SYSTEM ADEQUACY OUTLOOK

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In terms of the objects of the Electricity Regulation Act, 2006 (Act No. 4 of 2006) ('the Act'), the Energy Regulator should monitor the supply–demand balance of the electricity system to achieve efficient, effective, sustainable and orderly development and operation of the electricity supply infrastructure in South Africa. In terms of the Act, the Energy Regulator should establish and manage monitoring and information systems.

The current bulletin of the National Energy Regulator (NERSA or 'the Energy Regulator'), based on Eskom reports, is released quarterly and covers historic and current generation system adequacy and performance, as well as capacity outlook for the near future. This is in line with the regulatory requirements to establish and manage monitoring and information systems for regular and transparent communication with the stakeholders.

The trends in the supply and demand of power in South Africa as of **31 December 2016** are shown in **Table 1** below.

TABLE 1: ENERGY SENT OUT AND PEAK DEMAND

Parameter	Units	Calendar Year									
		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Energy sent out	GWh	245 610	240 096	235 328	244 370	244 885	238 857	236 219	233 777	232 605	225 395
Energy sent out growth from 2007	%		-2.245%	-4.186%	-0.505%	-0.295%	-2.750%	-3.82%	-4.82%	-5.30%	-8.23%
Peak Demand	MW	36 513	35 959	35 845	36 664	36 219	35 527	34 979	34 768	32 985	34 177
Peak demand growth from 2007	%		-1.52%	-1.83%	0.41%	-0.81%	-2.70%	-4.20%	-4.78%	-9.66%	-6.40%
Annual LF	-	0.768	0.762	0.749	0.761	0.772	0.767	0.771	0.76	0.759	0.753

A snapshot of the system performance in the period 2013 - 2016 is provided in **Table 2** below.

TABLE 2: AVERAGE PLANT PERFORMANCE							
	Plant Performance						
	PCLF	UCLF	Total capacity unavailable	PCLF	UCLF	Total capacity unavailable	EAF
Year	MW	MW	MW	%	%	%	%
2013	4 015	4 993	9 008	9.54%	11.86%	21.39%	78.61%
2014	4 157	5 189	9 346	9.87%	12.32%	22.20%	77.80%
2015	5 592	6 706	12 301	13.28%	15.93%	29.21%	70.79%
2016	4 477	6 507	10 984	9.92%	14.42%	24.34%	75.66%

The historic capacity outlook is illustrated in **Table 3** below.

TABLE 3: HISTORIC CAPACITY OUTLOOK 2008-2015												
Capacity (MW) and Capacity Margins (%) at Annual Peak												
Year	Annual Peak Demand Eskom	Eskom Installed Capacity	IMPORT CAPACITY Firm MW	Total Eskom installed Capacity plus Imports	Eskom purchases excluding RE	Renewable (RE) incl Sere	OTHER non-Eskom capacity	Total Eskom capacity incl imports & other & 20% RE	Demand Market participation (DMP)	EE & DSM (MYPD)	Eskom Reserve Margin (excl RE & other purchases)	Eskom reserve margin incl imports, RE and other purchases
	MW	MW	%	MW	MW	MW	MW	MW	MW	MW	%	%
2008	36 139	38 844	1 138	39 982				39 982	590	916	10.63%	10.63%
2009	35 910	40 544	1 138	41 682				41 682	590	372	16.07%	16.07%
2010	36 970	40 981	1 138	42 119	517			42 636	467	289	13.93%	15.33%
2011	36 212	41 201	1 138	42 339	862			43 201	570	301	16.92%	19.30%
2012	35 895	41 696	1 500	43 196	1 142			44 338	651	447	20.34%	23.52%
2013	34 979	41 975	1 500	43 475	1 327		1 593	46 395	3 108	379	28.08%	32.64%
2014	34 590	42 308	1 500	43 808	13	1 212	1 500	45 563	1 737	294	26.69%	31.72%
2015	32 985	42 308	1 500	43 808	13	1 212	1 500	45 563		187	32.85%	38.13%
2016	34 177	45 125	1 500	46 625	1 018	2 021	1 834	49 881		196	39.40%	45.95%

(New) The medium-term capacity outlook, based on Eskom Medium Term System Adequacy Outlook (MTSAO) 2015/16, is illustrated in ***Table 4*** below.

TABLE 4: MEDIUM TERM SYSTEM OUTLOOK FORECASTS (ESKOM MTSAO 2015/16)

Capacity (MW) and Capacity Margins (%) at Annual Peak

Year	National Annual Peak Demand Forecast *	Eskom Installed Capacity	IMPORT CAPACITY Firm MW	Total Eskom installed Capacity plus Imports	Eskom purchases non-renewable***	Renewable Energy capacity ** (RE)	OTHER non-Eskom existing capacity	Total firm capacity incl imports & other & 25% capacity credit from	Demand Response	EE & DSM ****	Reserve Margin (excl RE & other purchases)	Rreserve margin incl imports, RE and other purchases
	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	%	%
2017	**41 206**	45 457	1 500	46 957		2915	1 834	49 520	900	224	**13.96%**	**20.18%**
2018	**42 327**	47 623	1 500	49 123		3799	1 834	51 907	900	252	**16.06%**	**22.63%**
2019	**43 218**	49 789	1 500	51 289		4864	1 834	54 339	900	280	**18.67%**	**25.73%**
2020	**44 081**	50 511	1 500	52 011		6904	1 834	55 571	900	310	**17.99%**	**26.07%**
2021	**45 044**	51 955	1 500	53 455	900	7867	1 834	58 156	900	339	**20.67%**	**29.11%**
2022	**45 928**	52 677	1 500	54 177	900	7867	1 834	58 878	900	370	**19.92%**	**28.20%**
2023	**46 793**	52 677	1 500	54 177	900	7867	1 834	58 878	900	401	**17.70%**	**25.83%**
2024	**47 514**	52 677	1 500	54 177	900	7867	1 834	58 878	900	433	**15.92%**	**23.92%**
2025	**48 606**	52 677	1 500	54 177	900	7867	1 834	58 878	900	465	**13.31%**	**21.13%**

* MTSAO High Demand Growth Low Intensity Sectors Forecast by CSIR 2015
** Cumulative RE capacity as included in the IRP 2015
*** Coal Fired IPP
**** MTSAO DSM projections