

ACCIDENTS PERTAINING TO D&CSD FROM JULY 2008 to JUNE 2009

It was only after Mr. K. B. Wakhley took over the charges of the Bhutan Electricity Authority (BEA) as its Chief Executive Officer, BEA Secretariat started carrying out detail investigation on the electricity accidents that were reported by Bhutan Power Corporation limited (BPC) and the cases that came to the notice of BEA Secretariat since July 2008. There were nine (9) accident cases investigated by BEA Secretariat from July 2008 to June 2009 and these accidents resulted in five (5) deaths. The details are provided below:

Accident Report Submitted by BPC							Findings of BEA Secretariat
Sl. No	Location of Accident	Detail of the victims	Type of Accident	Voltage level	Causes	Effects	
YEAR-2008							
1.	Chusegang, Sarpang	a) Mrs. Dorjimo (Fatal) b) Mrs. Rinchen Yangzom c) Mrs. Pema Zangmo d) Mrs. Tshering Wangmo	a) Fatal b) Non- Fatal c) Non- Fatal d) Non- Fatal	11kV	<p><u>July 22</u></p> <p>a) While trying to connect the TV cable to her television set, Mrs. Dorjimo got a severe shock and shouted for help. Her son heard her shout and went out to call his father who was working in the beetle nut plantation area nearby. They immediately rushed home to help but the time they reached, the victim was already electrocuted to death.</p> <p>b) On the same day another accident was reported where Mrs. Rinchen Yangzom daughter of shopkeeper at the Chuzegang also got a shock when she was trying to insert the TV jack although, the power supply was turned off. Fortunately, she was saved by her husband who was with her in the same room.</p>	a) Got electrocuted and died at the spot. b) Recovered from the shock as soon as she lost contact from the TV cable line. c) Recovered from the shock as soon as she lost contact from the TV cable line. d) Was rushed to BHU and was discharged from there after keeping her under observation for 2 hrs.	<p>The cause of the accident could be due to the sustained voltage in the TV cable either due to the electric line touching the TV cable or leakage through the poles on which the TV cable was installed.</p> <p>BPC had allowed TV cable operator to install TV Cables on electric poles. Such an act is an offence as per Section 69(xv) of the Electricity Act of Bhutan 2001 which states that</p> <p><i>“undertaking work or engage in any activity in the vicinity of electrical installation or part of the installation in a manner likely to interfere with any electrical installation or to</i></p>

					<p>c) A similar incident was also reported to have occurred with Mrs. Pema Zangmo a shopkeeper.</p> <p>d) At around 1:30 on the same day, Mrs. Tshering wangmo also got a shock while trying to connect the TV cable to her television set. The people around her tried to save her by tripping the MCB, which had no effect on the shock. At last, the Tshogpa of the village who was present there saved her by disconnecting the cable TV line.</p>		<p><i>cause danger to any person or property;”</i></p> <p><i>“any person committing an offence shall be punished as per the law of the land.”</i></p>
2	Semtokha, Thimphu.	Mr. Karma Jamtsho	Non-Fatal	0.415kV	<p><u>August 23</u></p> <p>Mr. Karma Jamtsho (Helper II) attached with the Babesa Service center had climbed an LT pole in order to tighten a service cable feeding the Semtokha Dzong’s Kitchen after properly disconnecting the cable from the main supply. In the process he got a shock due to leakage current in the service cable and since he hadn’t tightened his safety belt properly to the pole, he fell down on the ground.</p>	Upon checking, he was found to have no major injury.	It is due to carelessness of the BPC employee and as well not adhering to safety procedures.
3	Gyelposhing , Mongar	Mr. Phurba Tshering	Fatal	0.415kV	On the evening of 25 th August 2008, there was a power short circuit near the RBP Office at Gyelposhing. To rectify the same, BPC service center staff Mr. Budhir Rai had climbed the LT pole in the dark after switching off the transformer. While he was trying to	The victim was immediately rushed to BHU Gyelposhing and further referred to the Mongar Regional Hospital where he was declared dead at 9:30 PM.	The deceased was not an employee of BPC. Therefore, he was not authorized to carry out line rectification works.BPC should not have allowed the deceased to climb on the pole.

					<p>separate the LT lines that had twisted, he saw a man (Mr. Phurba Tshering the victim, a bridge construction worker) climbing the pole behind him. Mr. Budhir immediately asked Mr. Phurba to climb down the pole.</p> <p>However, paying no heed to Mr. Budhir's words, Mr Phurba has climbed the next pole with the help of few other local people and had started separating the LT lines with his hands. Since he couldn't separate the lines with his bare hands, he had asked his friends to pass him a flag pole so that he could insert it between the LT lines and free them. It was reported that while trying to take the pole, Mr. Phurba possibly slipped and fell to the ground.</p>		
4	Khangkhu, Paro	Ms. Hari Maya Kharka	Fatal	0.415kV	<p>At around 11:00 AM on 24/09/2008, ESD Paro was informed about a person being electrocuted at Khangku due to a water heater (local make). Upon investigating it was found that the main cause of the electrocution was due to faulty connection at the power socket where, the neutral wire was connected to the switch instead of the live wire, leaving the live line directly connected to the water heater.</p> <p>The deceased without her slippers on had attempted to touch the heater without removing its plug from the socket. This caused the electrical circuit from the live line to be completed through the victim's</p>	The deceased was electrocuted to death at the spot.	This is due to improper house wiring and also due to the use of locally fabricated immersion water heater.

					body, causing her electrocution at the spot. Further, it was also noticed protection devices such as ELCB, RCCB etc were not present at the site.		
5*	NPPF building, near Samtse College of Education Campus, Samtse.	Mr. Tilscheran Pokhreal	Non - Fatal	11kV	On 28 October, 2008, ESD Samtse was informed by the OC RBP that a person had got electric shock at the NPPF building in the morning. Upon visiting the site, a lady labourer who had witnessed the accident told that the victim, Mr. Tilscheran Pokhreal was carrying a G.I pipe up the staircase for roofing of the NPPF building. In the process, he accidentally touched the 11kV line and got a shock. The witness also reported that she along with the other workers present at the site had seen the risk of the 11kV line and had advised the victim not to carry the pipe up but the victim had not paid any heed to their advice and had gone forward with the job.	The Victim was taken to Samtse hospital where he was reported to have suffered from burns at the back, legs, fingers and toes. From there he was further referred to JDWNRH on 13/11/2008.	It was due to lack of proper awareness of the danger of electricity.
Year 2009							
6	Malbase interconnecting substation, Pasakha.	Mrs. Devi Maya Gurung	Non - Fatal	220 kV	On January 19, 2009 shutdown was availed on 220 kV Chhukha-Malbase feeder for carrying out the energy meter testing and annual maintenance of line and equipment. All the bay equipment were in OFF condition and the line earth switch was also closed. However, both the 220 kV buses were charged and supplying load to the 220/66/11 kV system. The maintenance team was instructed to carry out the cleaning of porcelain insulators and other equipment in the yard. While	The victim suffered electric burns on the face, left hand and right hand. She also suffered minor hairline fracture of the hip bones.	<ul style="list-style-type: none"> a) The victim was a mason and was not trained for the job she was assigned to. b) BPC had not followed Clause 10.2 of the Safety Code 2008 which states “<i>All personnel, except those working under close supervision, who are required to work within, or close to, or equipment for which</i>

					<p>applying the safety eathing switch, the victim tried to earth the bus A isolator which was in charged condition. She immediately got electric shock and was thrown off to the ground.</p>		<p><i>work permits are required, shall be trained in the operation of the work permit system.</i></p> <p>c) BPC has also not followed Clause 10.3 of the Safety Code 2008 which states “<i>Special safety precautions are necessary to protect personnel who are working on or Medium or High Voltage Bare Conductors, since it is possible for hazardous voltages to be induced in the conductor even though the primary supply source is switched off and locked.</i>”</p>
7	Dangchhu Thama, Wangdueph odrang.	Mr. Jamtsho	Non-Fatal	11kV	<p>At 14:40 hrs the circuit breaker (at Lobeysa substation) of the 11 kV line (Feeder IV) tripped due to a fault. During this time, the Manager, ESD was attending a DYT meeting at the Wangdue Dzong. He immediately came out of the meeting and asked the Lobeysa substation incharge about the power interruption (the outage of the line also affected the Dzong area which receives its power supply from this same feeder). He requested the incharge of the Lobeysa substation to recharge the line (the fault could have been a transient one) as an</p>	<p>At 17:43 hrs, Mr. Jamtsho (Muster Roll Labor) received an electric shock and suffered burns on his right hand and back. He was immediately taken to the Bajothang BHU by Mr. Wangchey and Purna Br. Monger for treatment.</p>	<p>a) No proper information was disseminated by the senior supervisor to the line man deputed to attend the work at the work site.</p> <p>b) BPC had not followed Clause 10.2 of the Safety Code 2008 which states “<i>All personnel, except those working under close supervision, who are required to work within, or close to, or equipment for which</i></p>

				<p>important meeting was underway at the Dzong. However, upon test charging, the line did not stand and accordingly, tripped once again. The Manager then contacted Mr. Phuntsho (In-charge of Wangdue Town Service Centre) and Mr. Purna Bahadur Mongar (Senior Supervisor in-charge of O&M activities in Wangdue) to rectify the problem and restore power supply through this feeder. Accordingly, Mr. Purna Br. Monger proceeded to the RBA main gate to open the Gang Operated (GO) switch in order to ascertain the fault location. Upon opening the GO switch at this location, and test charging the line, power supply could be restored upto this point. This meant that the fault was not on the Chuzomsa portion of the line but towards the Hesothangkha side. However, at this point, the Dzong still did not have power supply and accordingly, the only way to restore the power supply to the Dzong area quickly was to open the jumpers at Dangchu Thama after the Dzong Tee-off point. Upon doing this, test charging the line, the power supply was restored to the Dzong. This meant that the fault was located after Dangchu Thama. Accordingly, the power supply to the Dzong area was restored at 15:15 hrs and DYT meeting proceeded till 17:00 hrs after which the Manager went back to the office to attend if there is any other urgent works.</p>		<p><i>work permits are required, shall be trained in the operation of the Work Permit system.”</i></p> <p>c) BPC had allowed unskilled worker to climb the pole.</p>
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8	Dewathang, Samdrupjon gkhar.	Mr. Gopa Dorji Wangdi (RBA)	Fatal	33kV	<p><u>April 26, 2009</u></p> <p>He was fencing the garden accidentally long bamboo touched the 33 kV line.</p>	<p>Short circuited by the bamboo he was carrying. (Electrocution).</p>	<p>The cause of accident could be due to touching of the 33 kV line by the bamboo tree.</p> <p>It is due to lack of awareness on dangers of electricity.</p>

9	Pelrithang, Gelephu, Sarpang.	a) Mr. Om Nath Darjee b) Mr. Prem Mani Thara	a) Fatal b) Non- Fatal	11kV	<u>May 20,2009</u> Possibility of the accident is that the victim have climbed on the tank to adjust the Tee joint when the water got splashed on the surface of the sintex tank due to high pressure in the pipe resulting it got contacted with the 11 kv line &the two trainees (Om Nath Darjee & Prem Mani Thara) were thrown on the ground.	Om Nath Darjee expired after two hours in the hospital and the other is recovering.	BPC had not maintained the overhead electrical conductor clearances as required per Clause 8.4 of the Safety Code 2008.
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*Firstly this case came to the notice of CEO, BEA and verbally instructed Ms. Thukten Wangmo Safety Officer along with Mr. Dorji on 16/11/2008 to visit the victim in the JDWNR Hospital. BPC (Head Office) was informed of this accident through a letter by BEA.

Fatal - 5 cases

Non-fatal – 8 cases