	48.5398	0	-8.73E-02
2613	28301.8	48.2395	0	-7.04E-02
2614	28315.2	48.0096	0	-6.00E-02
2615	28328.2	44.9408	-369.845	-1.12497
2616	28340.1	40.9053	-369.846	-1.1477
2617	28350.9	36.8948	-369.849	-1.11112
2618	28360.6	32.9067	-369.851	-1.10521
2619	28369.2	28.9383	-369.851	-1.1005
2620	28376.7	24.9782	-369.852	-1.1
2621	28383.1	21.0192	-369.852	-1.09999
2622	28388.4	17.0582	-369.852	-1.09998
2623	28392.6	13.0983	-369.852	-1.09999
2624	28395.7	9.13833	-306.326	-1.09998
2625	28397.6	5.17869	-14.4006	-1.09987
2626	28398.4	2.38472	-0.585211	-0.913754

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



09012663

2627	28398	6.07E-03	-1.49E-03	-0.66138
2628	28399	0	0	0
2629	28399	0	0	0
2630	28399	0	0	0
2631	28399	0	0	0
2632	28399	0	0	0
2633	28399	0	0	0
2634	28399	0	0	0
2635	28399	0	0	0
2636	28399	0	0	0
2637	28399	0	0	0
2638	28399	0	0	0
2639	28399	0	0	0
2640	28399	0	0	0
2641	28399	0	0	0
2642	28399	0	0	0
2643	28399	0	0	0
2644	28399	0	0	0
2645	28399.6	2.35207	397.182	0.601899
2646	28400.4	5.06923	397.181	1.05422
2647	28402.3	8.86221	397.181	1.0634
2648	28405.3	12.6526	397.181	1.05265
2649	28409.3	16.4404	397.181	1.05187
2650	28414.4	20.2254	397.181	1.05104
2651	28420.5	24.0073	397.181	1.05016
2652	28427.7	27.786	397.187	1.04923
2653	28436	31.558	395	1.04397
2654	28445.2	35.2851	386.582	1.02716
2655	28455.5	38.7567	342.793	0.90995
2656	28466.7	41.8424	312.537	0.822519
2657	28478.8	44.6814	290.067	0.760308
2658	28491.5	47.3286	273.928	0.717069
2659	28505	49.8385	259.25	0.680237
2660	28519.2	52.2281	247.174	0.650322
2661	28534	54.516	235.745	0.622785
2662	28549.5	56.7126	226.182	0.600198
2663	28565.5	58.8346	217.33	0.580052
2664	28582.2	60.8879	209.797	0.563279
2665	28599.4	62.8924	203.767	0.551132
2666	28617.1	64.8542	197.866	0.539496
2667	28635.4	66.7724	192.745	0.526142
2668	28654.2	68.6396	187.813	0.511994
2669	28673.5	70.4566	183.004	0.498193
2670	28693.3	72.1229	85.6566	0.2744
2671	28713.4	72.283	-1.3352	0
2672	28733.5	72.283	-1.3352	0
2673	28753.6	72.283	-1.3352	0
2674	28773.6	72.283	-1.3352	0
2675	28793.7	72.283	-1.3352	0
2676	28813.8	72.283	-1.3352	0
2677	28833.9	72.283	-1.3352	0
2678	28854	72.2827	0	-2.03E-04
2679	28874	72.2818	0	-2.73E-04
2680	28894.1	72.2808	0	-2.42E-04
2681	28914.2	72.2814	0	1.39E-03



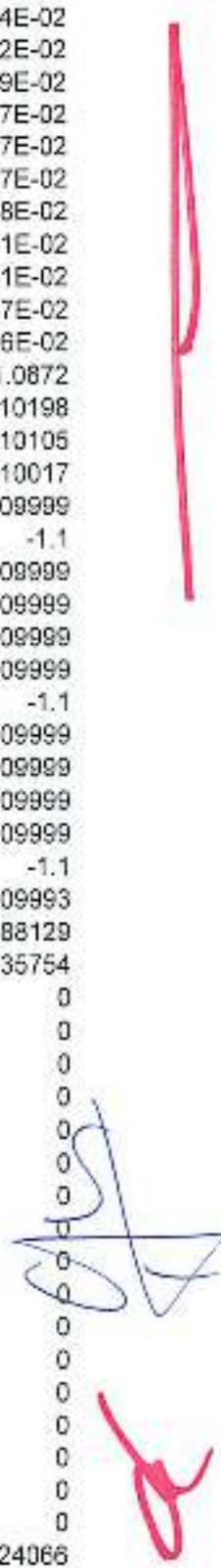
ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



00012604

2682	28934.3	72.283	-1.01821	0
2683	28954.4	72.283	-1.14857	0
2684	28974.4	72.283	-1.27893	0
2685	28994.5	72.283	0	-8.54E-05
2686	29014.6	72.2719	0	-5.83E-03
2687	29034.7	72.2399	0	-1.16E-02
2688	29054.7	72.1871	0	-1.74E-02
2689	29074.8	72.1135	0	-2.32E-02
2690	29094.8	72.0191	0	-2.89E-02
2691	29114.8	71.9041	0	-3.47E-02
2692	29134.7	71.773	0	-3.67E-02
2693	29154.8	71.641	0	-3.67E-02
2694	29174.5	71.4843	0	-4.48E-02
2695	29194.4	71.3168	0	-5.01E-02
2696	29214.1	71.1362	0	-5.01E-02
2697	29233.9	70.964	0	-4.37E-02
2698	29253.6	70.8068	0	-4.36E-02
2699	29273.2	69.7211	-356.504	-1.0872
2700	29292	65.7524	-367.721	-1.10198
2701	29309.7	61.787	-369.848	-1.10105
2702	29326.3	57.8249	-369.849	-1.10017
2703	29341.8	53.8649	-369.848	-1.09999
2704	29356.2	49.9049	-369.844	-1.1
2705	29369.6	45.945	-369.845	-1.09999
2706	29381.8	41.985	-369.848	-1.09999
2707	29392.9	38.025	-369.848	-1.09999
2708	29402.9	34.0651	-369.851	-1.09999
2709	29411.8	30.1051	-369.851	-1.1
2710	29419.6	25.1452	-369.851	-1.09999
2711	29428.3	22.1852	-369.852	-1.09999
2712	29431.9	18.2252	-369.852	-1.09999
2713	29436.5	14.2653	-369.852	-1.09999
2714	29439.9	10.3053	-369.852	-1.1
2715	29442.2	8.3455	-100.424	-1.09993
2716	29443.3	3.0857	-0.757234	-0.988129
2717	29443.8	0.707053	-0.173511	-0.735754
2718	29444	0	0	0
2719	29444	0	0	0
2720	29444	0	0	0
2721	29444	0	0	0
2722	29444	0	0	0
2723	29444	0	0	0
2724	29444	0	0	0
2725	29444	0	0	0
2726	29444	0	0	0
2727	29444	0	0	0
2728	29444	0	0	0
2729	29444	0	0	0
2730	29444	0	0	0
2731	29444	0	0	0
2732	29444	0	0	0
2733	29444	0	0	0
2734	29444	0	0	0
2735	29444.4	1.85715	397.182	0.424066
2736	29445	4.01524	397.182	1.0275



ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



00012665

2737	29446.6	7.74467	397.181	1.05363
2738	29449.3	11.5359	397.181	1.05287
2739	29453	15.3245	397.181	1.0521
2740	29457.8	19.1103	397.181	1.05129
2741	29463.6	22.8931	397.181	1.05043
2742	29470.5	26.6728	397.184	1.04951
2743	29478.4	30.4489	396.56	1.04813
2744	29487.4	34.1928	391.292	1.0331
2745	29497.4	37.7783	355.129	0.944164
2746	29508.3	40.9623	319.502	0.841817
2747	29520.1	43.8679	296.506	0.77813
2748	29532.7	46.5619	278.412	0.726746
2749	29546	49.0981	263.579	0.685559
2750	29560	51.4941	250.841	0.649721
2751	29574.6	53.7718	239.463	0.618023
2752	29589.8	55.9399	229.406	0.58983
2753	29605.7	58.0159	220.745	0.565368
2754	29622	60.0066	212.448	0.542092
2755	29639	61.9255	206.676	0.52535
2756	29656.4	63.7864	201.078	0.509439
2757	29674.4	65.5912	195.866	0.494484
2758	29692.9	67.3461	191.23	0.481197
2759	29711.8	69.0544	186.718	0.469943
2760	29731.2	70.7454	182.235	0.469591
2761	29751.1	72.4357	177.735	0.469477
2762	29771.5	74.126	173.235	0.469653
2763	29792.3	75.8176	168.733	0.470112
2764	29813.6	77.5113	164.226	0.470849
2765	29835.4	79.2081	159.711	0.471853
2766	29857.5	80	-18.359	0
2767	29879.8	80	-18.359	0
2768	29902	80	-18.359	0
2769	29924.2	80	-17.2396	0
2770	29946.4	80	-10.8705	0
2771	29968.6	80	-4.50133	0
2772	29990.9	79.9977	0	-4.28E-03
2773	30013.1	79.9502	0	-2.14E-02
2774	30035.3	79.841	0	-3.85E-02
2775	30057.4	79.6704	0	-5.55E-02
2776	30079.5	79.4608	0	-6.84E-02
2777	30101.6	79.2508	0	-8.3E-02
2778	30123.6	79.0412	0	-9.82E-02
2779	30145.5	78.8319	0	-1.14E-01
2780	30167.4	78.623	0	-1.31E-01
2781	30189.2	78.4145	0	-1.49E-01
2782	30210.9	78.2084	0	-1.68E-01
2783	30232.6	77.9986	0	-1.87E-01
2784	30254.3	77.7912	0	-2.07E-01
2785	30275.8	77.5841	0	-2.28E-01
2786	30297.4	77.3774	0	-2.49E-01
2787	30318.8	77.1711	0	-2.71E-01
2788	30340.2	76.9651	0	-2.93E-01
2789	30361.6	76.7595	0	-3.16E-01
2790	30382.9	76.5542	0	-3.39E-01
2791	30404.1	76.3493	0	-3.63E-01

ALSTOM

00012000

2792	30425.3	76.1448	0	-5.68E-02
2793	30446.4	75.9405	0	-5.67E-02
2794	30467.5	75.7367	0	-5.66E-02
2795	30488.5	75.5332	0	-5.65E-02
2796	30509.4	75.33	0	-5.64E-02
2797	30530.3	75.1272	0	-5.63E-02
2798	30551.2	74.9247	0	-5.62E-02
2799	30572	74.7226	0	-5.61E-02
2800	30592.7	74.5208	0	-5.80E-02
2801	30613.4	74.3184	0	-5.59E-02
2802	30634	74.1183	0	-5.58E-02
2803	30654.5	73.9119	0	-5.73E-02
2804	30675	73.7076	0	-5.56E-02
2805	30695.5	73.5075	0	-5.55E-02
2806	30715.9	73.3072	0	-5.56E-02
2807	30736.2	73.1074	0	-5.54E-02
2808	30756.5	72.9083	0	-5.53E-02
2809	30776.7	72.7096	0	-5.52E-02
2810	30796.9	72.5112	0	-5.51E-02
2811	30817	72.3131	0	-5.50E-02
2812	30837.1	72.1153	0	-5.49E-02
2813	30857.1	71.9179	0	-5.48E-02
2814	30877	71.7207	0	-5.50E-02
2815	30896.9	71.5155	0	-5.88E-02
2816	30916.8	71.2968	0	-6.25E-02
2817	30936.5	71.0647	0	-6.62E-02
2818	30956.2	70.8193	0	-6.99E-02
2819	30975.9	70.5606	0	-7.36E-02
2820	30995.4	70.2887	0	-7.73E-02
2821	31014.9	70.0037	0	-8.09E-02
2822	31034.3	69.7125	0	-8.08E-02
2823	31053.6	69.4218	0	-8.07E-02
2824	31072.9	69.1315	0	-8.06E-02
2825	31092.1	68.8417	0	-8.04E-02
2826	31111.2	69.1355	186.504	0.421905
2827	31130.6	70.535	182.53	0.411122
2828	31150.4	72.0939	178.645	0.399967
2829	31170.6	73.5135	174.866	0.390015
2830	31191.2	74.9098	171.148	0.385963
2831	31212	73.1987	-340.894	-1.13081
2832	31231.8	69.1399	-358.147	-1.12445
2833	31250.4	65.1034	-369.555	-1.11846
2834	31267.9	61.0878	-369.848	-1.11281
2835	31284.4	57.0919	-369.849	-1.10753
2836	31299.7	53.1143	-369.847	-1.1026
2837	31313.9	49.152	-369.844	-1.09999
2838	31327	45.1921	-369.845	-1.1
2839	31339	41.2321	-369.846	-1.09999
2840	31349.9	37.2721	-369.849	-1.09999
2841	31359.7	33.3122	-369.851	-1.09999
2842	31368.4	29.3522	-369.851	-1.09999
2843	31376	25.3923	-369.852	-1.1
2844	31382.5	21.4323	-369.852	-1.09999
2845	31387.9	17.4723	-369.852	-1.09998
2846	31392.2	13.5124	-369.852	-1.09999

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



00012687

2847	31395.4	9.55242	-336.855	-1.09999
2848	31397.4	5.59272	-44.9252	-1.09989
2849	31398.4	2.63345	-0.646251	-0.940145
2850	31398.9	0.254805	-6.25E-02	-0.687771
2851	31399	0	0	0
2852	31399	0	0	0
2853	31399	0	0	0
2854	31399	0	0	0
2855	31399	0	0	0
2856	31399	0	0	0
2857	31399	0	0	0
2858	31399	0	0	0
2859	31399	0	0	0
2860	31399	0	0	0
2861	31399	0	0	0
2862	31399	0	0	0
2863	31399	0	0	0
2864	31399	0	0	0
2865	31399	0	0	0
2866	31399	0	0	0
2867	31399	0	0	0
2868	31399.5	2.10549	397.182	0.538797
2869	31400.2	4.87249	397.182	1.05431
2870	31402	8.46573	397.181	1.05347
2871	31404.9	12.2564	397.181	1.05272
2872	31408.8	16.0445	397.181	1.05196
2873	31413.8	19.8298	397.181	1.05113
2874	31419.8	23.612	397.181	1.05026
2875	31426.9	27.391	397.186	1.04933
2876	31435	31.1651	395.553	1.04559
2877	31444.2	34.8984	389.815	1.03018
2878	31454.4	38.4137	347.118	0.921943
2879	31465.5	41.5324	314.99	0.829316
2880	31477.5	44.3948	292.335	0.766586
2881	31490.2	46.9728	276.008	0.6886
2882	31503.5	49.3705	261.986	0.645848
2883	31517.6	51.627	250.177	0.610657
2884	31532.2	53.7147	239.748	0.561546
2885	31547.4	55.6837	230.475	0.534571
2886	31563.1	56.8924	0	-5.98E-02
2887	31578.9	56.8773	0	-5.97E-02
2888	31594.6	56.4645	0	-5.69E-02
2889	31610.2	56.263	0	-5.52E-02
2890	31625.8	56.018	0	-6.96E-02
2891	31641.4	55.7675	0	-6.96E-02
2892	31656.8	55.5173	0	-6.95E-02
2893	31672.2	55.2642	0	-7.17E-02
2894	31687.5	55.02	0	-5.91E-02
2895	31702.8	54.8074	0	-5.90E-02
2896	31718	54.5952	0	-5.89E-02
2897	31733.1	54.3828	0	-5.94E-02
2898	31748.2	54.1652	0	-6.13E-02
2899	31763.2	53.9409	0	-6.32E-02
2900	31778.2	53.7524	0	-4.82E-02
2901	31793.1	53.5815	0	-4.69E-02

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00012668

2902	31807.9	53.4151	0	-4.56E-02
2903	31822.7	53.2534	0	-4.44E-02
2904	31837.5	53.0961	0	-4.31E-02
2905	31852.2	52.9393	25.013	-3.20E-02
2906	31867.1	54.1974	237.336	0.594193
2907	31882.4	58.2828	227.975	0.567556
2908	31898.3	58.2811	219.639	0.544202
2909	31914.8	60.1993	211.869	0.523515
2910	31931.8	62.0577	208.278	0.509826
2911	31949.2	63.8678	200.833	0.496604
2912	31967.2	65.6316	195.759	0.484361
2913	31985.7	67.3421	191.241	0.461282
2914	32004.6	68.9382	187.025	0.427229
2915	32024	70.4126	183.122	0.393576
2916	32043.7	71.7665	179.517	0.360259
2917	32063.9	72.9967	176.242	0.324945
2918	32084.3	74.1008	173.302	0.29016
2919	32105	75.0808	170.693	0.25595
2920	32126	75.9508	168.378	0.235121
2921	32147.2	76.772	166.193	0.221543
2922	32168.6	77.5833	164.034	0.235121
2923	32190.3	77.734	0	-0.179353
2924	32211.8	77.146	0	-0.147342
2925	32233.1	76.6771	0	-0.115881
2926	32254.4	76.3136	0	-8.74E-02
2927	32275.5	76.0522	0	-5.91E-02
2928	32296.8	75.8879	0	-3.86E-02
2929	32317.7	75.749	0	-3.86E-02
2930	32338.7	75.6103	0	-3.85E-02
2931	32359.7	75.4718	0	-3.84E-02
2932	32380.6	75.3202	0	-4.24E-02
2933	32401.5	75.1631	0	-4.48E-02
2934	32422.4	75.002	0	-4.47E-02
2935	32443.2	74.8481	0	-4.16E-02
2936	32464	74.6992	0	-3.98E-02
2937	32484.7	74.5561	0	-4.00E-02
2938	32505.4	74.4121	0	-4.00E-02
2939	32526.1	74.2678	0	-4.02E-02
2940	32546.7	74.1329	0	-3.15E-02
2941	32567.2	74.0416	0	-1.51E-02
2942	32587.8	74.0369	0	1.13E-02
2943	32608.4	74.1275	0	3.78E-02
2944	32629	74.3219	0	6.82E-02
2945	32649.7	74.6302	0	9.87E-02
2946	32670.5	75.034	0	0.124306
2947	32691.4	75.519	0	0.137805
2948	32712.4	76.0242	0	0.141499
2949	32733.6	76.5163	0	0.125989
2950	32754.9	76.923	0	0.100008
2951	32776.2	75.0846	-332.156	-0.988552
2952	32796.5	71.4736	-348.888	-1.01533
2953	32815.9	67.8121	-361.9	-1.02666
2954	32834.2	64.0746	-369.848	-1.04778
2955	32851.5	60.2406	-369.849	-1.08079
2956	32867.6	56.3137	-369.849	-1.09948

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00012300

2957	32882.7	52.3217	-369.846	-1.11628
2958	32896.7	48.345	-369.844	-1.09999
2959	32909.6	44.385	-369.845	-1.09999
2960	32921.4	40.4159	-369.846	-1.1032
2961	32932.1	36.4463	-369.85	-1.10226
2962	32941.6	32.4798	-369.851	-1.10142
2963	32950.1	28.5149	-369.851	-1.10152
2964	32957.5	24.5471	-369.852	-1.10145
2965	32963.7	20.5871	-369.852	-1.09999
2966	32968.9	16.6272	-369.852	-1.09999
2967	32973	12.6672	-369.852	-1.09998
2968	32975.9	8.70725	-274.544	-1.09997
2969	32977.8	4.74766	-1.16508	-1.09985
2970	32978.5	2.12577	-0.521668	-0.88628
2971	32979	0	0	0
2972	32979	0	0	0
2973	32979	0	0	0
2974	32979	0	0	0
2975	32979	0	0	0
2976	32979	0	0	0
2977	32979	0	0	0
2978	32979	0	0	0
2979	32979	0	0	0
2980	32979	0	0	0
2981	32979	0	0	0
2982	32979	0	0	0
2983	32979	0	0	0
2984	32979	0	0	0
2985	32979	0	0	0
2986	32979	0	0	0
2987	32979	0	0	0
2988	32979.1	0.250993	397.182	6.42E-02
2989	32979.6	2.60878	397.182	0.687591
2990	32980.5	5.48224	397.181	1.05413
2991	32982.5	9.27496	397.181	1.05331
2992	32985.6	13.0651	397.181	1.05256
2993	32989.8	16.8526	397.181	1.05178
2994	32995	20.6373	397.181	1.05095
2995	33001.3	24.4189	397.181	1.05006
2996	33008.6	28.1972	397.188	1.04913
2997	33016.9	31.9665	394.425	1.04228
2998	33026.3	35.5393	383.358	0.97378
2999	33036.6	38.7907	342.365	0.845508
3000	33047.8	41.6276	314.237	0.74585
3001	33059.7	44.1807	294.03	0.676066
3002	33072.3	46.4904	278.829	0.615303
3003	33085.5	48.6032	266.473	0.562589
3004	33099.3	50.568	188.494	0.407725
3005	33113.4	50.5507	0	-0.171907
3006	33127.4	49.9019	0	-0.187389
3007	33141.1	49.1978	0	-0.202641
3008	33154.7	48.4392	0	-0.217648
3009	33168	47.6431	0	-0.221424
3010	33181.2	46.8465	0	-0.221149
3011	33194.1	46.0509	0	-0.220878

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00012670

3012	33206.8	45.2562	0	-0.22061
3013	33219.2	44.4626	0	-0.220345
3014	33231.5	43.6698	0	-0.220083
3015	33243.5	43.5997	234.529	0.345723
3016	33255.9	45.5128	284.547	0.548492
3017	33268.8	47.4267	273.354	0.517443
3018	33282.2	49.2325	262.793	0.488151
3019	33296.1	50.8169	148.191	0.233453
3020	33310.2	50.273	0	-0.222351
3021	33324.1	49.4731	0	-0.222066
3022	33337.7	48.6742	0	-0.221784
3023	33351.1	47.8763	0	-0.221505
3024	33364.3	47.0794	0	-0.221229
3025	33377.3	46.2835	0	-0.220957
3026	33390	45.4886	0	-0.220688
3027	33402.5	44.7484	0	-0.199726
3028	33414.9	44.0362	0	-0.196254
3029	33427	43.3757	73.5729	-6.07E-02
3030	33439.2	44.5543	291.073	0.597973
3031	33451.8	46.6383	277.976	0.56406
3032	33465.1	48.6112	266.427	0.535123
3033	33478.8	50.4791	255.912	0.505623
3034	33493.1	52.2516	247.057	0.480976
3035	33507.8	53.9378	238.634	0.457525
3036	33523	55.5424	231.064	0.438184
3037	33538.7	57.0781	224.658	0.418251
3038	33554.8	58.5508	218.514	0.401047
3039	33571.2	59.9629	212.63	0.384545
3040	33588.1	61.3237	206.486	0.372549
3041	33605.3	62.6433	204.517	0.361276
3042	33622.9	63.923	200.667	0.350337
3043	33640.8	65.164	196.994	0.339819
3044	33659.1	66.37	193.809	0.330696
3045	33677.7	67.5435	190.709	0.321812
3046	33696.6	68.6856	187.692	0.313161
3047	33715.8	69.797	184.756	0.304738
3048	33735.3	70.8784	181.881	0.29649
3049	33755.2	71.9305	179.08	0.288447
3050	33775.3	72.9541	176.355	0.280517
3051	33795.7	73.9498	173.704	0.272996
3052	33816.4	74.9186	171.125	0.265578
3053	33837.3	75.861	168.617	0.258361
3054	33858.5	76.7778	166.178	0.251337
3055	33880	77.6697	163.804	0.244501
3056	33901.7	78.5373	161.496	0.237847
3057	33923.6	79.3813	159.25	0.231371
3058	33945.8	79.2468	0	-0.198227
3059	33967.8	79.1338	0	-0.197876
3060	33989.7	78.4221	0	-0.197528
3061	34011.4	77.7057	0	-0.200496
3062	34032.9	76.9781	0	-0.203601
3063	34054.2	76.2393	0	-0.206671
3064	34075.3	75.4896	0	-0.209705
3065	34096.1	74.729	0	-0.212702
3066	34116.8	73.9576	0	-0.215863

3364

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00012671

3067	34137.2	73.1764	0	-0.217557
3068	34157.4	72.4363	65.1793	-8.13E-02
3069	34177.6	73.1067	176.949	0.256896
3070	34198	74.0079	173.549	0.2466
3071	34218.7	74.8771	171.235	0.238255
3072	34239.6	75.7226	168.985	0.231814
3073	34260.8	76.5495	166.785	0.227592
3074	34282.2	77.3593	164.63	0.222476
3075	34303.8	78.1496	162.527	0.216852
3076	34325.6	78.9197	160.478	0.211243
3077	34347.8	79.6676	158.488	0.204481
3078	34369.8	79.6455	0	-0.223106
3079	34391.8	78.8425	0	-0.223024
3080	34413.6	78.0411	0	-0.221853
3081	34435.2	77.2431	0	-0.221466
3082	34458.5	76.4468	0	-0.221084
3083	34477.6	75.6514	0	-0.220705
3084	34498.5	74.8575	0	-0.220329
3085	34519.2	74.0651	0	-0.219957
3086	34539.7	73.2739	0	-0.219588
3087	34559.9	72.4874	28.2928	-0.182699
3088	34580.1	72.9777	176.292	0.255894
3089	34600.5	73.8858	173.875	0.248945
3090	34621.1	74.7692	171.523	0.242181
3091	34642	75.6286	169.236	0.2356
3092	34663.1	76.4646	167.011	0.229197
3093	34684.5	77.3028	164.781	0.240299
3094	34706.1	78.1995	162.395	0.25708
3095	34727.9	79.1562	159.849	0.273677
3096	34750.1	79.955	0	-0.133547
3097	34772.2	79.1142	-232.01	-0.696452
3098	34793.7	75.4014	-330.689	-1.14518
3099	34814.2	72.4211	-128.621	-0.452367
3100	34834.2	71.8911	0	-6.58E-02
3101	34854.1	71.6545	0	-8.67E-02
3102	34874	71.4102	0	-7.09E-02
3103	34893.8	71.151	0	-7.30E-02
3104	34913.5	70.8531	0	-8.43E-02
3105	34933.2	70.5454	0	-8.65E-02
3106	34952.7	70.2295	0	-8.89E-02
3107	34972.2	69.9179	0	-8.05E-02
3108	34991.6	69.6427	0	-7.29E-02
3109	35010.9	69.3947	0	-6.53E-02
3110	35030.1	69.1739	0	-5.78E-02
3111	35049.3	68.9801	0	-5.03E-02
3112	35068.4	68.8133	0	-4.28E-02
3113	35087.5	68.675	0	-2.95E-02
3114	35106.6	68.5689	0	-1.89E-02
3115	35125.6	68.4075	-360.217	-0.595877
3116	35144.1	64.4989	-369.848	-1.08952
3117	35161.5	60.5735	-369.849	-1.09066
3118	35177.7	56.6413	-369.849	-1.09365
3119	35192.9	52.7061	-369.847	-1.09094
3120	35207	48.7744	-369.844	-1.09313
3121	35220	44.8351	-369.845	-1.09516





00013372

3122	35231.9	40.8889	-369.846	-1.09701
3123	35242.7	36.9363	-369.849	-1.09869
3124	35252.5	32.978	-369.851	-1.10016
3125	35261.1	29.0178	-369.851	-1.09999
3126	35268.6	25.0578	-369.852	-1.1
3127	35275	21.0979	-369.852	-1.09999
3128	35280.3	17.1379	-369.852	-1.09998
3129	35284.5	13.1779	-369.852	-1.09999
3130	35287.6	9.21799	-312.198	-1.09998
3131	35289.6	5.25833	-20.2724	-1.09988
3132	35290.4	2.43257	-0.596953	-0.918831
3133	35291	5.39E-02	-1.32E-02	-0.686456
3134	35291	0	0	0
3135	35291	0	0	0
3136	35291	0	0	0
3137	35291	0	0	0
3138	35291	0	0	0
3139	35291	0	0	0
3140	35291	0	0	0
3141	35291	0	0	0
3142	35291	0	0	0
3143	35291	0	0	0
3144	35291	0	0	0
3145	35291	0	0	0
3146	35291	0	0	0
3147	35291	0	0	0
3148	35291	0	0	0
3149	35291	0	0	0
3150	35291	0	0	0
3151	35291.6	2.30464	397.182	0.58976
3152	35292.3	4.99291	397.181	1.05424
3153	35294.2	8.78594	397.181	1.05341
3154	35297.2	12.5764	397.181	1.05268
3155	35301.2	16.3643	397.181	1.05189
3156	35306.3	20.1493	397.181	1.05108
3157	35312.4	23.9313	397.181	1.05018
3158	35319.6	27.71	397.187	1.04925
3159	35327.8	31.4824	395.106	1.04428
3160	35337	35.2111	387.495	1.02863
3161	35347.3	38.6908	343.625	0.911648
3162	35358.5	41.7765	313.058	0.821185
3163	35370.5	44.6068	290.659	0.756837
3164	35383.3	47.2141	274.597	0.687032
3165	35398.7	49.6031	260.628	0.643611
3166	35410.8	51.8461	249.083	0.606251
3167	35425.5	53.962	238.513	0.57175
3168	35440.8	55.9583	229.329	0.540586
3169	35458.6	57.8875	221.364	0.524304
3170	35472.9	59.7077	213.688	0.499631
3171	35489.7	61.468	208.052	0.481155
3172	35507.1	63.1723	202.925	0.466588
3173	35524.8	64.8251	197.953	0.452452
3174	35543.1	66.4299	193.65	0.440046
3175	35561.7	67.2909	0	-8.27E-02
3176	35580.3	68.9933	0	-8.26E-02

ALSTOM

00012673

3177	35598.9	66.7087	0	-7.12E-02
3178	35617.4	66.4578	0	-6.83E-02
3179	35635.8	66.2173	0	-6.55E-02
3180	35654.2	65.987	0	-6.26E-02
3181	35672.6	65.7657	0	-6.11E-02
3182	35690.7	65.546	0	-6.10E-02
3183	35708.9	65.3267	0	-6.09E-02
3184	35727	65.1077	0	-6.08E-02
3185	35745.1	64.9314	67.2445	7.61E-02
3186	35763.3	66.2654	194.085	0.462313
3187	35781.9	67.906	189.751	0.449888
3188	35801	69.5026	185.534	0.437787
3189	35820.5	71.0562	181.408	0.425946
3190	35840.5	72.5677	177.384	0.414384
3191	35860.7	71.5822	-348.385	-1.13436
3192	35880	87.4909	-362.808	-1.13897
3193	35898.2	63.6933	-250.828	-0.79464
3194	35915.6	62.3433	0	-5.90E-02
3195	35932.9	62.0582	0	-8.27E-02
3196	35950.1	61.7413	0	-9.34E-02
3197	35967.2	61.3874	0	-0.10268
3198	35984.2	60.9999	0	-0.112074
3199	36001.1	60.5362	0	-0.133872
3200	36017.8	60.036	0	-0.143604
3201	36034.4	59.4996	0	-0.153772
3202	36050.9	58.938	0	-0.167267
3203	36067.2	58.4027	0	-0.145599
3204	36083.3	57.8789	0	-0.145392
3205	36099.3	57.3559	0	-0.145187
3206	36115.2	56.8447	0	-0.133253
3207	36130.9	56.4139	0	-0.107781
3208	36146.5	56.0743	0	-8.25E-02
3209	36162.1	55.8254	0	-5.74E-02
3210	36177.6	55.6666	0	-3.24E-02
3211	36193	55.5974	0	-7.56E-03
3212	36208.5	55.6169	0	1.50E-02
3213	36223.9	55.6899	0	2.49E-02
3214	36239.4	55.7987	0	3.48E-02
3215	36254.9	55.9326	0	3.35E-02
3216	36270.5	56.0243	0	1.84E-02
3217	36286	56.0619	0	3.39E-03
3218	36301.6	56.0453	0	-1.16E-02
3219	36317.2	55.9781	0	-1.42E-02
3220	36332.7	55.9034	0	-2.65E-02
3221	36348.2	55.7855	0	-3.66E-02
3222	36363.7	55.6576	-281.008	-3.93E-02
3223	36378.6	51.7613	-369.846	-1.10131
3224	36392.5	47.8002	-369.844	-1.09999
3225	36406.2	43.8402	-369.845	-1.09999
3226	36416.8	39.8803	-369.846	-1.1
3227	36427.3	35.9203	-369.85	-1.09999
3228	36436.8	31.9604	-369.851	-1.09999
3229	36445.1	28.0004	-369.851	-1.09999
3230	36452.3	24.0404	-369.852	-1.09999
3231	36458.5	20.0805	-369.852	-1.09999



00012674

3232	36463.5	15.1205	-369.852	-1.09999
3233	36467.4	12.1606	-369.852	-1.09998
3234	36470.2	8.20062	-237.193	-1.09997
3235	36472	4.2411	-1.04077	-1.09982
3236	36472.8	1.82144	-0.446983	-0.853991
3237	36473	0	0	0
3238	36473	0	0	0
3239	36473	0	0	0
3240	36473	0	0	0
3241	36473	0	0	0
3242	36473	0	0	0
3243	36473	0	0	0
3244	36473	0	0	0
3245	36473	0	0	0
3246	36473	0	0	0
3247	36473	0	0	0
3248	36473	0	0	0
3249	36473	0	0	0
3250	36473	0	0	0
3251	36473	0	0	0
3252	36473	0	0	0
3253	36473	0	0	0
3254	36473.1	0.55239	397.182	0.141357
3255	36473.7	2.91048	397.182	0.744795
3256	36474.7	5.96764	397.181	1.05402
3257	36476.9	9.76004	397.181	1.05322
3258	36480.1	13.5499	397.181	1.05247
3259	36484.4	17.337	397.181	1.05168
3260	36489.7	21.1213	397.181	1.05084
3261	36496.1	24.9025	397.181	1.04994
3262	36503.6	28.6803	397.189	1.049
3263	36512.1	32.4457	393.751	1.04031
3264	36521.6	36.1466	375.7	1.00129
3265	36532.1	39.5176	333.201	0.883368
3266	36543.5	42.5349	307.056	0.807338
3267	36555.7	45.3219	285.663	0.74666
3268	36568.7	47.9282	270.421	0.704556
3269	36582.3	50.3872	256.371	0.665124
3270	36596.7	52.7188	244.723	0.632678
3271	36611.6	54.9369	233.642	0.601805
3272	36627.2	57.0542	224.757	0.576809
3273	36643.3	59.0844	216.288	0.552876
3274	36660	61.0291	175.283	0.487434
3275	36677	61.4638	0	-3.57E-02
3276	36694.1	61.3352	0	-3.57E-02
3277	36711.1	61.2067	0	-3.57E-02
3278	36728.1	61.073	0	-3.86E-02
3279	36745	60.9384	0	-3.94E-02
3280	36762	60.7912	0	-4.23E-02
3281	36778.8	60.6336	0	-4.52E-02
3282	36795.6	60.4655	0	-4.80E-02
3283	36812.4	60.2867	0	-5.11E-02
3284	36829.1	60.0967	0	-5.43E-02
3285	36845.8	57.7241	-369.849	-1.12576
3286	36861.1	53.6689	-369.848	-1.12172

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00012375

3287	36875.6	51.1241	-82.6405	-0.334335
3288	36889.7	50.789	0	-5.52E-02
3289	36903.8	50.5906	0	-5.51E-02
3290	36917.8	50.3925	0	-5.50E-02
3291	36931.8	50.1946	0	-5.49E-02
3292	36945.7	49.9969	0	-5.49E-02
3293	36959.6	49.7154	0	-9.35E-02
3294	36973.3	49.372	0	-9.70E-02
3295	36987	49.016	0	-0.100469
3296	37000.6	48.6477	0	-0.103899
3297	37014	48.2671	0	-0.107298
3298	37027.4	47.9072	0	-9.09E-02
3299	37040.6	47.5803	0	-9.08E-02
3300	37053.8	47.2538	0	-9.06E-02
3301	37066.9	46.9277	0	-9.05E-02
3302	37079.9	46.602	0	-9.04E-02
3303	37092.8	46.2787	0	-9.03E-02
3304	37105.6	45.9535	0	-8.67E-02
3305	37118.3	45.6783	0	-6.77E-02
3306	37131	45.471	0	-4.89E-02
3307	37143.6	45.3313	0	-3.02E-02
3308	37156.2	45.2588	0	-1.16E-02
3309	37168.7	45.2533	0	7.04E-03
3310	37181.3	45.3148	0	2.56E-02
3311	37193.9	45.478	0	5.60E-02
3312	37206.6	45.7212	0	7.73E-02
3313	37219.3	46.0402	0	9.82E-02
3314	37232.2	46.4333	0	0.118564
3315	37245.1	46.8977	0	0.135629
3316	37258.2	47.3995	0	0.144994
3317	37271.4	47.8124	0	0.11302
3318	37284.8	48.2123	0	0.109381
3319	37298.2	48.599	0	0.105717
3320	37311.8	48.9724	0	0.102029
3321	37325.4	49.3326	0	9.83E-02
3322	37339.2	49.7373	0	0.115714
3323	37353.1	50.1536	0	0.115566
3324	37367.1	50.5693	0	0.115416
3325	37381.2	50.9117	-42.7877	0
3326	37395.3	50.9117	-42.7877	0
3327	37409.4	50.9117	-42.7877	0
3328	37423.6	50.9117	-42.7877	0
3329	37437.7	50.9117	-42.7877	0
3330	37451.9	50.9117	-42.7877	0
3331	37466	50.9117	-37.9559	0
3332	37480.2	50.9117	-31.2004	0
3333	37494.3	50.9117	-24.4449	0
3334	37508.4	50.9117	-17.6894	0
3335	37522.6	50.9117	-10.9339	0
3336	37536.7	50.9117	-4.17834	0
3337	37550.8	50.0571	-262.853	-0.637994
3338	37564.3	46.5747	-389.845	-1.07244
3339	37578.7	42.6888	-389.845	-1.08514
3340	37588	38.7593	-389.847	-1.09674
3341	37598.2	34.7908	-369.851	-1.10553



00012676

3342	37607.3	30.8157	-369.851	-1.10314
3343	37615.3	26.8488	-369.851	-1.10103
3344	37622.2	22.888	-369.852	-1.09999
3345	37628	18.9281	-369.852	-1.09999
3346	37632.7	14.9681	-369.852	-1.09999
3347	37636.3	11.0082	-369.852	-1.09999
3348	37638.8	7.04826	-152.235	-1.09996
3349	37640.2	3.50788	-0.860835	-1.03292
3350	37640.7	1.12923	-0.277113	-0.780547
3351	37641	0	0	0
3352	37641	0	0	0
3353	37641	0	0	0
3354	37641	0	0	0
3355	37641	0	0	0
3356	37641	0	0	0
3357	37641	0	0	0
3358	37641	0	0	0
3359	37641	0	0	0
3360	37641	0	0	0
3361	37641	0	0	0
3362	37641	0	0	0
3363	37641	0	0	0
3364	37641	0	0	0
3365	37641	0	0	0
3366	37641	0	0	0
3367	37641	0	0	0
3368	37641.3	1.23862	397.182	0.316966
3369	37641.9	3.59671	397.182	0.920404
3370	37643.2	7.07156	397.181	1.05377
3371	37645.7	10.8632	397.181	1.053
3372	37649.2	14.8523	397.181	1.05224
3373	37653.8	18.4386	397.181	1.05144
3374	37659.5	22.222	397.181	1.05058
3375	37666.2	26.0022	397.183	1.04967
3376	37673.9	29.7791	397.191	1.04872
3377	37682.7	33.5323	392.222	1.03582
3378	37692.6	37.1713	362.781	0.965402
3379	37703.3	40.4224	323.775	0.853662
3380	37715	43.3688	300.456	0.789065
3381	37727.4	46.0981	281.136	0.734311
3382	37740.6	48.6582	266.152	0.692086
3383	37754.4	51.0703	252.958	0.65232
3384	37768.9	53.3519	241.56	0.617758
3385	37784.1	55.5126	231.189	0.58659
3386	37799.8	57.5687	222.611	0.558524
3387	37816	59.5294	214.431	0.532454
3388	37832.8	61.4036	208.246	0.511355
3389	37850.1	63.2022	202.835	0.490405
3390	37867.9	64.9328	197.629	0.472129
3391	37886.2	66.6028	193.193	0.45752
3392	37904.9	68.2274	188.902	0.447453
3393	37924.1	69.8133	184.713	0.434909
3394	37943.7	71.357	180.607	0.42333
3395	37963.7	72.8596	176.607	0.412046
3396	37984.2	74.3221	172.713	0.400953

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00012677

3397	38005	74.839	0	-8.52E-02
3398	38025.7	74.6047	0	-6.51E-02
3399	38046.4	74.3707	0	-6.49E-02
3400	38067	74.1371	0	-6.48E-02
3401	38087.6	73.9039	0	-6.47E-02
3402	38108.1	73.671	0	-6.46E-02
3403	38128.5	73.4386	0	-6.45E-02
3404	38148.9	73.2066	0	-6.44E-02
3405	38169.2	72.9749	0	-6.43E-02
3406	38189.4	72.7437	0	-6.42E-02
3407	38209.6	72.5128	0	-6.41E-02
3408	38229.7	72.2823	0	-6.40E-02
3409	38249.8	72.0522	0	-6.39E-02
3410	38269.7	71.8225	0	-6.38E-02
3411	38289.7	71.5931	0	-6.37E-02
3412	38309.5	71.3641	0	-6.36E-02
3413	38329.3	71.1355	0	-6.35E-02
3414	38349	70.9073	0	-6.33E-02
3415	38368.7	70.6794	0	-6.32E-02
3416	38388.3	70.4519	0	-6.31E-02
3417	38407.8	70.2248	0	-6.30E-02
3418	38427.3	69.9981	0	-6.29E-02
3419	38446.7	69.7717	0	-6.28E-02
3420	38466.1	69.5457	0	-6.27E-02
3421	38485.4	69.32	0	-6.26E-02
3422	38504.6	69.0947	0	-6.24E-02
3423	38523.8	68.8771	0	-5.86E-02
3424	38542.9	68.6732	0	-5.49E-02
3425	38561.6	65.735	-367.77	-1.11591
3426	38579.3	61.7242	-369.848	-1.11249
3427	38595.9	57.7254	-369.849	-1.10928
3428	38611.4	53.7378	-369.848	-1.1063
3429	38625.8	49.7605	-369.844	-1.10353
3430	38639.1	45.7928	-369.845	-1.10097
3431	38651.2	41.8323	-369.846	-1.09999
3432	38662.3	37.8723	-369.848	-1.09999
3433	38672.3	33.9124	-369.851	-1.09999
3434	38681.1	29.9524	-369.851	-1.1
3435	38688.9	25.9925	-369.851	-1.09999
3436	38695.6	22.0325	-369.852	-1.09999
3437	38701.1	18.0725	-369.852	-1.09998
3438	38705.6	14.1126	-369.852	-1.09999
3439	38709	10.1526	-369.852	-1.1
3440	38711.2	6.19283	-89.1682	-1.09992
3441	38712.3	2.99398	-0.734725	-0.978397
3442	38712.9	0.615331	-0.151003	-0.726023
3443	38713	0	0	0
3444	38713	0	0	0
3445	38713	0	0	0
3446	38713	0	0	0
3447	38713	0	0	0
3448	38713	0	0	0
3449	38713	0	0	0
3450	38713	0	0	0
3451	38713	0	0	0

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00012678

3452	38713	0	0	0
3453	38713	0	0	0
3454	38713	0	0	0
3455	38713	0	0	0
3456	38713	0	0	0
3457	38713	0	0	0
3458	38713	0	0	0
3459	38713	0	0	0
3460	38713.4	1.74808	397.182	0.447335
3461	38714	4.10617	397.182	1.05077
3462	38715.7	7.89091	397.181	1.0536
3463	38718.4	11.682	397.181	1.05284
3464	38722.2	15.4705	397.181	1.05207
3465	38727	19.2562	397.181	1.05126
3466	38732.8	23.039	397.181	1.05039
3467	38739.8	26.8185	397.185	1.04947
3468	38747.7	30.5943	396.366	1.04776
3469	38756.8	34.3361	391.091	1.0325
3470	38786.8	37.9085	353.487	0.939608
3471	38777.8	41.0787	318.581	0.839265
3472	38789.6	43.9753	295.656	0.775776
3473	38802.2	46.6624	277.823	0.725112
3474	38815.5	49.1929	263.025	0.68402
3475	38829.5	51.584	250.392	0.648411
3476	38844.2	53.852	239.062	0.614047
3477	38859.4	56.0009	229.152	0.583106
3478	38875.3	58.0482	220.61	0.556113
3479	38891.7	60.0004	212.497	0.530115
3480	38908.6	61.8707	206.841	0.510504
3481	38926	63.6727	201.42	0.491725
3482	38944	65.4082	196.349	0.47372
3483	38962.4	67.0827	191.926	0.457486
3484	38981.2	68.7022	187.648	0.443855
3485	39000.5	70.2774	183.482	0.4319
3486	39020.3	71.81	179.401	0.420181
3487	39040.4	73.3002	175.434	0.407952
3488	39061	74.3364	0	-6.58E-02
3489	39081.6	74.0999	0	-6.56E-02
3490	39102.1	73.8567	0	-6.47E-02
3491	39122.6	73.6335	0	-6.47E-02
3492	39143	73.4008	0	-6.45E-02
3493	39163.4	73.1688	0	-6.44E-02
3494	39183.7	72.9372	0	-6.43E-02
3495	39203.9	72.706	0	-6.42E-02
3496	39224.1	72.4752	0	-6.41E-02
3497	39244.2	72.2448	0	-6.40E-02
3498	39264.2	72.0147	0	-6.39E-02
3499	39284.2	71.785	0	-6.37E-02
3500	39304.1	71.5557	0	-6.36E-02
3501	39323.9	71.3268	0	-6.35E-02
3502	39343.7	71.0983	0	-6.34E-02
3503	39363.4	70.8701	0	-6.33E-02
3504	39383.1	70.6421	0	-6.41E-02
3505	39402.7	70.3876	0	-7.66E-02
3506	39422.2	70.0883	0	-8.90E-02

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00012679

3507	39441.6	69.7443	0	-0.101382
3508	39480.9	69.3561	0	-0.113642
3509	39480.1	68.9239	0	-0.125811
3510	39499.2	68.4481	0	-0.137879
3511	39518.2	67.9297	0	-0.147865
3512	39536.8	65.5314	-368.346	-1.19951
3513	39554.4	61.2415	-369.848	-1.18478
3514	39570.9	57.0028	-369.849	-1.17104
3515	39586.1	52.9156	-308.499	-0.972199
3516	39600.5	50.9594	-15.2282	-0.171205
3517	39614.8	50.7135	0	-6.26E-02
3518	39628.7	50.5111	0	-5.07E-02
3519	39642.7	50.3512	0	-3.90E-02
3520	39656.6	50.2333	0	-2.79E-02
3521	39670.6	50.1329	0	-2.79E-02
3522	39684.5	49.9187	0	-6.75E-02
3523	39698.3	49.6687	0	-7.11E-02
3524	39712.1	49.405	0	-7.46E-02
3525	39725.7	49.1308	0	-7.81E-02
3526	39739.4	48.8429	0	-8.16E-02
3527	39752.9	48.5947	0	-8.41E-02
3528	39766.4	48.3642	0	-6.40E-02
3529	39779.8	48.1339	0	-6.39E-02
3530	39793.1	47.9039	0	-6.38E-02
3531	39806.4	47.6743	0	-6.38E-02
3532	39819.6	47.4449	0	-6.37E-02
3533	39832.7	47.2158	0	-6.36E-02
3534	39845.8	47.0015	0	-4.46E-02
3535	39858.8	45.9744	-369.845	-1.11434
3536	39871	41.9691	-369.846	-1.11113
3537	39882.1	37.9749	-369.848	-1.10822
3538	39892.1	33.9906	-369.851	-1.1056
3539	39901	30.0152	-369.851	-1.10327
3540	39908.8	26.0477	-369.851	-1.10122
3541	39915.5	22.0835	-369.852	-1.09999
3542	39921.1	18.1285	-369.852	-1.09998
3543	39925.6	14.1696	-369.852	-1.09999
3544	39928.9	10.2066	-369.852	-1.1
3545	39931.2	6.24682	-93.1487	-1.09993
3546	39932.3	3.02642	-0.742685	-0.981838
3547	39932.8	0.647767	-0.158962	-0.729464
3548	39933	0	0	0
3549	39933	0	0	0
3550	39933	0	0	0
3551	39933	0	0	0
3552	39933	0	0	0
3553	39933	0	0	0
3554	39933	0	0	0
3555	39933	0	0	0
3556	39933	0	0	0
3557	39933	0	0	0
3558	39933	0	0	0
3559	39933	0	0	0
3560	39933	0	0	0
3561	39933	0	0	0





00012880

3562	39933	0	0	0
3563	39933	0	0	0
3564	39933	0	0	0
3565	39933.4	1.71592	397.182	0.439107
3566	39934	4.07401	397.182	1.04254
3567	39935.7	7.8392	397.181	1.05361
3568	39938.3	11.6303	397.181	1.05285
3569	39942.1	15.4189	397.181	1.05208
3570	39946.9	19.2046	397.181	1.05127
3571	39952.8	22.9874	397.181	1.0504
3572	39959.7	26.767	397.185	1.04948
3573	39967.6	30.5429	396.428	1.04789
3574	39976.6	34.2854	391.162	1.03271
3575	39986.7	37.8625	354.068	0.941219
3576	39997.6	41.0375	318.907	0.840168
3577	40009.4	43.9373	295.956	0.776608
3578	40022	46.627	278.031	0.725688
3579	40035.3	49.1593	263.221	0.684564
3580	40049.3	51.5522	250.551	0.648913
3581	40064	53.8272	239.186	0.617252
3582	40079.2	55.9927	229.186	0.589013
3583	40095.1	58.0666	220.534	0.564775
3584	40111.5	60.0551	212.302	0.541526
3585	40128.4	61.9726	206.534	0.524948
3586	40145.9	63.8321	200.941	0.509049
3587	40163.9	65.6355	195.748	0.494148
3588	40182.3	67.3892	191.116	0.48087
3589	40201.3	69.0957	186.609	0.467938
3590	40220.7	70.7564	182.206	0.455304
3591	40240.6	72.372	177.905	0.442946
3592	40260.9	73.9438	173.72	0.430914
3593	40281.7	75.4729	169.65	0.4192
3594	40302.7	74.4097	-335.283	-0.95166
3595	40322.8	70.4881	-353.454	-1.09999
3596	40341.8	66.5282	-365.529	-1.09999
3597	40359.7	62.5682	-369.848	-1.09999
3598	40376.6	58.6082	-369.849	-1.09999
3599	40392.3	54.6587	-369.849	-1.0929
3600	40407	51.4923	-173.915	-0.536327
3601	40421.2	50.9055	0	-3.43E-03
3602	40435.3	50.9099	0	5.22E-03
3603	40449.4	50.9117	-5.37177	0
3604	40463.6	50.9117	-8.58064	0
3605	40477.7	50.9117	-11.7895	0
3606	40491.9	50.9117	-0.743285	0
3607	40506	50.9117	-2.57488	0
3608	40520.2	50.9117	-4.30235	0
3609	40534.3	50.9117	-2.92507	0
3610	40548.4	50.9117	-1.5478	0
3611	40562.6	50.9117	-7.6777	0
3612	40576.7	50.9117	-7.6777	0
3613	40590.9	50.9117	-7.6777	0
3614	40605	50.9117	-7.6777	0
3615	40619.2	50.9117	-7.51408	0
3616	40633.3	50.9117	-5.31854	0

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00012631

3617	40547.4	50.9117	-3.123	0
3618	40561.6	50.9117	-0.927457	0
3619	40575.7	50.9086	0	-3.00E-03
3620	40589.9	50.8864	0	-8.90E-03
3621	40704	50.843	0	-1.48E-02
3622	40718.1	50.8133	0	-5.91E-04
3623	40732.2	50.807	0	-2.79E-03
3624	40746.3	50.7927	0	-4.98E-03
3625	40760.4	50.7707	0	-6.61E-03
3626	40774.5	50.754	0	-2.91E-03
3627	40788.6	50.7487	0	-1.08E-03
3628	40802.7	50.7449	0	-1.08E-03
3629	40816.8	50.741	0	-1.08E-03
3630	40830.9	50.7371	0	-1.08E-03
3631	40845	50.7332	0	-1.07E-03
3632	40859.1	50.7294	0	-1.07E-03
3633	40873.2	50.7255	0	-1.07E-03
3634	40887.3	50.7216	0	-1.07E-03
3635	40901.4	50.7178	0	-1.07E-03
3636	40915.5	50.714	0	-1.07E-03
3637	40929.6	50.7101	0	-1.07E-03
3638	40943.6	50.6141	0	-3.61E-02
3639	40957.7	50.478	0	-3.93E-02
3640	40971.7	50.3303	0	-4.25E-02
3641	40985.6	50.1711	0	-4.57E-02
3642	40999.5	50.0004	0	-4.89E-02
3643	41013.4	49.8657	0	-3.34E-02
3644	41027.2	49.7455	0	-3.34E-02
3645	41041	49.6254	0	-3.33E-02
3646	41054.8	49.5055	0	-3.33E-02
3647	41068.6	49.3857	0	-3.32E-02
3648	41082.3	49.2575	0	-4.23E-02
3649	41095.9	49.0663	0	-6.25E-02
3650	41109.5	48.8027	0	-8.25E-02
3651	41123	48.4673	0	-0.102369
3652	41136.4	48.0605	0	-0.122074
3653	41149.7	47.5832	0	-0.141573
3654	41162.9	47.0362	0	-0.160839
3655	41175.8	46.463	0	-0.161521
3656	41188.7	45.8508	0	-0.177303
3657	41201.3	45.1823	0	-0.192845
3658	41213.8	44.4583	0	-0.20813
3659	41226	43.7033	0	-0.208493
3660	41238	43.0006	75.2884	-6.97E-02
3661	41250.1	44.1475	294.293	0.590663
3662	41262.6	46.1925	280.572	0.551742
3663	41275.7	48.1178	269.312	0.520506
3664	41289.4	49.935	256.69	0.492906
3665	41303.5	51.6956	249.834	0.486214
3666	41318.1	53.4354	241.143	0.480875
3667	41333.2	55.1578	232.669	0.476493
3668	41348.7	56.7915	136.474	0.287441
3669	41364.5	56.515	0	-0.143156
3670	41380.1	56.0323	0	-0.126133
3671	41395.6	55.6106	0	-0.109269

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ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



00012632

3672	41411	55.2492	0	-9.25E-02
3673	41426.3	54.9526	0	-6.11E-02
3674	41441.5	54.7399	0	-5.90E-02
3675	41456.7	54.5277	0	-5.89E-02
3676	41471.8	54.3159	0	-5.86E-02
3677	41486.9	54.1043	0	-5.87E-02
3678	41501.9	53.893	0	-5.87E-02
3679	41516.8	52.2894	-369.846	-1.12937
3680	41530.7	48.2236	-369.844	-1.12937
3681	41543.6	44.1782	-369.845	-1.11392
3682	41555.3	40.173	-369.846	-1.11146
3683	41565.9	36.1762	-369.85	-1.10923
3684	41575.4	32.187	-369.851	-1.10723
3685	41583.8	28.2046	-369.851	-1.10547
3686	41591	24.2281	-369.852	-1.10395
3687	41597.2	20.2567	-369.852	-1.10266
3688	41602.3	16.2895	-369.852	-1.10158
3689	41606.3	12.3257	-369.852	-1.10075
3690	41609.1	8.36458	-249.281	-1.10013
3691	41610.9	4.40504	-1.081	-1.09983
3692	41611.5	1.91993	-0.471153	-0.864441
3693	41612	0	0	0
3694	41612	0	0	0
3695	41612	0	0	0
3696	41612	0	0	0
3697	41612	0	0	0
3698	41612	0	0	0
3699	41612	0	0	0
3700	41612	0	0	0
3701	41612	0	0	0
3702	41612	0	0	0
3703	41612	0	0	0
3704	41612	0	0	0
3705	41612	0	0	0
3706	41612	0	0	0
3707	41612	0	0	0
3708	41612	0	0	0
3709	41612	0	0	0
3710	41612.1	0.454752	397.182	0.118372
3711	41612.7	2.81284	397.182	0.71981
3712	41613.7	5.81055	397.181	1.05405
3713	41615.8	9.60305	397.181	1.05325
3714	41619	13.393	397.181	1.0525
3715	41623.2	17.1803	397.181	1.05171
3716	41628.5	20.9646	397.181	1.05088
3717	41634.8	24.746	397.181	1.04998
3718	41642.2	28.524	397.189	1.04904
3719	41650.7	32.2907	393.999	1.04095
3720	41660.2	35.998	377.574	1.0065
3721	41670.7	39.386	334.859	0.887964
3722	41682	42.4162	307.995	0.811318
3723	41694.2	45.2225	288.244	0.753192
3724	41707.1	47.8565	270.84	0.713588
3725	41720.8	50.3535	256.539	0.676979
3726	41735.1	52.7336	244.649	0.647554

3376

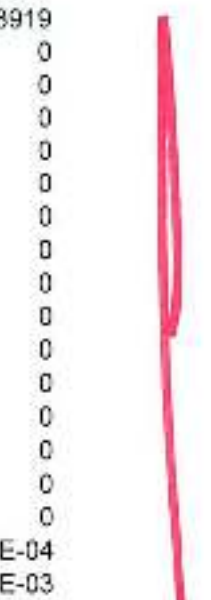
ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



00012633

3727	41750.1	55.011	233.281	0.619718
3728	41765.6	57.1994	224.152	0.597868
3729	41781.8	59.3123	215.337	0.577342
3730	41798.6	61.3578	208.384	0.561634
3731	41815.9	63.3556	202.374	0.549021
3732	41833.8	65.301	196.632	0.53277
3733	41852.2	67.0813	94.4758	0.298919
3734	41870.9	67.2183	-0.505536	0
3735	41889.5	67.2183	-0.505536	0
3736	41908.2	67.2183	-0.505536	0
3737	41926.9	67.2183	-0.505536	0
3738	41945.5	67.2183	-0.505536	0
3739	41964.2	67.2183	-0.505536	0
3740	41982.9	67.2183	-0.505536	0
3741	42001.6	67.2183	-0.505536	0
3742	42020.2	67.2183	-0.505536	0
3743	42038.9	67.2183	-0.505536	0
3744	42057.6	67.2183	-0.505536	0
3745	42076.2	67.2183	-0.505536	0
3746	42094.9	67.2183	-0.505536	0
3747	42113.6	67.2183	-0.505536	0
3748	42132.3	67.2183	-0.505536	0
3749	42150.9	67.2182	0	-3.70E-04
3750	42169.6	67.2078	0	-5.17E-03
3751	42188.1	65.0594	-369.68	-1.03394
3752	42205.6	61.1828	-389.848	-1.07976
3753	42222.1	57.2875	-389.849	-1.08389
3754	42237.4	53.3774	-389.847	-1.08795
3755	42251.7	49.4537	-389.844	-1.09163
3756	42264.9	45.5172	-389.845	-1.09502
3757	42277	41.5689	-389.846	-1.09813
3758	42288	37.6108	-389.848	-1.09999
3759	42297.9	33.6508	-389.851	-1.09999
3760	42308.7	29.6909	-389.851	-1.1
3761	42314.4	25.7309	-389.851	-1.09999
3762	42321	21.771	-389.852	-1.09999
3763	42326.5	17.811	-389.852	-1.09998
3764	42330.9	13.851	-389.852	-1.09999
3765	42334.2	9.89107	-381.822	-1.09999
3766	42338.3	5.93132	-69.8867	-1.09991
3767	42337.3	2.83688	-0.696171	-0.961728
3768	42337.9	0.458227	-0.112449	-0.709354
3769	42338	0	0	0
3770	42338	0	0	0
3771	42338	0	0	0
3772	42338	0	0	0
3773	42338	0	0	0
3774	42338	0	0	0
3775	42338	0	0	0
3776	42338	0	0	0
3777	42338	0	0	0
3778	42338	0	0	0
3779	42338	0	0	0
3780	42338	0	0	0
3781	42338	0	0	0



ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



00012004

3782	42338	0	0	0
3783	42338	0	0	0
3784	42338	0	0	0
3785	42338	0	0	0
3786	42338.5	1.90382	397.182	0.487191
3787	42339.1	4.34804	397.182	1.05438
3788	42340.8	8.1414	397.181	1.05354
3789	42343.6	11.9323	397.181	1.05279
3790	42347.4	15.7206	397.181	1.05202
3791	42352.3	19.5062	397.181	1.05121
3792	42358.3	23.2887	397.181	1.05033
3793	42365.3	27.068	397.185	1.04941
3794	42373.3	30.8431	396.006	1.04692
3795	42382.4	34.5812	390.746	1.03149
3796	42392.5	38.1297	350.698	0.931872
3797	42403.5	41.277	317.011	0.834916
3798	42415.4	44.1587	294.204	0.771757
3799	42428.1	46.8342	278.819	0.722323
3800	42441.4	49.3549	262.078	0.68139
3801	42455.5	51.7377	249.624	0.646332
3802	42470.1	54.0036	238.305	0.614797
3803	42485.5	56.1611	228.483	0.58687
3804	42501.3	58.191	220.015	0.543142
3805	42517.8	60.0639	212.281	0.500047
3806	42534.7	61.7939	207.072	0.463306
3807	42552.1	63.3931	202.261	0.427216
3808	42569.9	64.8635	197.838	0.391671
3809	42588.1	66.2089	194.234	0.357812
3810	42606.7	67.434	190.998	0.32461
3811	42625.6	68.5406	188.075	0.292101
3812	42644.7	69.5758	185.341	0.28386
3813	42664.2	70.5832	182.867	0.276192
3814	42684	71.5633	180.058	0.268701
3815	42704	72.5168	177.519	0.261409
3816	42724.2	73.4444	175.05	0.254312
3817	42744.8	74.3468	172.647	0.247404
3818	42765.6	75.0336	0	-0.218426
3819	42786.3	74.2421	0	-0.220388
3820	42806.8	73.5475	0	-0.168132
3821	42827.1	73.0401	0	-0.116388
3822	42847.4	72.7164	0	-8.94E-02
3823	42867.6	72.5877	0	-1.01E-02
3824	42887.7	72.6494	0	4.18E-02
3825	42907.9	72.8978	0	9.37E-02
3826	42928.2	73.3376	0	0.140254
3827	42948.7	73.8438	0	0.140922
3828	42969.3	74.3524	0	0.141584
3829	42990	74.8632	0	0.14205
3830	43010.8	75.0916	-52.6784	0
3831	43031.7	75.0916	-52.6784	0
3832	43052.6	75.0916	-52.6784	0
3833	43073.4	75.0916	-52.6784	0
3834	43094.3	75.0916	-52.6784	0
3835	43115.1	75.0916	-52.5494	0
3836	43136	75.0916	-41.0909	0

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00012005

3837	43156.9	75.0916	-29.6323	0
3838	43177.7	75.0916	-18.1738	0
3839	43198.6	75.0916	-6.71523	0
3840	43219.4	75.0831	0	-1.13E-02
3841	43240.3	74.9843	0	-4.21E-02
3842	43261.1	74.7789	0	-6.51E-02
3843	43281.8	74.5446	0	-6.50E-02
3844	43302.5	74.2976	0	-7.52E-02
3845	43323.1	74.0245	0	-7.65E-02
3846	43343.6	73.7466	0	-7.78E-02
3847	43364.1	73.4641	0	-7.91E-02
3848	43384.4	73.1959	0	-7.42E-02
3849	43404.7	72.9291	0	-7.41E-02
3850	43424.9	72.6628	0	-7.39E-02
3851	43445.1	72.3967	0	-7.38E-02
3852	43465.2	72.1311	0	-7.37E-02
3853	43485.2	71.866	0	-7.36E-02
3854	43505.1	71.6014	0	-7.35E-02
3855	43524.9	71.3371	0	-7.33E-02
3856	43544.7	71.0733	0	-7.32E-02
3857	43564.4	70.8121	0	-7.11E-02
3858	43584.1	70.5636	0	-6.72E-02
3859	43603.6	70.3364	0	-5.79E-02
3860	43622.9	67.582	-362.55	-1.11677
3861	43641.1	63.5708	-369.848	-1.11198
3862	43658.2	59.5763	-369.849	-1.10749
3863	43674.2	55.597	-369.849	-1.10379
3864	43689.1	51.629	-369.846	-1.10091
3865	43702.9	47.6686	-369.844	-1.09999
3866	43715.6	43.7086	-369.845	-1.09999
3867	43727.2	39.7486	-369.846	-1.1
3868	43737.7	35.7887	-369.85	-1.09999
3869	43747.1	31.8287	-369.851	-1.09999
3870	43755.4	27.8687	-369.851	-1.09999
3871	43762.5	23.9088	-369.852	-1.09999
3872	43768.6	19.9488	-369.852	-1.09999
3873	43773.6	15.9889	-369.852	-1.09999
3874	43777.5	12.0289	-369.852	-1.09999
3875	43780.3	8.06898	-227.488	-1.09997
3876	43782	4.12102	-1.0113	-1.09798
3877	43782.6	1.74237	-0.427578	-0.845601
3878	43783	0	0	0
3879	43783	0	0	0
3880	43783	0	0	0
3881	43783	0	0	0
3882	43783	0	0	0
3883	43783	0	0	0
3884	43783	0	0	0
3885	43783	0	0	0
3886	43783	0	0	0
3887	43783	0	0	0
3888	43783	0	0	0
3889	43783	0	0	0
3890	43783	0	0	0
3891	43783	0	0	0

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ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00913006

3892	43783	0	0	0
3893	43783	0	0	0
3894	43783	0	0	0
3895	43783.2	0.630783	397.182	0.161418
3896	43783.7	2.98887	397.182	0.764856
3897	43784.8	6.09376	397.181	1.05399
3898	43787	9.88608	397.181	1.05319
3899	43790.2	13.8758	397.181	1.05244
3900	43794.6	17.4629	397.181	1.05165
3901	43799.9	21.247	397.181	1.05081
3902	43806.4	25.0281	397.181	1.04991
3903	43813.8	28.8059	397.189	1.04897
3904	43822.4	32.57	393.578	1.03979
3905	43831.9	36.2659	374.196	0.99711
3906	43842.5	39.6223	331.88	0.87971
3907	43853.9	42.6313	306.293	0.805227
3908	43866.1	45.4111	285.142	0.745437
3909	43879.1	48.0123	269.929	0.703191
3910	43892.8	50.474	255.937	0.668659
3911	43907.1	52.8293	244.171	0.641904
3912	43922.1	55.0915	230.321	0.616729
3913	43937.2	52.6631	-316.694	-0.910546
3914	43951.6	50.9284	-20.2856	-0.109666
3915	43965.7	50.9117	-2.77352	0
3916	43979.8	50.9117	-4.96906	0
3917	43994	50.9117	-7.1646	0
3918	44008.1	50.9117	-9.36014	0
3919	44022.3	50.9117	-8.21053	0
3920	44036.4	50.8838	0	-9.80E-03
3921	44050.5	50.8414	0	-1.35E-02
3922	44064.7	50.7857	0	-1.72E-02
3923	44078.8	50.7158	0	-2.08E-02
3924	44092.8	50.6347	0	-2.45E-02
3925	44106.9	50.6114	0	-6.23E-03
3926	44120.9	50.589	0	-6.23E-03
3927	44135	50.5666	0	-6.22E-03
3928	44149	50.5442	0	-6.21E-03
3929	44163.1	50.5219	0	-6.20E-03
3930	44177.1	50.4996	0	-6.19E-03
3931	44191.1	50.4773	0	-6.19E-03
3932	44205.2	50.455	0	-6.18E-03
3933	44219.2	50.4328	0	-6.17E-03
3934	44233.2	50.4106	0	-6.16E-03
3935	44247.2	50.3885	0	-6.15E-03
3936	44261.2	50.3663	0	-6.15E-03
3937	44275.1	50.3442	0	-6.14E-03
3938	44289.1	50.3221	0	-6.13E-03
3939	44303.1	50.3001	0	-6.12E-03
3940	44317.1	50.2781	0	-6.11E-03
3941	44331	50.2673	0	-1.71E-03
3942	44345	50.2481	0	-1.91E-02
3943	44359	50.1794	0	-1.91E-02
3944	44372.9	50.1108	0	-1.90E-02
3945	44386.8	50.0423	0	-1.90E-02
3946	44400.7	49.9693	0	-2.19E-02

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00012037

3947	44414.6	49.9202	0	-5.99E-03
3948	44428.4	49.8987	0	-5.98E-03
3949	44442.3	49.8772	0	-5.97E-03
3950	44456.1	49.8557	0	-5.96E-03
3951	44470	49.8342	0	-5.96E-03
3952	44483.8	49.8128	0	-5.95E-03
3953	44497.6	49.7914	0	-5.94E-03
3954	44511.5	49.7701	0	-5.93E-03
3955	44525.3	49.7487	0	-5.92E-03
3956	44539.1	49.7274	0	-5.92E-03
3957	44552.9	49.7061	0	-5.91E-03
3958	44566.7	49.6849	0	-5.90E-03
3959	44580.5	49.6636	0	-5.89E-03
3960	44594.3	49.6424	0	-5.89E-03
3961	44608.1	49.6212	0	-5.88E-03
3962	44621.9	49.6001	0	-5.87E-03
3963	44635.7	49.6072	0	1.38E-02
3964	44649.4	49.6538	0	1.74E-02
3965	44663.3	49.7333	0	2.10E-02
3966	44677.1	49.8159	0	2.46E-02
3967	44690.9	49.9113	0	2.82E-02
3968	44704.8	50.2674	145.021	0.364008
3969	44719.1	52.5387	245.623	0.693945
3970	44734	54.9715	233.47	0.660075
3971	44749.6	57.2941	223.757	0.63252
3972	44765.8	59.5043	214.536	0.589742
3973	44782.6	61.5722	207.739	0.558886
3974	44800	63.5198	201.88	0.525081
3975	44817.9	65.3469	196.511	0.492026
3976	44836.2	65.9552	0	-4.77E-02
3977	44854.5	65.7535	0	-6.35E-02
3978	44872.7	65.495	0	-7.92E-02
3979	44890.9	65.1801	0	-9.49E-02
3980	44908.9	64.8091	0	-0.110385
3981	44926.9	64.403	0	-0.112864
3982	44944.7	63.997	0	-0.112692
3983	44962.4	63.5917	0	-0.112522
3984	44980.1	63.1957	0	-0.103637
3985	44997.6	62.8268	0	-0.101442
3986	45015	62.4657	0	-9.93E-02
3987	45032.3	62.1125	0	-9.71E-02
3988	45049.5	61.7668	0	-9.54E-02
3989	45066.6	61.4235	0	-9.53E-02
3990	45083.6	61.0807	0	-9.52E-02
3991	45100.5	60.7396	0	-9.30E-02
3992	45117.3	60.4196	0	-8.53E-02
3993	45134.1	60.1272	0	-7.76E-02
3994	45150.7	59.8624	0	-7.00E-02
3995	45167.3	59.6249	0	-6.24E-02
3996	45183.9	59.4145	0	-5.49E-02
3997	45200.4	59.0993	-369.849	-0.570027
3998	45216.2	55.0953	-369.849	-1.10891
3999	45231	51.1162	-369.845	-1.10226
4000	45244.6	47.1551	-369.845	-1.09999
4001	45257.2	43.1951	-369.845	-1.09999

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ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



00012688

4002	45288.6	39.2351	-369.847	-1.09999
4003	45279	35.2752	-369.851	-1.1
4004	45288.2	31.3152	-369.851	-1.09999
4005	45296.4	27.3552	-369.851	-1.09999
4006	45303.4	23.3953	-369.852	-1.09999
4007	45309.3	19.4353	-369.852	-1.09999
4008	45314.2	15.4754	-369.852	-1.09999
4009	45317.9	11.5154	-369.852	-1.09999
4010	45320.6	7.5555	-189.631	-1.09996
4011	45322.1	3.81257	-0.936608	-1.06525
4012	45322.7	1.43392	-0.351885	-0.812875
4013	45323	0	0	0
4014	45323	0	0	0
4015	45323	0	0	0
4016	45323	0	0	0
4017	45323	0	0	0
4018	45323	0	0	0
4019	45323	0	0	0
4020	45323	0	0	0
4021	45323	0	0	0
4022	45323	0	0	0
4023	45323	0	0	0
4024	45323	0	0	0
4025	45323	0	0	0
4026	45323	0	0	0
4027	45323	0	0	0
4028	45323	0	0	0
4029	45323	0	0	0
4030	45323.2	0.936562	397.182	0.239667
4031	45323.8	3.29465	397.182	0.843106
4032	45325	6.58573	397.181	1.05388
4033	45327.3	10.3776	397.181	1.0531
4034	45330.7	14.187	397.181	1.05234
4035	45335.2	17.9537	397.181	1.05155
4036	45340.7	21.7375	397.181	1.0507
4037	45347.3	25.5182	397.182	1.04979
4038	45354.9	29.2955	397.19	1.04884
4039	45363.5	33.0546	392.894	1.03779
4040	45373.2	36.725	368.408	0.981029
4041	45383.9	40.0279	326.994	0.865546
4042	45395.4	43.004	303.343	0.797058
4043	45407.8	45.7569	283.119	0.739819
4044	45420.9	48.3386	268.021	0.697891
4045	45434.6	50.775	254.433	0.659728
4046	45449	53.0878	242.879	0.627542
4047	45464.1	55.288	232.126	0.597247
4048	45479.8	57.373	173.423	0.486899
4049	45495.8	57.796	0	-3.08E-02
4050	45511.8	57.6853	0	-3.07E-02
4051	45527.8	57.5748	0	-3.07E-02
4052	45543.8	57.4544	0	-3.08E-02
4053	45559.8	57.3542	0	-3.06E-02
4054	45575.7	57.2441	0	-3.06E-02
4055	45591.6	57.1342	0	-3.05E-02
4056	45607.4	57.0245	0	-3.05E-02

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ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

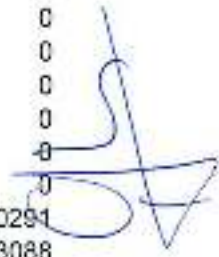
RESULT-EBRCL130  
Coasting application.xls



00012689

4057	45623.3	56.9149	0	-3.04E-02
4058	45639	56.8054	0	-3.04E-02
4059	45654.8	56.6961	0	-3.03E-02
4060	45670.5	56.6099	0	-1.57E-02
4061	45686.3	56.5884	0	2.58E-03
4062	45702	56.6325	0	2.08E-02
4063	45717.7	56.7421	0	3.90E-02
4064	45733.5	56.9172	0	5.72E-02
4065	45749.4	57.158	0	7.54E-02
4066	45765.3	57.4645	0	9.38E-02
4067	45780.9	54.7967	-369.849	-0.96126
4068	45795.7	51.6694	-251.946	-0.608186
4069	45809.9	50.9117	-47.1503	0
4070	45824	50.9117	-45.7869	0
4071	45838.2	50.9117	-45.1884	0
4072	45852.3	50.9117	-44.4526	0
4073	45866.5	50.9117	-43.2793	0
4074	45880.6	50.9117	-35.2493	0
4075	45894.8	50.9117	-34.0032	0
4076	45908.9	50.9117	-32.7571	0
4077	45923	50.9117	-31.4903	0
4078	45937.2	50.9117	-30.113	0
4079	45951.3	50.9117	-36.1001	0
4080	45965.5	50.9117	-36.1001	0
4081	45979.6	50.9117	-36.1001	0
4082	45993.7	50.9117	-36.1001	0
4083	46007.9	50.9117	-36.1001	0
4084	46022	50.9117	-36.1001	0
4085	46036.2	50.9117	-36.1001	0
4086	46050.3	50.9117	-36.1001	0
4087	46064.5	50.9117	-36.1001	0
4088	46078.6	50.9117	-36.1001	0
4089	46092.7	50.9117	-36.1001	0
4090	46106.9	50.9117	-36.1001	0
4091	46121	50.9117	-36.1001	0
4092	46135.2	50.9117	-36.1001	0
4093	46149.3	50.9117	-36.1001	0
4094	46163.5	50.9117	-36.1001	0
4095	46177.6	50.9117	-36.1001	0
4096	46191.7	50.9117	-41.9931	0
4097	46205.9	50.9117	-43.813	0
4098	46220	50.9117	-43.9822	0
4099	46234.2	50.9117	-45.084	0
4100	46248.3	50.9117	-46.1858	0
4101	46262.5	51.23	0	0.120291
4102	46276.8	51.6563	0	0.113088
4103	46291.2	52.0331	0	0.10254
4104	46305.7	52.3697	0	8.56E-02
4105	46320.3	52.6452	0	6.86E-02
4106	46334.9	52.8723	0	5.69E-02
4107	46349.6	53.0422	0	3.96E-02
4108	46364.3	51.2565	-369.845	-1.04766
4109	46378	47.4853	-369.844	-1.06282
4110	46390.6	43.6316	-369.845	-1.07682
4111	46402.2	39.7287	-369.846	-1.09017

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ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

00012600

4112	46412.7	35.7811	-369.85	-1.09999
4113	46422.1	31.8211	-369.851	-1.09999
4114	46430.4	27.8612	-369.851	-1.09999
4115	46437.6	23.9012	-369.852	-1.09999
4116	46443.6	19.9412	-369.852	-1.09999
4117	46448.6	15.9813	-369.852	-1.09999
4118	46452.5	12.0213	-369.852	-1.09999
4119	46455.3	8.06141	-226.929	-1.09997
4120	46457	4.11647	-1.01018	-1.09749
4121	46457.6	1.73782	-0.426462	-0.845119
4122	46458	0	0	0
4123	46458	0	0	0
4124	46458	0	0	0
4125	46458	0	0	0
4126	46458	0	0	0
4127	46458	0	0	0
4128	46458	0	0	0
4129	46458	0	0	0
4130	46458	0	0	0
4131	46458	0	0	0
4132	46458	0	0	0
4133	46458	0	0	0
4134	46458	0	0	0
4135	46458	0	0	0
4136	46458	0	0	0
4137	46458	0	0	0
4138	46458	0	0	0
4139	46458.2	0.63529	397.182	0.162572
4140	46458.7	2.99338	397.182	0.76601
4141	46459.8	6.10102	397.181	1.05399
4142	46462	9.89333	397.181	1.05319
4143	46465.2	13.883	397.181	1.05244
4144	46469.6	17.4701	397.181	1.05165
4145	46474.9	21.2543	397.181	1.05081
4146	46481.4	25.0353	397.181	1.04991
4147	46488.9	28.8131	397.189	1.04897
4148	46497.4	32.5772	393.566	1.03976
4149	46506.9	36.2728	374.109	0.996869
4150	46517.5	39.6283	331.804	0.8795
4151	46528.9	42.6368	306.249	0.805105
4152	46541.2	45.414	285.125	0.744037
4153	46554.1	48.0072	269.959	0.700243
4154	46567.8	50.4479	256.067	0.659485
4155	46582.2	52.7267	244.684	0.610343
4156	46597.1	54.8599	234.027	0.57715
4157	46612.6	56.883	225.472	0.549262
4158	46628.7	58.8099	217.433	0.522976
4159	46645.3	60.6471	210.521	0.506779
4160	46662.4	62.4381	205.134	0.489272
4161	46680	64.1682	199.929	0.473405
4162	46698	65.8457	195.193	0.459796
4163	46716.5	67.4775	190.883	0.447442
4164	46735.5	69.0654	186.689	0.435409
4165	46754.9	70.6106	182.594	0.42366
4166	46774.7	72.1139	178.592	0.412164

3384



00912391

4167	46795	73.5633	132.121	0.324888
4168	46815.4	73.5485	0	-7.02E-02
4169	46835.8	73.3095	0	-6.18E-02
4170	46856.2	73.0912	0	-5.98E-02
4171	46876.4	72.8809	0	-5.73E-02
4172	46896.6	72.6786	0	-5.52E-02
4173	46916.8	72.4803	0	-5.51E-02
4174	46936.9	72.2822	0	-5.50E-02
4175	46957	72.0845	0	-5.49E-02
4176	46977	71.8872	0	-5.48E-02
4177	46996.9	71.6901	0	-5.47E-02
4178	47016.8	71.4934	0	-5.46E-02
4179	47036.6	71.297	0	-5.45E-02
4180	47056.4	71.1006	0	-5.44E-02
4181	47076.1	70.9051	0	-5.43E-02
4182	47095.8	70.7097	0	-5.42E-02
4183	47115.4	70.5145	0	-5.42E-02
4184	47135	70.3258	0	-4.90E-02
4185	47154.5	70.1661	0	-4.01E-02
4186	47173.9	70.0385	0	-3.13E-02
4187	47193.4	69.9416	0	-2.77E-02
4188	47212.8	69.8257	0	-2.89E-02
4189	47232.2	69.7348	0	-2.20E-02
4190	47251.5	69.6688	0	-1.51E-02
4191	47270.9	69.6354	0	-4.06E-03
4192	47290.2	69.6209	0	-4.05E-03
4193	47309.6	69.6063	0	-4.04E-03
4194	47328.9	69.5917	0	-4.04E-03
4195	47348.2	69.5772	0	-4.03E-03
4196	47367.2	66.302	-366.168	-1.0683
4197	47385.1	62.4561	-389.848	-1.0683
4198	47401.9	58.6148	-389.849	-1.0614
4199	47417.6	54.7965	-389.849	-1.0599
4200	47432.3	51.5789	-196.533	-0.572302
4201	47446.5	50.9117	-4.63578	0
4202	47460.7	50.9117	-4.01978	0
4203	47474.8	50.9117	-6.26485	0
4204	47489	50.9117	-6.26485	0
4205	47503.1	50.9117	-6.26485	0
4206	47517.2	50.8849	0	-2.11E-02
4207	47531.4	50.8013	0	-2.48E-02
4208	47545.5	50.706	0	-2.84E-02
4209	47559.5	50.5958	0	-3.21E-02
4210	47573.6	50.4731	0	-3.57E-02
4211	47587.6	50.3849	0	-1.97E-02
4212	47601.6	50.2942	0	-1.96E-02
4213	47615.5	50.2235	0	-1.96E-02
4214	47629.5	50.153	0	-1.96E-02
4215	47643.4	50.0825	0	-1.96E-02
4216	47657.3	50.0122	0	-1.95E-02
4217	47671.2	49.9399	0	-2.29E-02
4218	47685	49.846	0	-2.73E-02
4219	47698.9	49.7392	0	-3.17E-02
4220	47712.7	49.6165	0	-3.61E-02
4221	47726.4	49.4781	0	-4.05E-02



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4222	47740.1	49.3239	0	-4.49E-02
4223	47753.8	49.154	0	-4.92E-02
4224	47767.4	49.0123	0	-3.29E-02
4225	47781	48.8923	0	-3.37E-02
4226	47794.6	48.7894	0	-3.45E-02
4227	47808.1	48.6466	0	-3.28E-02
4228	47821.6	48.5353	0	-2.93E-02
4229	47835.1	48.4354	0	-2.73E-02
4230	47848.5	48.3372	0	-2.73E-02
4231	47861.9	47.3596	-369.845	-1.09999
4232	47874.5	43.3996	-369.845	-1.09999
4233	47886	39.4396	-369.847	-1.09999
4234	47898.4	35.4797	-369.85	-1.09999
4235	47905.8	31.5197	-369.851	-1.09999
4236	47914	27.5597	-369.851	-1.09999
4237	47921.1	23.5998	-369.852	-1.09999
4238	47927.1	19.6398	-369.852	-1.09999
4239	47932	15.6799	-369.852	-1.09999
4240	47935.8	11.7199	-369.852	-1.09999
4241	47938.5	7.75999	-204.707	-1.09996
4242	47940	3.93541	-0.965752	-1.07828
4243	47940.6	1.55676	-0.382029	-0.825908
4244	47941	0	0	0
4245	47941	0	0	0
4246	47941	0	0	0
4247	47941	0	0	0
4248	47941	0	0	0
4249	47941	0	0	0
4250	47941	0	0	0
4251	47941	0	0	0
4252	47941	0	0	0
4253	47941	0	0	0
4254	47941	0	0	0
4255	47941	0	0	0
4256	47941	0	0	0
4257	47941	0	0	0
4258	47941	0	0	0
4259	47941	0	0	0
4260	47941	0	0	0
4261	47941	0	0	0
4262	47941	0	0	0
4263	47941	0	0	0
4264	47941	0	0	0
4265	47941	0	0	0
4266	47941	0	0	0
4267	47941	0	0	0
4268	47941	0	0	0
4269	47941	0	0	0
4270	47941	0	0	0
4271	47941	0	0	0
4272	47941	0	0	0
4273	47941	0	0	0
4274	47941	0	0	0
4275	47941	0	0	0
4276	47941	0	0	0



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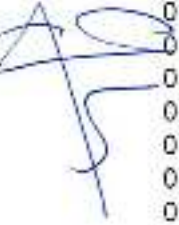
4277	47941	0	0	0
4278	47941	0	0	0
4279	47941	0	0	0
4280	47941	0	0	0
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4282	47941	0	0	0
4283	47941	0	0	0
4284	47941	0	0	0
4285	47941	0	0	0
4286	47941	0	0	0
4287	47941	0	0	0
4288	47941	0	0	0
4289	47941	0	0	0
4290	47941	0	0	0
4291	47941	0	0	0
4292	47941	0	0	0
4293	47941	0	0	0
4294	47941	0	0	0
4295	47941	0	0	0
4296	47941	0	0	0
4297	47941	0	0	0
4298	47941	0	0	0
4299	47941	0	0	0
4300	47941	0	0	0
4301	47941	0	0	0
4302	47941	0	0	0
4303	47941	0	0	0
4304	47941	0	0	0
4305	47941	0	0	0
4306	47941	0	0	0
4307	47941	0	0	0
4308	47941	0	0	0
4309	47941	0	0	0
4310	47941	0	0	0
4311	47941	0	0	0
4312	47941	0	0	0
4313	47941	0	0	0
4314	47941	0	0	0
4315	47941	0	0	0
4316	47941	0	0	0
4317	47941	0	0	0
4318	47941	0	0	0
4319	47941	0	0	0
4320	47941	0	0	0
4321	47941	0	0	0
4322	47941	0	0	0
4323	47941	0	0	0
4324	47941	0	0	0
4325	47941	0	0	0
4326	47941	0	0	0
4327	47941	0	0	0
4328	47941	0	0	0
4329	47941	0	0	0
4330	47941	0	0	0
4331	47941	0	0	0



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47941	4332	47941	0
47941	4333	47941	0
47941	4334	47941	0
47941	4335	47941	0
47941	4336	47941	0
47941	4337	47941	0
47941	4338	47941	0
47941	4339	47941	0
47941	4340	47941	0
47941	4341	47941	0
47941	4342	47941	0
47941	4343	47941	0
47941	4344	47941	0
47941	4345	47941	0
47941	4346	47941	0
47941	4347	47941	0
47941	4348	47941	0
47941	4349	47941	0
47941	4350	47941	0
47941	4351	47941	0
47941	4352	47941	0
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47941	4355	47941	0
47941	4356	47941	0
47941	4357	47941	0
47941	4358	47941	0
47941	4359	47941	0
47941	4360	47941	0
47941	4361	47941	0
47941	4362	47941	0
47941	4363	47941	0
47941	4364	47941	0
47941	4365	47941	0
47941	4366	47941	0
47941	4367	47941	0
47941	4368	47941	0
47941	4369	47941	0
47941	4370	47941	0
47941	4371	47941	0
47941	4372	47941	0
47941	4373	47941	0
47941	4374	47941	0
47941	4375	47941	0
47941	4376	47941	0
47941	4377	47941	0
47941	4378	47941	0
47941	4379	47941	0
47941	4380	47941	0
47941	4381	47941	0
47941	4382	47941	0
47941	4383	47941	0
47941	4384	47941	0
47941	4385	47941	0
47941	4386	47941	0
47941	4386	47941	0

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4387	4388	4389	4390	4391	4392	4393	4394	4395	4396	4397	4398	4399	4400	4401	4402	4403	4404	4405	4406	4407	4408	4409	4410	4411	4412	4413	4414	4415	4416	4417	4418	4419	4420	4421	4422	4423	4424	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47941	47941	47941	47941	47941	47941	47941	47941	47941	47941	47941	47941	47941	47941	47941	47941	47941	47941	47941	47941	47941	47941	47941	47941	47941	47941	47941	47941	47941	47941	47941	47941	47941	47941	47941	47941	47941	47941	47941

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ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



5 cycles	Trotor(°C)	Tiron_s(°C)	Tw_s(°C)
Max	186.7	120.6	169.4
time(s)	Trotor(°C)	Tiron_s(°C)	Tw_s(°C)
0	177.412	117.241	147.026
1	177.426	117.247	147.098
2	177.473	117.254	147.315
3	177.517	117.26	147.519
4	177.561	117.265	147.719
5	177.608	117.27	147.926
6	177.663	117.275	148.145
7	177.727	117.282	148.379
8	177.796	117.287	148.621
9	177.867	117.29	148.877
10	177.94	117.292	149.151
11	178.006	117.292	149.386
12	178.063	117.29	149.591
13	178.112	117.287	149.773
14	178.158	117.282	149.939
15	178.197	117.276	150.079
16	178.154	117.252	149.97
17	178.112	117.228	149.862
18	178.07	117.205	149.754
19	178.027	117.181	149.646
20	177.985	117.157	149.538
21	177.943	117.133	149.431
22	177.902	117.11	149.323
23	177.86	117.086	149.217
24	177.819	117.063	149.11
25	177.779	117.039	149.003
26	177.738	117.016	148.897
27	177.698	116.993	148.791
28	177.658	116.97	148.685
29	177.619	116.948	148.579
30	177.579	116.925	148.473
31	177.54	116.903	148.368
32	177.502	116.881	148.263
33	177.463	116.859	148.158
34	177.425	116.837	148.054
35	177.387	116.815	147.949
36	177.35	116.793	147.845
37	177.312	116.772	147.741
38	177.275	116.751	147.638
39	177.239	116.73	147.534
40	177.202	116.709	147.431
41	177.166	116.688	147.328
42	177.13	116.668	147.225
43	177.094	116.647	147.123
44	177.099	116.646	147.112
45	177.15	116.642	147.305
46	177.197	116.637	147.48
47	177.241	116.631	147.642
48	177.281	116.624	147.792
49	177.319	116.616	147.934

00012606



ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



50	177.354	116.608	148.066
51	177.389	116.599	148.168
52	177.422	116.589	148.3
53	177.456	116.578	148.406
54	177.49	116.567	148.512
55	177.529	116.555	148.617
56	177.569	116.542	148.723
57	177.609	116.528	148.829
58	177.65	116.513	148.936
59	177.692	116.498	149.044
60	177.734	116.482	149.153
61	177.777	116.465	149.261
62	177.82	116.447	149.37
63	177.864	116.429	149.479
64	177.909	116.41	149.587
65	177.954	116.391	149.694
66	177.984	116.357	149.595
67	177.814	116.323	149.496
68	177.745	116.289	149.397
69	177.676	116.255	149.298
70	177.607	116.221	149.199
71	177.538	116.187	149.1
72	177.469	116.153	149.002
73	177.4	116.119	148.903
74	177.332	116.085	148.805
75	177.263	116.051	148.707
76	177.195	116.017	148.609
77	177.127	115.983	148.511
78	177.058	115.949	148.413
79	176.991	115.915	148.315
80	176.923	115.881	148.218
81	176.856	115.847	148.12
82	176.788	115.814	148.023
83	176.721	115.78	147.926
84	176.654	115.746	147.829
85	176.747	115.737	148.121
86	176.838	115.731	148.409
87	176.926	115.728	148.678
88	177	115.727	148.921
89	177.062	115.73	149.139
90	177.122	115.734	149.35
91	177.176	115.74	149.541
92	177.228	115.749	149.719
93	177.28	115.759	149.896
94	177.334	115.772	150.07
95	177.382	115.786	150.244
96	177.441	115.799	150.43
97	177.501	115.811	150.62
98	177.553	115.821	150.798
99	177.594	115.831	150.957
100	177.636	115.84	151.123
101	177.669	115.849	151.264
102	177.681	115.859	151.317
103	177.677	115.87	151.303
104	177.673	115.877	151.288

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ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



105	177.865	115.885	151.248
106	177.657	115.894	151.208
107	177.849	115.903	151.167
108	177.641	115.911	151.128
109	177.633	115.92	151.088
110	177.624	115.929	151.048
111	177.616	115.937	151.008
112	177.608	115.946	150.968
113	177.6	115.954	150.929
114	177.592	115.963	150.889
115	177.584	115.972	150.849
116	177.576	115.98	150.81
117	177.568	115.989	150.77
118	177.56	115.997	150.731
119	177.552	116.006	150.692
120	177.544	116.014	150.652
121	177.536	116.023	150.613
122	177.528	116.029	150.574
123	177.529	116.04	151.017
124	177.675	116.05	151.216
125	177.718	116.059	151.404
126	177.762	116.068	151.592
127	177.812	116.077	151.791
128	177.871	116.088	152.004
129	177.937	116.099	152.228
130	178.008	116.108	152.459
131	178.078	116.116	152.712
132	178.147	116.122	152.954
133	178.208	116.126	153.16
134	178.261	116.129	153.341
135	178.308	116.13	153.503
136	178.352	116.13	153.65
137	178.392	116.129	153.786
138	178.43	116.128	153.913
139	178.465	116.125	154.031
140	178.499	116.123	154.141
141	178.557	116.129	154.332
142	178.587	116.138	154.406
143	178.578	116.139	154.333
144	178.535	116.121	154.206
145	178.493	116.104	154.08
146	178.451	116.086	153.954
147	178.41	116.069	153.828
148	178.369	116.053	153.702
149	178.329	116.036	153.576
150	178.29	116.02	153.451
151	178.251	116.004	153.326
152	178.213	115.989	153.201
153	178.175	115.974	153.076
154	178.175	115.979	153.026
155	178.227	115.981	153.206
156	178.275	115.983	153.359
157	178.319	115.983	153.521
158	178.361	115.983	153.683
159	178.374	115.984	153.683

00012608

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



160	178.331	115.965	153.558
161	178.289	115.948	153.433
162	178.248	115.93	153.308
163	178.206	115.913	153.184
164	178.166	115.896	153.06
165	178.126	115.88	152.935
166	178.087	115.864	152.812
167	178.049	115.848	152.688
168	178.011	115.832	152.565
169	177.973	115.817	152.442
170	177.978	115.822	152.416
171	178.029	115.824	152.503
172	178.076	115.825	152.756
173	178.121	115.825	152.907
174	178.162	115.825	153.048
175	178.118	115.807	152.924
176	178.076	115.788	152.801
177	178.034	115.77	152.678
178	178.057	115.771	152.741
179	178.093	115.789	152.875
180	178.133	115.788	153.001
181	178.168	115.766	153.119
182	178.202	115.783	153.228
183	178.234	115.759	153.328
184	178.265	115.755	153.418
185	178.298	115.75	153.507
186	178.334	115.744	153.596
187	178.373	115.737	153.685
188	178.412	115.73	153.775
189	178.451	115.721	153.867
190	178.492	115.711	153.959
191	178.532	115.701	154.052
192	178.574	115.69	154.145
193	178.616	115.678	154.239
194	178.707	115.675	154.517
195	178.796	115.674	154.79
196	178.881	115.677	155.043
197	178.954	115.683	155.269
198	179.015	115.691	155.472
199	179.074	115.701	155.666
200	179.127	115.712	155.839
201	179.177	115.726	156.001
202	179.229	115.742	156.159
203	179.281	115.76	156.316
204	179.328	115.78	156.472
205	179.387	115.798	156.64
206	179.446	115.814	156.813
207	179.497	115.83	156.973
208	179.538	115.843	157.116
209	179.579	115.857	157.268
210	179.612	115.87	157.392
211	179.624	115.884	157.429
212	179.619	115.899	157.4
213	179.615	115.909	157.37
214	179.607	115.918	157.323

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ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



215	179.599	115.93	157.276
216	179.59	115.94	157.229
217	179.582	115.95	157.182
218	179.574	115.96	157.135
219	179.565	115.971	157.089
220	179.557	115.981	157.042
221	179.549	115.991	156.995
222	179.54	116.001	156.948
223	179.532	116.012	156.903
224	179.524	116.022	156.856
225	179.516	116.032	156.81
226	179.507	116.042	156.764
227	179.499	116.052	156.718
228	179.491	116.062	156.672
229	179.482	116.072	156.626
230	179.474	116.082	156.58
231	179.521	116.092	156.771
232	179.567	116.106	156.962
233	179.613	116.12	157.148
234	179.656	116.133	157.323
235	179.699	116.146	157.497
236	179.749	116.16	157.681
237	179.807	116.175	157.879
238	179.873	116.191	158.088
239	179.942	116.204	158.304
240	180.013	116.217	158.542
241	180.082	116.228	158.769
242	180.142	116.237	158.959
243	180.193	116.244	159.124
244	180.239	116.249	159.268
245	180.281	116.254	159.398
246	180.319	116.258	159.515
247	180.355	116.26	159.623
248	180.388	116.262	159.719
249	180.419	116.263	159.803
250	180.449	116.264	159.877
251	180.481	116.263	159.95
252	180.517	116.261	160.023
253	180.555	116.258	160.097
254	180.593	116.254	160.172
255	180.632	116.249	160.249
256	180.671	116.243	160.328
257	180.711	116.236	160.405
258	180.751	116.228	160.484
259	180.706	116.212	160.362
260	180.647	116.192	160.233
261	180.583	116.17	160.101
262	180.515	116.147	159.967
263	180.446	116.124	159.834
264	180.378	116.1	159.7
265	180.31	116.077	159.567
266	180.242	116.053	159.434
267	180.332	116.054	159.701
268	180.419	116.057	159.961
269	180.502	116.054	160.199

00012700

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



270	180.569	116.074	160.404
271	180.629	116.086	160.592
272	180.671	116.101	160.708
273	180.67	116.116	160.638
274	180.625	116.103	160.49
275	180.58	116.091	160.343
276	180.536	116.079	160.196
277	180.492	116.066	160.05
278	180.449	116.054	159.904
279	180.405	116.042	159.758
280	180.362	116.029	159.613
281	180.32	116.017	159.467
282	180.278	116.005	159.323
283	180.236	115.994	159.178
284	180.195	115.982	159.034
285	180.154	115.971	158.891
286	180.113	115.959	158.747
287	180.073	115.948	158.604
288	180.033	115.937	158.462
289	179.994	115.926	158.319
290	180.01	115.933	158.337
291	180.055	115.939	158.479
292	180.096	115.943	158.609
293	180.104	115.948	158.595
294	180.06	115.934	158.454
295	180.016	115.92	158.313
296	179.972	115.907	158.172
297	179.929	115.893	158.031
298	179.886	115.88	157.891
299	179.844	115.867	157.751
300	179.801	115.854	157.612
301	179.76	115.841	157.473
302	179.718	115.828	157.334
303	179.677	115.815	157.195
304	179.637	115.802	157.057
305	179.597	115.79	156.919
306	179.557	115.778	156.782
307	179.517	115.765	156.645
308	179.517	115.772	156.596
309	179.563	115.777	156.746
310	179.606	115.781	156.884
311	179.643	115.784	157
312	179.599	115.769	156.863
313	179.565	115.754	156.727
314	179.511	115.74	156.591
315	179.468	115.725	156.455
316	179.425	115.711	156.32
317	179.383	115.697	156.185
318	179.341	115.683	156.05
319	179.299	115.669	155.915
320	179.258	115.655	155.781
321	179.217	115.641	155.647
322	179.177	115.627	155.514
323	179.136	115.614	155.381
324	179.097	115.6	155.248

00012701

3395

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



325	179.057	115.587	155.115
326	179.018	115.574	154.983
327	178.978	115.561	154.851
328	178.996	115.566	154.88
329	179.04	115.569	155.029
330	179.081	115.572	155.164
331	179.119	115.573	155.288
332	179.154	115.574	155.403
333	179.187	115.574	155.508
334	179.246	115.584	155.703
335	179.3	115.595	155.88
336	179.351	115.609	156.042
337	179.401	115.625	156.199
338	179.455	115.643	156.356
339	179.503	115.663	156.512
340	179.559	115.682	156.677
341	179.619	115.699	156.848
342	179.672	115.714	157.013
343	179.712	115.729	157.154
344	179.753	115.743	157.302
345	179.788	115.756	157.432
346	179.804	115.77	157.49
347	179.8	115.785	157.46
348	179.796	115.796	157.43
349	179.787	115.807	157.383
350	179.779	115.817	157.335
351	179.771	115.827	157.288
352	179.762	115.838	157.241
353	179.754	115.848	157.195
354	179.746	115.858	157.148
355	179.737	115.869	157.101
356	179.729	115.879	157.054
357	179.721	115.889	157.008
358	179.712	115.9	156.961
359	179.704	115.91	156.914
360	179.696	115.92	156.868
361	179.687	115.93	156.822
362	179.679	115.94	156.775
363	179.671	115.951	156.729
364	179.662	115.961	156.683
365	179.654	115.971	156.637
366	179.701	115.98	156.827
367	179.747	115.994	157.018
368	179.793	116.008	157.206
369	179.836	116.021	157.381
370	179.88	116.035	157.554
371	179.928	116.048	157.736
372	179.984	116.063	157.93
373	180.05	116.08	158.138
374	180.118	116.094	158.352
375	180.189	116.107	158.585
376	180.258	116.119	158.818
377	180.32	116.128	159.013
378	180.373	116.136	159.182
379	180.419	116.142	159.329

00012702

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



380	180.461	116.147	159.481
381	180.5	116.151	159.58
382	180.536	116.155	159.689
383	180.569	116.157	159.787
384	180.601	116.159	159.874
385	180.631	116.16	159.95
386	180.662	116.16	160.022
387	180.696	116.159	160.095
388	180.733	116.157	160.167
389	180.771	116.154	160.241
390	180.809	116.151	160.316
391	180.847	116.148	160.393
392	180.887	116.14	160.47
393	180.926	116.133	160.548
394	180.966	116.126	160.626
395	181.007	116.118	160.705
396	180.938	116.095	160.57
397	180.866	116.072	160.435
398	180.795	116.049	160.3
399	180.725	116.026	160.166
400	180.655	116.003	160.032
401	180.585	115.98	159.898
402	180.515	115.956	159.765
403	180.445	115.933	159.632
404	180.376	115.91	159.499
405	180.307	115.886	159.366
406	180.238	115.863	159.233
407	180.17	115.84	159.1
408	180.102	115.817	158.968
409	180.035	115.794	158.835
410	179.97	115.771	158.701
411	179.905	115.749	158.568
412	179.84	115.726	158.434
413	179.777	115.704	158.301
414	179.715	115.682	158.167
415	179.653	115.661	158.033
416	179.592	115.639	157.9
417	179.532	115.618	157.766
418	179.473	115.597	157.632
419	179.414	115.577	157.498
420	179.356	115.556	157.365
421	179.318	115.542	157.244
422	179.356	115.538	157.324
423	179.394	115.533	157.404
424	179.433	115.528	157.486
425	179.473	115.521	157.569
426	179.513	115.513	157.652
427	179.554	115.504	157.737
428	179.535	115.492	157.63
429	179.546	115.492	157.552
430	179.557	115.492	157.475
431	179.568	115.491	157.397
432	179.579	115.491	157.32
433	179.59	115.491	157.243
434	179.601	115.49	157.166

00012703



ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



435	179.612	115.49	157.086
436	179.621	115.49	157.004
437	179.65	115.489	157.003
438	179.74	115.489	157.275
439	179.828	115.491	157.541
440	179.913	115.496	157.79
441	179.988	115.506	158.014
442	180.048	115.515	158.21
443	180.106	115.528	158.398
444	180.159	115.542	158.566
445	180.209	115.558	158.721
446	180.26	115.576	158.87
447	180.313	115.597	159.02
448	180.36	115.619	159.167
449	180.416	115.64	159.324
450	180.475	115.659	159.488
451	180.528	115.677	159.645
452	180.568	115.693	159.779
453	180.609	115.71	159.92
454	180.643	115.725	160.043
455	180.658	115.741	160.09
456	180.654	115.757	160.053
457	180.65	115.77	160.017
458	180.641	115.781	159.986
459	180.633	115.792	159.916
460	180.624	115.803	159.866
461	180.616	115.814	159.816
462	180.607	115.825	159.767
463	180.599	115.836	159.717
464	180.59	115.847	159.667
465	180.582	115.858	159.617
466	180.574	115.869	159.568
467	180.565	115.88	159.518
468	180.557	115.891	159.469
469	180.548	115.902	159.419
470	180.54	115.913	159.37
471	180.531	115.924	159.321
472	180.523	115.935	159.272
473	180.514	115.945	159.223
474	180.506	115.956	159.174
475	180.553	115.967	159.36
476	180.599	115.982	159.546
477	180.645	115.998	159.728
478	180.688	116.013	159.897
479	180.731	116.028	160.064
480	180.78	116.044	160.24
481	180.836	116.061	160.429
482	180.901	116.079	160.63
483	180.969	116.096	160.837
484	181.04	116.111	161.064
485	181.109	116.124	161.29
486	181.17	116.136	161.477
487	181.222	116.146	161.639
488	181.268	116.154	161.779
489	181.31	116.161	161.904

00012704

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



490	181.348	118.167	162.016
491	181.383	118.173	162.119
492	181.416	118.178	162.212
493	181.448	118.182	162.293
494	181.477	118.185	162.365
495	181.507	118.187	162.431
496	181.54	118.189	162.497
497	181.575	118.19	162.562
498	181.611	118.19	162.629
499	181.648	118.188	162.697
500	181.587	118.17	162.549
501	181.526	118.152	162.403
502	181.465	118.134	162.256
503	181.404	118.116	162.11
504	181.343	118.099	161.964
505	181.283	118.081	161.818
506	181.223	118.063	161.672
507	181.164	118.045	161.527
508	181.104	118.027	161.382
509	181.045	118.009	161.238
510	180.987	117.991	161.094
511	180.928	117.973	160.95
512	180.87	117.955	160.806
513	180.812	117.937	160.663
514	180.754	117.919	160.52
515	180.697	117.902	160.377
516	180.639	117.884	160.235
517	180.708	117.894	160.444
518	180.768	117.906	160.632
519	180.824	117.921	160.81
520	180.875	117.936	160.965
521	180.925	117.954	161.112
522	180.976	117.975	161.256
523	181.027	117.997	161.4
524	181.076	118.021	161.543
525	181.136	118.042	161.7
526	181.194	118.062	161.859
527	181.242	118.081	162.002
528	181.282	118.098	162.134
529	181.322	118.115	162.268
530	181.353	118.131	162.377
531	181.358	118.148	162.379
532	181.354	118.165	162.337
533	181.35	118.176	162.297
534	181.341	118.188	162.245
535	181.333	118.199	162.193
536	181.324	118.211	162.14
537	181.316	118.222	162.088
538	181.307	118.234	162.036
539	181.299	118.245	161.985
540	181.29	118.257	161.933
541	181.282	118.268	161.881
542	181.273	118.279	161.829
543	181.265	118.291	161.778
544	181.256	118.302	161.726

00012705

3399

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



545	181.248	116.314	181.875
546	181.239	116.325	181.823
547	181.231	116.336	181.572
548	181.223	116.347	181.521
549	181.214	116.359	181.469
550	181.206	116.37	181.418
551	181.252	116.383	181.601
552	181.299	116.401	181.784
553	181.344	116.417	181.957
554	181.387	116.433	182.122
555	181.431	116.449	182.286
556	181.482	116.467	182.462
557	181.541	116.485	182.651
558	181.607	116.504	182.85
559	181.676	116.521	183.057
560	181.748	116.537	183.289
561	181.814	116.55	183.496
562	181.871	116.562	183.67
563	181.921	116.572	183.819
564	181.966	116.581	183.95
565	182.006	116.589	184.067
566	182.044	116.596	184.172
567	182.079	116.602	184.268
568	182.111	116.608	184.355
569	182.081	116.605	184.223
570	182.031	116.592	184.067
571	181.98	116.579	183.912
572	181.93	116.566	183.757
573	181.88	116.553	183.602
574	181.829	116.54	183.448
575	181.779	116.527	183.295
576	181.729	116.513	183.142
577	181.687	116.505	183.002
578	181.685	116.519	182.919
579	181.683	116.533	182.839
580	181.632	116.519	182.688
581	181.691	116.532	182.872
582	181.709	116.547	182.881
583	181.708	116.562	182.808
584	181.707	116.577	182.736
585	181.705	116.592	182.662
586	181.704	116.607	182.588
587	181.702	116.622	182.513
588	181.672	116.62	182.392
589	181.625	116.607	182.242
590	181.577	116.594	182.092
591	181.529	116.58	181.942
592	181.481	116.567	181.793
593	181.434	116.553	181.644
594	181.387	116.54	181.496
595	181.34	116.527	181.347
596	181.293	116.513	181.199
597	181.247	116.5	181.052
598	181.201	116.487	180.905
599	181.156	116.474	180.758

00012706

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



600	181.11	116.461	160.611
601	181.065	116.447	160.465
602	181.021	116.434	160.319
603	180.976	116.421	160.173
604	180.932	116.408	160.028
605	180.888	116.395	159.883
606	180.845	116.382	159.739
607	180.801	116.369	159.595
608	180.758	116.356	159.451
609	180.783	116.361	159.512
610	180.821	116.364	159.627
611	180.855	116.367	159.732
612	180.853	116.37	159.873
613	180.882	116.384	159.737
614	180.849	116.377	159.612
615	180.804	116.363	159.468
616	180.76	116.349	159.325
617	180.715	116.336	159.183
618	180.671	116.322	159.041
619	180.627	116.308	158.899
620	180.584	116.295	158.757
621	180.541	116.281	158.616
622	180.498	116.268	158.475
623	180.456	116.255	158.335
624	180.414	116.242	158.195
625	180.372	116.229	158.055
626	180.331	116.216	157.915
627	180.291	116.204	157.776
628	180.251	116.191	157.637
629	180.211	116.179	157.498
630	180.171	116.167	157.36
631	180.133	116.155	157.222
632	180.094	116.144	157.085
633	180.056	116.132	156.947
634	180.018	116.121	156.81
635	179.98	116.111	156.674
636	179.943	116.1	156.537
637	179.907	116.089	156.401
638	179.871	116.079	156.265
639	179.89	116.087	156.285
640	179.943	116.092	156.461
641	179.99	116.097	156.616
642	180.033	116.1	156.757
643	180.072	116.102	156.884
644	180.108	116.104	157.002
645	180.142	116.105	157.11
646	180.175	116.105	157.206
647	180.205	116.104	157.292
648	180.236	116.102	157.371
649	180.27	116.1	157.451
650	180.306	116.096	157.53
651	180.344	116.092	157.611
652	180.382	116.087	157.692
653	180.421	116.08	157.775
654	180.46	116.073	157.859

00012707

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



655	180.5	116.065	157.943
656	180.54	116.056	158.028
657	180.581	116.047	158.112
658	180.629	116.046	158.198
659	180.718	116.047	158.467
660	180.805	116.051	158.727
661	180.887	116.057	158.966
662	180.954	116.067	159.175
663	181.013	116.078	159.366
664	181.069	116.091	159.545
665	181.12	116.106	159.704
666	181.169	116.123	159.853
667	181.221	116.143	160.002
668	181.271	116.164	160.15
669	181.321	116.187	160.298
670	181.382	116.207	160.46
671	181.439	116.225	160.624
672	181.485	116.243	160.768
673	181.528	116.259	160.904
674	181.565	116.275	161.039
675	181.595	116.29	161.149
676	181.598	116.306	161.143
677	181.593	116.321	161.105
678	181.589	116.332	161.068
679	181.581	116.343	161.017
680	181.572	116.354	160.967
681	181.564	116.366	160.916
682	181.555	116.377	160.866
683	181.547	116.388	160.815
684	181.538	116.399	160.765
685	181.53	116.41	160.715
686	181.521	116.421	160.664
687	181.513	116.432	160.614
688	181.504	116.443	160.564
689	181.495	116.454	160.514
690	181.487	116.465	160.464
691	181.479	116.476	160.414
692	181.47	116.487	160.365
693	181.462	116.498	160.315
694	181.453	116.509	160.265
695	181.445	116.52	160.216
696	181.491	116.533	160.401
697	181.538	116.55	160.587
698	181.583	116.565	160.762
699	181.626	116.58	160.93
700	181.67	116.596	161.098
701	181.722	116.612	161.279
702	181.783	116.63	161.473
703	181.849	116.647	161.677
704	181.918	116.663	161.89
705	181.99	116.678	162.128
706	182.055	116.69	162.335
707	182.112	116.701	162.51
708	182.161	116.71	162.68
709	182.205	116.717	162.792

00012708

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



710	182.245	116.724	162.91
711	182.199	116.712	162.758
712	182.154	116.701	162.805
713	182.109	116.689	162.453
714	182.064	116.678	162.301
715	182.019	116.666	162.149
716	181.975	116.655	161.998
717	181.93	116.643	161.848
718	181.887	116.632	161.697
719	181.843	116.62	161.548
720	181.799	116.609	161.398
721	181.756	116.597	161.249
722	181.713	116.586	161.1
723	181.67	116.574	160.952
724	181.627	116.562	160.805
725	181.584	116.551	160.657
726	181.541	116.539	160.51
727	181.553	116.545	160.51
728	181.591	116.55	160.825
729	181.826	116.553	160.731
730	181.858	116.556	160.824
731	181.888	116.558	160.904
732	181.718	116.558	160.975
733	181.751	116.558	161.046
734	181.788	116.556	161.117
735	181.825	116.554	161.19
736	181.863	116.55	161.265
737	181.901	116.545	161.34
738	181.94	116.539	161.416
739	181.873	116.518	161.277
740	181.807	116.496	161.139
741	181.74	116.474	161
742	181.674	116.453	160.862
743	181.607	116.431	160.724
744	181.541	116.409	160.587
745	181.475	116.387	160.45
746	181.409	116.365	160.313
747	181.343	116.343	160.176
748	181.277	116.321	160.04
749	181.212	116.299	159.904
750	181.146	116.277	159.769
751	181.08	116.255	159.634
752	181.015	116.232	159.499
753	180.95	116.21	159.364
754	180.884	116.188	159.23
755	180.819	116.165	159.096
756	180.754	116.142	158.963
757	180.689	116.12	158.83
758	180.624	116.097	158.697
759	180.559	116.074	158.564
760	180.494	116.052	158.432
761	180.429	116.029	158.3
762	180.364	116.006	158.168
763	180.3	115.983	158.037
764	180.387	115.966	158.298

00012700

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



765	180.47	115.992	158.538
766	180.537	116.001	158.748
767	180.597	116.012	158.94
768	180.653	116.025	159.12
769	180.704	116.04	159.28
770	180.753	116.056	159.43
771	180.805	116.076	159.58
772	180.855	116.096	159.729
773	180.905	116.119	159.878
774	180.966	116.138	160.042
775	181.024	116.157	160.207
776	181.07	116.174	160.352
777	181.111	116.19	160.489
778	181.15	116.205	160.625
779	181.181	116.22	160.737
780	181.184	116.237	160.732
781	181.179	116.251	160.695
782	181.175	116.262	160.659
783	181.167	116.273	160.609
784	181.158	116.284	160.558
785	181.15	116.295	160.508
786	181.141	116.306	160.458
787	181.133	116.317	160.408
788	181.124	116.328	160.358
789	181.116	116.339	160.308
790	181.108	116.35	160.258
791	181.099	116.361	160.209
792	181.091	116.372	160.159
793	181.082	116.383	160.109
794	181.074	116.394	160.06
795	181.065	116.405	160.01
796	181.057	116.416	159.961
797	181.048	116.427	159.911
798	181.04	116.437	159.862
799	181.031	116.448	159.813
800	181.078	116.461	159.999
801	181.125	116.477	160.185
802	181.169	116.493	160.361
803	181.212	116.508	160.53
804	181.257	116.523	160.699
805	181.309	116.539	160.881
806	181.369	116.556	161.075
807	181.436	116.573	161.279
808	181.505	116.589	161.493
809	181.577	116.603	161.732
810	181.642	116.615	161.94
811	181.699	116.625	162.116
812	181.748	116.634	162.267
813	181.792	116.642	162.4
814	181.832	116.648	162.518
815	181.869	116.653	162.625
816	181.903	116.658	162.722
817	181.935	116.662	162.808
818	181.965	116.665	162.883
819	181.995	116.667	162.949

00012710

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



820	182.027	116.668	163.015
821	182.062	116.668	163.08
822	182.099	116.667	163.147
823	182.136	116.665	163.216
824	182.174	116.662	163.286
825	182.212	116.658	163.356
826	182.146	116.638	163.211
827	182.081	116.618	163.066
828	182.015	116.598	162.921
829	181.949	116.578	162.777
830	181.884	116.557	162.633
831	181.818	116.537	162.49
832	181.753	116.516	162.345
833	181.688	116.496	162.203
834	181.623	116.475	162.061
835	181.558	116.455	161.919
836	181.493	116.434	161.777
837	181.428	116.413	161.636
838	181.363	116.392	161.494
839	181.298	116.371	161.354
840	181.234	116.35	161.213
841	181.169	116.329	161.073
842	181.105	116.308	160.933
843	181.04	116.287	160.794
844	180.976	116.266	160.655
845	180.912	116.244	160.516
846	180.848	116.223	160.378
847	180.783	116.201	160.24
848	180.719	116.18	160.102
849	180.655	116.158	159.965
850	180.592	116.136	159.828
851	180.528	116.115	159.692
852	180.464	116.093	159.555
853	180.401	116.071	159.419
854	180.337	116.049	159.284
855	180.274	116.027	159.149
856	180.36	116.032	159.401
857	180.438	116.039	159.629
858	180.5	116.05	159.826
859	180.559	116.062	160.013
860	180.613	116.076	160.185
861	180.664	116.092	160.339
862	180.714	116.11	160.485
863	180.767	116.13	160.632
864	180.815	116.152	160.777
865	180.869	116.174	160.928
866	180.929	116.194	161.089
867	180.985	116.213	161.249
868	181.027	116.23	161.384
869	181.068	116.246	161.521
870	181.105	116.262	161.648
871	181.127	116.278	161.721
872	181.123	116.295	161.683
873	181.118	116.303	161.644
874	181.11	116.32	161.592

00012711



ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



875	181.101	116.332	161.541
876	181.093	116.343	161.49
877	181.084	116.354	161.439
878	181.076	116.365	161.387
879	181.067	116.377	161.336
880	181.059	116.388	161.286
881	181.05	116.399	161.235
882	181.042	116.41	161.184
883	181.034	116.421	161.133
884	181.025	116.432	161.082
885	181.017	116.444	161.032
886	181.008	116.455	160.981
887	181	116.466	160.931
888	180.991	116.477	160.88
889	180.983	116.488	160.83
890	180.975	116.499	160.78
891	181.022	116.509	160.965
892	181.068	116.524	161.149
893	181.115	116.54	161.333
894	181.158	116.558	161.503
895	181.202	116.572	161.668
896	181.249	116.587	161.839
897	181.303	116.605	162.022
898	181.366	116.623	162.218
899	181.434	116.64	162.421
900	181.504	116.658	162.64
901	181.575	116.67	162.874
902	181.638	116.682	163.068
903	181.693	116.693	163.234
904	181.74	116.702	163.377
905	181.784	116.71	163.506
906	181.824	116.717	163.622
907	181.819	116.725	163.541
908	181.774	116.713	163.385
909	181.73	116.703	163.23
910	181.686	116.692	163.076
911	181.643	116.682	162.921
912	181.601	116.672	162.767
913	181.56	116.662	162.613
914	181.519	116.652	162.46
915	181.558	116.661	162.57
916	181.602	116.668	162.699
917	181.642	116.674	162.819
918	181.67	116.681	162.882
919	181.625	116.669	162.729
920	181.581	116.658	162.576
921	181.538	116.647	162.423
922	181.495	116.636	162.271
923	181.453	116.626	162.118
924	181.412	116.616	161.966
925	181.408	116.625	161.888
926	181.453	116.633	162.026
927	181.496	116.639	162.153
928	181.535	116.645	162.271
929	181.49	116.633	162.12

00012712

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



930	181.446	116.821	161.969
931	181.402	116.609	161.818
932	181.358	116.597	161.668
933	181.315	116.586	161.518
934	181.272	116.574	161.368
935	181.23	116.563	161.219
936	181.188	116.552	161.07
937	181.146	116.541	160.922
938	181.105	116.529	160.774
939	181.063	116.518	160.626
940	181.022	116.507	160.479
941	180.981	116.496	160.332
942	180.939	116.484	160.186
943	180.898	116.473	160.04
944	180.858	116.462	159.895
945	180.817	116.45	159.75
946	180.776	116.439	159.606
947	180.736	116.427	159.461
948	180.695	116.416	159.317
949	180.655	116.404	159.174
950	180.656	116.411	159.127
951	180.7	116.416	159.264
952	180.734	116.42	159.364
953	180.689	116.406	159.221
954	180.644	116.392	159.08
955	180.635	116.397	158.991
956	180.671	116.4	159.105
957	180.705	116.401	159.208
958	180.737	116.402	159.3
959	180.767	116.403	159.38
960	180.798	116.402	159.455
961	180.832	116.4	159.53
962	180.869	116.398	159.604
963	180.907	116.394	159.68
964	180.945	116.39	159.757
965	180.983	116.384	159.836
966	180.998	116.379	159.807
967	180.934	116.356	159.671
968	180.932	116.36	159.674
969	181.048	116.364	159.927
970	181.127	116.372	160.156
971	181.189	116.382	160.353
972	181.247	116.394	160.54
973	181.302	116.408	160.711
974	181.352	116.424	160.865
975	181.402	116.442	161.011
976	181.455	116.462	161.158
977	181.503	116.484	161.303
978	181.557	116.506	161.453
979	181.617	116.526	161.614
980	181.672	116.545	161.773
981	181.715	116.562	161.908
982	181.756	116.579	162.045
983	181.792	116.595	162.171
984	181.814	116.61	162.244

00012713

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



985	181.81	116.628	162.206
986	181.805	116.642	162.187
987	181.797	116.653	162.115
988	181.788	116.664	162.083
989	181.78	116.676	162.012
990	181.771	116.687	161.981
991	181.763	116.698	161.909
992	181.754	116.71	161.858
993	181.746	116.721	161.807
994	181.737	116.732	161.756
995	181.729	116.743	161.705
996	181.72	116.755	161.654
997	181.712	116.766	161.603
998	181.703	116.777	161.552
999	181.695	116.788	161.501
1000	181.687	116.799	161.451
1001	181.678	116.81	161.4
1002	181.67	116.821	161.35
1003	181.661	116.833	161.299
1004	181.708	116.843	161.484
1005	181.755	116.857	161.667
1006	181.802	116.874	161.851
1007	181.845	116.89	162.021
1008	181.888	116.905	162.188
1009	181.935	116.921	162.358
1010	181.989	116.938	162.539
1011	182.053	116.957	162.736
1012	182.12	116.974	162.938
1013	182.19	116.99	163.158
1014	182.261	117.004	163.39
1015	182.324	117.016	163.584
1016	182.378	117.027	163.749
1017	182.425	117.035	163.89
1018	182.468	117.043	164.015
1019	182.506	117.05	164.127
1020	182.542	117.055	164.228
1021	182.575	117.06	164.32
1022	182.607	117.064	164.4
1023	182.637	117.068	164.471
1024	182.666	117.071	164.533
1025	182.697	117.072	164.598
1026	182.641	117.057	164.443
1027	182.585	117.041	164.291
1028	182.53	117.026	164.138
1029	182.476	117.011	163.988
1030	182.422	116.995	163.834
1031	182.368	116.98	163.682
1032	182.315	116.965	163.531
1033	182.261	116.949	163.38
1034	182.208	116.934	163.229
1035	182.154	116.918	163.079
1036	182.101	116.902	162.93
1037	182.047	116.887	162.781
1038	181.993	116.871	162.632
1039	181.94	116.854	162.484

00012714

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



1040	181.886	116.838	162.337
1041	181.832	116.822	162.19
1042	181.778	116.805	162.043
1043	181.724	116.788	161.897
1044	181.67	116.772	161.751
1045	181.616	116.755	161.606
1046	181.562	116.738	161.461
1047	181.593	116.738	161.531
1048	181.627	116.737	161.601
1049	181.569	116.719	161.458
1050	181.512	116.7	161.314
1051	181.455	116.682	161.172
1052	181.398	116.663	161.029
1053	181.341	116.644	160.887
1054	181.284	116.625	160.745
1055	181.227	116.607	160.604
1056	181.171	116.588	160.463
1057	181.114	116.569	160.322
1058	181.057	116.549	160.182
1059	181	116.53	160.042
1060	180.944	116.511	159.903
1061	180.887	116.492	159.764
1062	180.831	116.472	159.625
1063	180.774	116.453	159.487
1064	180.718	116.433	159.349
1065	180.662	116.414	159.211
1066	180.606	116.394	159.074
1067	180.55	116.374	158.937
1068	180.494	116.355	158.801
1069	180.438	116.335	158.664
1070	180.382	116.315	158.529
1071	180.327	116.295	158.393
1072	180.271	116.275	158.258
1073	180.216	116.256	158.123
1074	180.264	116.263	158.336
1075	180.344	116.273	158.53
1076	180.401	116.285	158.713
1077	180.452	116.299	158.876
1078	180.502	116.314	159.028
1079	180.554	116.333	159.18
1080	180.605	116.352	159.33
1081	180.655	116.374	159.481
1082	180.716	116.393	159.647
1083	180.774	116.411	159.813
1084	180.821	116.427	159.961
1085	180.862	116.442	160.1
1086	180.901	116.457	160.238
1087	180.931	116.471	160.351
1088	180.935	116.487	160.349
1089	180.93	116.502	160.313
1090	180.926	116.511	160.279
1091	180.918	116.522	160.229
1092	180.91	116.533	160.18
1093	180.901	116.544	160.13
1094	180.893	116.555	160.081

00012715

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



1095	180.884	116.566	160.032
1096	180.876	116.577	159.982
1097	180.868	116.587	159.933
1098	180.859	116.598	159.884
1099	180.851	116.609	159.835
1100	180.842	116.62	159.786
1101	180.834	116.63	159.737
1102	180.828	116.641	159.688
1103	180.817	116.652	159.639
1104	180.809	116.662	159.591
1105	180.8	116.673	159.542
1106	180.792	116.684	159.493
1107	180.784	116.694	159.445
1108	180.83	116.706	159.632
1109	180.877	116.722	159.82
1110	180.922	116.737	159.998
1111	180.965	116.751	160.168
1112	181.01	116.766	160.338
1113	181.061	116.781	160.522
1114	181.122	116.798	160.718
1115	181.189	116.814	160.924
1116	181.258	116.829	161.139
1117	181.33	116.843	161.38
1118	181.396	116.854	161.59
1119	181.453	116.863	161.768
1120	181.503	116.871	161.921
1121	181.547	116.878	162.058
1122	181.588	116.883	162.177
1123	181.625	116.888	162.287
1124	181.66	116.892	162.387
1125	181.692	116.895	162.478
1126	181.724	116.897	162.557
1127	181.753	116.899	162.627
1128	181.784	116.9	162.694
1129	181.818	116.899	162.762
1130	181.855	116.898	162.829
1131	181.892	116.896	162.898
1132	181.93	116.893	162.968
1133	181.968	116.889	163.039
1134	182.006	116.884	163.111
1135	181.941	116.864	162.967
1136	181.877	116.843	162.823
1137	181.812	116.822	162.679
1138	181.748	116.801	162.535
1139	181.684	116.78	162.392
1140	181.62	116.759	162.25
1141	181.556	116.738	162.107
1142	181.492	116.717	161.965
1143	181.428	116.696	161.824
1144	181.365	116.675	161.683
1145	181.301	116.654	161.542
1146	181.237	116.632	161.401
1147	181.173	116.61	161.262
1148	181.108	116.589	161.122
1149	181.044	116.566	160.984

00012716

3410

1150	180.978	116.544	180.846
1151	180.913	116.521	180.708
1152	180.922	116.524	180.823
1153	180.932	116.526	180.538
1154	180.941	116.528	180.453
1155	180.95	116.53	180.368
1156	180.96	116.532	180.285
1157	180.969	116.534	180.201
1158	180.978	116.536	180.117
1159	180.988	116.538	180.034
1160	180.998	116.54	159.951
1161	181.007	116.542	159.868
1162	181.016	116.544	159.785
1163	181.026	116.545	159.703
1164	181.035	116.547	159.621
1165	181.044	116.549	159.539
1166	181.054	116.55	159.457
1167	181.063	116.552	159.376
1168	181.072	116.553	159.295
1169	181.082	116.555	159.214
1170	181.091	116.556	159.134
1171	181.1	116.557	159.053
1172	181.109	116.559	158.972
1173	181.119	116.56	158.892
1174	181.128	116.561	158.813
1175	181.137	116.562	158.734
1176	181.147	116.563	158.655
1177	181.156	116.564	158.576
1178	181.165	116.565	158.497
1179	181.174	116.566	158.418
1180	181.183	116.567	158.338
1181	181.192	116.568	158.259
1182	181.201	116.569	158.18
1183	181.21	116.569	158.101
1184	181.218	116.57	158.022
1185	181.227	116.571	157.943
1186	181.236	116.571	157.865
1187	181.245	116.572	157.787
1188	181.253	116.572	157.709
1189	181.262	116.573	157.631
1190	181.271	116.573	157.553
1191	181.28	116.574	157.476
1192	181.288	116.574	157.399
1193	181.297	116.574	157.322
1194	181.306	116.574	157.246
1195	181.314	116.575	157.169
1196	181.323	116.575	157.093
1197	181.332	116.575	157.017
1198	181.34	116.575	156.942
1199	181.349	116.575	156.866
1200	181.358	116.575	156.791
1201	181.366	116.575	156.716
1202	181.375	116.575	156.641
1203	181.456	116.574	156.879
1204	181.542	116.576	157.143

3411

00012717

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



1205	181.625	116.58	157.39
1206	181.696	116.587	157.811
1207	181.758	116.596	157.811
1208	181.814	116.607	158.004
1209	181.855	116.619	158.127
1210	181.854	116.632	158.069
1211	181.853	116.645	158.012
1212	181.851	116.658	157.955
1213	181.85	116.67	157.898
1214	181.849	116.683	157.842
1215	181.847	116.695	157.784
1216	181.846	116.708	157.726
1217	181.844	116.72	157.668
1218	181.843	116.733	157.611
1219	181.841	116.745	157.553
1220	181.84	116.757	157.496
1221	181.838	116.769	157.44
1222	181.837	116.781	157.383
1223	181.835	116.793	157.327
1224	181.834	116.805	157.271
1225	181.832	116.817	157.215
1226	181.831	116.829	157.16
1227	181.829	116.84	157.105
1228	181.828	116.852	157.05
1229	181.827	116.864	156.995
1230	181.825	116.875	156.94
1231	181.824	116.887	156.886
1232	181.822	116.898	156.832
1233	181.821	116.909	156.777
1234	181.809	116.914	156.705
1235	181.788	116.913	156.615
1236	181.756	116.905	156.507
1237	181.714	116.891	156.382
1238	181.744	116.902	156.462
1239	181.794	116.915	156.625
1240	181.845	116.93	156.785
1241	181.896	116.947	156.945
1242	181.944	116.966	157.103
1243	182.004	116.983	157.276
1244	182.063	116.999	157.451
1245	182.111	117.013	157.609
1246	182.151	117.026	157.755
1247	182.191	117.039	157.904
1248	182.222	117.052	158.027
1249	182.228	117.065	158.041
1250	182.223	117.078	158.013
1251	182.219	117.087	157.985
1252	182.211	117.097	157.939
1253	182.202	117.108	157.892
1254	182.194	117.118	157.846
1255	182.185	117.128	157.8
1256	182.177	117.138	157.754
1257	182.168	117.148	157.708
1258	182.16	117.158	157.662
1259	182.151	117.169	157.616

00012718

3412

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



1260	182.143	117.179	157.57
1261	182.134	117.189	157.525
1262	182.126	117.199	157.479
1263	182.117	117.209	157.433
1264	182.109	117.219	157.388
1265	182.1	117.229	157.342
1266	182.092	117.239	157.297
1267	182.083	117.249	157.251
1268	182.075	117.259	157.206
1269	182.122	117.269	157.399
1270	182.169	117.284	157.592
1271	182.213	117.297	157.777
1272	182.256	117.309	157.954
1273	182.3	117.322	158.131
1274	182.351	117.335	158.32
1275	182.411	117.349	158.523
1276	182.477	117.364	158.735
1277	182.548	117.376	158.956
1278	182.617	117.389	159.2
1279	182.684	117.398	159.423
1280	182.742	117.405	159.61
1281	182.792	117.411	159.773
1282	182.836	117.416	159.918
1283	182.877	117.42	160.047
1284	182.914	117.422	160.166
1285	182.949	117.424	160.275
1286	182.981	117.426	160.375
1287	183.012	117.426	160.466
1288	183.042	117.426	160.547
1289	183.071	117.426	160.621
1290	183.102	117.424	160.698
1291	183.134	117.423	160.771
1292	183.169	117.42	160.845
1293	183.205	117.417	160.92
1294	183.242	117.414	160.995
1295	183.278	117.41	161.071
1296	183.315	117.405	161.147
1297	183.353	117.399	161.225
1298	183.39	117.394	161.303
1299	183.428	117.387	161.382
1300	183.467	117.38	161.417
1301	183.389	117.357	161.28
1302	183.322	117.335	161.144
1303	183.256	117.312	161.008
1304	183.189	117.29	160.872
1305	183.123	117.267	160.736
1306	183.057	117.244	160.601
1307	182.991	117.221	160.466
1308	182.925	117.199	160.331
1309	182.859	117.176	160.197
1310	182.794	117.153	160.062
1311	182.729	117.13	159.928
1312	182.664	117.107	159.794
1313	182.599	117.085	159.661
1314	182.534	117.062	159.528

00012719



ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



1315	182.47	117.039	159.395
1316	182.405	117.016	159.262
1317	182.341	116.993	159.13
1318	182.276	116.97	158.998
1319	182.211	116.946	158.867
1320	182.146	116.923	158.735
1321	182.081	116.899	158.603
1322	182.015	116.875	158.476
1323	181.949	116.851	158.347
1324	181.957	116.851	158.268
1325	181.965	116.852	158.187
1326	181.972	116.853	158.106
1327	181.973	116.851	158.019
1328	181.936	116.836	157.91
1329	181.87	116.812	157.782
1330	181.803	116.787	157.655
1331	181.737	116.762	157.529
1332	181.871	116.738	157.402
1333	181.759	116.738	157.672
1334	181.844	116.741	157.927
1335	181.92	116.747	158.156
1336	181.98	116.758	158.357
1337	181.981	116.767	158.303
1338	181.93	116.749	158.167
1339	181.88	116.731	158.032
1340	181.829	116.714	157.897
1341	181.779	116.696	157.762
1342	181.729	116.678	157.628
1343	181.678	116.661	157.494
1344	181.629	116.643	157.36
1345	181.579	116.625	157.226
1346	181.53	116.608	157.093
1347	181.481	116.59	156.96
1348	181.432	116.573	156.828
1349	181.383	116.555	156.695
1350	181.335	116.537	156.564
1351	181.286	116.52	156.432
1352	181.238	116.502	156.301
1353	181.19	116.485	156.17
1354	181.143	116.467	156.039
1355	181.095	116.45	155.909
1356	181.048	116.432	155.779
1357	181.001	116.415	155.649
1358	180.954	116.398	155.52
1359	180.908	116.381	155.391
1360	180.962	116.391	155.574
1361	181.012	116.403	155.741
1362	181.062	116.418	155.901
1363	181.116	116.435	156.062
1364	181.164	116.453	156.221
1365	181.219	116.471	156.388
1366	181.279	116.487	156.563
1367	181.332	116.502	156.733
1368	181.373	116.515	156.878
1369	181.414	116.529	157.029

00012720

3414

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



1370	181.449	116.541	157.163
1371	181.467	116.554	157.232
1372	181.463	116.569	157.206
1373	181.459	116.579	157.178
1374	181.45	116.589	157.132
1375	181.442	116.6	157.086
1376	181.433	116.61	157.04
1377	181.425	116.62	156.995
1378	181.416	116.63	156.949
1379	181.408	116.64	156.903
1380	181.399	116.65	156.858
1381	181.391	116.66	156.812
1382	181.383	116.67	156.766
1383	181.374	116.68	156.721
1384	181.366	116.69	156.676
1385	181.357	116.7	156.63
1386	181.349	116.71	156.585
1387	181.34	116.72	156.54
1388	181.332	116.73	156.495
1389	181.323	116.74	156.45
1390	181.315	116.75	156.405
1391	181.302	116.758	156.597
1392	181.408	116.771	156.79
1393	181.455	116.786	156.982
1394	181.498	116.797	157.16
1395	181.541	116.81	157.337
1396	181.589	116.823	157.52
1397	181.644	116.837	157.717
1398	181.709	116.852	157.927
1399	181.777	116.866	158.144
1400	181.847	116.878	158.378
1401	181.917	116.888	158.618
1402	181.979	116.897	158.819
1403	182.032	116.904	158.993
1404	182.079	116.909	159.143
1405	182.121	116.914	159.279
1406	182.159	116.917	159.402
1407	182.195	116.919	159.514
1408	182.227	116.921	159.616
1409	182.259	116.922	159.707
1410	182.288	116.922	159.786
1411	182.319	116.921	159.861
1412	182.352	116.919	159.937
1413	182.389	116.916	160.012
1414	182.426	116.912	160.089
1415	182.463	116.907	160.167
1416	182.501	116.901	160.247
1417	182.54	116.894	160.327
1418	182.579	116.888	160.408
1419	182.619	116.878	160.489
1420	182.654	116.869	160.548
1421	182.591	116.847	160.422
1422	182.521	116.824	160.291
1423	182.449	116.8	160.16
1424	182.377	116.775	160.029

00012721

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



1425	182.305	116.751	159.898
1426	182.233	116.727	159.768
1427	182.161	116.702	159.637
1428	182.09	116.678	159.507
1429	182.018	116.653	159.378
1430	181.947	116.629	159.248
1431	181.876	116.604	159.119
1432	181.805	116.58	158.99
1433	181.734	116.555	158.862
1434	181.663	116.53	158.733
1435	181.592	116.506	158.605
1436	181.522	116.481	158.477
1437	181.452	116.456	158.35
1438	181.382	116.431	158.223
1439	181.311	116.406	158.095
1440	181.242	116.381	157.968
1441	181.172	116.356	157.842
1442	181.102	116.331	157.715
1443	181.033	116.306	157.589
1444	180.963	116.281	157.463
1445	180.894	116.256	157.338
1446	180.825	116.231	157.212
1447	180.756	116.205	157.087
1448	180.687	116.18	156.962
1449	180.618	116.155	156.838
1450	180.55	116.129	156.713
1451	180.481	116.104	156.589
1452	180.413	116.079	156.465
1453	180.345	116.053	156.342
1454	180.277	116.028	156.218
1455	180.209	116.002	156.095
1456	180.141	115.977	155.972
1457	180.073	115.951	155.85
1458	180.006	115.925	155.727
1459	179.938	115.9	155.605
1460	179.871	115.874	155.483
1461	179.804	115.848	155.362
1462	179.737	115.822	155.24
1463	179.67	115.797	155.119
1464	179.603	115.771	154.998
1465	179.536	115.745	154.878
1466	179.469	115.719	154.757
1467	179.403	115.693	154.637
1468	179.337	115.667	154.517
1469	179.271	115.641	154.397
1470	179.205	115.615	154.277
1471	179.14	115.59	154.158
1472	179.075	115.564	154.038
1473	179.011	115.538	153.919
1474	178.948	115.513	153.799
1475	178.884	115.487	153.68
1476	178.822	115.462	153.56
1477	178.759	115.437	153.441
1478	178.698	115.412	153.322
1479	178.636	115.387	153.202

00012722

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



1480	178.575	115.362	153.083
1481	178.514	115.337	152.965
1482	178.453	115.312	152.846
1483	178.393	115.287	152.728
1484	178.333	115.263	152.61
1485	178.273	115.238	152.492
1486	178.213	115.213	152.374
1487	178.153	115.188	152.257
1488	178.093	115.163	152.14
1489	178.178	115.165	152.398
1490	178.252	115.17	152.629
1491	178.313	115.176	152.837
1492	178.371	115.186	153.036
1493	178.424	115.196	153.215
1494	178.475	115.209	153.382
1495	178.526	115.224	153.545
1496	178.579	115.241	153.708
1497	178.626	115.259	153.87
1498	178.685	115.276	154.043
1499	178.744	115.291	154.221
1500	178.795	115.305	154.388
1501	178.836	115.318	154.535
1502	178.877	115.331	154.691
1503	178.91	115.343	154.821
1504	178.922	115.356	154.864
1505	178.918	115.369	154.84
1506	178.913	115.379	154.815
1507	178.906	115.388	154.77
1508	178.897	115.398	154.726
1509	178.889	115.408	154.681
1510	178.88	115.418	154.636
1511	178.872	115.428	154.592
1512	178.864	115.438	154.548
1513	178.856	115.447	154.503
1514	178.847	115.457	154.459
1515	178.839	115.467	154.415
1516	178.831	115.477	154.371
1517	178.822	115.488	154.327
1518	178.814	115.498	154.283
1519	178.806	115.506	154.239
1520	178.797	115.515	154.195
1521	178.789	115.525	154.151
1522	178.781	115.535	154.107
1523	178.773	115.544	154.063
1524	178.819	115.553	154.257
1525	178.866	115.566	154.452
1526	178.911	115.579	154.642
1527	178.954	115.591	154.821
1528	178.998	115.603	155
1529	179.048	115.616	155.189
1530	179.106	115.63	155.391
1531	179.171	115.644	155.605
1532	179.24	115.657	155.825
1533	179.311	115.689	156.067
1534	179.38	115.679	156.299

00012723



3417

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



1535	179.44	115.666	156.494
1536	179.492	115.693	156.664
1537	179.538	115.698	156.814
1538	179.579	115.701	156.949
1539	179.618	115.704	157.071
1540	179.653	115.706	157.184
1541	179.687	115.707	157.286
1542	179.718	115.708	157.377
1543	179.748	115.708	157.457
1544	179.78	115.707	157.535
1545	179.815	115.704	157.613
1546	179.852	115.702	157.691
1547	179.89	115.698	157.77
1548	179.928	115.693	157.85
1549	179.967	115.687	157.932
1550	180.006	115.681	158.014
1551	180.046	115.673	158.096
1552	180.063	115.666	158.073
1553	179.995	115.643	157.942
1554	179.929	115.62	157.812
1555	179.862	115.597	157.682
1556	179.796	115.574	157.552
1557	179.73	115.55	157.422
1558	179.664	115.527	157.292
1559	179.599	115.504	157.163
1560	179.534	115.481	157.033
1561	179.47	115.458	156.904
1562	179.405	115.435	156.775
1563	179.341	115.412	156.646
1564	179.278	115.389	156.517
1565	179.215	115.366	156.388
1566	179.152	115.344	156.26
1567	179.089	115.321	156.132
1568	179.027	115.298	156.004
1569	178.965	115.275	155.876
1570	178.903	115.253	155.749
1571	178.842	115.23	155.621
1572	178.781	115.207	155.494
1573	178.72	115.185	155.367
1574	178.659	115.162	155.24
1575	178.599	115.14	155.113
1576	178.539	115.117	154.987
1577	178.48	115.095	154.861
1578	178.42	115.072	154.735
1579	178.361	115.05	154.609
1580	178.442	115.056	154.848
1581	178.505	115.064	155.056
1582	178.565	115.074	155.253
1583	178.62	115.086	155.434
1584	178.671	115.099	155.598
1585	178.721	115.115	155.754
1586	178.774	115.133	155.911
1587	178.823	115.153	156.067
1588	178.877	115.173	156.227
1589	178.936	115.19	156.398

00012724

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



1590	178.994	115.207	156.568
1591	179.037	115.222	156.713
1592	179.078	115.236	156.859
1593	179.115	115.25	156.995
1594	179.138	115.264	157.081
1595	179.134	115.279	157.053
1596	179.129	115.291	157.022
1597	179.121	115.302	156.974
1598	179.113	115.312	156.927
1599	179.104	115.323	156.88
1600	179.096	115.333	156.833
1601	179.088	115.343	156.786
1602	179.079	115.354	156.739
1603	179.071	115.364	156.692
1604	179.063	115.375	156.645
1605	179.054	115.385	156.598
1606	179.046	115.395	156.552
1607	179.038	115.405	156.505
1608	179.03	115.416	156.459
1609	179.021	115.426	156.412
1610	179.013	115.436	156.366
1611	179.005	115.446	156.319
1612	178.996	115.457	156.273
1613	178.988	115.467	156.227
1614	179.036	115.475	156.417
1615	179.082	115.488	156.607
1616	179.129	115.503	156.798
1617	179.172	115.517	156.975
1618	179.215	115.53	157.148
1619	179.262	115.544	157.326
1620	179.316	115.559	157.517
1621	179.379	115.576	157.721
1622	179.447	115.591	157.932
1623	179.517	115.606	158.158
1624	179.586	115.617	158.401
1625	179.652	115.627	158.604
1626	179.707	115.636	158.778
1627	179.754	115.643	158.927
1628	179.797	115.649	159.061
1629	179.836	115.654	159.18
1630	179.872	115.658	159.29
1631	179.906	115.661	159.39
1632	179.938	115.663	159.478
1633	179.962	115.665	159.529
1634	179.91	115.649	159.387
1635	179.857	115.633	159.245
1636	179.805	115.616	159.104
1637	179.753	115.6	158.964
1638	179.701	115.583	158.823
1639	179.649	115.567	158.684
1640	179.596	115.55	158.544
1641	179.544	115.533	158.405
1642	179.492	115.516	158.266
1643	179.44	115.499	158.128
1644	179.388	115.482	157.99

00012725

3419

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



1645	179.336	115.465	157.853
1646	179.284	115.448	157.716
1647	179.232	115.431	157.579
1648	179.181	115.413	157.443
1649	179.129	115.396	157.307
1650	179.077	115.378	157.171
1651	179.025	115.361	157.036
1652	178.98	115.347	156.909
1653	178.93	115.33	156.776
1654	178.878	115.312	156.642
1655	178.826	115.294	156.508
1656	178.816	115.295	156.414
1657	178.847	115.294	156.494
1658	178.881	115.292	156.573
1659	178.919	115.289	156.652
1660	178.957	115.285	156.732
1661	178.995	115.28	156.814
1662	179.034	115.275	156.896
1663	179.074	115.268	156.98
1664	179.114	115.261	157.063
1665	179.155	115.253	157.148
1666	179.196	115.244	157.233
1667	179.237	115.235	157.317
1668	179.279	115.226	157.401
1669	179.301	115.216	157.392
1670	179.228	115.192	157.266
1671	179.156	115.167	157.14
1672	179.248	115.166	157.412
1673	179.338	115.167	157.681
1674	179.425	115.171	157.943
1675	179.508	115.178	158.183
1676	179.576	115.188	158.391
1677	179.59	115.201	158.387
1678	179.54	115.185	158.246
1679	179.491	115.17	158.105
1680	179.442	115.155	157.964
1681	179.393	115.141	157.824
1682	179.345	115.126	157.684
1683	179.297	115.112	157.544
1684	179.25	115.097	157.404
1685	179.204	115.083	157.265
1686	179.158	115.069	157.125
1687	179.112	115.055	156.986
1688	179.068	115.042	156.848
1689	179.023	115.028	156.709
1690	178.98	115.015	156.57
1691	178.937	115.002	156.432
1692	178.894	114.989	156.295
1693	178.852	114.977	156.157
1694	178.811	114.964	156.02
1695	178.77	114.952	155.883
1696	178.729	114.94	155.746
1697	178.689	114.928	155.61
1698	178.649	114.916	155.474
1699	178.61	114.905	155.338

00013726



3400

ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



1700	178.572	114.894	155.203
1701	178.583	114.901	155.199
1702	178.63	114.907	155.354
1703	178.673	114.911	155.497
1704	178.713	114.915	155.627
1705	178.764	114.929	155.79
1706	178.814	114.946	155.945
1707	178.868	114.965	156.101
1708	178.916	114.986	156.254
1709	178.973	115.005	156.418
1710	179.032	115.023	156.588
1711	179.084	115.039	156.749
1712	179.124	115.054	156.889
1713	179.168	115.069	157.037
1714	179.199	115.083	157.182
1715	179.211	115.097	157.202
1716	179.207	115.113	157.171
1717	179.203	115.123	157.14
1718	179.194	115.134	157.092
1719	179.186	115.144	157.045
1720	179.178	115.155	156.997
1721	179.169	115.165	156.95
1722	179.161	115.176	156.902
1723	179.153	115.186	156.855
1724	179.144	115.197	156.808
1725	179.136	115.207	156.761
1726	179.127	115.218	156.714
1727	179.119	115.228	156.667
1728	179.111	115.239	156.62
1729	179.102	115.249	156.573
1730	179.094	115.259	156.526
1731	179.086	115.27	156.479
1732	179.077	115.28	156.432
1733	179.069	115.29	156.385
1734	179.061	115.301	156.339
1735	179.107	115.311	156.529
1736	179.154	115.325	156.718
1737	179.199	115.34	156.903
1738	179.242	115.354	157.076
1739	179.286	115.368	157.248
1740	179.335	115.382	157.43
1741	179.392	115.398	157.625
1742	179.458	115.415	157.832
1743	179.526	115.43	158.045
1744	179.597	115.444	158.279
1745	179.685	115.456	158.507
1746	179.726	115.466	158.696
1747	179.778	115.474	158.861
1748	179.824	115.481	159.005
1749	179.866	115.487	159.134
1750	179.904	115.492	159.251
1751	179.939	115.496	159.357
1752	179.972	115.5	159.454
1753	179.922	115.485	159.31
1754	179.872	115.47	159.166

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ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



1755	179.823	115.455	158.023
1756	179.773	115.44	158.881
1757	179.724	115.425	158.738
1758	179.675	115.411	158.596
1759	179.627	115.396	158.454
1760	179.579	115.381	158.313
1761	179.531	115.367	158.172
1762	179.484	115.352	158.031
1763	179.437	115.338	157.89
1764	179.39	115.324	157.75
1765	179.344	115.309	157.61
1766	179.298	115.295	157.471
1767	179.253	115.281	157.331
1768	179.208	115.267	157.192
1769	179.163	115.253	157.054
1770	179.119	115.24	156.915
1771	179.074	115.226	156.777
1772	179.031	115.212	156.639
1773	178.987	115.198	156.502
1774	178.944	115.185	156.364
1775	178.901	115.171	156.227
1776	178.858	115.157	156.091
1777	178.815	115.144	155.955
1778	178.856	115.147	156.084
1779	178.893	115.15	156.204
1780	178.928	115.152	156.314
1781	178.961	115.153	156.413
1782	178.911	115.137	156.278
1783	178.922	115.148	156.264
1784	178.978	115.16	156.447
1785	179.029	115.174	156.611
1786	179.079	115.19	156.765
1787	179.131	115.209	156.919
1788	179.181	115.229	157.073
1789	179.233	115.25	157.228
1790	179.294	115.269	157.397
1791	179.352	115.286	157.566
1792	179.397	115.302	157.712
1793	179.437	115.317	157.854
1794	179.476	115.332	157.992
1795	179.503	115.346	158.093
1796	179.503	115.361	158.079
1797	179.498	115.375	158.046
1798	179.495	115.384	158.014
1799	179.486	115.395	157.966
1800	179.478	115.405	157.918
1801	179.47	115.416	157.869
1802	179.461	115.427	157.821
1803	179.453	115.437	157.773
1804	179.444	115.448	157.725
1805	179.435	115.459	157.677
1806	179.428	115.469	157.63
1807	179.419	115.48	157.582
1808	179.411	115.49	157.534
1809	179.403	115.501	157.486

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ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

1810	179.394	115.511	157.439
1811	179.386	115.522	157.391
1812	179.378	115.532	157.344
1813	179.369	115.543	157.297
1814	179.361	115.553	157.249
1815	179.353	115.563	157.202
1816	179.399	115.576	157.39
1817	179.446	115.591	157.581
1818	179.49	115.606	157.758
1819	179.533	115.62	157.93
1820	179.579	115.634	158.104
1821	179.632	115.649	158.291
1822	179.693	115.666	158.491
1823	179.76	115.682	158.7
1824	179.83	115.697	158.92
1825	179.902	115.71	159.168
1826	179.967	115.721	159.374
1827	180.024	115.731	159.552
1828	180.073	115.739	159.707
1829	180.118	115.745	159.844
1830	180.158	115.751	159.969
1831	180.196	115.756	160.082
1832	180.231	115.76	160.185
1833	180.264	115.764	160.28
1834	180.296	115.767	160.364
1835	180.326	115.769	160.437
1836	180.356	115.77	160.507
1837	180.39	115.771	160.577
1838	180.424	115.77	160.634
1839	180.366	115.752	160.491
1840	180.309	115.735	160.348
1841	180.252	115.717	160.205
1842	180.195	115.7	160.062
1843	180.139	115.682	159.92
1844	180.084	115.665	159.778
1845	180.03	115.648	159.636
1846	179.976	115.632	159.494
1847	179.923	115.615	159.352
1848	179.871	115.599	159.21
1849	179.819	115.583	159.068
1850	179.768	115.567	158.926
1851	179.717	115.551	158.785
1852	179.667	115.535	158.643
1853	179.681	115.548	158.638
1854	179.736	115.561	158.813
1855	179.787	115.577	158.97
1856	179.836	115.594	159.118
1857	179.889	115.614	159.267
1858	179.938	115.636	159.415
1859	179.991	115.657	159.566
1860	180.051	115.677	159.729
1861	180.108	115.696	159.893
1862	180.163	115.713	160.033
1863	180.193	115.729	160.171
1864	180.231	115.745	160.302

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ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



1865	180.256	115.76	160.391
1866	180.254	115.776	160.365
1867	180.25	115.791	160.327
1868	180.247	115.8	160.291
1869	180.238	115.812	160.241
1870	180.23	115.823	160.19
1871	180.221	115.834	160.14
1872	180.213	115.845	160.09
1873	180.204	115.856	160.04
1874	180.196	115.867	159.99
1875	180.188	115.878	159.94
1876	180.179	115.889	159.89
1877	180.171	115.9	159.84
1878	180.162	115.911	159.79
1879	180.154	115.922	159.74
1880	180.146	115.933	159.691
1881	180.137	115.944	159.641
1882	180.129	115.955	159.592
1883	180.121	115.966	159.542
1884	180.112	115.976	159.493
1885	180.104	115.987	159.443
1886	180.15	116.001	159.628
1887	180.198	116.017	159.816
1888	180.241	116.033	159.989
1889	180.284	116.048	160.156
1890	180.33	116.063	160.327
1891	180.384	116.079	160.511
1892	180.446	116.097	160.707
1893	180.513	116.114	160.912
1894	180.583	116.13	161.13
1895	180.655	116.144	161.371
1896	180.719	116.156	161.571
1897	180.775	116.166	161.742
1898	180.822	116.175	161.888
1899	180.866	116.182	162.018
1900	180.906	116.189	162.134
1901	180.943	116.194	162.24
1902	180.977	116.199	162.337
1903	181.009	116.204	162.424
1904	181.04	116.207	162.501
1905	181.07	116.21	162.569
1906	181.1	116.212	162.635
1907	181.133	116.213	162.7
1908	181.169	116.214	162.765
1909	181.205	116.214	162.831
1910	181.243	116.213	162.898
1911	181.28	116.211	162.966
1912	181.318	116.209	163.034
1913	181.358	116.206	163.104
1914	181.395	116.202	163.174
1915	181.427	116.198	163.244
1916	181.361	116.178	163.068
1917	181.296	116.159	162.922
1918	181.231	116.14	162.776
1919	181.167	116.12	162.63

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ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



1920	181.103	116.101	162.484
1921	181.04	116.082	162.339
1922	180.978	116.063	162.193
1923	180.916	116.044	162.047
1924	180.854	116.026	161.902
1925	180.793	116.007	161.757
1926	180.733	115.988	161.612
1927	180.673	115.97	161.467
1928	180.614	115.952	161.322
1929	180.555	115.934	161.177
1930	180.497	115.916	161.033
1931	180.439	115.898	160.889
1932	180.382	115.88	160.745
1933	180.325	115.862	160.601
1934	180.269	115.845	160.458
1935	180.333	115.856	160.657
1936	180.392	115.889	160.842
1937	180.447	115.884	161.011
1938	180.498	115.9	161.163
1939	180.547	115.919	161.306
1940	180.6	115.94	161.451
1941	180.649	115.963	161.593
1942	180.702	115.986	161.74
1943	180.762	116.007	161.898
1944	180.818	116.026	162.056
1945	180.861	116.044	162.189
1946	180.902	116.062	162.324
1947	180.939	116.078	162.448
1948	180.982	116.095	162.524
1949	180.958	116.112	162.485
1950	180.954	116.127	162.443
1951	180.945	116.139	162.39
1952	180.937	116.15	162.338
1953	180.928	116.162	162.285
1954	180.92	116.173	162.233
1955	180.911	116.185	162.181
1956	180.903	116.196	162.129
1957	180.895	116.208	162.077
1958	180.886	116.219	162.025
1959	180.878	116.231	161.973
1960	180.869	116.242	161.921
1961	180.861	116.253	161.869
1962	180.852	116.265	161.818
1963	180.844	116.276	161.766
1964	180.835	116.288	161.714
1965	180.827	116.299	161.663
1966	180.819	116.31	161.611
1967	180.81	116.321	161.56
1968	180.857	116.332	161.744
1969	180.904	116.347	161.926
1970	180.951	116.364	162.108
1971	180.995	116.381	162.276
1972	181.038	116.397	162.44
1973	181.084	116.413	162.607
1974	181.138	116.431	162.787

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ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



1975	181.201	116.45	162.98
1978	181.268	116.469	163.18
1977	181.338	116.485	163.395
1978	181.41	116.5	163.629
1979	181.474	116.513	163.824
1980	181.529	116.525	163.991
1981	181.578	116.535	164.134
1982	181.622	116.544	164.262
1983	181.662	116.552	164.377
1984	181.7	116.559	164.482
1985	181.736	116.565	164.579
1986	181.769	116.571	164.669
1987	181.801	116.577	164.75
1988	181.832	116.581	164.824
1989	181.862	116.586	164.89
1990	181.891	116.59	164.95
1991	181.922	116.593	165.01
1992	181.955	116.595	165.07
1993	181.989	116.597	165.13
1994	182.025	116.598	165.19
1995	182.062	116.599	165.251
1996	182.099	116.599	165.313
1997	182.136	116.598	165.375
1998	182.174	116.597	165.438
1999	182.11	116.58	165.285
2000	182.048	116.562	165.131
2001	181.986	116.545	164.977
2002	181.926	116.528	164.824
2003	181.865	116.512	164.67
2004	181.806	116.495	164.517
2005	181.748	116.479	164.363
2006	181.69	116.463	164.21
2007	181.633	116.447	164.057
2008	181.576	116.431	163.904
2009	181.52	116.416	163.752
2010	181.464	116.401	163.599
2011	181.409	116.395	163.447
2012	181.354	116.37	163.296
2013	181.299	116.355	163.145
2014	181.244	116.339	162.994
2015	181.19	116.324	162.844
2016	181.248	116.336	163.009
2017	181.307	116.349	163.19
2018	181.362	116.365	163.357
2019	181.412	116.383	163.506
2020	181.461	116.402	163.644
2021	181.513	116.424	163.784
2022	181.563	116.448	163.921
2023	181.614	116.472	164.062
2024	181.675	116.494	164.214
2025	181.732	116.515	164.369
2026	181.777	116.534	164.5
2027	181.818	116.553	164.629
2028	181.855	116.571	164.752
2029	181.882	116.588	164.84

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ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



2030	181.882	116.606	164.811
2031	181.877	116.823	164.764
2032	181.874	116.834	164.72
2033	181.865	116.846	164.666
2034	181.857	116.858	164.611
2035	181.848	116.67	164.557
2036	181.839	116.682	164.503
2037	181.831	116.894	164.448
2038	181.822	116.706	164.394
2039	181.814	116.718	164.34
2040	181.806	116.73	164.286
2041	181.797	116.742	164.232
2042	181.788	116.753	164.179
2043	181.78	116.765	164.125
2044	181.772	116.777	164.071
2045	181.763	116.789	164.018
2046	181.755	116.801	163.964
2047	181.746	116.812	163.911
2048	181.738	116.824	163.857
2049	181.729	116.836	163.804
2050	181.721	116.847	163.751
2051	181.712	116.859	163.698
2052	181.704	116.871	163.645
2053	181.695	116.882	163.592
2054	181.687	116.894	163.539
2055	181.678	116.905	163.486
2056	181.67	116.917	163.433
2057	181.661	116.929	163.38
2058	181.653	116.94	163.328
2059	181.644	116.952	163.275
2060	181.636	116.963	163.223
2061	181.628	116.975	163.17
2062	181.619	116.986	163.118
2063	181.611	116.997	163.065
2064	181.602	117.009	163.013
2065	181.594	117.02	162.961
2066	181.585	117.032	162.909
2067	181.577	117.043	162.857
2068	181.569	117.054	162.805
2069	181.56	117.066	162.753
2070	181.552	117.077	162.702
2071	181.543	117.088	162.65
2072	181.535	117.1	162.598
2073	181.526	117.111	162.547
2074	181.518	117.122	162.495
2075	181.51	117.133	162.444
2076	181.501	117.144	162.392
2077	181.493	117.156	162.341
2078	181.484	117.167	162.29
2079	181.476	117.178	162.239
2080	181.468	117.189	162.188
2081	181.459	117.2	162.137
2082	181.451	117.211	162.086
2083	181.442	117.222	162.035
2084	181.434	117.233	161.984

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ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



2085	181.426	117.244	161.933
2086	181.417	117.256	161.883
2087	181.408	117.267	161.832
2088	181.401	117.278	161.782
2089	181.392	117.289	161.731
2090	181.384	117.299	161.681
2091	181.375	117.31	161.631
2092	181.367	117.321	161.58
2093	181.359	117.332	161.53
2094	181.35	117.343	161.48
2095	181.342	117.354	161.43
2096	181.334	117.365	161.38
2097	181.325	117.376	161.33
2098	181.317	117.387	161.281
2099	181.309	117.397	161.231
2100	181.3	117.408	161.181
2101	181.292	117.419	161.132
2102	181.284	117.43	161.082
2103	181.275	117.44	161.033
2104	181.267	117.451	160.983
2105	181.259	117.462	160.934
2106	181.25	117.473	160.885
2107	181.242	117.483	160.835
2108	181.234	117.494	160.786
2109	181.225	117.504	160.737
2110	181.217	117.515	160.688
2111	181.209	117.526	160.639
2112	181.2	117.536	160.59
2113	181.192	117.547	160.542
2114	181.184	117.557	160.493
2115	181.175	117.568	160.444
2116	181.167	117.578	160.395
2117	181.159	117.589	160.347
2118	181.15	117.599	160.299
2119	181.142	117.61	160.25
2120	181.134	117.62	160.202
2121	181.126	117.631	160.154
2122	181.117	117.641	160.105
2123	181.109	117.652	160.057
2124	181.101	117.662	160.009
2125	181.092	117.672	159.961
2126	181.084	117.683	159.913
2127	181.076	117.693	159.866
2128	181.068	117.703	159.818
2129	181.059	117.714	159.77
2130	181.051	117.724	159.722
2131	181.043	117.734	159.675
2132	181.034	117.745	159.627
2133	181.026	117.755	159.58
2134	181.018	117.765	159.532
2135	181.01	117.775	159.485
2136	181.001	117.785	159.438
2137	180.993	117.796	159.391
2138	180.985	117.806	159.343
2139	180.977	117.816	159.296

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ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



2140	180.968	117.826	159.249
2141	180.96	117.836	159.202
2142	180.952	117.846	159.156
2143	180.944	117.856	159.109
2144	180.935	117.866	159.062
2145	180.927	117.876	159.015
2146	180.919	117.886	158.969
2147	180.911	117.896	158.922
2148	180.903	117.906	158.876
2149	180.894	117.916	158.829
2150	180.886	117.926	158.783
2151	180.878	117.936	158.737
2152	180.87	117.946	158.69
2153	180.861	117.956	158.644
2154	180.853	117.966	158.598
2155	180.845	117.976	158.552
2156	180.837	117.986	158.506
2157	180.829	117.996	158.46
2158	180.82	118.005	158.414
2159	180.812	118.015	158.368
2160	180.804	118.025	158.323
2161	180.796	118.035	158.277
2162	180.788	118.045	158.231
2163	180.779	118.054	158.186
2164	180.771	118.064	158.14
2165	180.763	118.074	158.095
2166	180.755	118.084	158.05
2167	180.747	118.093	158.004
2168	180.738	118.103	157.959
2169	180.73	118.113	157.914
2170	180.722	118.122	157.869
2171	180.714	118.132	157.824
2172	180.706	118.142	157.779
2173	180.698	118.151	157.734
2174	180.689	118.161	157.689
2175	180.681	118.17	157.644
2176	180.673	118.18	157.599
2177	180.665	118.189	157.555
2178	180.657	118.199	157.51
2179	180.649	118.209	157.466
2180	180.64	118.218	157.421
2181	180.632	118.227	157.377
2182	180.624	118.237	157.332
2183	180.616	118.246	157.288
2184	180.608	118.256	157.244
2185	180.6	118.265	157.2
2186	180.592	118.275	157.156
2187	180.583	118.284	157.111
2188	180.575	118.293	157.067
2189	180.567	118.303	157.024
2190	180.559	118.312	156.98
2191	180.551	118.321	156.936
2192	180.543	118.331	156.892
2193	180.535	118.34	156.848
2194	180.527	118.349	156.805

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ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



2195	180.518	118.359	156.761
2196	180.51	118.368	156.718
2197	180.502	118.377	156.674
2198	180.494	118.386	156.631
2199	180.486	118.396	156.587
2200	180.478	118.405	156.544
2201	180.47	118.414	156.501
2202	180.462	118.423	156.458
2203	180.454	118.432	156.415
2204	180.445	118.441	156.372
2205	180.437	118.451	156.329
2206	180.429	118.46	156.286
2207	180.421	118.469	156.243
2208	180.413	118.478	156.2
2209	180.405	118.487	156.157
2210	180.397	118.496	156.115
2211	180.389	118.505	156.072
2212	180.381	118.514	156.029
2213	180.427	118.523	156.228
2214	180.475	118.535	156.429
2215	180.519	118.546	156.618
2216	180.563	118.555	156.801
2217	180.609	118.565	156.987
2218	180.663	118.575	157.187
2219	180.726	118.587	157.4
2220	180.793	118.597	157.621
2221	180.864	118.606	157.856
2222	180.937	118.614	158.113
2223	181.003	118.618	158.333
2224	181.06	118.622	158.522
2225	181.11	118.623	158.686
2226	181.155	118.623	158.833
2227	181.197	118.622	158.967
2228	181.235	118.62	159.089
2229	181.27	118.617	159.201
2230	181.304	118.614	159.303
2231	181.336	118.609	159.393
2232	181.368	118.604	159.476
2233	181.402	118.597	159.556
2234	181.44	118.589	159.638
2235	181.479	118.58	159.721
2236	181.504	118.571	159.741
2237	181.514	118.57	159.663
2238	181.523	118.57	159.586
2239	181.534	118.569	159.512
2240	181.544	118.568	159.437
2241	181.554	118.568	159.363
2242	181.564	118.567	159.289
2243	181.574	118.566	159.215
2244	181.584	118.565	159.141
2245	181.594	118.565	159.067
2246	181.604	118.564	158.993
2247	181.614	118.563	158.92
2248	181.624	118.562	158.847
2249	181.634	118.561	158.774

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ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

2250	181.644	118.56	158.701
2251	181.654	118.559	158.629
2252	181.664	118.557	158.558
2253	181.674	118.556	158.486
2254	181.684	118.555	158.415
2255	181.694	118.554	158.344
2256	181.776	118.553	158.581
2257	181.858	118.554	158.824
2258	181.925	118.557	159.04
2259	181.986	118.563	159.24
2260	182.044	118.571	159.431
2261	182.097	118.58	159.602
2262	182.148	118.592	159.763
2263	182.199	118.605	159.92
2264	182.252	118.622	160.077
2265	182.3	118.64	160.231
2266	182.358	118.656	160.397
2267	182.417	118.672	160.568
2268	182.47	118.686	160.731
2269	182.511	118.699	160.872
2270	182.552	118.712	161.02
2271	182.587	118.725	161.149
2272	182.601	118.738	161.199
2273	182.597	118.753	161.168
2274	182.593	118.763	161.136
2275	182.585	118.774	161.088
2276	182.576	118.784	161.04
2277	182.568	118.794	160.992
2278	182.56	118.804	160.945
2279	182.551	118.815	160.897
2280	182.543	118.825	160.849
2281	182.535	118.835	160.802
2282	182.526	118.845	160.754
2283	182.518	118.856	160.707
2284	182.51	118.866	160.659
2285	182.501	118.876	160.612
2286	182.493	118.886	160.564
2287	182.485	118.896	160.517
2288	182.477	118.906	160.47
2289	182.468	118.916	160.423
2290	182.46	118.927	160.376
2291	182.452	118.937	160.329
2292	182.448	118.946	160.521
2293	182.545	118.959	160.712
2294	182.592	118.973	160.9
2295	182.635	118.985	161.075
2296	182.679	118.998	161.249
2297	182.728	119.01	161.432
2298	182.785	119.024	161.627
2299	182.851	119.039	161.835
2300	182.919	119.051	182.05
2301	182.991	119.063	162.284
2302	183.06	119.072	162.517
2303	183.122	119.079	182.71
2304	183.175	119.084	162.877

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ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



2305	183.221	119.088	163.023
2306	183.264	119.09	163.153
2307	183.303	119.092	163.27
2308	183.338	119.092	163.376
2309	183.371	119.092	163.472
2310	183.403	119.09	163.554
2311	183.433	119.088	163.626
2312	183.466	119.084	163.698
2313	183.503	119.08	163.769
2314	183.541	119.073	163.842
2315	183.579	119.066	163.917
2316	183.584	119.059	163.839
2317	183.591	119.06	163.747
2318	183.599	119.061	163.656
2319	183.607	119.062	163.565
2320	183.614	119.063	163.474
2321	183.622	119.064	163.383
2322	183.63	119.065	163.293
2323	183.637	119.066	163.203
2324	183.645	119.066	163.113
2325	183.652	119.067	163.024
2326	183.66	119.068	162.935
2327	183.668	119.068	162.846
2328	183.675	119.069	162.757
2329	183.683	119.069	162.669
2330	183.69	119.069	162.581
2331	183.698	119.07	162.493
2332	183.706	119.07	162.406
2333	183.713	119.07	162.319
2334	183.721	119.071	162.232
2335	183.728	119.071	162.145
2336	183.736	119.071	162.059
2337	183.743	119.071	161.972
2338	183.797	119.071	162.086
2339	183.881	119.073	162.333
2340	183.954	119.078	162.554
2341	184.015	119.086	162.75
2342	184.073	119.095	162.938
2343	184.127	119.107	163.106
2344	184.177	119.12	163.26
2345	184.227	119.136	163.409
2346	184.28	119.154	163.558
2347	184.328	119.174	163.705
2348	184.384	119.193	163.861
2349	184.443	119.211	164.024
2350	184.496	119.227	164.181
2351	184.536	119.242	164.314
2352	184.578	119.257	164.455
2353	184.612	119.271	164.577
2354	184.628	119.286	164.625
2355	184.624	119.303	164.587
2356	184.619	119.315	164.549
2357	184.611	119.326	164.497
2358	184.602	119.337	164.446
2359	184.594	119.348	164.395

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ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



2360	184.585	119.359	164.344
2361	184.577	119.37	164.293
2362	184.568	119.381	164.242
2363	184.56	119.392	164.191
2364	184.551	119.403	164.141
2365	184.543	119.414	164.09
2366	184.534	119.425	164.039
2367	184.526	119.436	163.989
2368	184.517	119.447	163.938
2369	184.509	119.458	163.888
2370	184.5	119.469	163.837
2371	184.492	119.48	163.787
2372	184.483	119.491	163.737
2373	184.475	119.501	163.687
2374	184.522	119.512	163.874
2375	184.569	119.527	164.06
2376	184.615	119.542	164.243
2377	184.658	119.556	164.412
2378	184.701	119.57	164.58
2379	184.75	119.585	164.758
2380	184.807	119.6	164.944
2381	184.872	119.617	165.148
2382	184.94	119.632	165.353
2383	185.011	119.645	165.58
2384	185.081	119.657	165.807
2385	185.142	119.666	165.995
2386	185.195	119.673	166.157
2387	185.241	119.679	166.296
2388	185.282	119.684	166.42
2389	185.32	119.687	166.53
2390	185.355	119.689	166.629
2391	185.387	119.691	166.716
2392	185.417	119.691	166.79
2393	185.447	119.69	166.855
2394	185.475	119.689	166.895
2395	185.49	119.695	166.802
2396	185.485	119.704	166.711
2397	185.491	119.711	166.619
2398	185.495	119.718	166.527
2399	185.5	119.726	166.433
2400	185.505	119.733	166.34
2401	185.51	119.74	166.246
2402	185.502	119.741	166.14
2403	185.468	119.73	166.011
2404	185.408	119.71	165.863
2405	185.351	119.689	165.715
2406	185.293	119.668	165.567
2407	185.238	119.648	165.42
2408	185.178	119.627	165.273
2409	185.227	119.634	165.384
2410	185.287	119.642	165.575
2411	185.345	119.653	165.757
2412	185.398	119.665	165.922
2413	185.448	119.68	166.072
2414	185.498	119.697	166.214

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ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls

ALSTOM

2415	185.551	119.716	166.357
2416	185.599	119.737	166.498
2417	185.653	119.758	166.646
2418	185.713	119.778	166.802
2419	185.768	119.796	166.958
2420	185.81	119.812	167.089
2421	185.851	119.828	167.223
2422	185.888	119.844	167.345
2423	185.909	119.85	167.412
2424	185.905	119.878	167.37
2425	185.9	119.892	167.326
2426	185.892	119.904	167.272
2427	185.883	119.915	167.218
2428	185.874	119.927	167.165
2429	185.866	119.938	167.111
2430	185.857	119.95	167.058
2431	185.848	119.962	167.004
2432	185.84	119.973	166.951
2433	185.831	119.985	166.898
2434	185.823	119.996	166.845
2435	185.814	120.008	166.792
2436	185.805	120.019	166.739
2437	185.797	120.031	166.686
2438	185.788	120.042	166.633
2439	185.78	120.053	166.58
2440	185.771	120.065	166.527
2441	185.763	120.076	166.475
2442	185.754	120.088	166.422
2443	185.801	120.098	166.607
2444	185.848	120.113	166.789
2445	185.895	120.13	166.971
2446	185.939	120.146	167.139
2447	185.982	120.161	167.302
2448	186.03	120.177	167.47
2449	186.084	120.193	167.651
2450	186.148	120.211	167.844
2451	186.215	120.228	168.045
2452	186.285	120.243	168.262
2453	186.357	120.256	168.493
2454	186.419	120.267	168.683
2455	186.473	120.276	168.845
2456	186.52	120.283	168.982
2457	186.563	120.289	169.105
2458	186.601	120.294	169.214
2459	186.637	120.298	169.313
2460	186.667	120.302	169.387
2461	186.618	120.287	169.226
2462	186.568	120.272	169.065
2463	186.519	120.257	168.905
2464	186.47	120.243	168.745
2465	186.421	120.228	168.585
2466	186.372	120.213	168.426
2467	186.323	120.198	168.268
2468	186.275	120.183	168.109
2469	186.227	120.169	167.951

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ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



2470	186.179	120.154	167.794
2471	186.13	120.139	167.637
2472	186.082	120.124	167.481
2473	186.035	120.109	167.325
2474	185.987	120.094	167.169
2475	185.939	120.078	167.014
2476	185.891	120.063	166.859
2477	185.844	120.048	166.705
2478	185.796	120.032	166.551
2479	185.749	120.017	166.398
2480	185.701	120.001	166.245
2481	185.654	119.985	166.092
2482	185.606	119.969	165.94
2483	185.559	119.954	165.789
2484	185.511	119.938	165.637
2485	185.464	119.922	165.487
2486	185.417	119.906	165.337
2487	185.37	119.889	165.187
2488	185.323	119.873	165.037
2489	185.276	119.857	164.888
2490	185.229	119.841	164.74
2491	185.182	119.824	164.592
2492	185.135	119.808	164.444
2493	185.187	119.82	164.604
2494	185.236	119.834	164.754
2495	185.288	119.85	164.901
2496	185.339	119.869	165.048
2497	185.387	119.89	165.193
2498	185.447	119.908	165.353
2499	185.505	119.926	165.515
2500	185.554	119.942	165.661
2501	185.594	119.957	165.795
2502	185.635	119.972	165.934
2503	185.667	119.986	166.047
2504	185.674	120.002	166.056
2505	185.689	120.018	166.016
2506	185.685	120.029	165.976
2507	185.656	120.04	165.924
2508	185.648	120.051	165.872
2509	185.639	120.062	165.82
2510	185.631	120.074	165.768
2511	185.622	120.085	165.717
2512	185.613	120.096	165.665
2513	185.605	120.107	165.613
2514	185.596	120.118	165.562
2515	185.588	120.129	165.51
2516	185.579	120.14	165.459
2517	185.571	120.151	165.407
2518	185.562	120.163	165.355
2519	185.554	120.174	165.305
2520	185.545	120.185	165.254
2521	185.537	120.196	165.203
2522	185.528	120.207	165.152
2523	185.519	120.218	165.101
2524	185.566	120.23	165.287

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ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



2525	185.614	120.246	165.472
2526	185.659	120.261	165.65
2527	185.702	120.276	165.817
2528	185.746	120.29	165.984
2529	185.797	120.305	166.163
2530	185.856	120.321	166.354
2531	185.923	120.337	166.556
2532	185.992	120.351	166.766
2533	186.064	120.364	167
2534	186.13	120.374	167.213
2535	186.188	120.383	167.39
2536	186.238	120.39	167.541
2537	186.283	120.395	167.674
2538	186.323	120.399	167.791
2539	186.36	120.402	167.896
2540	186.393	120.404	167.989
2541	186.393	120.406	167.934
2542	186.368	120.415	167.843
2543	186.382	120.425	167.753
2544	186.377	120.434	167.663
2545	186.371	120.444	167.574
2546	186.366	120.453	167.484
2547	186.36	120.463	167.395
2548	186.356	120.472	167.307
2549	186.349	120.481	167.218
2550	186.344	120.49	167.13
2551	186.338	120.499	167.042
2552	186.333	120.508	166.955
2553	186.327	120.516	166.868
2554	186.322	120.525	166.781
2555	186.317	120.534	166.694
2556	186.311	120.542	166.608
2557	186.308	120.552	166.526
2558	186.305	120.561	166.443
2559	186.301	120.571	166.361
2560	186.295	120.578	166.274
2561	186.305	120.578	166.267
2562	186.334	120.576	166.338
2563	186.365	120.572	166.407
2564	186.4	120.568	166.476
2565	186.436	120.562	166.546
2566	186.473	120.556	166.617
2567	186.511	120.548	166.689
2568	186.549	120.539	166.763
2569	186.587	120.53	166.837
2570	186.52	120.504	166.693
2571	186.453	120.479	166.55
2572	186.386	120.453	166.407
2573	186.319	120.428	166.264
2574	186.252	120.402	166.122
2575	186.185	120.376	165.98
2576	186.119	120.351	165.838
2577	186.052	120.325	165.697
2578	185.986	120.299	165.556
2579	186.063	120.298	165.77

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ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



2580	186.149	120.3	166.021
2581	186.228	120.305	166.249
2582	186.251	120.312	166.268
2583	186.197	120.293	166.119
2584	186.143	120.274	165.971
2585	186.09	120.254	165.822
2586	186.036	120.235	165.674
2587	185.984	120.216	165.526
2588	185.931	120.197	165.379
2589	185.879	120.178	165.231
2590	185.828	120.159	165.084
2591	185.776	120.14	164.938
2592	185.726	120.121	164.791
2593	185.675	120.103	164.645
2594	185.626	120.084	164.498
2595	185.576	120.066	164.353
2596	185.527	120.048	164.207
2597	185.478	120.029	164.062
2598	185.43	120.011	163.917
2599	185.382	119.994	163.773
2600	185.334	119.976	163.628
2601	185.287	119.958	163.484
2602	185.24	119.94	163.341
2603	185.194	119.923	163.198
2604	185.147	119.906	163.054
2605	185.102	119.888	162.912
2606	185.056	119.871	162.769
2607	185.011	119.854	162.627
2608	184.967	119.837	162.485
2609	184.923	119.82	162.343
2610	184.879	119.804	162.202
2611	184.835	119.787	162.061
2612	184.792	119.77	161.92
2613	184.749	119.754	161.78
2614	184.706	119.737	161.64
2615	184.755	119.75	161.795
2616	184.808	119.766	161.951
2617	184.857	119.783	162.105
2618	184.91	119.801	162.263
2619	184.971	119.816	162.432
2620	185.028	119.831	162.603
2621	185.072	119.845	162.749
2622	185.113	119.858	162.893
2623	185.15	119.871	163.029
2624	185.174	119.884	163.12
2625	185.171	119.899	163.094
2626	185.167	119.911	163.061
2627	185.164	119.919	163.029
2628	185.155	119.93	162.98
2629	185.147	119.941	162.931
2630	185.138	119.951	162.882
2631	185.13	119.962	162.834
2632	185.121	119.972	162.785
2633	185.113	119.982	162.736
2634	185.104	119.993	162.688

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ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



2635	185.096	120.003	162.54
2636	185.087	120.014	162.591
2637	185.079	120.024	162.543
2638	185.07	120.035	162.495
2639	185.062	120.045	162.447
2640	185.053	120.055	162.399
2641	185.045	120.066	162.351
2642	185.036	120.076	162.303
2643	185.028	120.086	162.255
2644	185.019	120.097	162.207
2645	185.066	120.109	162.398
2646	185.114	120.123	162.591
2647	185.158	120.136	162.77
2648	185.201	120.149	162.943
2649	185.248	120.161	163.121
2650	185.301	120.174	163.311
2651	185.364	120.189	163.514
2652	185.432	120.202	163.726
2653	185.502	120.214	163.951
2654	185.574	120.224	164.198
2655	185.638	120.232	164.404
2656	185.693	120.238	164.579
2657	185.741	120.242	164.731
2658	185.784	120.245	164.866
2659	185.824	120.247	164.987
2660	185.86	120.248	165.097
2661	185.894	120.248	165.196
2662	185.925	120.247	165.285
2663	185.955	120.245	165.361
2664	185.985	120.242	165.432
2665	186.018	120.238	165.503
2666	186.054	120.233	165.573
2667	186.091	120.227	165.645
2668	186.128	120.219	165.719
2669	186.166	120.211	165.793
2670	186.172	120.203	165.723
2671	186.111	120.18	165.585
2672	186.051	120.157	165.447
2673	185.991	120.133	165.309
2674	185.93	120.11	165.172
2675	185.87	120.086	165.035
2676	185.81	120.063	164.899
2677	185.75	120.039	164.763
2678	185.684	120.014	164.623
2679	185.619	119.988	164.484
2680	185.553	119.962	164.345
2681	185.488	119.937	164.207
2682	185.426	119.912	164.072
2683	185.366	119.888	163.937
2684	185.305	119.864	163.803
2685	185.24	119.838	163.666
2686	185.175	119.812	163.53
2687	185.109	119.786	163.393
2688	185.044	119.759	163.257
2689	184.979	119.733	163.121

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ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



2690	184.914	119.707	162.986
2691	184.85	119.681	162.851
2692	184.785	119.654	162.716
2693	184.721	119.628	162.581
2694	184.656	119.602	162.447
2695	184.592	119.575	162.313
2696	184.529	119.549	162.179
2697	184.465	119.523	162.045
2698	184.402	119.496	161.912
2699	184.489	119.495	162.177
2700	184.572	119.498	162.421
2701	184.641	119.503	162.634
2702	184.701	119.51	162.829
2703	184.757	119.52	163.012
2704	184.808	119.532	163.173
2705	184.858	119.545	163.325
2706	184.909	119.561	163.476
2707	184.96	119.58	163.625
2708	185.009	119.6	163.774
2709	185.07	119.618	163.937
2710	185.128	119.634	164.103
2711	185.176	119.649	164.25
2712	185.216	119.664	164.388
2713	185.256	119.678	164.527
2714	185.287	119.692	164.641
2715	185.292	119.708	164.645
2716	185.288	119.722	164.608
2717	185.284	119.732	164.571
2718	185.275	119.743	164.52
2719	185.267	119.754	164.489
2720	185.258	119.765	164.419
2721	185.249	119.776	164.388
2722	185.241	119.787	164.317
2723	185.232	119.798	164.287
2724	185.224	119.809	164.217
2725	185.215	119.82	164.166
2726	185.207	119.831	164.116
2727	185.198	119.842	164.066
2728	185.19	119.853	164.016
2729	185.181	119.863	163.966
2730	185.173	119.874	163.916
2731	185.164	119.885	163.866
2732	185.156	119.896	163.816
2733	185.147	119.906	163.766
2734	185.139	119.917	163.716
2735	185.185	119.929	163.904
2736	185.233	119.945	164.092
2737	185.278	119.959	164.271
2738	185.321	119.973	164.441
2739	185.365	119.987	164.61
2740	185.417	120.001	164.792
2741	185.477	120.017	164.987
2742	185.543	120.032	165.192
2743	185.612	120.045	165.406
2744	185.684	120.058	165.644

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ANEXO 1E  
SIMULACIONES, CÁLCULOS Y GRÁFICAS

RESULT-EBRCL130  
Coasting application.xls



2745	185.75	120.068	165.857
2746	185.808	120.076	166.035
2747	185.858	120.082	166.189
2748	185.902	120.087	166.324
2749	185.943	120.09	166.444
2750	185.98	120.093	166.553
2751	186.014	120.095	166.652
2752	186.046	120.095	166.739
2753	186.076	120.095	166.816
2754	186.105	120.094	166.882
2755	186.136	120.092	166.948
2756	186.17	120.089	167.014
2757	186.207	120.085	167.08
2758	186.243	120.08	167.148
2759	186.28	120.074	167.218
2760	186.318	120.067	167.288
2761	186.356	120.059	167.359
2762	186.395	120.05	167.431
2763	186.434	120.04	167.504
2764	186.474	120.03	167.577
2765	186.514	120.018	167.649
2766	186.522	120.016	167.549
2767	186.529	120.013	167.449
2768	186.537	120.011	167.35
2769	186.545	120.008	167.251
2770	186.528	119.998	167.139
2771	186.476	119.979	167.01
2772	186.401	119.952	166.87
2773	186.326	119.925	166.73
2774	186.251	119.899	166.59
2775	186.176	119.873	166.451
2776	186.102	119.846	166.311
2777	186.028	119.82	166.172
2778	185.954	119.793	166.033
2779	185.881	119.767	165.894
2780	185.807	119.74	165.755
2781	185.735	119.714	165.616
2782	185.662	119.687	165.478
2783	185.59	119.661	165.339
2784	185.518	119.634	165.201
2785	185.446	119.608	165.063
2786	185.375	119.581	164.925
2787	185.304	119.555	164.787
2788	185.233	119.528	164.649
2789	185.162	119.502	164.512
2790	185.092	119.476	164.374
2791	185.022	119.449	164.237
2792	184.952	119.423	164.1
2793	184.883	119.396	163.964
2794	184.814	119.37	163.827
2795	184.745	119.344	163.691
2796	184.676	119.317	163.554
2797	184.608	119.291	163.418
2798	184.54	119.265	163.282
2799	184.472	119.238	163.147

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