

WIND TURBINE ACCIDENT COMPILATION

Last updated at 01/01/2006							Compiled by David Craig		
Accident type	Date	Site/area	State/Country	Turbine type	Details	Info source	Web reference/link	Alternate web reference/link	
1	Fatal	1975	Choteau	MT, USA	2kw	Tim McCartney, atop tower removing small turbine.	Wind Energy -- The Breath of Life or the Kiss of Death: Contemporary Wind Mortality Rates, by Paul Gipe	http://www.wind-works.org/articles/BreathLife.html	
2	Fatal	1981	Boulevard	California, USA	40kw	Terry Mehrkam, atop nacelle, run-away rotor, no lanyard.	Wind Energy -- The Breath of Life or the Kiss of Death: Contemporary Wind Mortality Rates, by Paul Gipe	http://www.wind-works.org/articles/BreathLife.html	
3	Fatal	1982	Bushland	Texas, USA	40kw	Pat Acker, 28, rebar cage for foundation came in contact with overhead power lines	Wind Energy -- The Breath of Life or the Kiss of Death: Contemporary Wind Mortality Rates, by Paul Gipe	http://www.wind-works.org/articles/BreathLife.html	
4	Fatal	1982		Denmark	50kw	Jens Erik Madsen, during servicing of controller	Wind Energy -- The Breath of Life or the Kiss of Death:	http://www.wind-works.org/articles/BreathLife.html	

							Contemporary Wind Mortality Rates, by Paul Gipe		
5	Fatal	1983	Palm Springs	California, USA	500kw	Eric Wright on experimental VAWT - came down with man basket	Wind Energy -- The Breath of Life or the Kiss of Death: Contemporary Wind Mortality Rates, by Paul Gipe	http://www.wind-works.org/articles/BreathLife.html	
6	Fatal	1984	Altamont Pass	California, USA	65kw	J.A. Doucette, unloading towers from a truck, towers rolled off truck	Wind Energy -- The Breath of Life or the Kiss of Death: Contemporary Wind Mortality Rates, by Paul Gipe	http://www.wind-works.org/articles/BreathLife.html	
7	Fatal	1984	Palm Springs	California, USA	80kw	Art Gomez, servicing Dynergy crane	Wind Energy -- The Breath of Life or the Kiss of Death: Contemporary Wind Mortality Rates, by Paul Gipe	http://www.wind-works.org/articles/BreathLife.html	
8	Fatal	1984	Indiana	Indiana, USA	Jacobs 10kw	Ugene Stallhut, ground crew, driving tractor as tow vehicle, tractor flipped over crushing him	Wind Energy -- The Breath of Life or the Kiss of Death: Contemporary Wind Mortality Rates, by Paul	http://www.wind-works.org/articles/BreathLife.html	

							Gipe	
9	Fatal	1989	Palm Springs	California, USA	65kw	John Donnelly, atop nacelle, servicing Nordtank nacelle, no brake, lanyard caught on main shaft protrusion	Wind Energy -- The Breath of Life or the Kiss of Death: Contemporary Wind Mortality Rates, by Paul Gipe	http://www.wind-works.org/articles/BreathLife.html
10	Fatal	1990		Holland	100kw	Dick Hozeman, atop nacelle, entered Polenko nacelle in storm, no brake, caught on spinning shaft	Wind Energy -- The Breath of Life or the Kiss of Death: Contemporary Wind Mortality Rates, by Paul Gipe	http://www.wind-works.org/articles/BreathLife.html
11	Fatal (2 deaths)	1990		Denmark	400kw	Leif Thomsen, & Kaj Vadstrup, both killed servicing rotor, no locking pin on rotor, brake released accidentally, rotor began moving catching man basket & knocking it to the ground, third man clung to tower until rescued	Wind Energy -- The Breath of Life or the Kiss of Death: Contemporary Wind Mortality Rates, by Paul Gipe	http://www.wind-works.org/articles/BreathLife.html
12	Fatal	1991	Tehachapi	California, USA	90kw	Thomas Swan, crane operator,	Wind Energy -- The Breath of	http://www.wind-works.org/article

						travelling, locking pin failed, boom swung downhill into 66 kV power line	Life or the Kiss of Death: Contemporary Wind Mortality Rates, by Paul Gipe	s/BreathLife.html	
13	Fatal	1992	Palm Springs	California, USA	65kw	Richard Zawlocki, descending tower without lanyard, without fall restraint system in place, lanyard found holding nacelle cover open, found at base of tower	Wind Energy -- The Breath of Life or the Kiss of Death: Contemporary Wind Mortality Rates, by Paul Gipe	http://www.wind-works.org/article/s/BreathLife.html	
14	Blade failure	1992	Delabole	Cornwall, UK	Vestas 400kw	Blades damaged by lightning two weeks after opening	"Accidents", D Krämer, BLS, Dec. 2000.	http://www.bradworthy.com/user/nonIEbrowser/200103/localwindfarm.html	
15	Environmental	1992	FloWind site, Tehachapi Pass, California	United States	Darrieus turbines	Accelerated, human-induced erosion caused by rain runoff from service roads and wind turbine pads in the Tehachapi Pass, CA. The site is now	"Erosion Gullies in the Tehachapi Pass: An Example of Improper Wind Development" - article by Paul Gipe with photos. Originally written	http://www.wind-works.org/article/s/TehErosion.html	

						owned by Florida Power & Light and the eggbeater or Darrieus turbines have since been removed and several erosion control practices instituted. While these practices have reduced erosion in the gullies shown, new gullies have formed elsewhere along the ridge, hence erosion continues.	in 1996, the article has recently (2005) been brought up to date, saying that essentially nothing has changed since then		
16	Fatal	1993	Illinois	Illinois, USA	2kw	Robert Skarski, erecting small wind turbine, tower collapsed with Skarski strapped to it	Wind Energy -- The Breath of Life or the Kiss of Death: Contemporary Wind Mortality Rates, by Paul Gipe	http://www.wind-works.org/articles/BreathLife.html	
17	Blade failure	09/12/1993	Mynydd-y-Cemmaes	Powys, Wales	WEG 300kw	Several turbines severely damaged during a storm, including a large blade part which was thrown over 400m. An	Windpower Monthly January 1994.		

						independent witness estimated the blade piece to weigh 1 tonne and travel almost 500m.			
18	Structural failure	15/12/1993	Cold Northcott	Cornwall, UK	WEG MS-3 300kw	Complete blade and rotor broke away from tower during December 1993 only one month after opening. Date simply used as mid-point for the month	Windpower Monthly January 1994.		
19	Fatal - ice	1994	Minnesota	MN, USA	300kw	Mark (Eddie) Ketterling, inside Kennetech base tower section, winter, large chunk of ice fell, cutting him in half	Wind Energy -- The Breath of Life or the Kiss of Death: Contemporary Wind Mortality Rates, by Paul Gipe Also Windpower Monthly April 1994	http://www.wind-works.org/articles/BreathLife.html	
20	Miscellaneous	01/06/1994			Bonus 300kw	"Birds nest caused major failure". Date is of magazine publication	Windpower Monthly June 1994		
21	Lightning - blade failure	Not known. 1994 or after	Kirkby Moor, Cumbria	UK	Vestas 400kW	One of the turbines on Kirby Moor failed in	MAIWEG web site with photos	http://www.windfarm.fsnet.co.uk/gallery.htm	

						<p>spectacular fashion following a lightning strike, the blades disintegrated hurling debris across the moor. Tattered remains of the glassfibre coating are all that remained on the blade tips. The nose cone was also blown off by the lightning strike. Commissioned in 1994, the accident must have happened sometime later</p>			
22	Blade failure	18/07/1995	Rüdersdorf	Brandenburg, Germany		<p>11 m long piece of rotor blade landed adjacent to children's nursery. Date is of newspaper</p>	<p>Newspaper "Märkische Oder", 18/7/1995. Also "Accidents", D Krämer, BLS, Dec. 2000</p>		
23	Blade failure	15/11/1995	Tarifa	Spain	Kenetech 90 kw S-33	<p>Two separate occurrences of blades broken off during November 1995. Date simply used as mid-point for the</p>	<p>Windpower Monthly, December 1995.</p>		

						month			
24	Blade failure	01/12/1995		Greece	34 Windmaster 300kw	Cracks found in blades. Date is of magazine publication	Windpower Monthly December 1995		
25	Fatal (unconfirmed)	1996		China		China, cleaning blades, unconfirmed	Wind Energy -- The Breath of Life or the Kiss of Death: Contemporary Wind Mortality Rates, by Paul Gipe	http://www.wind-works.org/articles/BreathLife.html	
26	Fatal (unconfirmed)	1996		USA		US, boat operator decapitated by small machine, unconfirmed	Wind Energy -- The Breath of Life or the Kiss of Death: Contemporary Wind Mortality Rates, by Paul Gipe	http://www.wind-works.org/articles/BreathLife.html	
27	Ice throw	1996	Bensersiel	East Friesland/ Niedersachsen, Germany	AN Bonus	Thrown ice - Case before Crown Court in Oldenburg. Public injury	"Accidents", D Krämer, BLS, Dec. 2000		
28	Ice throw	1996	Borgholzhausen	Sauerland, Germany		30cm ice lumps landing on footpath, and damage to trees.	"Accidents", D Krämer, BLS, Dec. 2000		
29	Blade failure	22/02/1996	East Friesland	Niedersachsen, Germany		Parts of rotor blade reported landing in people's garden.	East Friesland daily newspaper, 22/2/1996. Also "Accidents", D		

						Date is of newspaper	Krämer, BLS, Dec. 2000		
30	Blade failure	15/09/1996	Eesmond	Holland	Kenetech	Second blade failure reported during September. Date simply used as mid-point for the month	Windpower Monthly January 1997		
31	Ice throw	29/10/1996	Krummendeich	Niedersachsen, Germany		"In winter the rotors sling ice lumps through the air – we were cheated". Date is of newspaper	Interview regarding turbine planning permission, East Friesland newspaper 29/10/96. Also "Accidents", D Krämer, BLS, Dec. 2000		
32	Blade failure	30/10/1996	Satrup-Esmark to Havetoft road	Schleswig-Flensburg County, Germany		Turbine blades broke and fell. Pieces landed on the road and damaged an adjacent turbine. Date is of newspaper	Newspaper "Schleswiger Nachtichten", 30/10/1996. Also "Accidents", D Krämer, BLS, Dec. 2000		
33	Ice throw	08/11/1996	Werdum/Buttförde	Kreis Wittmund/Niedersachsen, Germany		Kg weight ice lumps landing in the street. Date is of newspaper	Interview with Werdum's Mayor, East Friesland newspaper 8/11/96. Also "Accidents", D Krämer, BLS,		

							Dec. 2000	
34	Fatal	1997	Indiana	Indiana, USA	500kw	Randy Bruce Crumrine, 36, crane oiler, tower crane collapsed	Wind Energy -- The Breath of Life or the Kiss of Death: Contemporary Wind Mortality Rates, by Paul Gipe Also Windpower Monthly August 1997	http://www.wind-works.org/articles/BreathLife.html
35	Fatal	1997	Lemvig	Denmark	50kw	Ivan Sørensen, Vestas windsmith, repowering project, removing turbine, removed nacelle fixing bolts prematurely	Wind Energy -- The Breath of Life or the Kiss of Death: Contemporary Wind Mortality Rates, by Paul Gipe Also Windpower Monthly December 1997 and February 1998	http://www.wind-works.org/articles/BreathLife.html
36	Fatal - driver distraction - public fatality	1997	Erneuter Tödlicher Autounfall bei Erfstadt-Erp	Westphalia, Germany		First of three public fatalities at the same location put down to driver distraction. Accident spot is where turbines become visible to drivers - on	Kölner Stadtanzeiger-Erftkreis from 8.3.2003	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm

						circular road 33 (Kreisstraße 33)			
37	Ice throw	10/01/1997	Selbitz-Sellanger	Kreis Hof/Bayern, Germany		Ice documented as thrown up to 85m, weight up to 0.5kg, between 8th and 10th January. Photographs available	"Accidents", D Krämer, BLS, Dec. 2000. Reporter contact details available. Also	http://members.aol.com/fswemedien/ZZUnfalldat ei_97_99.htm	
38	Ice throw	21/01/1997	Stein-Neukirch	Westerwald/Kreis /Theinland-Pfalz, Germany		Ice from Lichtenthäler turbine landed on road. Ice pieces "bigger than A4 paper" missed colleague by only 2m, travelled 80m	"Accidents", D Krämer, BLS, Dec. 2000. Letter from Mayor of Stein-Neukirch dated 22/1/1997	http://wilfriedheck.tripod.com/2unf.htm	
39	Blade failure	18/02/1997	Island of Nordstrand	Kreis North Friesland/Schleswig-Holstein, Germany	HSW-250	Blade parts flew over 300m across a road. Two of three blades came off.	Newspaper "Nordfriesland Tageblatt" 20/2/1997. Also "Accidents", D Krämer, BLS, Dec. 2000. Also Windpower Monthly May 1997	http://members.aol.com/fswemedien/ZZUnfalldat ei_97_99.htm	
40	Blade failure	21/02/1997	Waldaubach	Westerwald/Hessen, Germany	Enercon	Rotor blade blown off. Blade parts found 400m to 500m away. Parts landed in	"Accidents", D Krämer, BLS, Dec. 2000. Eyewitness report – contact details available.	http://members.aol.com/fswemedien/ZZUnfalldat ei_97_99.htm	

						summer house. Date is of newspaper			
41	Fatal - blade failure	04/04/1997	Kaiser-Wilhelm-Koog	Schlesvig-Holstein, Germany	HSW 600KW prototype	Bernhard Saxen, 42, inside prototype turbine at KWK test field. Blade parts flew up to 500m. Part of turbine housing also blown off, killing Bernhard.	Wind Energy -- The Breath of Life or the Kiss of Death: Contemporary Wind Mortality Rates, by Paul Gipe Also Windpower Monthly May 1997 and September 1997. Newspaper "Nordwest-Zeitung" 5/4/1997.	http://www.wind-works.org/article/s/BreathLife.html	http://members.aol.com/fswemedien/ZZUnfalldat_ei_97_99.htm
42	Blade failure	12/04/1997	Großenwiehe /Wanderup	Schleswig-Holstein, Germany	Tacke	Large blade part (66%) travelled >50m. Road only 20m away.	"Accidents", D Krämer, BLS, Dec. 2000. Eyewitness report – contact details available.	http://members.aol.com/fswemedien/ZZUnfalldat_ei_97_99.htm	
43	Ice throw	29/11/1997	Willmandinger Alb/Himmelbjerg	Kreis Reutlingen/Baden-Württemberg, Germany		Damage to car on road by "tennis-ball" sized piece of ice. Date is of newspaper	Newspaper report – "Suuwest Presse", 29/11/1997, Reutlingen edition. Also "Accidents", D Krämer, BLS,	http://members.aol.com/fswemedien/ZZUnfalldat_ei_97_99.htm	

							Dec. 2000		
44	Blade failure	15/12/1997	Taff Ely	Mid Glamorgan, Wales, UK		Blades damaged by lightning during December 1997. Date simply taken as mid-point for the month.	New Review, Issue 36, May 1998.	http://www.dti.gov.uk/NewReview/nr36/html/wind.html	
45	Blade failure	15/12/1997	Four Burrows	Cornwall, UK	Bonus 300kw	Blades damaged by lightning during December 1997. Date simply taken as mid-point for the month.	New Review, Issue 36, May 1998.	http://www.dti.gov.uk/NewReview/nr36/html/wind.html	
46	Miscellaneous	24/12/1997	Mynydd-y-Cemmaes	Powys, Wales	WEG 300kw	Turbine had its transformer door blown off which left direct access to 660 volt machinery. Turbine remained operational with the door off for at least 3 days. Date confirmed by independent witnesses	Cambrian News 8 Jan 1998	http://www.dti.gov.uk/NewReview/nr36/html/wind.html	
47	Fire	24/12/1997	Mynydd-y-Cemmaes	Powys, Wales	WEG 300kw	Turbine overheated then burnt out. Witnesses	Cambrian News 8 Jan 1998. Also Windpower Monthly	http://www.dti.gov.uk/NewReview/nr36/html/wind.html	

						reported "balls of fire" coming from the turbine. Burning debris was thrown 150 meters, setting the hillside and a public right-of-way on fire.	February 1998		
48	Miscellaneous	25/12/1997	Mynydd-y-Cemmaes	Powys, Wales	WEG 300kw	Serious damage to most of the turbines observed following the storm and fire the previous day. Witnesses reported only 4-5 turbines operating out of 24. One witness finally reported the incident to Fire Brigade, Police and HSE on 29th December. None had been informed by the operators.	Private account. Also Cambrian News 8 Jan 1998.		
49	Blade failure	27/12/1997	Dollrothfeld	Schleswig-Holstein, Germany	Tacke, 600 KW	Blade broken off. Road only 20m away. Photographs available. Date is of newspaper	Newspaper "Schleswiger Nachrichten" 27/12/1997. Also "Accidents", D Krämer, BLS,	http://members.aol.com/fswemedien/ZZUnfalldat/ei_97_99.htm	

							Dec. 2000.		
50	Structural failure	05/03/1998	Simonsberg near Husum	Kreis North Friesland/Schleswig-Holstein, Germany	Enercon E40	Rotor and housing fell 42m off turbine tower. Date is newspaper date	Newspaper "Husumer Nachrichten" 5/3/1998. Also "Accidents", D Krämer, BLS, Dec. 2000. Also Windpower Monthly June 1998	http://members.aol.com/fswemedien/ZZUnfalldat/ei_97_99.htm	
51	Structural failure	09/06/1998	Gujarat	Between Ahmadabad and Bombay, India	Various: e.g. Bonus , Vestas, Micon	129 of 315 turbines destroyed.	Various newspaper articles. This followed a major storm (cyclone). Also "Accidents", D Krämer, BLS, Dec. 2000. Also Windpower Monthly September 1998	http://members.aol.com/fswemedien/ZZUnfalldat/ei_97_99.htm	
52	Fire	20/09/1998	Saron	Kreis Demmin/Mecklenburg/Vorpommern, Germany		Turbine housing completely destroyed by fire. Public damage - car also destroyed.	Newspaper "Lübecker / Mecklenburger Nachrichten" 20/9/1998. Also "Accidents", D Krämer, BLS, Dec. 2000	http://members.aol.com/fswemedien/ZZUnfalldat/ei_97_99.htm	
53	Blade failure	18/10/1998	Goonhilly	Helston, Cornwall, UK		Blades hit by lightning – "considerable damage"	"Accidents", D Krämer, BLS, Dec. 2000. Photographs		

							available.		
54	Structural failure	27/12/1998	Llangwryfon	Dyfed, Wales	WEG MS-3 300kw	Two blades ripped from hub. Tower bent. Blade pieces travelled 500m.	“Winds blow turbine from tower” Windpower Monthly March 1999. Also “Accidents”, D Krämer, BLS, Dec. 2000.		
55	Fatal - driver distraction - public fatality	1999	Erneuter Tödlicher Autounfall bei Erfstadt-Erp	Westphalia, Germany		Second of three public fatalities at the same location put down to driver distraction. Accident spot is where turbines become visible to drivers - on circular road 33 (Kreisstraße 33)	Kölner Stadtanzeiger- Erfthkreis from 8.3.2003	http://members.aol.com/fswemedien/ZZUnfalldat/ei.htm	
56	Ice throw	05/01/1999	Gebrannten Rücken	Bromskirchen, Frankenberg County, Hessen, Germany		Damage to car by ice. Approx. 20 pieces of ice from a turbine 100m away.	“Accidents”, D Krämer, BLS, Dec. 2000. Eyewitness report – contact details available.	http://members.aol.com/fswemedien/ZZUnfalldat/ei_97_99.htm	
57	Structural failure	16/01/1999	Rebgeschain	Vogelsbergkreis, Hessen, Germany	Enercon E-40	Blade and turbine fell 63m off turbine tower. Attributed to failure of securing “kingpin” bolt.	Windpower Monthly March 1999, May 1999 and July 1999. Also “Accidents”, D Krämer, BLS,	http://members.aol.com/fswemedien/ZZUnfalldat/ei_97_99.htm	

						Same failure as 1/3/99 incident below	Dec. 2000. Letter to building inspection authorities in Nordrhein-Westfalen, 12/3/99. Also press release by BLS 25/3/99. Also Newspaper "Ostfreisische Nachrichten", Aurich, 26/3/99 and report by Enercon to Harlingerland 8/4/99, plus newspaper "Jeversches Wochenblatt" 8/4/99.	
58	Blade failure	05/02/1999	Renkenberge, Kreis Emsland /Niedersachsen	Lower Saxony, Germany	Micon 64/1500 1.5MW	Blade parts blown off. Parts found 100m away	"Accidents", D Krämer, BLS, Dec. 2000. Also newspaper "Meppener Tagespost" 4/3/1999. Photos	http://members.aol.com/fswemedien/ZZUnfalldat/ei_97_99.htm
59	Blade failure	05/02/1999	Wilsickow	Kreis Uckermark/ Brandenburg, Germany	AN Bonus, 1MW	At least 20 separate blade parts up to 1m recorded – blown to greater than 300m	"Accidents", D Krämer, BLS, Dec. 2000.	http://members.aol.com/fswemedien/ZZUnfalldat/ei_97_99.htm

60	Blade failure	05/02/1999	Hachenburg	Westerwald-Kreis/Rheinland-Pfalz, Germany	Fuhrländer, 250 KW	Blade parts flew almost 40m and fell near heavily used footpath. Possible lightning cause.	Newspaper "Rhein-Zeitung", Westerwälder Zeitung edition, 6/2/99 – article title "How dangerous are wind turbines?" Also "Accidents", D Krämer, BLS, Dec. 2000.	http://members.aol.com/fswemedien/ZZUnfalldat ei_97_99.htm	http://wilfriedheek.tripod.com/2unf.htm
61	Blade failure	05/02/1999	Burmönken	Kreis Wittmund/Niedersachsen, Germany	Tacke 600 KW	Blade broken off. Blade parts flew off	"Accidents", D Krämer, BLS, Dec. 2000. Photos.	http://members.aol.com/fswemedien/ZZUnfalldat ei_97_99.htm	
62	Blade failure	05/02/1999	Lathen, Ems County, Lower Saxony	Germany	NEC Micon64, 1.5kW	Frozen rotor blade detached from main rotor and disintegrated. Parts flew 100m	Meppen's Daily Mail of 4/4/99. Also Gerd Jansen.	http://members.aol.com/fswemedien/ZZUnfalldat ei_97_99.htm	
63	Blade failure	05/02/1999	Wijnaldum	Holland	Vestas, V 39/500	Lightning strike destroyed turbine blades	WSH-WINDNIEUWS. Also "Accidents", D Krämer, BLS, Dec. 2000.	http://home.wxs.nl/~windsh/nieuws.html	http://members.aol.com/fswemedien/ZZUnfalldat ei_97_99.htm
64	Blade failure	05/02/1999	Lelystad	Holland	4 x Windmaster 43/750	Blade parts of 4 turbines badly damaged by lightning.	WSH-WINDNIEUWS. Also "Accidents", D Krämer, BLS, Dec. 2000.	http://home.wxs.nl/~windsh/nieuws.html	http://members.aol.com/fswemedien/ZZUnfalldat ei_97_99.htm
65	Blade failure	05/02/1999	Seglabera in Halland	Sweden	Vestas	Blade part flew almost 150m	Newspaper "Hallandsposten" 12/3/1999. Also "Accidents",	http://members.aol.com/fswemedien/ZZUnfalldat ei_97_99.htm	

							D Krämer, BLS, Dec. 2000.		
66	Blade failure	16/02/1999	Sustrum	Kreis Emsland/ Niedersachsen, Germany	Micon 64/1500 1.5MW	7m to 8m long blade part flew >200m. More than 10 other pieces up to 1m long were recovered. 32 similar turbines at two sites shut down by manufacturer due to safety reasons	"Accidents", D Krämer, BLS, Dec. 2000. Also newspaper "Meppener Tagespost" 4/3/1999.	http://members.aol.com/fswemedien/ZZUnfalldat/ei_97_99.htm	
67	Blade failure	01/03/1999	Allstedt/Nienstedt (Galgenberg)	Kreis Sangerhausen/ Sachsen-Anhalt, Germany	GET 41	Two blade parts >20m long blown off and travelled >150m. Photos.	Newspapers "Mitteldeutsche Zeitung" 2/3/1999 and "Volksstimme" 3/3/1999. Also "Accidents", D Krämer, BLS, Dec. 2000	http://members.aol.com/fswemedien/ZZUnfalldat/ei_97_99.htm	
68	Structural failure	01/03/1999	Helpershain	Vogelsbergkreis, Hessen, Germany	Enercon E-40	Blade and turbine fell off turbine tower. 63m drop. Attributed to failure of securing "kingpin" bolt. Same failure as 16/1/99 incident above. 17	Windpower Monthly March 1999, May 1999 and July 1999. Also "Accidents", D Krämer, BLS, Dec. 2000. Letter to building inspection authorities in	http://members.aol.com/fswemedien/ZZUnfalldat/ei_97_99.htm	

						identical turbines shut down.	Nordrhein-Westfalen, 12/3/99. Also press release by BLS 25/3/99. Also Newspaper "Ostfreisische Nachrichten", Aurich, 26/3/99 and report by Enercon to Harlingerland 8/4/99, plus newspaper "Jeversches Wochenblatt" 8/4/99.		
69	Fire	01/03/1999	Eemmerdijk	Holland		"Turbine fire at Eemmerdijk" Date is for magazine publication	Windpower Monthly March 1999		
70	Blade failure	12/04/1999	Blankenheim	Kreis Sangerhausen/ Sachsen-Anhalt, Germany	Tacke TW 600	Blade fell to ground.	Newspaper "Mitteldeutsche Zeitung" 13/4/1999. Also "Accidents", D Krämer, BLS, Dec. 2000.	http://members.aol.com/fswemedien/ZZUnfalldatei_97_99.htm	
71	Ice throw	27/04/1999	Grebenhain	Lauterbach, Germany		Pieces of ice thrown 70 to 80m from turbine during the week prior to 27 April.	Newspaper report "Lauterbacher Anzeiger" 27/4/1999. Also "Accidents", D		

							Krämer, BLS, Dec. 2000		
72	Ice throw	27/04/1999	Engelrod Helpersheim with Grebenhain/Vog elsbergkreis	Hessen, Germany		Ice thrown 80m between Engelrod and Helpersheim. Large ice plates	Source: forest officer Jeurgen Fornof. Grebenhain	http://members.aol.com/fswemedien/ZZUnfalldat/ei_97_99.htm	
73	Blade failure	01/05/1999		Germany	NEG Micon 1.5MW	Lightning damaged wood epoxy blades. Date is for magazine publication	Windpower Monthly May 1999. Also "Accidents", D Krämer, BLS, Dec. 2000		
74	Fire	20/9/1999	Zielenser Weg, Grafschaft Kreis Friesland / Niedersachsen	Lower Saxony, Germany	GET 600kW	Turbine completely burnt out. Fire crew could do nothing due to height of fire and danger from falling debris. Turbine 4 years 4 months old	Newspaper "Jeversches Wochenblatt" 21/2/99. Also "Accidents", D Krämer, BLS, Dec. 2000	http://members.aol.com/fswemedien/ZZUnfalldat/ei_97_99.htm	
75	Miscellaneous	07/10/1999	Spieka-Neufeld	Gemeinde Nordholz, Landkreis Cuxhaven, Germany		Weather ring 1.3m diameter fell 53m off the turbine. Poor maintenance blamed. Photos.	Newspaper "Nordsee- Zeitung", local Landkreis edition 13/10/99. Also "Accidents", D Krämer, BLS, Dec. 2000	http://members.aol.com/fswemedien/ZZUnfalldat/ei_97_99.htm	
76	Human injury / Structural failure	23/10/1999	Lake Isabella, Bakersfield	California, US	STS was installing a Bergey Excel on an 80-foot (24-	Cause not determined. Turbine toppled while being	Newspaper "Bakersfield Californian" 23/10/1999.	http://www.wind-works.org/article/s/Aagaard.html	

					meter) guyed lattice tower near Lake Isabella for Buckeye Farms	erected - on to operator. Operator suffered spinal injuries and is wheelchair bound. Another fell 15 feet and suffered minor injuries.	Also Aagaard web page. Web article quotes 19 deaths from working on wind turbines over 25 years		
77	Blade failure	07/11/1999	Heath/Schleswig-Holstein	Germany		Brake system failure. 25m blades turning 4x normal speed. 60 residents within 500m evacuated between 6th and 7th November	Reuters 7.11.99	http://members.aol.com/fswemedien/ZZUnfalldat ei_97_99.htm	
78	Blade failure	03/12/1999	Sievern-Langden, Kreis Cuxhaven	Germany	AN Bonus 1MW/54	Blade blown off. Parts travelled 200m.	Newspaper "Nordsee-Zeitung" 6/12/1999. Also "Accidents", D Krämer, BLS, Dec. 2000.	http://members.aol.com/fswemedien/ZZUnfalldat ei_97_99.htm	
79	Structural failure	03/12/1999	Bocholt-Hemden	Bocholt-Hemden, Germany		The 15kg turbine tip flew off and travelled more than 50m. Flew over road.	"Accidents", D Krämer, BLS, Dec. 2000. Eyewitness account – contact details available. Photos.	http://members.aol.com/fswemedien/ZZUnfalldat ei_97_99.htm	

80	Structural failure	03/12/1999	Jutland	Denmark	Various, including Windmatic, Wincon, Bonus, Vestas, Nordtank & Kuriant	Storm destroyed 8 turbines. Commonest accident - brake failure, rapid rotation followed by fire	On line report from Dutch website. Reporter details also available. Also "Accidents", D Krämer, BLS, Dec. 2000	http://home.wxs.nl/~hzwarber/wind/welkom.html	
81	Blade failure	03/12/1999	Zennhusen	Germany		Two turbines damaged by lightning – one lost a blade and two others were shattered.	Newspaper "Dithmarscher Landeszeitung" 4/12/99. Also "Accidents", D Krämer, BLS, Dec. 2000	http://members.aol.com/fswemedien/ZZUnfalldat/ei_97_99.htm	
82	Blade failure	04/12/1999	Westermarsch II, Norddeich	Lower Saxony, Germany	Enercon E33	Rotor blade destroyed by lightning strike. Photos.	Newspaper "Emdener Zeitung", Aurich, 8/12/1999. Also "Accidents", D Krämer, BLS, Dec. 2000	http://members.aol.com/fswemedien/ZZUnfalldat/ei_97_99.htm	
83	Structural failure	09/12/1999	Eemshaven	Holland	Kenetech (US)	Two rotor blades fell off in a period of weeks. 94 turbines shut down.	On line report from Dutch website. Reporter details also available. Also "Accidents", D Krämer, BLS, Dec. 2000. Also newspaper "Ostfriesen-Zeitung" 11/12/1999. Photos.	http://home.wxs.nl/~hzwarber/wind/welkom.html	

84	Structural failure	12/12/1999	Lichtenau-Asseln	Paderborn, Nordrhein-Westfalen, Germany	Sudwind S 46/600 kw	60m high turbine tower broke 10m above the ground. Rotor parts and parts of the 46m blades travelled up to 200m.	Newspaper "Westfalenblatt", Paderborn, 13/12/1999. Photos. Also Newspaper "Westfalenblatt", Paderborn, 18/12/1999. Also Weekly paper "Landwirtschaftliche Wochenblatt" No. 52/99, p29-30. Also FOCUS 18/12/1999, p13 "Low pressure in first half of December converted many wind turbines into dangerous metal centrifuges". Also "Accidents", D Krämer, BLS, Dec. 2000.	http://members.aol.com/fswemedien/ZZUnfalldatei_97_99.htm	
85	Blade failure	19/12/1999	Stöffin	Neuruppin, Germany	Südwind	Blade bend, hit tower and shattered. Pieces over a circle of about 50m diameter	Newspaper "Berliner Morgenpost" 22/12/1999. Also Newspaper "Gransrr-Zeitung"	http://members.aol.com/fswemedien/ZZUnfalldatei_97_99.htm	http://home.wxs.nl/~windsh/nieuws.html

							4/1/2000. Also "Accidents", D Krämer, BLS, Dec. 2000.		
86	Blade failure	22/12/1999	Leewarden	Holland	NEDWIND NW 46/3/500	Serious damage to rotor blades after lightning strike	Newspaper "Leewarden Courant" 23/12/1999. Also "Accidents", D Krämer, BLS, Dec. 2000	http://home.wxs.nl/~windsh/nieuws.html	http://members.aol.com/fswemedien/ZZUnfalldat ei_97_99.htm
87	Structural failure	2000	Port la Nouvelle, Aude	France		Turbine mast broke during a storm. No further details. There are 5 turbines on the site - 4 x 500kW constructed in September 1993, and 1 x 200kW constructed in 1991. No details of which type was destroyed. The first of several such French incidents which led to a formal investigation of wind turbine safety	"Rapport sur la sécurité des installations éoliennes", Conseil général des Mines, N° 04-5. Ministère de l'économie des finances et de l'industrie, République Française, July 2004.		

88	Fire	04/01/2000	Dörpen	Papenburg, Lower Saxony, Germany	Tacke TW 600a	Turbine fire – cordoned off by police. Blades could not be shut down and continued to turn. Turbine head totally destroyed. 21m 3.8Te blades rotated uncontrollably at speed and on fire for many hours	Newspaper “Ems-Zeitung”, Papenburg, 6/1/2000. Photos. Also “Accidents”, D Krämer, BLS, Dec. 2000	http://members.aol.com/fswemedien/ZZUnfalldatei_00_02.htm	
89	Public injury - ice throw	10/01/2000	St Hülfe / Heede	Niedersachsen, Germany		Local vet Dr. Victoria Roloff injured on shoulder by thrown ice, 50m from turbine. Public injury. Also reports of damaged cars - holes in roof	Newspaper “Diepholzer Kreisblatt”, Niedersachsen, 12/1/2000. Eyewitness account and contact details available. Photo. Also “Accidents”, D Krämer, BLS, Dec. 2000	http://members.aol.com/fswemedien/ZZUnfalldatei_00_02.htm	http://wilfriedhecker.tripod.com/2unf.htm
90	Fire followed by structural failure	20/01/2000	Lichtenau Kreis Paderborn	Westphalia, Germany	Sudwind S 46/600 kw	Lightning strike, followed by fire. Mast then split approx 10m above base. Total loss.	Developer's website: http://erneuerbarenergien.de/0200/blitzschlag.html	http://members.aol.com/fswemedien/ZZUnfalldatei_00_02.htm	http://www.jbenfeld.de/crash.htm

91	Blade failure	21/01/2000	Samso, Aalborg, Jutland	Denmark	55 kW Nordtank	Complete rotor and housing with blades broken. One of the blade pieces went through a window and landed in a swimming pool at 200 metres distance; another piece was thrown 600 metres.	On line report at Dutch website. Also Paul Gipe "Wind Energy -- The Breath of Life or the Kiss of Death: Contemporary Wind Mortality Rates". Also Stichting Windhoek 21/1/00	http://home.wxs.nl/~hzwarber/wind/welkom.html	http://www.wind-works.org/articles/BreathLife.html
92	Structural failure	29/01/2000	Jutland	Denmark	Various	Storm destroyed three turbines. Commonest accident - brake failure, rapid rotation followed by fire	On line report from Dutch website. Reporter details also available. Also "Accidents", D Krämer, BLS, Dec. 2000	http://home.wxs.nl/~hzwarber/wind/welkom.html	
93	Structural failure	10/02/2000	Wittmund	Harlingerland, Germany	Enercon E32	Sudden and total collapse of turbine. Spokesman quoted "concrete damage". Reported to be the "fourth turbine break within 8 weeks". 44 similar turbines shut down	Press statement by Joachim Schmidt, Enercon, via Reports for Harlingerland, 20/4/2000. Also "Accidents", D Krämer, BLS, Dec. 2000	http://members.aol.com/fswemedien/ZZUnfalldat_ei_00_02.htm	

94	Structural failure	15/02/2000	Wehe den Hoorn bei Groningen	Holland	Lagerwey	Tower collapsed during storm. Total loss. All 44 Lagerwey turbines in Holland stopped from 15 February and were still stopped at 8 April 2000.	Groninger Dagblad 8.4.2002	http://members.aol.com/fswemedien/ZZUnfalldat/ei_00_02.htm	
95	Structural failure	11/03/2000	Wieringerwaard/Kolhorn in West-Friesland	Holland	Newinco in Rhenen, 30m tower	Between 10 and 11 March, turbine destroyed by storm. Tower collapse. Total loss.	Dagblad voor West-Friesland 13.3.2002	http://members.aol.com/fswemedien/ZZUnfalldat/ei_00_02.htm	
96	Electrical failure	13/03/2000	Groetpolder, Niedorp	Holland	Micon 600kW	19 turbines shut down due to short-circuit. Melting insulation on wiring reported. Date is of newspaper article	Dagblad voor West-Friesland 13.3.2002	http://home.wxs.nl/~hzwarber/wind/welkom.html	
97	Human injury	01/04/2000	Palm Springs, CA	USA	Seawest Windpower Inc	Operator suffered severe burns from electrical fault in fuse holder. Hospitalised for 10 days with second and third degree burns.	From US Safety (OSHA) database.	http://www.osha.gov/pls/imis/accidentsearch.accident_detail?id=119947315	

98	Structural failure	15/04/2000	Cold Northcott	Cornwall, UK	WEG MS-3 300kw	Entire wind power station (22 turbines) closed during April due to metal fatigue. Date simply used as mid-point for the month	"Accidents", D Krämer, BLS, Dec. 2000. Also "Review of MS3 Turbines at Cemmaes, Cold Northcott and Llangwryfon, Part 3: Structural/mechanical audit", WS Atkins report L4104.003/R03		
99	Structural failure	15/04/2000	Mynydd-y-Cemmaes	Powys, Wales	WEG MS-3 300kw	Entire wind power station closed during April due to metal fatigue. Date simply used as mid-point for the month	"Accidents", D Krämer, BLS, Dec. 2000. Also "Review of MS3 Turbines at Cemmaes, Cold Northcott and Llangwryfon, Part 3: Structural/mechanical audit", WS Atkins report L4104.003/R03		
100	Structural failure	15/04/2000	Llangwryfon	Dyfed, Wales	WEG MS-3 300kw	Entire wind power station closed during April due to metal fatigue. Date simply used as mid-point for the month	"Accidents", D Krämer, BLS, Dec. 2000. Also "Review of MS3 Turbines at Cemmaes, Cold Northcott and Llangwryfon, Part 3: Structural/mecha		

							nical audit", WS Atkins report L4104.003/R03		
101	Fire	02/05/2000	Zurndorf bei Eisenstadt/Burgenland	Austria		Fire destroyed turbine - cause unknown, suspected lightning strike or mechanical source. 2 blazing rotors blades fell to ground. Over 100 firemen watched over night - could do nothing else due to fire height. Total loss.	Austrian report on internet	http://members.aol.com/fswemedien/ZZUnfalldat/ei_00_02.htm	
102	Fatal	27/05/2000	Lenkenfeld, Fehmarn	Schleswig-Holstein, Germany	Enercon 500kw	23 year-old parachutist on first solo jump drifts into turbine. Public fatality. She jumped at 1200m and the parachute opened normally at 1100m. Turbine was 4km from the intended landing site	Wind Energy -- The Breath of Life or the Kiss of Death: Contemporary Wind Mortality Rates, by Paul Gipe Also Windpower Monthly July 2000. Also Schweriner newspaper 31.5.200	http://www.wind-works.org/articles/BreathLife.html	http://members.aol.com/fswemedien/ZZUnfalldat/ei_00_02.htm

103	Blade failure	28/05/2000	Insel Norderney / Niedersachsen	Lower Saxony, Germany	Enercon E15	Storm tore the rotor nacelle and cover off. One blade travelled between 100m and 150m, landing on a factory and private house (family Zilles). It pierced a 24cm thick stone wall, timber floor and roof of the house. Luckily, the factory was closed due to holidays, and the family were absent on vacation. Turbine was constructed in 1986. The turbines were subsequently shut down on 30 August 2000 following a court ruling on safety grounds and that they were too close to housing.	Anzeiger für Harlingerland, 29.5.2000	http://members.aol.com/fswemedien/ZZUnfalldat_ei_00_02.htm	http://wilfriedheck.tripod.com/2unf.htm
104	Component failure	10/07/2000	Limburg-Offheim im Kreis Limburg-	Germany	DeWind	Problems with transformer at the wind park	Nassauische Neue Presse from 11.7.2000	http://members.aol.com/fswemedien/ZZUnfalldat	

			Weilburg/Hessen			causes major power fluctuations in the nearby towns. Reports of computers, TVs and fridges damaged. Eventual mains failure which was restored some time later.		ei_00_02.htm	
105	Driver distraction	29/07/2000	Hamm-Sieg	Germany		Road "L290 to be defused" article in local newspaper. On a 4km stretch of the L290 road where wind turbines are clearly visible, 73 accidents reported over 4 years. Four accidents very serious but none fatal. Components and ice reported thrown over 400m, onto and over the road. Date is of newspaper article	"Rhein-Zeitung", Lokalteil Westerwald-Sieg, 29 July 2000	http://wilfriedhecker.tripod.com/2unf.htm	

106	Blade failure	30/10/2000	Utgast in Ostfriesland / Niedersachsen	Lower Saxony, Germany	Tacke 600 KW	21m long blade section weighing 2 tonnes flew approx 100m. Turbine had passed an inspection only 4 weeks before. Constructed in 1996	Anzeiger für Harlingerland, 31.11.2000	http://members.aol.com/fswemedien/ZZUnfalldat_ei_00_02.htm	http://wilfriedheek.tripod.com/2u nf.htm
107	Component failure	06/11/2000	Barlth bei Heide, Kreis Dithmarschen / Schleswig-Holstein	Germany		Failed hydraulic valve - turbine running at 100rpm - over twice normal speed. Could not be shut down in the wind. 20 houses evacuated overnight until turbine was shut down.	Dithmarschener Landeszeitung / Brunsbütteler Zeitung	http://members.aol.com/fswemedien/ZZUnfalldat_ei_00_02.htm	
108	Component failure	01/12/2000			Nordtank 600kw	Gearbox failure warning – 270 turbines guaranteed to fail within 5 years Date is of magazine publication	Windpower Monthly December 2000		
109	Structural failure	09/12/2000	Burgos, Merindales	Spain	GamesaEólica G-47 660kw	Tower fractured after being struck by blade on 9 December 2000.	Windpower Monthly February 2001. Also online	http://ventdubocage.net/accident4.htm	

						According to the online article, blade parts travelled almost 1000m	photos (see right)		
110	Transport (fatal)	19/12/2000	Erwitte - Westfalen	Germany		20-year old car driver killed in accident with loaded turbine transporter. The transporter was turning and blocking the entire road. No warnings were given and the 20-year old driver could not stop in time. Operators considered the use of police escort unnecessary. Public fatality.	Lippstädter Zeitung - Der Patriot vom 20.12.2000	http://members.aol.com/fswemedien/ZZUnfalldatei_00_02.htm	http://wilfriedhecker.tripod.com/2u.html
111	Component failure	05/01/2001	Windpark Opitzhöhe bei Groß-Opitz bei Dresden / Sachsen	Saxony, Germany	Sudwind N3127	Failed pin between gearbox and turbine. Turbine dates from 1995.	Operators own website	http://members.aol.com/fswemedien/ZZUnfalldatei_00_02.htm	http://www.windfang-sachsen.de
112	Structural failure	15/01/2001	Castile	Spain	GamesaEólica G-47 660kw	Nacelle rotor toppled from tower during January. Date simply used as	Windpower Monthly February 2001		

						mid-point for the month			
113	Structural failure	15/01/2001	León	Spain	GamesaEólica G-47 660kw	Tower damaged during January. Date simply used as mid-point for the month	Windpower Monthly February 2001		
114	Environmental damage	08/03/2001	Martinshöhe bei Kaiserslautern / Rheinland-Pfalz	Germany		Leak of hydraulic oil into the surrounding ground. Had to be cleaned up by a specialist firm.	Die Rheinpfalz 10.3.01	http://members.aol.com/fswemedien/ZZUnfalldat/ei_00_02.htm	
115	Blade failure	15/03/2001	Oederquart bei Stade / Niedersachsen	Lower Saxony, Germany	Vestas V66	33m blade piece broke off and travelled 100m. Cause - pin breaking. Turbine only 2 years old. Investigation by Vestas into 200 other V66 turbines in Germany found similar defects at Emden.	Stader Tageblatt	http://members.aol.com/fswemedien/ZZUnfalldat/ei_00_02.htm	http://www.tageblatt.de/db/main.cfm?DID=37532
116	Fire	19/03/2001	Goldenstedt im Kreis Vechta / Niedersachsen	Lower Saxony, Germany	GET 600	Technical defect quoted as source of fire. Fire brigade could not fight the fire at 75m height so it was left to burn out. Total loss.	Oldenburger Volkszeitung (Vechta) from 20.3.2001	http://members.aol.com/fswemedien/ZZUnfalldat/ei_00_02.htm	

						Turbine constructed in 1997. Also it could have been worse (near miss) - a natural gas plant is only 200m from the turbine. For this reason, the turbine has never been replaced. Charred remains still stood in October 2002			
117	Blade failure	22/11/2001	Wybelsum, Stadt Emden / Niedersachsen	Lower Saxony, Germany	Enercon E66	33m long blade part weighing 4 Tonnes broke off and fell to the ground. Turbine only 2 years old.	Bild am Sonntag 16.12.2001	http://members.aol.com/fswemedien/ZZUnfalldat/ei_00_02.htm	
118	Blade failure	06/12/2001	Dirllammen bei Lauterbach/Vogelsbergkreis / Hessen	Germany	AT Bonus 1.3MW/62	Large blade part 4m x 1m broke off and travelled 150m. Landed only 50m from a road	Landratsamt Lauterbach + Lauterbacher Anzeiger from 7.12.2001	http://members.aol.com/fswemedien/ZZUnfalldat/ei_00_02.htm	
119	Blade failure	21/12/2001	Bad Doberan / Mecklenburg-Vorpommern (unter Vorbehalt)	Germany		Preliminary details only. Turbine blade broke off. Nearby motorway A20 closed off.	Ingrid Lange, Rostock and internet	http://members.aol.com/fswemedien/ZZUnfalldat/ei_00_02.htm	

120	Component failure	24/12/2001	Windpark Opitzhöhe bei Groß-Opitz bei Dresden / Sachsen	Saxony, Germany	Sudwind N3127	Failed pin between gearbox and turbine. Second occurrence. Turbine dates from 1995.	Operators own website	http://members.aol.com/fswemedien/ZZUnfalldat ei_00_02.htm	http://www.windfang-sachsen.de
121	Lightning	1999 - 2001	Lincoln Township, WI	United States	Vestas V-47 660kW	Reports of turbine blade failure and also damage to nearby homes and property	Excerpts from the Final Report of the Township of Lincoln Wind Turbine Moratorium Committee	http://www.glebe mountaingroup.org/Articles/Linc oln120403.doc	
122	Blade failure	22/01/2002	Blyth	Northumberland, UK	Vestas, operated by Amec	Broken blade on first UK offshore turbine. Broke in 70mph wind. Photos	"Wind farm closed after blade snaps", BBC news on-line. Also Windpower Monthly February 2002	http://news.bbc.co.uk/1/hi/england/1777268.stm	
123	Component failure	25/01/2002	Windpark Opitzhöhe bei Groß-Opitz bei Dresden / Sachsen	Saxony, Germany	Sudwind N3127	Failed pin between gearbox and turbine. Third occurrence. Turbine dates from 1995.	Operators own website	http://members.aol.com/fswemedien/ZZUnfalldat ei_00_02.htm	http://www.windfang-sachsen.de
124	Fire	27/01/2002	Westernieland, Groningen	Holland		Fire at night - cause unknown. Total loss.	Groninger Dagblad 28.1.2002	http://members.aol.com/fswemedien/ZZUnfalldat ei_00_02.htm	

125	Structural failure	28/01/2002	Husum / Schleswig-Holstein	Germany	Windrad HSW 250	Turbine completely destroyed during storm. 28m tower, 25 Tonnes.	Husumer Nachrichten, 30.1.02. Also Weisbaden news online 29/1/2002. Photos	http://members.aol.com/fswemedien/ZZUnfalldatei_00_02.htm	http://www.wiesbaden-online.de/on/02/01/29/topnews/sturm2.html
126	Blade failure	28/01/2002	Remlingen bei Wolfenbüttel / Niedersachsen	Lower Saxony, Germany	Enercon	Blade shattered with an audible "crack". Pieces scattered across the surrounding fields	Wolfenbütteler Zeitung 29.1.02 + Bürgermeister Siegbert Pfeifer (eyewitness)	http://members.aol.com/fswemedien/ZZUnfalldatei_00_02.htm	
127	Blade failure	01/02/2002	Wormhout (Nord)	France	400kW	A blade was torn off during a storm. Date uncertain - quoted as February 2002. Only one turbine detailed for the site - 400kW - constructed in October 1997.	"Rapport sur la sécurité des installations éoliennes", Conseil général des Mines, N° 04-5. Ministère de l'économie des finances et de l'industrie, République Française, July 2004.	http://ventdubocage.net/accident.htm	http://www.suivieolien.com/francais/SUIVI/SVD/statistiques.htm
128	Component failure	09/02/2002	Windpark Opitzhöhe bei Groß-Opitz bei Dresden / Sachsen	Saxony, Germany	Sudwind N3127	Failed pin between gearbox and turbine. Fourth occurrence. Turbine dates from 1995.	Operators own website	http://members.aol.com/fswemedien/ZZUnfalldatei_00_02.htm	http://www.windfang-sachsen.de
129	Structural failure	19/02/2002	Javenloch bei Carolinensiel /	Lower Saxony, Germany	Lagerwey 250kW	Blades and turbine blown off	Nordwest-Zeitung, Jever.	http://members.aol.com/fswemedien/ZZUnfalldatei_00_02.htm	http://wilfriedheck.tripod.com/jav

			Niedersachsen			tower. Blades were 27m long - large parts travelled 235m. Photos show this. The turbine housing fell onto a transformer and also destroyed it.	Photos available online	dien/ZZUnfalldat ei_00_02.htm	enlh.htm
130	Blade failure	22/02/2002	Huppelbroich, Gem. Simmerath bei Aachen	Westphalia, Germany		Turbine blade torn off during snow storm. 7.5m blade part reported to travel 40m. Turbine 10 years old.	Ingenbroich-Nachrichten, 26.2.2002	http://members.aol.com/fswemedien/ZZUnfalldat ei_00_02.htm	
131	Fire	23/02/2002	Großhabersdorf-Vincenzenbronn bei Fürth / Bayern	Bavaria, Germany		Lightning strike set turbine blade ablaze. Fire brigade could do nothing due to the 70m height. Left to burn out. Burning blade parts reported travelling several hundred meters. Confirmed the following morning. Burning parts not extinguished by driving sleet.	Nürnberger Nachrichten, Sackaktuell Vogstreibenbach and CSU Ammendorf. Spectacular photos of blazing turbine at night	http://members.aol.com/fswemedien/ZZUnfalldat ei_00_02.htm	http://mitglied.lycos.de/radiosack/Sacktuell/sacktuell.html

132	Fire	23/02/2002	Oostburg	South-west Holland	NedWind 500kW	Lightning strike suspected as source. Complete loss. Turbine 9 years old. Burning debris also destroyed a nearby transformer. Nearby towns without power.	BN/De Stem 25 febr 2002, Dagblad voor Zuidwest - Nederland. Also Windpower monthly, April 2002	http://members.aol.com/fswemedien/ZZUnfalldat ei_00_02.htm	
133	Ice throw	26/02/2002	Sefferweich bei Bitburg / Rheinland-Pfalz	Germany		Ice thrown during a meeting of CDU state parliament delegates with the site operator. No-one hurt. No further details	Trierischer Volksfreund - online	http://members.aol.com/fswemedien/ZZUnfalldat ei_00_02.htm	
134	Fire	09/03/2002	Heiden in Kreis Borken	Westphalia, Germany		Fire in connecting substation at foot of turbine. Extinguished successfully.	Fire brigade report 9/3/2002	http://members.aol.com/fswemedien/ZZUnfalldat ei_00_02.htm	http://www.feuerwehr-heiden.de/wehr/einsaetze/2002/einsaetze.htm
135	Blade failure	13/03/2002	Dörenhagen bei Paderborn	Westphalia, Germany	NEG Micon 750kW	Loss of blade at night during storm. One blade section 30m long weighing 5.5 Te fell off. Smaller blade parts	Neue Westfälische, Ausgabe OWL, and www.nw-news.de 13/3/2002. Photos	http://members.aol.com/fswemedien/ZZUnfalldat ei_00_02.htm	http://members.aol.com/hieronymusbosch2/rotorblattschaden_30cmbreit.jpg

						covered an area 400m from the turbine. Turbine only 2.5 years old			
136	Public injury	13/03/2000	Rio Vista, CA	United States		Pilot was flying in an area cluttered with wind turbines and powerlines. He hit a line and plunged 120 feet. Lucky to be alive but should not have been flying in the area in the first place.	AERIAL GUNNING CRASH REPORT, USDA/APHIS/WILDLIFE SERVICES, Wendy Keefover-Ring Sinapu, 1989-2005, Accident and Injury Summary	http://www.goagro.org/crash.htm	
137	Fire	15/03/2002	Yttre Stengrund	Sweden	NEG Micon	Fire burnt out turbine in March 2002. Replaced in May 2002. Offshore. Date simply used as mid-point for the month	Windpower Monthly, May 2002		
138	Fire	19/03/2002	Strocken im Landkreis Döbeln / Sachsen	Saxony, Germany	Vestas V66	Fire started 5pm and could not be fought by the fire brigade due to the height. Left to burn out. Total loss. One of 5 x V66 fires in Germany	Döbelner Anzeiger, 20.3.2002	http://members.aol.com/fswemedien/ZZUnfalldat ei_00_02.htm	http://members.aol.com/fswemedien/doebeln.jpg

						during 2002			
139	Blade failure / lightning	20/03/2002	Nettetal-Oirlich im Kreis Viersen	Westphalia, Germany	DeWind 46	Lightning strike removed 1m of blade. Constructed in 1999	Westdeutsche Zeitung, 17.5.2002	http://members.aol.com/fswemedien/ZZUnfalldatei_00_02.htm	
140	Blade failure	08/04/2002	Großröhrsdorf im Landkreis Kamenz / Sachsen	Saxony, Germany		"Technical defect" led to blade damage. Turbine shut down and blade had to be replaced	Sächsische Zeitung 9/4/2002 and SP-online 9/4/2002	http://members.aol.com/fswemedien/ZZUnfalldatei_00_02.htm	http://mitglied.lycos.de/WilfriedHeck/defekt.htm
141	Fire	20/04/2002	Bad Wünnenberg-Haaren (Helmern) bei Paderborn	Westphalia, Germany	Vestas 1.5MW 108m overall height (V80?)	Turbine fire 300m from A44 motorway. No wind that day so luckily no debris scattered over wide area. Fire brigade could not fight the fire at 78m height - was left to burn out. Burning debris around periphery of turbine. Motorway closed for over 12 hours. Turbine constructed in 2000. Total loss	"Lots of coverage - www.nw-news.de Neue Westfälische, Ausgabe OWL / WDR Studio Bielefeld - Fernsehen and Radio. Photos available."	http://members.aol.com/fswemedien/ZZUnfalldatei_00_02.htm	
142	Blade failure	29/04/2002	Lohe bei Lippstadt im	Westphalia, Germany	Enercon	Blade broke off during storm	Lippstadter newspaper - Der	http://members.aol.com/fswemedien/ZZUnfalldatei_00_02.htm	http://members.aol.com/hierony

			Kreis Soest				Patriot, 30.4.2002. Photos	dien/ZZUnfalldat ei_00_02.htm	musbosch2/lohe rotorbruch.jpg
143	Structural failure	15/05/2002	Colorado	USA	WTC	Crack from first accident led to blade striking tower in second accident. First accident in May 2002. An electronic device failure and a control system software glitch caused a blade to strike the tower. Date simply used as mid-point for the month	Info from developers own website	http://www.windturbinecompany.com/milestones/	
144	Fire	12/06/2002	Holzheim bei Diez im Rhein-Lahn-Kreis (Bad Ems) / Rheinland-Pfalz	Germany		Fire spread from blazing car to neighbouring wind turbine and destroyed parts and cables in the lower part of the tower. Further spread stopped by fast action of the Fire Brigade.	Nassauische Neue Presse, 14.6.2002	http://members.aol.com/fswemedien/ZZUnfalldat ei_00_02.htm	
145	Human injury	01/07/2002	Sigean, Aude	France	660kW	Mechanic electrocuted after metal tool contacted a live	"Rapport sur la sécurité des installations éoliennes",		

						transformer connection. The survived but was badly burned and shocked. He facility was closed for 4 months during accident investigation. Turbines operational from May 2000	Conseil général des Mines, N° 04-5. Ministère de l'économie des finances et de l'industrie, République Française, July 2004.		
146	Fatal	10/07/2002	Eemmeerddijk, Zeewolds, Flevoland	Holland	1MW	Two men reported to fall 10m within the turbine tower. The one above fell on his fellow worker and was killed on the spot. The survivor had serious head and neck injuries. No names or ages given.	Wind Energy -- The Breath of Life or the Kiss of Death: Contemporary Wind Mortality Rates, by Paul Gipe. Updated May 2005. Also newspapers Trouw 11 July 2002, Veluwsch Dagblad 10 July 2002, and Veluws Dagblad, 11 July 2002 "Man dies after fall from windmill".	http://www.trau.mahelikopter.nl/lood.htm?Kranten/2002/juli.htm	
147	Fire	04/08/2002	Katzenberg bei Meißen / Sachsen	Saxony, Germany	Vestas V66	SZ-online reports fire on a brand-new turbine still undergoing	SZ-online 5/8/2002 and local information.	http://members.aol.com/fswemedien/ZZUnfalldatei_00_02.htm	http://www.igwindkraft.at/aktuelle_archiv2.htm

						commissioning. Total loss. No thunder or lightning recorded. The developers website records a light thunderstorm. Turbine had zero operational hours. Vestas investigated but no report was made public. One of 5 x V66 fires in Germany during 2002	Also "Spectacular damage with MW plants" Developer's website	
148	Human injury	05/08/2002	Heidenheim, Kreis Weißenburg-Gunzenhausen	Bavaria, Germany		53 year old member of public severely injured during accompanied visit to 100m tower. Failed safety device. He fell 10m then ended up hanging by his legs with his ear torn off. Emergency surgery required to get the man removed from the tower. Public	Nürnberger Nachrichten, 6/8/2002	http://members.aol.com/fswemedien/ZZUnfalldat ei_00_02.htm

						injury.			
149	Lightning	06/08/2002	Limburg-Offheim im Kreis Limburg- Weilburg/	Hessen, Germany	DeWind 600kW	Lightning strike hit turbine. No obvious outward damage. Shut down until sometime between 22 August and 19 October when repair was completed. Constructed July 2000	Eye witness report	http://members.aol.com/fswemedien/ZZUnfalldat ei_00_02.htm	
150	Lightning	07/08/2002	Windpark Extertal im Landkreis Lippe	Westphalia, Germany	Jacobs MD-77	Lightning strike led to complete loss of plant. Constructed December 2001. No further details	Developers web site	http://members.aol.com/fswemedien/ZZUnfalldat ei_00_02.htm	http://www.wind7.de
151	Fire	08/08/2002	Brokstedt, Schleswig- Holstein	Germany	Vesta V66	Lightning struck the tower and caused a fire. Fire brigade unable to do anything due to the height - had to let it burn out. Debris from burning blades dropping over local environment. Turbines	"Lightning burns out nacelle" - Windpower Monthly October 2002. Also Nordfriesland news sheet dated Friday 9 Aug 2002. Also local radio.	http://members.aol.com/fswemedien/ZZUnfalldat ei_00_02.htm	http://www.igwindkraft.at/aktuell/a_archiv2.htm

						operational since December 1999. One of 5 x V66 fires in Germany during 2002			
152	Fire	15/08/2002	Schleswig-Holstein	Germany	Vesta V66	Heavy thunderstorm and substantial lightning reported. Total loss. August 2002 (mid-point date assumed). One of 5 x V66 fires in Germany during 2002	"Spectacular damage with MW plants" Developer's website		http://www.igwindkraft.at/aktuell/a_archiv2.htm
153	Fire	01/09/2002		Denmark	Elsam 2MW	"Elsam 2MW fire" Date is for magazine publication	Windpower Monthly September 2002		
154	Structural failure	09/09/2002	Ulrichstein Helpershain	Germany	NEG Micon M1500	Rotor broke off completely at the hub. Weighing several tonnes and with a diameter of 44m, it fell from 50m height on to a local track. Six identical turbines shut down for safety checks. Turbine in place since 1996.	Windpower Monthly October 2002. Local TV coverage (video and photos available) and various press releases		http://members.aol.com/fswemedien/ZZUnfalldat ei_00_02.htm

155	Fire	24/09/2002	Elm bei Schlüchtern im Main-Kinzig-Kreis	Hessen, Germany	ENRON (ex Tacke)	Transformer at the foot of the turbine went on fire due to "technical defect"	Kinzigtal message of 25/9/2002	http://members.aol.com/fswemedien/ZZUnfalldat_ei_00_02.htm	
156	Fire	01/10/2002		Holland	Vestas	"Fire in Vestas turbine prompts wind farm retrofit". Date is for magazine publication	Windpower Monthly October 2002		
157	Fire	03/10/2002	Sillenstede-Grafschaft bei Jever im Kreis Friesland	Lower Saxony, Germany	GET 600kW	Fire brigade could not fight fire due to height, so left to burn out. Flaming debris ignited nearby hay. Constructed 1995/96	Jever weekly newspaper 11/10/2002. Photos available online	http://members.aol.com/fswemedien/ZZUnfalldat_ei_00_02.htm	http://members.aol.com/hieronymusbosch2/grafschaft1.jpg
158	Fire	22/10/2002	"Kell am See bei Hermeskeil im Kreis Trier-Saarburg / Rheinland-Pfalz"	Germany	Grogmann	Police alerted by passing driver. Fire brigade could not fight fire due to height. Left to burn out, but in the strong wind flying sparks and broken rotor parts were reaching the main road (distance	Local radio broadcast 23/10/2002. Also Trieri newspaper 24/10/2002	http://members.aol.com/fswemedien/ZZUnfalldat_ei_00_02.htm	

						unknown). Main road closed for 11 hours. Constructed 1988			
159	Blade failure	26/10/2002	Erkelenz-Holzweiler im Kreis Heinsberg	Westphalia, Germany	NEG Micon	Rotor blade bent and fell to ground. Nearby farm evacuated. Constructed in 2000.	Aachener messenger newspaper 27/10/2002	http://members.aol.com/fswemedien/ZZUnfalldat/ei_00_02.htm	
160	Blade failure	27/10/2002	Kaiserslautern	Germany		Storm damage to blade - blade broke off. It was later admitted by operators that there was a known defect in the blade prior to storm but they had ignored it.	Rheinpfalz of 28/10/2002 and 30/10/2002	http://members.aol.com/fswemedien/ZZUnfalldat/ei_00_02.htm	
161	Blade failure	27/10/2002	Loehme, Werneuchen	Brandenburg, Germany		Storm tore off two of three blades on a turbine at Loehme (Barnim). Pieces hurled "far" but no distance data.	Berlin newspaper of 28/10/2002	http://members.aol.com/fswemedien/ZZUnfalldat/ei_00_02.htm	
162	Blade failure	27/10/2002	Duelken, Viersen	Westphalia, Germany	NEG Micon	Blade bent then broke in storm	Rheini Post 28/10/2002 and CR Viersen 29/10/2002	http://members.aol.com/fswemedien/ZZUnfalldat/ei_00_02.htm	

163	Structural failure	27/10/2002	Goldenstedt Ellenstedt	Lower Saxony, Germany	GET 41a 600kW. Hub height 70m, rotor diameter 41m	Turbine completely toppled in storm - concrete base pulled out of ground. Operational since 1/1/1997. Weights: rotor = 10.3Te, hub = 26Te, tower 80Te.	TV news NDR 27/10 and 28/10. Also Oldenburgi newspaper. Extensive photos available.	http://members.aol.com/fswemedien/ZZUnfalldat_ei_00_02.htm	http://members.aol.com/hieronymusbosch2/eilenstedtpresse.jpg
164	Blade failure	28/10/2002	Tauernwindpark Oberzeiring, Steiermark	Austria	Vesta V66	Turbine blades on turbine being installed damaged during storm. Winds reported at 130 km/hr.	Developer's website	http://members.aol.com/fswemedien/ZZUnfalldat_ei_00_02.htm	http://www.igwindkraft.at/aktuell/a_archiv2.htm
165	Structural failure	29/10/2002	Navöygavlen	Norway	Nordex	Nacelle and rotor severed from the tower following problems with control system. Operators appear to have over-riden the safety system on the turbine brakes	Nordex AG statement dated 5 Nov 2002. Also Ventus Vigor wind energy portal online. Also "Accidents", D Krämer, BLS, Dec. 2000	http://www.ventusvigor.com/modules.php?name=News&file=article&sid=121	http://members.aol.com/fswemedien/ZZUnfalldat_ei_00_02.htm
166	Blade failure	04/11/2002	Tjaereborg, Esbjerg	Denmark	Vestas V80 2.0 MW	All three blades damaged. Turbine still being	Nordfriesland paper of 6.11.2002. Ventus Vigor	http://www.ventusvigor.com/modules.php?name=News&file=print	http://members.aol.com/fswemedien/ZZUnfalldat_ei_00_02.htm

						commissioned. Wind speed only 5-8 m/s (Force 4)	wind energy portal online. Also Windpower Monthly December 2002	&sid=122	
167	Lightning	05/11/2002	Laubuseschbach, Limburg	Hessen, Germany	Fuhrländer	Lightning strike paralysed turbines and knocked out a rotor blade for brand new turbines not yet commissioned. The site has a high lightning strike rate and the development was rushed through by the local authority	Weilburger daily newspaper 13/11/2002	http://members.aol.com/fswemedien/ZZUnfalldat/ei_00_02.htm	
168	Transport	15/11/2002	Hersfeld/Huenfeld	Hessen, Germany	Not applicable	56 tonne turbine section fell off overnight from transporter on public road	Darmstaedter Echo 16/11/2002. Also Weilburger Daily 16/11/2002	http://members.aol.com/fswemedien/ZZUnfalldat/ei_00_02.htm	http://mitglied.lycos.de/WilfriedHeck/unfall2.htm
169	Transport	19/11/2002	Dahlenburg, Lueneburger	Germany	Not applicable	Transporter sagged but fortunately did not fully tilt. Main road to Dahlenburg Tosterglope closed until the following	Lueneburger newspaper of 20/11/2002	http://members.aol.com/fswemedien/ZZUnfalldat/ei_00_02.htm	

						morning			
170	Structural failure	19/11/2002	Wachusett Wind Site, Princeton, MA	United States	Anemometer	Anemometer tower 130 feet high collapsed following an ice storm. The tower had been installed in July 2000. It was only 110 feet from a public trail.	"Brief on the dangers of ice and structural failure at the proposed Wachusett reservation windfarm, presented to: The Joint Committee on Bonding, Capital Expenditures and State Assets at a public hearing on Bill S.40, Tuesday, July 5, 2005. With photos."	http://www.princetonwindfarm.com/Wachusett%20Mountain%20Wind%20Farm%20Danger%20Brief.pdf	
171	Transport	03/12/2002	Oberlieck, Heinsberg	Germany	Not applicable	"Turbine transport causes substantial damage". Road, roundabout and housing badly damaged after turbine transporter slid on roundabout. Road between Breberen and Saeffelen closed for 3 hours.	Aachener messenger newspaper 4 Dec 2002	http://members.aol.com/fswemedien/ZZUnfalldat ei_00_02.htm	

172	Ice throw	08/12/2002	Muensingen, Reutlingen	Wuerttemberg, Germany		Ice throws observed and photographed up to 130m from turbine on Dec 7th and 8th 2002. Pieces weighing up to 1.6kg	Private website with photographs and records	http://members.aol.com/fswemedien/ZZUnfalldat ei_00_02.htm	http://mitglied.lycos.de/WilfriedHeck/eiswurf7.htm
173	Structural failure	18/12/2002	Schneeberg, Kirchheimbolanden	Germany	Vestas V80 2.0MW	Complete collapse of tower during commissioning. Turbine had been up for 2 weeks. Put down to faulty welding	Press release by Vestas (see online). Also Windpower Monthly January 2003. Also Rheinpfalz 19.12.2002. Photos	http://www.vestas.com/nyheder/presses/2002/UK/pres20021220uk.html	http://members.aol.com/fswemedien/ZZUnfalldat ei_00_02.htm
174	Blade failure - structural failure	28/12/2002	Nevian, Aude	France	600kW, 75m total height	Blade torn off during storm followed by collapse of the turbine mast. The turbine was being installed at the time. The second of several such French incidents which led to a formal investigation of wind turbine safety	"Rapport sur la sécurité des installations éoliennes", Conseil général des Mines, N° 04-5. Ministère de l'économie des finances et de l'industrie, République Française, July 2004.	http://ventdubocage.net/accident.htm	http://ventdubocage.net/accident10.htm

175	Miscellaneous	2003	Bouin en Vendée	France	2MW	Turbine bases found to have cracks and breaks. Constructed in 2002, operational from June 2003.	Internet	http://ventduboc.ace.net/accident.htm	
176	Environmental damage	27/01/2003	Ober-Flörsheim bei Alzey im Kreis Alzey-Worms / Rheinland-Pfalz	Germany		Turbine constructed in December 2002 and leaking oil into the surrounding land. Attempts to capture the oil with granules failed. Quantity of oil not known. Local newspaper reported the leak which had been ongoing for over 1 month when discovered	Rhein-Mainer from 29.1.2003 + http://huegelland.tripod.com/	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	
177	Component failure	01/02/2003		Canada	Nordex 1.3MW	"Gearbox failure damages turbine". Date is of magazine publication	Windpower Monthly February 2003		
178	Fire	02/02/2003	Geesthacht im Kreis Herzogtum Lauenburg / Schleswig-Holstein	Germany	Enercon	Total destruction of 40m tower and turbine by fire. Fire was un-noticed and	TAZ Hamburg, 3.2.2003	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	

						the fire brigade were not called out. Total loss.			
179	Blade failure	25/02/2003	Salles-Limousis, Aude	France	750kW	Three blades broke off during storm - from three separate turbines. Turbines were constructed in July 1998. Following the incident, 7 out of the 10 turbines on this site were shut down and were eventually dismantled	""Rapport sur la sécurité des installations éoliennes"" Conseil général des Mines, N° 04-5. Ministère de l'économie des finances et de l'industrie, République Française, July 2004. Also La Dépêche of 26 February 2003 "	http://translate.google.com/translate?hl=en&sl=fr&u=http://www.juracretes.ch/centre1.asp/1-3-1301-145-83-1/0-0-884-147-70-0/&prev=/search%3Fq%3DSall%25C3%25A8les%2Bpales%2Bbri%25C3%25A9es%26hl%3Den%26lr%3D%26sa%3DG	http://ventdubocage.net/accident.htm
180	Structural failure	01/03/2003	Wachusett Wind Site, Princeton, MA	United States	Anemometer	Anemometer tower 165 feet high collapsed. The tower had been installed two months previously. Date uncertain - simply says "March 2003"	"Brief on the dangers of ice and structural failure at the proposed Wachusett reservation windfarm, presented to: The Joint Committee on Bonding, Capital Expenditures and State Assets at a public hearing on Bill S.40,	http://www.pincetonwindfarm.com/Wachusett%20Mountain%20Wind%20Farm%20Danger%20Brief.pdf	

							Tuesday, July 5, 2005. With photos."		
181	Fatal - driver distraction - public fatality	07/03/2003	Erneuter Tödlicher Autounfall bei Ertfstadt-Erp	Westphalia, Germany		Third of three public fatalities at the same location put down to driver distraction. 25 year old driver of red Audi. Accident spot is where turbines become visible to drivers - on circular road 33 (Kreisstraße 33)	Kölner Stadtanzeiger-Ertfkreis from 8.3.2003	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	
182	Structural failure	05/04/2003	Reinsberg im Kreis Freiberg / Sachsen	Saxony, Germany	Tacke 600a, 600kW, hub 70m, rotor diameter 46m	A spring storm totally destroyed a turbine. Automatic shut down failed and it ran out of control prior to destruction. Rotor blade points computed to reach speeds of 800km/hr. Blade pieces were found 500m away from the turbine. Houses are situated 400m from the turbine	MDR-Radionachrichten of 5.4.2002. Also internet http://www.freiepresse.de/TEXTE/NACHRICHTEN/REGIONAL/ERZGEBIRGE/FREIBERG/TEXTE/590200.html and http://www.sz-online.de/nachrichten/artikel.asp?id=468790 Also see detailed internet report with photos (second right)	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	http://www.gemeinde-reinsberg.de/tipp s/aktuell_2.htm

						- luckily in the opposite direction. Surrounding roads were closed off. Year of construction 1999. Oil also spilled into the surrounding ground (see separate entry)			
183	Environmental damage	05/04/2003	Reinsberg im Kreis Freiberg / Sachsen	Saxony, Germany	Tacke 600a, 600kW, hub 70m, rotor diameter 46m	Turbine destroyed by storm spilled oil over a wide area. This is in a protected area for drinking water supply. Possible prosecution threatened (no information on whether it was carried out)	MDR-Radionachrichten of 5.4.2002. Also internet http://www.freiepresse.de/TEXTE/NACHRICHTEN/REGIONAL/ERZGEBIRGE/FREIBERG/TEXTE/590200.html and http://www.sz-online.de/nachrichten/artikel.asp?id=468790 Also see detailed internet report with photos (second right)	http://members.aol.com/fswemedien/ZZUnfalldatei.htm	http://www.gemeinde-reinsberg.de/tipps/aktuell_2.htm
184	Fire	15/04/2003	Greußen im Kyffhäuserkreis / Thüringen	Germany	RePower 1.5 MW	The first of 2 fires at the same turbine within 3 weeks. This one was in the	Thüringer Allgemeine, 12.5.2003. Photos.	http://members.aol.com/fswemedien/ZZUnfalldatei.htm	

						switchgear housing within the tower. Year of construction 2003			
185	Component failure	21/04/2003	Iven im Kreis Ostvorpommern / Mecklenburg-Vorpommern	Germany		Rotor exchange required due to mechanical problems	Nordkurier, 30.7.2003	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	
186	Environmental damage	04/05/2003	Dortmund-Eichlinghofen	Westphalia, Germany	General Electric 1.5MW, 100m hub, 77m rotor diameter	Oil leak into surrounding ground reported over several days	Homepage from 8.5.03 http://www.eichlinghofen-online.de/Aktuelles/aktuelles.html#Wind	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	
187	Fire	11/05/2003	Greußen im Kyffhäuserkreis / Thüringen	Germany	RePower 1.5 MW	Lightning strike assumed - loud "bang" reported at 0500. Fire brigade called out but could do nothing because of the height. 4m piece of blazing blade reported to fall off. Year of construction 2003. Earlier fire at same turbine on 15/4/2003	Thüringer Allgemeine, 12.5.2003. Photos.	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	http://members.aol.com/hieronymusbosch2/Greussen.htm
188	Blade failure	08/06/2003	Damme im Landkreis Vechta	Lower Saxony, Germany	Vestas V80	Lightning damage to turbine	Eyewitness reports and local	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	

			/ Niedersachsen			blades. Blade parts scattered over approx 150m area from the turbine. Blade pieces collected by operators who denied damage. Turbine built in 2001	newspaper Photos	dien/ZZUnfalldat ei.htm	
189	Structural failure	15/06/2003	Colorado	USA	WTC	The May 2002 accident caused an undetected crack in the turbine's rotorshaft and led to a second accident in June 2003. Date simply used as mid-point for the month	Info from developers own website	http://www.windturbinecompany.com/milestones/	
190	Blade failure	14/07/2003	Köstorf im Kreis Lüneburg / Niedersachsen	Lower Saxony, Germany		Despite being fitted with lightning conductors, a lightning strike damaged turbine blades. Blade tips were broken off. Witnesses report a very loud "bang" when the lightning hit.	Lüneburger Zeitung, 15.7.2003	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	

191	Blade damage	15/07/2003	Kirburg bei Bad Marienberg / Rheinland-Pfalz	Germany		Lightning strike to two turbines - damage to multiple blades on each.	Eyewitness reports and 65594 Runkel. Photos	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	
192	Environmental damage	18/07/2003	Lemgo Kreis Lippe	Westphalia, Germany	DeWind	Leak of 160 litres of hydraulic fluid into the surrounding ground. It ran down the mast and also to the end of each blade and so was distributed over a wide area. The area is a protected area used for drinking water supply.	Eyewitness, police and fire brigade reports	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	
193	Construction	28/07/2003	Windpark Fiebig/Ostfriesland	Germany		80 tonne, 25m crane fell over during turbine assembly	Ostfriesische Nachrichten 1.8.2003	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	
194	Fire and explosion	15/08/2003	Schwochel bei Ahrensböök im Kreis Ostholstein / Schleswig-Holstein	Germany	Vestas V52 850kW	Three mechanics were working on the turbine when they noticed a fire. They escaped but had to undergo hospital treatment for fume inhalation.	Lübecker Nachrichten, 22.8.03. Also see http://members.aol.com/hieronymusbosch2/LuebeckerNachrichten2.GIF	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	http://members.aol.com/hieronymusbosch2/LuebeckerNachrichten1.GIF

						An explosion followed which destroyed the turbine housing. This was later put down to brake failure (the turbine was spinning out of control).			
195	Blade failure	23/08/2003	Opitzhöhe nahe Groß-Opitz bei Dresden / Sachsen	Saxony, Germany		Lightning damage to blade tip. Turbine safely shut down. Blade eventually replaced	Sächsische Zeitung, 29.8.03	http://members.aol.com/fswemedien/ZZUnfalldatei.htm	
196	Fatal - explosion - fire	18/09/2003	Tres Vaqueros Wind Farm, Byron, Alamont Pass, CA	United States	Howden 330 kW, built in 1985	Marty Evans, 34. At the time of the accident the employee was performing a manual switching operation on a pad-mounted electrical transformer. An explosion occurred during the switching operation. The employee died the following day from injuries sustained in the explosion. The explosion ignited	Kittitas County, Desert Claim Wind Power Project, Final EIS, Chapter 3, page 3-165. Also Wind Energy -- The Breath of Life or the Kiss of Death: Contemporary Wind Mortality Rates, by Paul Gipe	http://www.co.kittitas.wa.us/cds/fis/FEIS/Chapter3/3.8Health.pdf	http://www.wind-works.org/articles/BreathLife.html

						a fire at the base of the turbine, for which the California Department of Forestry (CDF) was immediately notified.			
197	Fatal	15/10/2003	Neuruppen	Brandenburg, Germany	Enercon E66	Un-named, 25-year old man, working on ladder rail, disconnected rail, fell 30m through platform, hit head on lower platform rail.	Wind Energy -- The Breath of Life or the Kiss of Death: Contemporary Wind Mortality Rates, by Paul Gipe. Also Prinztiger Zeitung newspaper 16/10/2003, message broadcast 15/10/2003 and newspaper death notice	http://www.wind-works.org/article/s/FallfromE66.html	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm
198	Environmental damage - property damage	16/10/2003	Derrybrian, County Galway	Ireland		In October 2003, a major landslide involving more than a half million cubic metres of peat took place over a distance of two kilometres at Derrybrian, County Galway,	RTE News 17 Oct 2003. See: http://www.rte.ie/news/2003/10/17/landslide.html . Also photos in North Atlantic news	http://www.monasette.com/archiv/000252.html	http://www.revolt.co.uk/new/news179.php

						damaging property and killing an estimated 50,000 fish. The landslide was caused by work on Ireland's largest wind-farm project. The EC are taking Ireland's government to the European Court of Justice over the incident, which the EC describes as an "environmental disaster" Ref EIHP 14-April 2005 - see http://www.eihp.hr/english/detailnije.php?id=126			
199	Blade failure	01/11/2003	Wachusett Wind Site, Princeton, MA	United States	120 foot tower	All three blades disintegrated on existing wind tower generator. An anchoring pin gave way, allowing the tower to tilt forward until the rotating blades struck the tower.	"Brief on the dangers of ice and structural failure at the proposed Wachusett reservation windfarm, presented to: The Joint Committee on	http://www.princetonwindfarm.com/Wachusett%20Mountain%20Wind%20Farm%20Danger%20Brief.pdf	

						The blades disintegrated showering the area with debris - some up to 5 feet long. Date uncertain - simply refers to "November 2003"	Bonding, Capital Expenditures and State Assets at a public hearing on Bill S.40, Tuesday, July 5, 2005. With photos."		
200	Fire	08/11/2003	Sitzerath bei Nonnweiler im Kreis St. Wendel / Saarland	Germany		Turbine fire at 80m height. Mechanical source quoted "probably the engine overheated" said police. Fire brigade could do nothing due to the height of the fire. Surrounding districts closed off until the fire burned itself out.	Saarbrücker Zeitung, 10.11.03	http://members.aol.com/fswemedien/ZZUnfalldatei.htm	
201	Blade failure	15/11/2003	Salles-Limousis, Aude	France	750kW	Three turbines with broken blades, 48m high, 43m diameter blades. 21.7m blade piece weighing 2 tonnes thrown. Smaller pieces thrown as far as	Midi Libre, Saturday 15 Nov 2003	http://ventdubocage.net/accident9.htm	

						100m from turbine.			
202	Blade failure	15/12/2003	Windpark Klein-Wassens bei Jever, im Kreis Friesland / Niedersachsen	Lower Saxony, Germany	Vestas V80	Damage to rotor blade by lightning. Residents informed police. Turbine safely shut down with blade remaining attached.	Anzeiger für Harlingerland 16.12.2003 (front page) and Jeversches Wochenblatt 16.12.2003	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	
203	Blade failure	16/12/2003	Windpark Grevenbroich bei Neuss	Westphalia, Germany		37m long blade section bent in storm. Turbine safely shut down. Blade did not fall off.	Rheinische Post and the Westdeutsche Zeitung, 17.12.2003	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	
204	Blade failure / fire	23/12/2003	Zobes, Gemeinde Neuensalz im Vogtlandkreis / Sachsen	Saxony, Germany	NED WIND 40m high	Lightning strike destroyed a blade and started a fire which destroyed part of the turbine housing. One blade badly bent, remained on the turbine. A second blade fell off. Constructed in 1994	"Freie Presse" and "Vogtlandanzeige r" from 27 and 28.12.2003. Photos.	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	
205	Fire	26/12/2003	Bad Wünnenberg bei Paderborn	Westphalia, Germany	Enercon E66 1.8MW	Fire started in the turbine housing and eventually two blazing	"Neue Westfälische", "Westfalenblatt" and other local	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	

						blades fell off. Burning debris reported to travel several hundred meters. Fire brigade could do nothing because of the height.	media from 27 and 28.12.2003. Photos		
206	Blade failure	29/12/2003	Windpark Boulogne-sur-Mer	France	Lagerwey 750kw	Blade parts weighing several tonnes fell onto an area used by local fishermen and walkers. "Pure luck" that no-one was injured. Area closed off to public. Boulogne prosecutors office undertaking investigation. Another French incidents which led to a formal investigation of wind turbine safety	Local newspapers in Boulogne-sur-Mer and internet site "www.eoliennes.net"	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	http://www.eolienet.net/article.php?sid=1098
207	Fatal	2004		Sweden	Vestas	"In 2004, Vestas Northern Europe experienced a fatal accident in Sweden. The cause of the	Vestas 2004 Annual Report	http://www.vestas.com/pdf/miljoer/anlaegsomraader_uk/2004/48964%20VES%20Bla%20Videbaek	

						incident has been investigated, and the investigation concluded that the wind turbine, the documentation of the working procedure and the training supplied were all in accordance with current demands. The accident occurred because safety regulations had been disregarded." Quote from Annual Report		%20UK.pdf	
208	Structural failure	01/01/2004	Portal, Boulogne-sur-Mer	France	Lagerwey 750kw	30m turbine collapsed during a storm. Two blade first broke off (2 days earlier?), followed by collapse of the turbine mast. Total loss. The third of several such French incidents which	Windpower Monthly May 2004. Also Dunkerque - Voix de Nord 2/2/2004. Also "Rapport sur la sécurité des installations éoliennes", Conseil général des Mines, N° 04-5. Ministère	http://www.espace-eolien.fr/lille/centerportel.htm	http://ventdubocage.net/accident3.htm

						led to a formal investigation of wind turbine safety. Local newspaper reports 80 tonnes fell to ground.	de l'economie des finances et de l'industrie, Republique Francaise, July 2004.		
209	Blade failure	09/01/2004	Windpark Roderhöhe bei Eupen	East Belgium	Vestas V80 2MW	Lightning strike led to exploding blade. Also lightning damage reported to generator	Grenz-Echo ("Border Echo" - German language Belgian newspaper), 27.1.2004	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	
210	Blade failure	15/01/2004	Windpark Sas, Wilhelminadorp in der Provinz Zeeland	Holland		Three blades lost after lightning strike. All three blades exploded due to the heat of the strike.	Zeeland Local Radio of 16/1/2004	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	http://wilfriedheek.tripod.com/
211	Blade failure	09/02/2004	Oederquart bei Stade / Niedersachsen	Lower Saxony, Germany	Vestas V66	2 tonne piece of blade broke off and travelled 66m. Cause - pin breaking. Identical accident to one of 15/3/2001	Stader Tageblatt, 10.2.2004	http://members.aol.com/fswemedien/ZZUnfalldat ei_00_02.htm	http://www.tageblatt.de/db/main_cfm?DID=146283
212	Blade failure	09/02/2004	Groß Bieberau-Hippelsbach im Kreis Darmstadt-Dieburg / Hessen	Germany		Blades torn off during storm. Small 5kW turbine only, initially constructed as a	Darmstädter Echo, 10.2.2004	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	

						pilot project in 1995			
213	Blade failure	22/02/2004	Puschwitz bei Bautzen / Sachsen	Saxony, Germany	Vestas V80	10m section of blade broken off by the wind, travelled 20m. A further 6m piece travelled 40m. Pieces confirmed to 200m from turbine. Constructed in 2001. A similar (almost identical) incident took place at the same site on 5/4/2004. Lightning damage in mid-February suspected to have weakened the blades.	Sächsische Zeitung, 24.2.2004	http://members.aol.com/fswemedien/ZZUnfalldatei.htm	http://www.sz-online.de/nachrichten/artikel.asp?id=577567
214	Ice throw	26/02/2004	Lankern bei Dingden, nahe Hamminkeln Kreis Wesel	Westphalia, Germany		Four out of five turbines closed down because of danger to people from thrown ice. Up to 0.5m pieces reported but no distance data. Residents informed police who insisted on shutdown.	Bocholt-Borkener Volksblatt, 28.2.2004	http://members.aol.com/fswemedien/ZZUnfalldatei.htm	

						Shutdown between 2 and 3 days			
215	Structural failure	20/03/2004	Loon Plage, Port de Dunkerque	France	Lagerwey 300kw	30m high turbine collapsed during a storm on March 20. The third incident since the turbines were built in 1997. The turbines were later dismantled for safety reasons. Previous incidents include turbine collapse on January 1 and the breaking of a blade in February 2002 at Wormhout. Following this incident, the French carried out a formal investigation of wind turbine safety, published in July 2004	Windpower Monthly May 2004. Also Dunkerque - Voix de Nord 20/3/2004 and 21/3/2004. Also Rapport sur la sécurité des installations éoliennes. Conseil général des Mines, N° 04-5. Ministère de l'économie des finances et de l'industrie, République Française, July 2004.	http://ventdubocage.net/accident5.htm	http://www.espace-eolien.fr/lille/VDN_dunk.htm#Edition%20du%20Dimanche%2021%20Mars%202004
216	Blade failure	21/03/2004	Carolinensiel in Ostfriesland / Niedersachsen	Saxony, Germany	Tacke TW-600	Rotor blade bent during storm. Some pieces flew off. No further data.	Jeversches Wochenblatt 22.03.2004	http://members.aol.com/fswemedien/ZZUnfalldatei.htm	

217	Blade failure	05/04/2004	Puschwitz bei Bautzen / Sachsen	Saxony, Germany	Vestas V80	10m section of blade broken off by the wind. TV pictures showed blade part hanging from the rotor. Constructed in 2001. Second such accident at the same site - previous one on 22/2/2004	MDR-Fernsehbericht with pictures from Tag, 6.4.2004	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	
218	Blade failure	01/05/2004	Bassen bei Oyten im Kreis Verden /Aller / Niedersachsen	Lower Saxony, Germany	Vestas V66	Lightning strike destroyed the blades, close to motorway A1.	Verdener Allerzeitung, 28.5.2004	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	
219	Blade failure	18/05/2004	Dautenheim bei Alzey im Kreis Alzey-Worms / Rheinland-Pfalz	Germany	54m rotor	Broken rotor reported. Turbines constructed in 2000.	Main-Rheiner from 18.6.2004	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	
220	Fire	09/06/2004	Wulfshagen/Tüttendorf im Kreis Rendsburg-Eckernförde / Schleswig-Holstein	Germany	NEC MICON 2MW	Lightning strike caused the Tuttendorf turbine fire, despite lightning "protection" fitted to turbine. At 64m high, the fire brigade could do nothing but seal the area and watch.	Spiegel Online, www.tagesschau.de and others	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	

						Federal highway 73 was closed for some time. Photos clearly show burning debris being spread across the area.			
221	Mechanical failure	17/06/2004	Horns Rev offshore wind park	Denmark	Vestas	Report that all 80 offshore turbines at Horns Rev need to be taken ashore for repair due to transformer and generator failure.	Die Zeit from 17.6.2004 (supplement)	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	
222	Blade failure	28/06/2004	St. Thegonnec, Pleyber-Christ, Finistere, Brittany	France	300kW	Turbine blade bent and damaged its mast. First of two incidents in ten days. Safety concerns.	Ouest France, vendredi 9 juillet 2004. Also: Rapport sur la sécurité des installations éoliennes. Conseil général des Mines, N° 04-5. Ministère de l'économie des finances et de l'industrie, République Française, July 2004.	http://ade62.net/breve.php3?id_breve=9	
223	Mechanical failure	30/06/2004	Windy Hill wind farm, Ravenshoe,	Australia	600kW Enercon, installed 1999-2000	"Windy Hill Wind Farm turbines were found to	Stanwell Corporation 2004 Annual	http://www.stanwell.com/PDF/SCl_ANNUAL_RE	

			Cairns, Queensland			have a type fault related to its main carrier bearing. The plant supplier replaced all affected parts and is working with Stanwell on a long-term solution to this issue. Date uncertain - sometime between July 2003 and June 2004"	Report, July 2003-June 2004	PORT_2004.pdf	
224	Blade failure	08/07/2004	St. Thegonnec, Pleyber-Christ, Finistere, Brittany	France	300kW	Three pieces of blade from one of the five turbines were found in a field. Two pieces 2.5m long, the third piece 1.5m long. Second such incident in ten days. Safety concerns.	Ouest France, vendredi 9 juillet 2004. Also: Rapport sur la sécurité des installations éoliennes. Conseil général des Mines, N° 04-5. Ministère de l'économie des finances et de l'industrie, République Française, July 2004.	http://ade62.net/breve.php3?id_breve=9	
225	Fatal	16/07/2004	Wittmund in Ostfriesland / Niedersachsen	Lower Saxony, Germany	Enercon E66	34-year old Enercon service technician Alwin	Wind Energy -- The Breath of Life or the Kiss of		http://members.aol.com/fswemedien/ZZUnfalldat

						K. fell from the turbine to his death	Death: Contemporary Wind Mortality Rates, by Paul Gipe. Updated May 2005. Also Death notice in Anzeiger für Harlingerland Wittmund and supplemental information		ei.htm
226	Human injury	28/07/2004	Windpark Schwirzheim nahe Budesheim bei Prüm im Kreis Bitburg-Prüm / Rheinland-Pfalz	Germany		Blade part fell from a crane, injuring a 42-year old worker. He was on a platform 12m up at the time - knocked down to a height of 4m during the accident. He had to be rescued by fire brigade, and later underwent emergency surgery at Trier.	Polizeiinspektion Prüm and Trierischer Volksfreund from 29.7.2004	http://members.aol.com/fswemedien/ZZUnfalldatei.htm	
227	Fire	09/08/2004	Isselburg im Kreis Borken	Westphalia, Germany		Fire at 96m height in Isselburg. Cause unknown. Fire brigade could do nothing due to height.	Polizei Borken, Borkener Zeitung, Westdeutscher Rundfunk from 9.8.2004 and 10.8.2004	http://members.aol.com/fswemedien/ZZUnfalldatei.htm	http://www.wdr.de/themen/panorama/brand01/windkraftanlage/index.jhtml

						Surrounding area closed off until fire burned out. No injuries			
228	Blade failure	31/08/2004	Zeebrugge	Belgium		The three tonne propeller blade became detached and was blown 100 metres through the air. It landed not far from the nearby natural gas terminal. Date is of newspaper article	Het Gazet van Antwerpen 31 August 2004. Also Wind Farm Monthly, October 2004	http://www.expat-ica.com/source/site_article.asp?subchannel_id=48&story_id=11261	
229	Blade failure	01/09/2004	Helmshagen bei Greifswald / Mecklenburg-Vorpommern	Germany	Vestas	Blade thrown from turbine. No further details	Ostsee-Zeitung Greifswald from 3.9.2004	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	
230	Environmental	1/8/2004 to 13/9/2004	Charleston, West Virginia	USA	Various	"A study of wind farms in West Virginia and Pennsylvania estimates as many as 2,600 bats were killed by the whirling blades during a six-week period during 2004. Researchers estimate that between 13-	Eyewitness News, June 6 2005	http://www.wchstv.com/newsroom/wv/news11.shtm	

						<p>hundred and nearly two-thousand bats were actually killed in that period at the Mountaineer Wind Energy site in Tucker County. The study estimates another 400 to 600 were killed at the Meyersdale Wind Energy Center in Pennsylvania. The site has 20 wind towers. Between August First and September 13th, 2004, researchers with the Bats and Wind Energy Cooperative found 765 dead bats on the ground at the Mountaineer site, which has 44 wind towers.</p> <p>"</p>			
231	Fatal	14/09/2004	Meyersdale, Somerset, PA	USA	1.6MW, probably Vestas	52 year old Dane Niels Otto	Wind Energy -- The Breath of		http://www.phillyburbs.com/pb-

						Andersen Sjolander was killed after falling 60 feet to his death. He had completed maintenance on the turbine and was being lowered to the ground when the turbine started turning and broke the arm of the crane. He was knocked out of the basket and fell to his death. Date given is of Associated Press report (see "Phillyburbs" weblink)	Life or the Kiss of Death: Contemporary Wind Mortality Rates, by Paul Gipe. Updated May 2005. Also Wind Power Monthly, October 2004. Also Associated Press report 14/9/2004		dyn/news/103-09142004-365282.html
232	Ice throw	14/11/2004	Carzig im Kreis Märkisch Oderland / Brandenburg	Germany		30cm pieces of ice reported thrown 75m to nearby road. No injuries. Ice thrown at turbine start up following shut-down due to ice formation!	Märkische Oderzeitung, 17.11.04	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	
233	Transport - public damage	25/11/2004	Niederkirchen bei St. Wendel / Saarland	Germany		45m turbine section rammed a house, causing significant	Saarbrücker Zeitung-Ausgabe St. Wendeler Zeitung from	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	http://members.aol.com/hieronymusbosch2/Niederkirchen_bericht

						damage. House had to be supported due to structural damage caused. Road closed for considerable time. Danish truck and driver.	26.11.2004		.jpg
234	Fire	07/12/2004	Schaller, near Storm Lake, IA	United States	MidAmerican Energy	Firemen climb 213 feet tower to rescue two electrical workers following a fire. Fire started following refit and testing of components	"Firemen climb 213-ft Tower In Rescue", Dec 7 2004, Zwire news	http://www.zwire.com/site/news.cfm?newsid=13505645&BRD=1304&PAG=461&dept_id=180485&rfi=6	
235	Ice throw	12/12/2004	Rhede, Kreis Borken	Westphalia, Germany		30cm long and several cm thick pieces of ice reported thrown onto road and cycle tracks during weekend. Turbine shut down. Police report is available. No injuries	Borkener Zeitung, 14.12.2004. Also police report	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	
236	Ice throw	12/12/2004	Lankern bei Dingden, nahe Hamminkeln Kreis Wesel	Westphalia, Germany		All five turbines on site reported to throw ice despite being fitted with ice	Rheinische Post Wesel, 13.12.2004. Photos	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	

						sensors. Up to 50 pieces of ice found by reporter, to 100m from turbines and across the B473 road. Some sharp pieces of ice reported "rammed into the ground". What would it have done to a person?			
237	Transport	18/12/2004	BAB A 5 bei Alsfeld, Vogelsbergkreis / Hessen	Germany		Turbine section fell of transporter and blocked motorway A5 for 14 hours in both driving directions. Accident put down to excessive speed. No-one hurt	Bild am Sonntag 19.12.2004, Frankfurter Neue Presse from 20.12.04 u.a. Zeitungen	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	
238	Blade failure	22/12/2004	Windparks Montjoyer/Rochefort-en-Valdaine	France		Three blades lost from turbine only 15 days after startup. Following maintenance, the turbine gave out more noise than normal and this got worse over	La Tribune Montelimar 30 Dec 2004	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	http://ventdubocage.net/accident2.htm

						several days. A fire then started. A blade came off approx 1 hour after that, then the second and third blades fell off. Police and fire brigade were called. No-one hurt. A brake fault has been acknowledged - turbine was turning at 50rpm (2 times normal speed).			
239	Mechanical failure	30/12/2004	Pattensen bei Hannover / Niedersachsen	Lower Saxony, Germany	AT Bonus 1300	Rotor cap reported to fall off the turbine onto the surrounding ground sometime between 30 and 31 December	Allgemeinen Zeitung from 31.12.2004	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	
240	Environmental damage	17/01/2005	Schluetchern Hohenzell in the Main Kinzig circle/Hessen	Germany	3 x WindWorld 600kW	Loss of hydraulic fluid into surrounding ground. Serious concerns over environmental pollution from all three turbines - which have been in place since	Detailed local reports and photos from adjoining owners	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	

						1998. Local environmental regulator considering prosecution. (Outcome not known)			
241	Blade failure	20/01/2005	Udby, north of Vordingborg	Denmark	100 foot turbine	Turbine running out of control (braking failure) – the three 30m blades broke off with pieces thrown over a large area. Residents evacuated from homes. Luckily no injuries or property damage.	Danish TV article - online report. Also second TV report online	http://www.tv2regionerne.dk/Default.asp?r=3&ld=225094	http://ventdubocage.net/accident6.htm
242	Ice throw	30/01/2005	Bölling bei Dahl, Stadtgebiet Hagen/Westf. im Kreis Hagen,	Westphalia, Germany		Three members of the public heard four "bangs" from the Bölling turbines while walking near them. They also observed snow thrown up near them. Thinking gun shots, they informed the police. It was discovered to be	Westfalenpost from 1 Feb 2005 and Hagener Stadtanzeiger from 2 Feb 2005.	http://members.aol.com/fswemedia/ZZUnfalldat ei.htm	

						ice thrown from the turbines. They were shut down.			
243	Ice throw	01/02/2005	Schlüchtern-Hohenzell im Main-Kinzig-Kreis / Hessen	Germany	WindWorld 600kW	Ice throw on January 31st and February 1st. Pieces approx 1.5m x 0.45m thrown 140m. Landed on local road. Traffic now banned which means large detours and loss of amenity.	Report from city administration and report plus photos from neighbours	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	
244	Mechanical failure	01/02/2005	Dorsten-Lembeck by Marl, Westfalia	Germany	GE 1.5 MW	Rotor damage and replacement after only 14 months of operation.	Detailed private report and photos.	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	
245	Human injury	02/02/2005	Voigtstedt / Thüringen	Germany		30-year old mechanic from Helbra injured doing repair work. Injury crushed his foot, he then fell off the turbine top. His life was saved by a safety harness. Arterner fire	Thüringer Allgemeine from 3.2.2005	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	

						brigade eventually retrieved him.			
246	Mechanical failure	02/02/2005	Dorsten-Lembeck bei Marl	Westphalia, Germany	GE 1.5 MW	Complete rotor replacement following problems with Actuators. Turbine only 14 months old	Detailed operator reports plus reports and photos from neighbours	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	
247	Blade failure	24/02/2005	Kamaishi, Iwate	Japan	Nagasaki Shipyard made, 68m tower, 29.5m blade	Turbine blades on three separate turbines snapped off in gale. Winds reached 31.7m/s, turbines and blades rated to 60m/s.	Mainichi Interactive – Top News, Feb 25 2005. Photo.	http://mdn.mainichi.co.jp/news/archive/200502/25/20050225p2a00m0dm002000c.html	
248	Fire	26/02/2005	Friedrich-Wilhelm-Lübkekoog - Kreis Nordfriesland/Schleswig-Holstein	Germany	Enercon E66	Major fire with total loss. Pieces of burning blades scattered over wide area. Fire brigade told local residents to stay indoors and close windows due to poisonous fumes. Fire brigade unable to fight fire due to height, so was allowed to burn	Husumer Nachrichten + Nordwest-Zeitung from 28.2.2005 + Nordclick	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	http://www.nordclick.de/news/archiv/?id=1597717&dbci=2&search=Lübkekoog

						out. Mechanics had been working on the turbine before the fire started.			
249	Blade failure	10/03/2005	Gebbies Pass, Banks Peninsula, near Christchurch	New Zealand	Windflow Technologies prototype	Gearbox and main rotor assembly ripped from mountings during a storm. Total loss. Developers "thankful; none of our staff were injured". This is a test turbine for a proposed 104 turbine development. Two blades were first torn off - the rest followed.	Manawatu Standard, 11/3/2005 and New Zealand Herald, 12/3/2005	http://www.nzherald.co.nz/index.cfm?ObjectID=10114869	http://www.nzherald.co.nz/index.cfm?ObjectID=10118931
250	Blade failure	07/04/2005	Crystal Rig, Berwickshire	Scotland	Nordex tower, 40m blade, 2.5MW	40m blade shattered – parts thrown hundreds of meters. Turbines only operational since August 2004.	BBC news online 14/4/05. Plus "The Berwickshire News" 14 April 2005. Photos on both.	http://www.berwickshiretoday.co.uk/ViewArticle2.aspx?sectionid=972&articleid=997456	http://news.bbc.co.uk/1/hi/scotland/4446223.stm
251	Structural failure	06/05/2005	Weatherford, Oklahoma	United States	GE Wind 1.5 MW	A 300-foot turbine snapped in half and collapsed at a wind farm in Weatherford on	Channel Oklahoma News, 6 May 2005. With video.	http://www.chaneloklahoma.com/news/4459503/detail.html	http://www.kotv.com/main/home/stories.asp?whicpage=1&id=82744

						Friday. Video coverage reports very light winds at the time. There are 71 x 1.5MW turbines and was only declared operational on April 30 2005 - 6 days before the tower collapse.			
252	Fatal	07/05/2005	Marsberg-Erlingshausen - Hochsauerlandkreis	Westphalia, Germany		35 year-old male mechanic killed while fixing rotor transmission. He and a fellow worker secured the rotor and began working on it when the rotor turned. He was fatally injured and his colleague also injured. The Dortmund fire brigade rescue helicopter was used as they were at 65m height. The man killed was from Paderborn.	Westfalenpost from 9.5.2005	http://www.rp-online.de/public/article/nachrichten/journal/katastrophen/deutschland/nrw/88675	http://members.aol.com/fswemedien/ZZUnfalldatei.htm

253	Fire	14/05/2005	Sörup bei Schleswig - Kreis Schleswig-Flensburg/Schleswig-Holstein	Germany		Fire-brigade unable to fight fire at wind turbine on Saturday evening - due to the height of the fire. The fire was allowed to burn out. The surrounding areas was sealed off to allow burning debris to fall to the ground. The cause of fire as well as the extent of the damage are still unknown.	NDR-Online from 15.5.2005	http://www1.ndr.de/ndr_pages_newsdetail/0,2984,NID20050515122053_NTBND_R_SPM870,00.html	http://members.aol.com/fswemedien/ZZUnfalldatei.htm
254	Fire	16/05/2005	Wulfshagen/Tüttendorf im Kreis Rendsburg-Eckernförde / Schleswig-Holstein	Germany	NEC - Micon 2MW	A burning wind turbine caused two million Euro damage on Monday afternoon in Wulfshagen. The cause is not known. Nobody was hurt. The fire brigade could do nothing due to the height of the tower - they sealed the area	Kieler Nachrichten from 17.5.2005	http://www.kn-online.de/news/archiv/?id=1643325	http://members.aol.com/fswemedien/ZZUnfalldatei.htm

						off to allow burning debris to fall while the fire burned out. A lightning strike at the same site caused a similar fire last year (9.6.2004). Photos are available of both incidents			
255	Fatal	19/05/2005	Crosby County, Texas	United States	Anemometer	Local newspaper reports death of crop dusting pilot who flew into an anemometer for a wind farm development. The 400 foot structure had only been recently installed (4 weeks old), and was not fitted with any warning devices. The plane hit a guy rope which sheared off a piece of the wing. The pilot, 55 year old Bill Wade Tidwell, was pronounced	Lubbock Avalanche-Journal, 20 May 2005 Also mentioned in the July/August "Agricultural Aviation" magazine	http://www.lubbockonline.com/stories/052005/req_052005054.shtml	http://www.agaviation.org/towerrreport.htm

						dead at the scene. FAA is investigating.			
256	Blade failure	23/05/2005	Herzfelde im Kreis Märkisch-Oderland/ Brandenburg	Germany	Vestas	Article in Nordkurier showing Vestas workers at Maerkisch Oderland on a lifting platform at 70m height repairing small tears in rotor blades. The article says "They eliminate small tears in the rotor blades formed by weather effects" However - these tears are usually formed by production defects.	Nordkurier, 24.5.2005	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	
257	Environmental	02/06/2005	Beinhausen bei Kelburg im Kreis Daun, Rheinland-Pfalz	Germany	DeWind	Significant contamination of the site and surrounding ground from leaking oil. Transmission oil leak down the tower and also out across the blades - thrown over a wide	Eifelzeitung Daun from 1 July 2005, with photos	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	

						area. Leak reported to be 160m from the tower - without taking the scattered oil from the blades into account.			
258	Blade failure	04/06/2005	Eggstedt im Kreis Dithmarschen / Schleswig-Holstein	Germany	Jacobs 43/600kW	Turbine blade was broken off during a storm at Eggstedt. Further report will follow. One turbine only in place - operational since April 1998	Sylter Rundschau from 6.6.2005	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	
259	Environmental	06/06/2005	Scroby Sands, Norfolk	UK		Staff at the wildlife hospital at Winterton, Norfolk, say hundreds of seals on Scroby Sands off Great Yarmouth have been so disturbed by the 300-foot turbines there that it is affecting their breeding. Many pups are born dead or abandoned by frightened	Daily Mirror, 6 June 2005	http://www.mirror.co.uk/news/tm_objectid=15595416&method=full&siteid=94762&headline=windfarm-seal-alert-name_page.html	

						mums. Jaime Allison, a biologist at the hospital, said: "A definite pattern is emerging. It's hard not to conclude the wind farm is responsible."			
260	Structural failure	20/06/2005	Saskatchewan	Canada		"Twister wrecks wind power equipment". Cranes and turbine blades damaged by storm at a site in Saskatchewan. The site is under construction and no turbines are yet erected. The Saskpower project is located about 25km south of Swift Current. A 350-tonne, 300 foot crane was toppled. The site was closed at the time of the storm - so no-one was hurt.	CBC Saskatchewan report, 20 June 2005. With photos and realplayer video	http://sask.cbc.ca/regional/servlet/View?filename=wind-power050620	
261	Lightning	30/06/2005	Cathedral Rocks Wind Farm, Port	Australia	60m towers	Lightning destroyed a	Port Lincoln Times, 23	http://portlincoln.yourguide.com	

			Lincoln, South Australia			blade on tower 6 in June 2005. Turbines still undergoing construction/commissioning. Construction started in February 2005 - a 33 turbine development. Date in June uncertain.	August 2005	au/detail.asp?class=news&subclass=local&category=general%20news&story_id=418188&y=2005&m=8	
262	Blade failure	29/07/2005	Windy Hill wind farm, Ravenshoe, Cairns, Queensland	Australia	600kW Enercon, installed 1999-2000	""Wind power a lot of hot air"". This week another problem came to light when Stanwell Corporation's Windy Hill wind farm had a nasty accident. Fortunately, no-one was injured when a massive 22m turbine blade on one of the 20 huge wind turbines spectacularly sheared off. But it must have been extraordinary to see a glass fibre	Herald Sun, 29 July 2005	http://www.heraldsun.com.au/	

						reinforced epoxy blade perched 44m above the ground go for an excursion. Stanwell spokesman Anne Savage confirmed the incident, near Ravenshoe on the Atherton tableland south of Cairns, and said an investigation had been launched into what went wrong. Date is of newspaper article - the incident took place the week before."		
263	Transport	18/10/2005	A' Chleit, Kintyre	Scotland, UK	Vestas	A serious accident was avoided last week when a section of wind turbine at least 50 feet long rolled off a lorry that was heading north on the A83 near A' Chleit on Kintyre's west	Rural Community Gateway. Reported on Oct 18th - incident happened the previous week (actual date unknown).	http://www.ruralgateway.org.uk/cgi-bin/item.cgi?id=1069

						coast. The incident happened as the driver in a convoy of two lorries under escort swerved to avoid an oncoming vehicle. Anti wind power campaigners say the incident is the worst in a series of mishaps involving lorries in the area and has highlighted local concerns about the transportation of huge sections of wind turbine from the Vestas factory in Campbeltown along Argyll's narrow roads.			
264	Transport	05/11/2005	Wells Fargo, ND	United States	Xcel	A truck hauling a wind-turbine platform struck a power pole here, leaving 3,700 residents without electricity, most of them for	Grand Forks Herald, ND, November 7th 2005		

						<p>about two hours. The accident happened after 7 a.m. Saturday Nov 5th at the intersection of Main Avenue and Ninth Street East, knocking out traffic signals at several intersections. Electrical lines were down on Main Avenue and Ninth Street, until a repair crew for Xcel Energy arrived, he said. No injuries were reported. The truck, from DMI Industries of West Fargo, was carrying a wind-turbine tower that protruded from the trailer, striking the utility pole as the truck turned west onto Main Avenue.</p>		
265	Fatal	11/11/2005	East Ridge Wind Farm, Chandler, Minnesota	United States	Suzlon	"Man Dies In Wind Tower Fire". Slayton,	WCCO-TV - Minnesota's Breaking News,	http://wcco.com/local/local_story_315152455.htm

					<p>Minn. A South Dakota man died and two people were injured Friday in a wind tower fire in southwestern Minnesota. The Murray County sheriff's office received a call just before 10 a.m. reporting the fire at a wind tower east of Chandler, Minn., and that one person had fallen. Benjamin James Thovson, 26, of Sioux Falls, S.D., died at the scene. He fell about 210 feet, Deputy Randy Donahue said. The other two were able to climb down and escape, but were taken to a local hospital. When help arrived, Donahue said, "the wind generator was engulfed in</p>	<p>11 November, 2005</p>	<p>ml</p>	
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					<p>flames." The tower is owned by Dean DeGreeff, of Chandler, who is part of an eight-person private ownership group called East Ridge Wind Farm. The three people on the tower Friday worked for Energy Maintenance Service LLC, based in Gary, S.D. They were installing a Suzlon Wind Energy Corp. wind turbine, the companies said in a statement. According to at least one report, they were replacing a bolt when the fire started The Daily Globe of Worthington said. Donahue told the newspaper the fire resulted from the crew's work.</p>			
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						Energy Maintenance Service and Suzlon said they were cooperating with federal, state and local authorities in the investigation			
266	Transport	29/11/2005	A941 Elgin-Rothes road at Drumbain, less than a mile from Rothes, Moray	Scotland, UK	Olsen Renewables	A huge lorry carrying a section of turbine for a Moray windfarm shed its load in spectacular style. The metal section - around 100ft long and 15ft in diameter - fell from the lorry and rolled down an embankment and 200 yards into a field after the vehicle mounted the verge on the A941 Elgin-Rothes road at Drumbain, less than a mile from Rothes. The lorry toppled on to its	"Lorry Sheds 50-Tonne Load After Accident", Press and Journal, 30 November 2005. Photo.		

						side on the roadway, with part of the articulated bogie coming to rest upside down, 20ft down the embankment. The Danish lorry, which was accompanied by escort vehicles at the front and rear, was on its way to the site of a windfarm which is under development on Paul's Hill at Ballindalloch. The driver of the lorry, a Dane, escaped unhurt.			
267	Fire	16/12/2005	Simonsberg bei Husum im Kreis Norfreisland, Schleswig-Holstein	Germany	Enercon, 40m hub	Turbine housing fire, 40m above ground. Completely burned out. 20m fell off. Reported to "rain blade pieces". Nine fire crews in attendance, but could do nothing at the height. Damage	Sylter Rundschau from 17 December 2005. Also local news on line -see www.kn-online.de link (right).	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	http://www.kn-online.de/news/archiv/?id=1768278

						estimated at 0.5M euro			
268	Structural failure	16/12/2005	Delmenhorst nahe Bremen, Niedersachsen	Germany	Small private turbine, 15m high	Private turbine 15m high completely destroyed in storm. The turbine fell into the owner's garden. Rotor blades were torn off and "flew through the air". Parts pierced a garage droof and destroyed a car within. Another rotor blade ended in a neighbours garden. The turbine had been in place for 20 years.	Nonstop news von Borgmeier media from 16 December 2005 (see online link right), with photo	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	http://www.nonstopnews.borgmeier-media.de/meldung.php?ID=3079&JG=0
269	Blade failure	16/12/2005	Sefferweich im Kreis Bitburg-Oprium, Rheinland-Pfalz	Germany	NORDEX N90 or N80	One of three blades broke off turbine following a minor storm. Blade travelled several meters only and landed close to the tower. Other turbines on site were shut down.	Trierischer Volksfreund from 19 December 2005	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	

270	Component failure	16/12/2005	Gagzow bei Neuburg im Kreis Nordwestmecklenburg	Germany		Transformer exploded.	Ostsee-Zeitung online from 16 December 2005 (see online link right).	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	http://www.ostsee-zeitung.de/archiv.phtml?Param=DB-Artikel&ID=2106928&Stichwort=Windkraft&Pre=DB-Artikel&Typ=Artikel&Card=0
271	Ice throw	17/12/2005	Lankern bei Dingen, nahe Hamminkeln Kreis Wesel, Westfalia	Germany		Ice throw reported from each of the five turbines in the community windfarm Loikum at Lankern. This has happened each year of operation.	Rheinische Post Wesel plus local administration and statements from adjoining owners. Photos online (see link right). Photographed piece 38cm in length. Pieces reported to be thrown over 80m.	http://members.aol.com/fswemedien/ZZUnfalldat ei.htm	http://mitglied.lycos.de/nature2000/Eiswurf.htm
272	Human injury (not fatal)	22/12/2005	Woolnorth Windfarm, Tasmania	Australia		Two workers reported to be in hospital - injured but stable - following an accident at the Woolnorth Wind Farm, Tasmania, on Thursday Dec 22nd. Reported on Dec 24th.	ABC News online 24 December 2005	http://www.abc.net.au/news/newstems/200512/s1537653.htm	

						No circumstances of accident or details provided, other than that the two men were working on a wind monitoring tower when the accident happened.			
273	Fire	23/12/2005	Nissan Car Factory, Sunderland	Tyne and Wear, England, UK	Six x Vestas	Turbine fire adjacent to A19 and A1231 roads. 55m high turbine caught fire after work to investigate an oil leak. Both A19 and A1231 roads closed. Fears that the turbine would fall onto the road however luckily it fell into a nearby field. Locals reported to be "terrified" (27/12/05 report). All three blades burned and fell off. Fire reported in the	National ITV and BBC television and radio news. Also Sunderland Echo 24/12/05 and 27/12/2005	http://news.bbc.co.uk/1/hi/england/wear/4556640.stm	http://www.sunderlandtoday.co.uk/ViewArticle2.aspx?SectionID=1107&ArticleID=1295769

						national press with photos and video. Seven fire engines were in attendance. Operators Nissan quoted as saying "as far as we're aware nothing like this has happened before". Construction started in September 2005 using second-hand Vestas turbines.			
	Ice throw	1990 to 2003		Germany		880 cases of reported icing events from 1990 to 2003, 33% on the coastline and lowlands, 67% in the mountains	"A Statistical Evaluation of Icing Failures in Germany's '250 MW Wind' Programme – Update 2003, M Durstwitz, BOREAS VI 9-11 April 2003 Pyhätunturi, Finland.		
	Lightning	1992 to 1995		Germany		393 reports of lightning strikes from 1992 to 1995, 124 of those direct to	Data from WMEP database: taken from report "External Conditions for		

						the turbine, the rest are to electrical distribution network	Wind Turbine Operation – Results from the German ‘250 MW Wind’ Programme”, M Durstewitz, et al, European Union Wind Energy Conference, Goeteborg, May 20-24, 1996		
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