Zeppelins Encounter Severe Weather During WWI

The following stories are eyewitness accounts of severe weather encounters during World War I by German Zeppelin airship crews.

For those not aware, the Germans built 80 Zeppelin airships during WWI and used them to bomb England and her allies.

Great Yarmouth, in 1915, was the first target.

This marked the first time in history that a human population was bombed by an aircraft.

These airships would eventually become known as “Height Climbers” for their ability to reach ever higher altitudes in avoiding enemy aircraft and anti-aircraft fire.

The highest altitude reached was over 24,000 feet.

Early in the war, England began to think the Zeppelins were invincible because no matter how many rounds of ammunition their fighter aircraft expended, they could not shoot down the Zeppelin raiders.

This serves as a testament to the strength and resiliency of the German Zeppelin airship design.

LIGHTNING

L9

Obermaschinistenmaat Pitt Klein

We were up again over the North Sea, this time on a special task to patrol out to the west. We had been airborne for several hours without seeing anything in particular when we ran into a group of thunderstorms. We were forced down by downdraughts from the cumulo-nimbus clouds, and by driving snow and flashes of lightning, from a height of 3000 metres to just 300 metres above the sea. It was really dark all around us. We were tossed up and down several hundred metres time and time again, and feared that at any moment the ship might break up or be pushed down onto the sea. Our greatest worry was whether the engines would see us through this terrible weather.

The rain was pouring into the gondolas in torrents. The throbbing propellers sent hail and shards of ice crashing against the outer cover, tearing great strips off it. Whichever way we turned, as far as the storm was allowing us any heading control, we met the same terrible weather.

Great black walls of cloud towered on all sides. We would have to break through them. And then perhaps, we could escape the storm. Lightning blazed on all sides, but somehow we were able to hold the ship below Pressure Height and avoid venting any gas, otherwise we would surely have caught fire and gone down in flames.

The engines in the rear gondola suddenly began to run unevenly. Dripping in water, oil and petrol we toiled to find the cause and fix it. Engine failure was the one thing we did not need right now.

We were horrified when, as we were working away on the engines, our tools and hands lit up with blue sparks. Strangely though they didn't cause us any pain. At the same moment the propeller discs and aerial cable shone a magnificent bright blue. We recognised it straightaway. The whole ship was charged with static electricity; we were seeing a superb display of St. Elmo's Fire. It was just a shame that we weren't that keen on this rare natural spectacle right now.

The two elevator men were having great difficulty in keeping the airship level with so much up and down-draughting. The ship would be forced up or down at a crazy angle, causing the petrol

to stop flowing into carburettors, and we were obliged to cut the engines because the petrol had now leaked on to the gondola floor, putting us at even greater risk of fire. One lightning strike – a single spark – and that would be it.

Slowly the storm began to ease and we were able to draw breath. Once more we had narrowly escaped destruction.

It was only when we got back home and heard that the Nordholz based L 10 had run into the same storm but had been lost with all its crew, that we realised how dangerous it was to fly in thunderstorms.

It was then too that we saw how much damage the storm had done to our ship. The outer cover hung in tatters in places, exposing the gas cells. Several propellers had been so damaged on their leading edges by the impact of the hailstones that they had to be replaced. Characteristic burn marks on the outer cover revealed several lightning strikes. The lightning had run along the metal parts and at various points the girders and rings had actually melted.

LIGHTNING

L11

Hans von Schiller

We were on our way back from a night attack on the industrial areas of the Midlands. Ahead of us I noticed flashes of lightning coming out of some storm clouds. These were moving up from the vicinity of Amsterdam, out over the North Sea, and would cross our path. We had hoped to get past ahead of them with the help of a friendly westerly wind, but then the wind died out. The airship was heading straight for a thick mass of cloud, and I altered course to avoid it. As I did so, I encountered a head wind which grew stronger by the minute, and soon held us stationary. The sea beneath us was covered in white horses, the storm closed in on us. Lightning flashed across the sky above the airship, and the atmosphere was so charged with static electricity that our wireless direction finding equipment was rendered useless.

Gusts came from all sides and tossed the airship violently to and fro. The walkway flexed and shuddered; the crew had to seize hold of girders and wires to keep their footing. Everyone was inside the hull apart from us officers on duty in the forward gondola, and the mechanics in their engine gondolas.

Our Kommandant, Kapitänleutnant von Buttlar, considered turning about and running before the storm, but that would have taken us back towards England, and we didn't have enough reserve left to take on both the elements and the enemy guns again. So he decided to press on through it.

The gunner on the upper gun platform reported that the rain was now torrential. Great mountains of cloud piled up ahead of the heaving airship – there would be no way over the top. Putting the nose down we plunged into a darkness that was almost tangible, and pitted with lightning.

Hail and snow now beat down on the sodden outer cover; the ship shuddered like an animal beaten cruelly with a whip. We were thrown a hundred metres up in the air, then just as suddenly pushed down three hundred metres before we could steady the ship again. Sheets of lightning blazed all around us. There was a deafening crash and the airship was filled with a

blinding flash of light; a bolt had passed close to the ship on its way down to the sea. The man on the upper platform rang down to report that sparks were coming out of the muzzles of his machine-guns. I climbed up the access shaft to see what was happening.

To my astonishment I found the platform brightly lit. In the middle of this light sat the gunner, soaked to the skin, with an eerie glow around his head. The phenomenon was not unkown for mountaineers, or seafarers – it is called St. Elmo's fire. Even the aluminium framework of the hull was charged with electricity, and from every angle, girder joint or sharp point little flashes flickered. Back in the main gondola we could now see for ourselves how sparks came out of every edge. The wires and cables shone with a violet blue light – a wonderful spectacle, but one which we were not in a postion to enjoy right now. Our crew were clinging on for dear life as they moved about the ship, and all our lives depended on no hydrogen being released from the cells with so much lightning around.

Neither I nor any of my companions had ever experienced anything quite like it. Rather than being as low as possible to escape the worst of the storm and lightning, we were up at 3000 metres in all the rain and thunder, and fought for three long hours to keep the ship under control. Not until first light did the L 11 get clear of the danger zone. The sun rose and dried the sodden ship, and we were able to make best speed for home.

LIGHTNING

LZ 98

Ernst Lehmann

We were based near Hannover again and the weather was giving us problems. Stiff westerly winds at ground level and gale force winds aloft restricted us to modest patrols over the North Sea. I had been contemplating a raid on London. We were due to take off at noon and as the morning's weather report suggested that an area of low pressure would develop over England, I decided to use the pressure system to my advantage and find the ridge of high pressure between two lows. I notified the Naval airship station at Nordholz by telephone since they were launching five of their Zeppelins with the same intent.

After leaving our own base we saw two airships that had taken off from Ahlhorn, but soon left them behind. They were flying higher than us and seemed to be suffering from a stronger headwind. I stayed down at 150 metres and found the going bumpy and uncomfortable. The air was warm and humid; a thick haze layer cloaked the Earth and the sky gradually clouded over.

Our course took us south over Cologne and then on a 350 kilometre detour to avoid Holland. When we reached Belgium we found the sky even more threatening, so we landed at Namur to get a weather update. Night had fallen in the meantime, and as no further weather forecasts would be available until the morning, we took off again at 20:30 trusting that Namur and Ostend would give us updates on their actual conditions by wireless.

I headed straight for Dover from Ostend. Seventy nautical miles from the coast we realised that a storm was blowing in from the south west and that it would be a race against time for us. I hoped to be able to reach Dover ahead of it, drop our bombs on the Thames estuary or Harwich and then run before it on the way home. But the storm came in faster than I expected and bore down on us. I had just left the chart room when the gunner on the upper platform reported heavy rain. The downpour had begun and already lightning flickered in the distance. I still hoped to be able to get there, when the airship was pushed down to 1000 metres. "Down to 600 metres; make your heading north west!" I ordered. A flash of light tore the sky above us, followed immediately by a deafening clap of thunder. Through the voice pipe, the gunner reported, "Heavy rain, hail and lightning dead ahead." The storm had won the race.

"Turn to starbord; head east." Whilst the ship was in the turn, the wireless operator came out of his cabin and handed me a report from Namur. It read: 'Strong, freshening southerly wind, becoming south westerly, later westerly, gale force. Navy has ordered recall of all airships.' We were already on our way back; discretion being the better part of valour, would enable us to try again another day.

Not long after this, we were off once more into another clammy oppressive night, when we ran into a real British thick fog. North of us six other Zeppelins that were airborne at the same time, ran into the same weather. Having attacked Hull, we were on our way back over the North Sea when the weather changed. The warm currents of air coming off the continent met colder air over the sea and triggered a series of thunderstorms. We were in for an unpleasant surprise. In the pitch black we could not see the thunderclouds, but on the other hand we were already so close to the Dutch coast that I could not risk going any lower.

We were pushed upwards in one cloud that rumbled angrily. I put the nose down and then there was a brilliant flash. The gondola was as bright as day for an instant and the thunder so close it sounded like the firing of heavy guns. The heavens opened and the storm closed in on us from all sides. We put the elevators down to get out of it as fast as possible, when the top gunner reported: "The ship's nose has been struck by lightning, 10 metres ahead of me. I was just about to report the large amount of static when it threw me off my feet. Flashes of light flickered from the muzzles of my guns and round my head, and when I looked at my hands I could see tiny flames coming off my fingertips."

In the meantime the LZ 98 had dropped from 1600 metres down to just 100 metres, and initially we resumed our course for home. But it was as if this one bolt was the signal for a general bombardment. Lightning now blazed all around. For what seemed like an eternity we stared at the horizon in the hope of being able to spot a clearer area and a way out of the storm. It was not until much later that we were eventually able to find a dark patch between two massive storm clouds and break free to head for home.

To the layman it must seem incredible that an airship full of highly flammable gas was not destroyed in an instant in such weather, but scientific observations and dozens of similar cases prove it to be so. Even lightning has to obey the laws of nature. It only goes into the top metal hull of the airship which then acts like a Faraday cage. As long as the airship Kommandant is able to

prevent any hydrogen venting and forming an explosive mixture between the cells and the outer cover, the lightning will pose no threat to a Zeppelin.

When we finally cleared the stormfield at daybreak we were battered and exhausted, but safe and unhurt. In Hannover we checked the airship over thoroughly. There were a number of small scorch marks and holes in the forward part of the cover where the lightning had struck. The largest of these was the size of a pea; the metal girder beneath it had melted a little, but that was it. We might never have noticed that the lighning had actually struck our ship had the top gunner not seen it with his own eyes.

L 10

(K-L Hirsch)

L 10 commanded by Kapitänleutnant Hirsch, had taken off from Nordholz and evidently flown into a thunderstorm without taking the proper precautions, for the airship was forced upwards by the air currents. The hydrogen vented off through the valves but formed an explosive mixture with the air, which was then ignited by lightning. L 10 tumbled out of the cloud like a blazing torch.

Reference document:
"The German Naval Guide to Airship Handling"