

1.1 Reporting 03.2008

Wind farm:	LEHAUCOURT	Customer:	SNET	Business year:	04.2007 - 03.2008
Type of turbine:	N90	Number of wind turbines:	4	Reporting period:	03.2008

Content of report:

1.1 Cover
2.1 Av Wind farm
2.2 Av Windturbine
2.3 Error list

3.1 Production
3.2 Amount
4.1 Error analysis
5.1 Powercurve

Basic Data:

Park availability in reporting period	98.11%
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Park availability of operating business year:	95.1%
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Production wind farm according to control in reporting period	22.699.052 kWh
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Comments / remarks, additional data:

DEILLE W
Nordex Energy GmbH
Nordex Service

Signature Customer

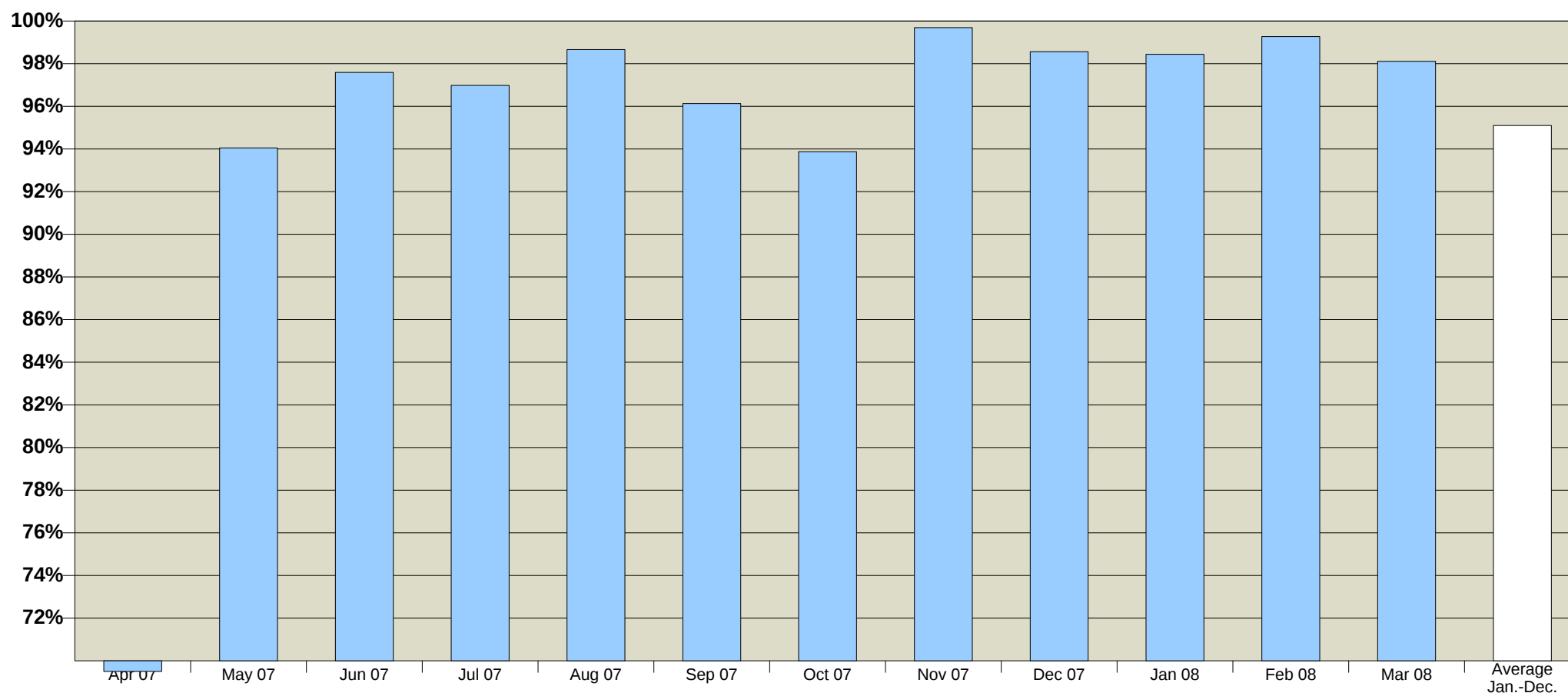
2.1 Availability Wind Farm

Wind farm: **LEHAUCOURT**
Type of turbine: **N90**

Customer: **SNET**
Number of wind turbines: **4**

Business year: **04.2007 - 03.2008**
Reporting period: **03.2008**

Period	Apr 07	May 07	Jun 07	Jul 07	Aug 07	Sep 07	Oct 07	Nov 07	Dec 07	Jan 08	Feb 08	Mar 08	Average Apr.-Mar.
Availability	69.5%	94.05%	97.59%	96.98%	98.66%	96.13%	93.87%	99.69%	98.56%	98.44%	99.27%	98.11%	95.1%



2.2 Availability wind turbine

Wind farm: **LEHAUCOURT**

Type of turbine: **N90**

Customer: **SNET**

Number of wind turbines: **4**

Business year: **04.2007 - 03.2008**

Reporting period: **03.2008**

	W E A	failure hours (T stop)	Wind turbine in improper operating condition (T fm)	max. possible h of operation (T total)	Availability of single wind turbine	Availability of all wind turbines
April 07	01WEA8383	320.52	285.67	720	60.32%	69.5%
	02WEA8384	413.55	379.04	720	47.36%	
	03WEA8385	182.37	138.9	720	80.71%	
	04WEA8386	117.24	74.71	720	89.62%	
May 07	01WEA8383	96.46	19.52	744	97.38%	94.05%
	02WEA8384	123.7	46.17	744	93.79%	
	03WEA8385	118.57	40.19	744	94.6%	
	04WEA8386	148.52	71.08	744	90.45%	
June 07	01WEA8383	0.52	0.1	720	99.99%	97.59%
	02WEA8384	1.34	1.1	720	99.85%	
	03WEA8385	22.77	22.1	720	96.93%	
	04WEA8386	46.19	46.1	720	93.6%	
July 07	01WEA8383	54.75	19.86	744	97.33%	96.98%
	02WEA8384	35.19	0.37	744	99.95%	
	03WEA8385	79.01	44.18	744	94.06%	
	04WEA8386	40.2	25.39	744	96.59%	
August 07	01WEA8383	1.5	0.16	744	99.98%	98.66%
	02WEA8384	1.75	0.71	744	99.9%	
	03WEA8385	37.39	36.32	744	95.12%	
	04WEA8386	2.59	2.58	744	99.65%	
September 07	01WEA8383	19.02	2.34	720	99.67%	96.13%
	02WEA8384	16.8	0.32	720	99.96%	
	03WEA8385	36.52	20.01	720	97.22%	
	04WEA8386	105.19	88.87	720	87.66%	

	W E A	failure hours (T stop)	Wind turbine in improper operating condition (T fm)	max. possible h of operation (T total)	Availability of single wind turbine	Availability of all wind turbines
October 07	01WEA8383	185.38	72.87	744	90.21%	93.87%
	02WEA8384	69.34	19.86	744	97.33%	
	03WEA8385	117.67	68.02	744	90.86%	
	04WEA8386	70.4	21.65	744	97.09%	
November 07	01WEA8383	4.56	4.17	720	99.42%	99.69%
	02WEA8384	1.85	1.41	720	99.8%	
	03WEA8385	3.44	2.81	720	99.61%	
	04WEA8386	1.04	0.59	720	99.92%	
December 07	01WEA8383	20.56	20.47	744	97.25%	98.56%
	02WEA8384	1.94	1.89	744	99.75%	
	03WEA8385	5.29	5.19	744	99.3%	
	04WEA8386	15.22	15.18	744	97.96%	
January 08	01WEA8383	25.42	25.42	744	96.58%	98.44%
	02WEA8384	1.92	1.92	744	99.74%	
	03WEA8385	16.13	16.13	744	97.83%	
	04WEA8386	2.88	2.88	744	99.61%	
February 08	01WEA8383	4.29	3.91	696	99.44%	99.27%
	02WEA8384	0.59	0.59	696	99.92%	
	03WEA8385	15.39	15.01	696	97.84%	
	04WEA8386	0.85	0.85	696	99.88%	
March 08	01WEA8383	4.22	4.22	744	99.43%	98.11%
	02WEA8384	28.89	28.89	744	96.12%	
	03WEA8385	22.5	22.5	744	96.98%	
	04WEA8386	0.61	0.61	744	99.92%	
Data business year / wind turbine; status: reporting period						
	01WEA8383	737.2	458.71	8784	94.78%	95.1%
	02WEA8384	696.85	482.27	8784	94.51%	
	03WEA8385	657.05	431.36	8784	95.09%	
	04WEA8386	550.93	350.5	8784	96.01%	
Σ Park		2642.05	1722.84	35136		

2.3 Errorlist

Wind farm: **LEHAUCOURT**

Type of turbine: **N90**

Customer: **SNET**

Number of wind turbines: **4**

Business year: **04.2007 - 03.2008**

Reporting period: **03.2008**

	Status start	Status end	Status code	Error identification according to turbine controller	memo	A-Code	Duration	T _{stop}	T _{fm}	T _{fm Grid}	T _{fm Maintenance}
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01WEA8383

03.03.08 07:22:00	03.03.08 11:07:34	FM50	SafetyChain Activated		AF	03:45:34	03:45:34				
03.03.08 11:07:34	03.03.08 11:08:09	FM11	PLC Reboot active		AF	00:00:35	00:00:35				
12.03.08 03:54:22	12.03.08 04:17:49	FM104	Gen Rpm H Stop		AF	00:23:28	00:23:28				
25.03.08 11:14:23	25.03.08 11:15:40	FM411	Wind DirSlanting Stop		AF	00:01:17	00:01:17				
25.03.08 12:34:08	25.03.08 12:35:20	FM411	Wind DirSlanting Stop		AF	00:01:13	00:01:13				
27.03.08 12:24:08	27.03.08 12:25:25	FM411	Wind DirSlanting Stop		AF	00:01:17	00:01:17				
							4.22				
							Sum	04:13:23	00:00:00	00:00:00	00:00:00
								4.22	0	0	0

02WEA8384

03.03.08 19:36:06	03.03.08 19:37:23	FM411	Wind DirSlanting Stop		AF	00:01:17	00:01:17				
10.03.08 23:37:51	10.03.08 23:40:51	FM1211	MI GridDiscon DespiteReleaseF...		AF	00:03:00	00:03:00				
11.03.08 00:44:15	11.03.08 00:45:35	FM411	Wind DirSlanting Stop		AF	00:01:20	00:01:20				
12.03.08 05:39:48	12.03.08 05:40:51	FM400	Wind DirSlanting Stop(due YP50)		AF	00:01:03	00:01:03				
15.03.08 21:03:58	15.03.08 21:05:27	FM411	Wind DirSlanting Stop		AF	00:01:29	00:01:29				
16.03.08 16:05:13	16.03.08 16:06:41	FM411	Wind DirSlanting Stop		AF	00:01:28	00:01:28				
21.03.08 08:29:34	21.03.08 08:30:46	FM411	Wind DirSlanting Stop		AF	00:01:11	00:01:11				
22.03.08 13:20:29	22.03.08 13:22:05	FM411	Wind DirSlanting Stop		AF	00:01:36	00:01:36				
22.03.08 13:25:41	22.03.08 13:26:31	FM411	Wind DirSlanting Stop		AF	00:00:50	00:00:50				
25.03.08 12:45:55	25.03.08 12:47:10	FM411	Wind DirSlanting Stop		AF	00:01:15	00:01:15				
25.03.08 13:09:30	25.03.08 13:10:46	FM411	Wind DirSlanting Stop		AF	00:01:16	00:01:16				
25.03.08 17:33:13	25.03.08 17:48:33	FM1168	Pitch3 battery defect		AF	00:15:21	00:15:21				
25.03.08 19:51:19	25.03.08 22:53:42	FM1168	Pitch3 battery defect		AF	03:02:22	03:02:22				
25.03.08 22:55:14	25.03.08 22:55:41	FM6	WTG Manual Stop	Reset and start	AF	00:00:27	00:00:27				
26.03.08 00:51:23	26.03.08 07:07:40	FM1168	Pitch3 battery defect		AF	06:16:17	06:16:17				
26.03.08 07:07:40	26.03.08 07:07:47	FM6	WTG Manual Stop	Reset and start	AF	00:00:07	00:00:07				
26.03.08 10:44:13	26.03.08 12:52:04	FM1168	Pitch3 battery defect		AF	02:07:52	02:07:52				
26.03.08 14:19:55	26.03.08 14:24:44	FM1168	Pitch3 battery defect		AF	00:04:49	00:04:49				
26.03.08 15:16:03	26.03.08 20:23:28	FM1168	Pitch3 battery defect		AF	05:07:25	05:07:25				

	Status start	Status end	Status code	Error identification according to turbine controller	memo	A-Code	Duration	T _{stop}	T _{fm}	T _{fm Grid}	T _{fm Maintenance}
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02WEA8384

26.03.08 21:49:42	27.03.08 07:07:32	FM1168	Pitch3 battery defect		AF	09:17:50	09:17:50				
27.03.08 07:07:32	27.03.08 07:07:40	FM6	WTG Manual Stop	Change pitch converter	AF	00:00:09	00:00:09				
27.03.08 09:51:49	27.03.08 10:45:04	FM1168	Pitch3 battery defect		AF	00:53:16	00:53:16				
27.03.08 10:45:04	27.03.08 10:45:12	FM4	WTG Maintenance	Reset	AF	00:00:07	00:00:07				
27.03.08 10:45:12	27.03.08 12:17:04	FM6	WTG Manual Stop		AF	01:31:53	01:31:53				
							28.89				
							Sum	1d04:53:38	00:00:00	00:00:00	00:00:00
								28.89	0	0	0

03WEA8385

03.03.08 22:18:24	04.03.08 00:24:10	FM1175	Pitch3 Batt.contactor Error		AF	02:05:46	02:05:46				
04.03.08 00:24:27	04.03.08 00:26:46	FM261	RotBrk Brakepressure Fault		AF	00:02:19	00:02:19				
04.03.08 00:27:23	04.03.08 00:29:29	FM261	RotBrk Brakepressure Fault		AF	00:02:06	00:02:06				
04.03.08 00:29:57	04.03.08 07:19:52	FM261	RotBrk Brakepressure Fault		AF	06:49:55	06:49:55				
04.03.08 07:19:52	04.03.08 07:20:37	FM6	WTG Manual Stop	Reset WTG and start	AF	00:00:45	00:00:45				
04.03.08 07:21:06	04.03.08 07:21:12	FM261	RotBrk Brakepressure Fault		AF	00:00:06	00:00:06				
10.03.08 22:00:48	10.03.08 22:48:05	FM104	Gen Rpm H Stop		AF	00:47:16	00:47:16				
10.03.08 22:48:20	10.03.08 22:50:11	FM261	RotBrk Brakepressure Fault		AF	00:01:52	00:01:52				
10.03.08 22:50:28	10.03.08 22:51:09	FM261	RotBrk Brakepressure Fault		AF	00:00:41	00:00:41				
10.03.08 22:53:01	10.03.08 22:56:18	FM1175	Pitch3 Batt.contactor Error		AF	00:03:17	00:03:17				
10.03.08 22:59:01	10.03.08 23:02:01	FM1211	MI GridDiscon DespiteReleaseF...		AF	00:03:00	00:03:00				
10.03.08 23:02:01	11.03.08 06:55:15	FM6	WTG Manual Stop	Reset WTG and start	AF	07:53:14	07:53:14				
11.03.08 06:55:15	11.03.08 06:55:15	FM0	WTG System ok		AF	00:00:00	00:00:00				
11.03.08 06:55:33	11.03.08 06:55:41	FM261	RotBrk Brakepressure Fault		AF	00:00:08	00:00:08				
11.03.08 06:57:53	11.03.08 06:58:00	FM1175	Pitch3 Batt.contactor Error		AF	00:00:07	00:00:07				
12.03.08 01:43:51	12.03.08 03:02:10	FM104	Gen Rpm H Stop		AF	01:18:20	01:18:20				
12.03.08 03:03:09	12.03.08 03:03:41	FM1175	Pitch3 Batt.contactor Error		AF	00:00:32	00:00:32				
12.03.08 05:34:42	12.03.08 05:56:08	FM104	Gen Rpm H Stop		AF	00:21:26	00:21:26				
19.03.08 05:58:07	19.03.08 06:37:26	FM1175	Pitch3 Batt.contactor Error		AF	00:39:19	00:39:19				
19.03.08 06:37:42	19.03.08 06:37:49	FM261	RotBrk Brakepressure Fault		AF	00:00:07	00:00:07				
19.03.08 06:40:02	19.03.08 07:25:40	FM1175	Pitch3 Batt.contactor Error		AF	00:45:38	00:45:38				
19.03.08 07:25:40	19.03.08 07:26:09	FM6	WTG Manual Stop	Reset WTG and start	AF	00:00:29	00:00:29				
19.03.08 07:26:24	19.03.08 07:30:40	FM261	RotBrk Brakepressure Fault		AF	00:04:16	00:04:16				
19.03.08 07:30:54	19.03.08 07:31:00	FM261	RotBrk Brakepressure Fault		AF	00:00:06	00:00:06				
19.03.08 07:33:14	19.03.08 07:34:54	FM1175	Pitch3 Batt.contactor Error		AF	00:01:40	00:01:40				
19.03.08 10:22:25	19.03.08 10:23:48	FM411	Wind DirSlanting Stop		AF	00:01:23	00:01:23				
19.03.08 10:36:31	19.03.08 10:37:47	FM411	Wind DirSlanting Stop		AF	00:01:15	00:01:15				
21.03.08 08:11:03	21.03.08 08:12:14	FM411	Wind DirSlanting Stop		AF	00:01:11	00:01:11				
21.03.08 08:12:33	21.03.08 09:19:34	FM261	RotBrk Brakepressure Fault		AF	01:07:01	01:07:01				
21.03.08 09:19:50	21.03.08 09:20:14	FM261	RotBrk Brakepressure Fault		AF	00:00:24	00:00:24				

	Status start	Status end	Status code	Error identification according to turbine controller	memo	A-Code	Duration	T _{stop}	T _{fm}	T _{fm Grid}	T _{fm Maintenance}
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03WEA8385

22.03.08 12:26:31	22.03.08 12:27:46	FM411	Wind DirSlanting Stop		AF	00:01:15	00:01:15				
22.03.08 12:28:43	22.03.08 12:35:56	FM261	RotBrk Brakepressure Fault		AF	00:07:13	00:07:13				
22.03.08 12:36:12	22.03.08 12:39:09	FM261	RotBrk Brakepressure Fault		AF	00:02:57	00:02:57				
22.03.08 12:39:32	22.03.08 12:39:39	FM261	RotBrk Brakepressure Fault		AF	00:00:07	00:00:07				
22.03.08 13:19:15	22.03.08 13:20:29	FM411	Wind DirSlanting Stop		AF	00:01:14	00:01:14				
22.03.08 13:24:16	22.03.08 13:25:23	FM411	Wind DirSlanting Stop		AF	00:01:07	00:01:07				
25.03.08 12:43:28	25.03.08 12:44:44	FM411	Wind DirSlanting Stop		AF	00:01:16	00:01:16				
25.03.08 13:08:43	25.03.08 13:10:01	FM411	Wind DirSlanting Stop		AF	00:01:19	00:01:19				
							22.5				
							Sum	22:30:06	00:00:00	00:00:00	00:00:00
								22.5	0	0	0

04WEA8386

03.03.08 19:44:11	03.03.08 19:45:30	FM411	Wind DirSlanting Stop		AF	00:01:19	00:01:19				
10.03.08 12:36:55	10.03.08 12:39:04	FM104	Gen Rpm H Stop		AF	00:02:09	00:02:09				
12.03.08 03:03:26	12.03.08 03:09:56	FM104	Gen Rpm H Stop		AF	00:06:30	00:06:30				
12.03.08 03:13:57	12.03.08 03:16:58	FM1211	MI GridDiscon DespiteReleaseF...		AF	00:03:00	00:03:00				
16.03.08 16:05:36	16.03.08 16:06:51	FM411	Wind DirSlanting Stop		AF	00:01:15	00:01:15				
21.03.08 02:46:15	21.03.08 02:49:15	FM1211	MI GridDiscon DespiteReleaseF...		AF	00:03:00	00:03:00				
21.03.08 02:53:15	21.03.08 02:54:44	FM1211	MI GridDiscon DespiteReleaseF...		AF	00:01:29	00:01:29				
21.03.08 02:55:00	21.03.08 02:56:05	FM60	Vib Z-direction filtered Stop		AF	00:01:05	00:01:05				
21.03.08 02:58:43	21.03.08 03:01:43	FM1211	MI GridDiscon DespiteReleaseF...		AF	00:03:00	00:03:00				
21.03.08 03:01:43	21.03.08 03:06:40	FM104	Gen Rpm H Stop		AF	00:04:57	00:04:57				
21.03.08 03:42:35	21.03.08 03:43:51	FM411	Wind DirSlanting Stop		AF	00:01:16	00:01:16				
21.03.08 08:29:58	21.03.08 08:31:03	FM411	Wind DirSlanting Stop		AF	00:01:05	00:01:05				
22.03.08 13:23:26	22.03.08 13:24:44	FM411	Wind DirSlanting Stop		AF	00:01:18	00:01:18				
23.03.08 12:19:28	23.03.08 12:20:49	FM411	Wind DirSlanting Stop		AF	00:01:20	00:01:20				
27.03.08 13:32:20	27.03.08 13:33:35	FM411	Wind DirSlanting Stop		AF	00:01:15	00:01:15				
31.03.08 10:44:17	31.03.08 10:45:33	FM411	Wind DirSlanting Stop		AF	00:01:16	00:01:16				
31.03.08 16:32:59	31.03.08 16:34:30	FM411	Wind DirSlanting Stop		AF	00:01:30	00:01:30				
							0.61				
							Sum	00:36:46	00:00:00	00:00:00	00:00:00
								0.61	0	0	0

NAF: non availability failure

AF: availability failure

GE: Grid Error

M: Maintenance

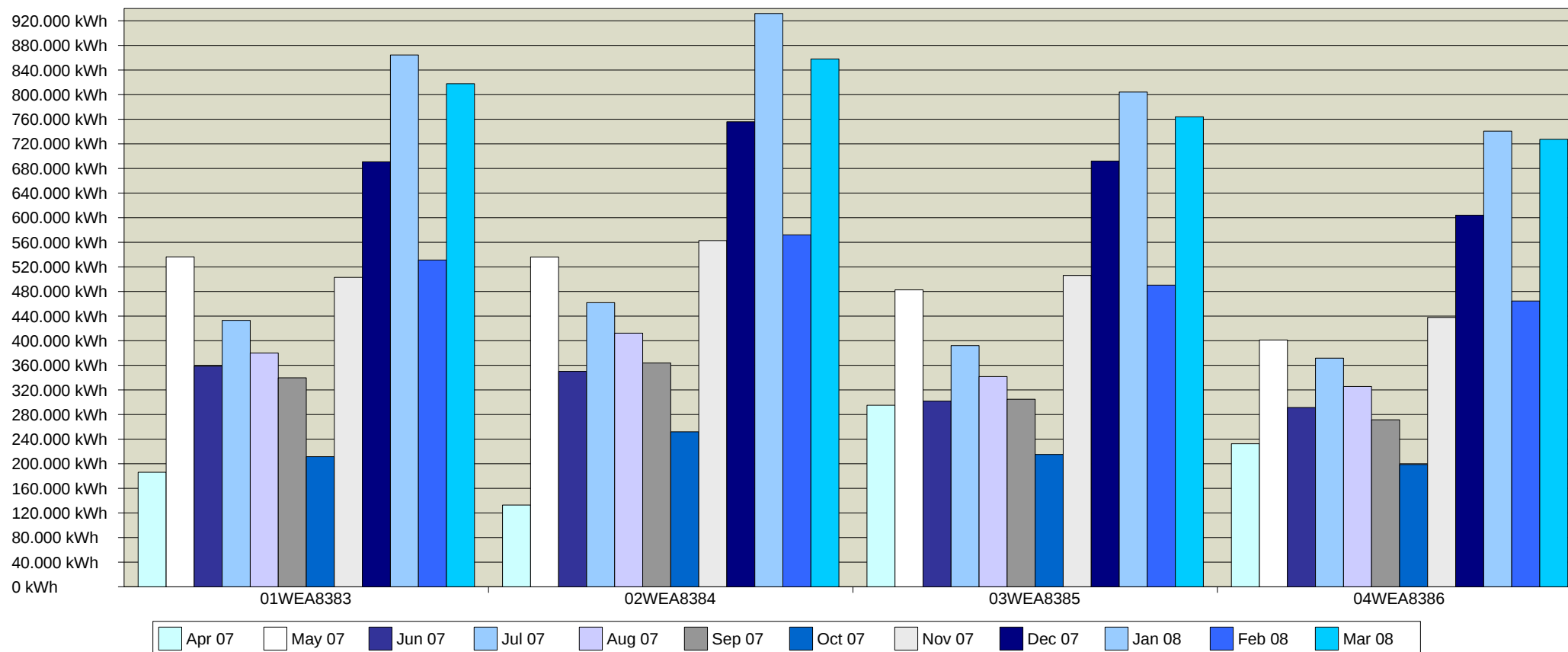
3.1 Production: WTG / month in kWh

Wind farm: **LEHAUCOURT**
Type of turbine: **N90**

Customer: **SNET**
Number of wind turbines: **4**

Business year: **04.2007 - 03.2008**
Reporting period: **03.2008**

	Apr 07	May 07	Jun 07	Jul 07	Aug 07	Sep 07	Oct 07	Nov 07	Dec 07	Jan 08	Feb 08	Mar 08	Σ Apr-Mar
01WEA8383	186.144 kWh	536.323 kWh	358.585 kWh	433.022 kWh	380.101 kWh	339.710 kWh	211.514 kWh	502.892 kWh	690.797 kWh	864.501 kWh	531.203 kWh	817.790 kWh	5.852.582
02WEA8384	132.864 kWh	536.125 kWh	350.191 kWh	461.827 kWh	412.294 kWh	363.850 kWh	251.921 kWh	562.762 kWh	755.943 kWh	931.855 kWh	572.100 kWh	857.997 kWh	6.189.729
03WEA8385	295.030 kWh	482.649 kWh	301.860 kWh	392.079 kWh	341.697 kWh	304.840 kWh	215.084 kWh	506.045 kWh	692.064 kWh	804.203 kWh	490.359 kWh	763.964 kWh	5.589.874
04WEA8386	232.489 kWh	401.233 kWh	291.447 kWh	371.595 kWh	325.562 kWh	271.439 kWh	198.738 kWh	437.851 kWh	603.986 kWh	740.651 kWh	464.537 kWh	727.339 kWh	5.066.867
Σ WTG	846.527	1.956.330	1.302.083	1.658.523	1.459.654	1.279.839	877.257	2.009.550	2.742.790	3.341.210	2.058.199	3.167.090	22.699.052



3.2 Amount

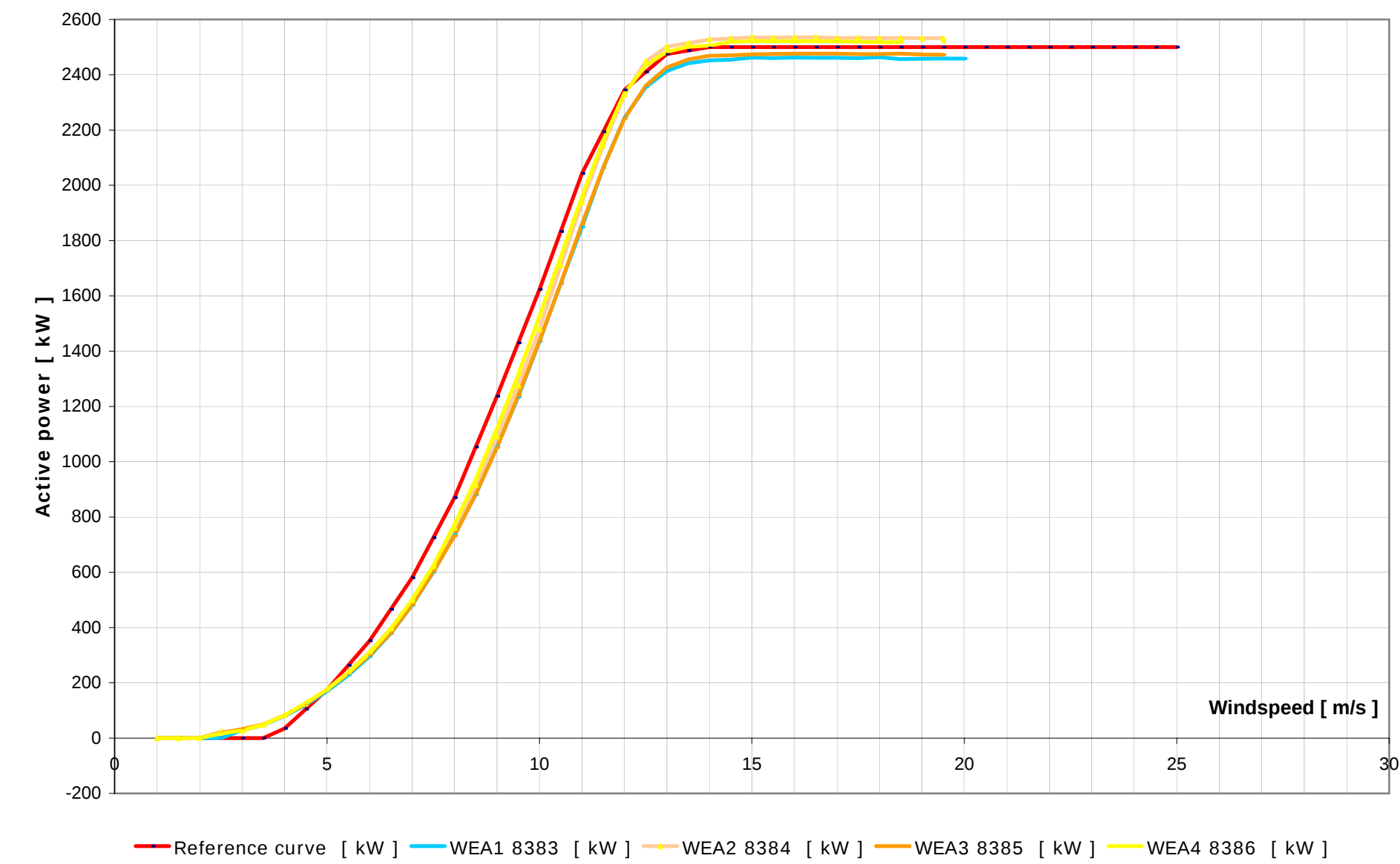
Wind farm: **LEHAUCOURT**
Type of turbine: **N90**

Customer: **SNET**
Number of wind turbines: **4**

Business year: **04.2007 - 03.2008**
Reporting period: **03.2008**

Content	Production in kWh	Net amount	Amount incl. VAT
Production wind farm according to control in reporting period	22.699.052	1.906.720,37 €	2.280.437,56 €
Production according to invoicing of energy supply company in reporting period	0	0 €	0 €
Net payment [€ / kWh]	0.084 €	Difference between data from the wind turbines and data from the energy supply company in percent	100 %

COURBE DE PUISSANCE PAR TURBINE



Source: SCADA Farm Server