AWESOME stories

Andrea Fleytas and the Deepwater Horizon Explosion

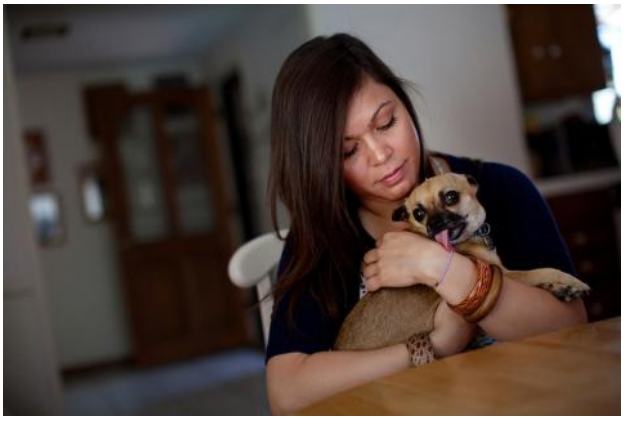

Photo of Andrea Fleytas, taken on May 12, 2010, by Daryl Peveto / LUCEO. Copyright, Daryl Peveto, all rights reserved. Image provided here as fair use for educational purposes and to acquaint readers with Peveto's work.

Around 5:30, on the afternoon of April 20, Andrea Fleytas arrives at the bridge of Deepwater Horizon.

A 2008 graduate of California's Maritime Academy, with a degree in Marine Transportation, Andrea holds a Third Mate's Unlimited Tonnage License, issued by the U.S. Coast Guard. In the spring of 2010, she is a Dynamic Positioning Operator on Deepwater Horizon - a job she's had for about a year-and-a-half.

Trained to monitor alarms, among other things, the 23-year-old - one of three females who works aboard the vessel - is also tasked with maintaining location of the rig. Holder of a radio operator's FCC license, Andrea is authorized to communicate distress signals if adverse situations develop aboard Deepwater Horizon.

Andrea begins her watch at 6 PM on April 20, 2010. Everything is normal, until she feels a jolt on the rig. Immediately after that jolt, she sees at least ten of the monitors she is watching turn color. The color she sees is magenta. Magenta means something really serious is happening.

Among the monitors turning magenta are vessel control alarms, including engine alarms, ballast control lines, combustible fire alarms (to name a few).

Andrea does not manage Deepwater Horizon's Emergency Disconnect System/Sequence (EDS). The EDS, which is manually activated by authorized individuals, can prevent escaping gas from reaching an ignition source - like an engine - because the disconnect sequence essentially separates the rig and its pipeline from the well and its blowout preventer.

If Deepwater Horizon's LMRP (lower marine riser package) is repositioned away from the well, escaping gas and mud traveling upward from the wellhead will not reach the vessel because the pipeline has been removed from the well. Also ... if everything works properly with the emergency disconnection system... the well will be sealed.

No one on Deepwater's bridge the night of April 20 - according to Andrea Fleytas - is authorized to operate the Emergency Disconnect System/Sequence at the moment it is needed.

Complicating the developing crisis, many of the rig's alarms are set in the manual position. This keeps them from endlessly going-off (particularly when there are false alarms).

Testifying before a joint investigative hearing, between the U.S. Coast Guard and the Bureau of Energy Management, Andrea tells questioners what happened the night Deepwater Horizon exploded (beginning at page 13 of the transcript):

> *I came onto the bridge at 5:30. I relieved ... and began watch at 6:00. Business was as usual until later that evening when I felt a jolt. When I felt that jolt, there was a series of combustible gas alarms that went off.*
>
> *The first one was the shaker and the second was the drill floor. When I felt that, they came over and turned it over to the starboard side and that is when I witnessed mud coming from the starboard side.* [The presence of mud means that the rig is at risk of escaping gas, such as methane.]
>
> *...We continue to hear a series of alarms and while we were getting those alarms the drill board called and told me that they had a wild control situation* [then] *they hung up.*
>
> *DEP then called me and said what was going on? I told them that we had a situation.*
>
> *At that time, I was acknowledging alarms and still monitoring DEP. Soon after that, the rig blacked out* [because it lost power].
>
> *When the rig blacked out, immediately after* [there was] *the huge explosion. When it happened, I went over to the general alarm and I hit the general alarm and again made the announcement over the PA to report to emergency stations, and I went back to the DEP Console and continued to acknowledge alarms...*

By that point - about four minutes into a developing disaster - Deepwater Horizon has no power, fires are burning throughout the rig, the engines are down and crewmen are jumping off the side of the vessel to save their lives.

No one in the outside world knows about the catastrophe because no one onboard Deepwater Horizon has issued a general distress call or a Mayday signal. Andrea believes it is time to make that call:

> *At that point I looked over to the EMS and noticed that no one had hit the distress button, so I went over and I hit the distress button and signaled Mayday.*
>
> *I went back to the console and the Captain yelled and said that we were abandoning. I went over and made the last announcement and said that we were abandoning the rig. Myself and the Captain were the last to leave the rig, and we went down to the station where there were a few others, and they were already launching the life raft.*

Was Andrea able to make it into the life raft or did she have to jump from the rig?

> *I got into the life raft and when the life raft hit the water, I fell out and I started swimming away from the rig, and people came and pulled me out of the water.*

Before the first explosion, were the Deepwater Horizon's monitoring systems, and emergency systems, properly working? That question was put to Andrea during her sworn testimony:

> *Q: On the night of the incident, to your knowledge, were all of the systems on the Deepwater Horizon working properly?*
>
> *A: Yes, sir.*

The Emergency Disconnect System - which is designed to disable all potential ignition triggers if a blowout or a gas leak occurs aboard the rig - was activated after the first explosion:

> *Q: You said that Captain Kuchta asked Mr. [Jimmy] Harrell for permission to actuate the EDS; is that correct?*
>
> *A: Correct.*
>
> *Q: Was that before or after the explosion? The first explosion?*
>
> *A: After the explosion.*

Did Andrea ever tell people in the engine control room that she was observing multiple warnings on her monitor? Was she trained how to respond to multiple warnings?

> *Q: During your phone conversation with the engine control room, do you know who you were speaking with?*
>
> *A: No, I don't.*
>
> *Q: Did you ever tell them they had multiple high gas alarms going off in their area?*
>
> *A: No.*
>
> *Q: At any time in the past, had you ever been made aware if this was high gas going off within the engine room, were you trained to inform them to shut down their engines or go into a standby mode?*
>
> *A: No.*
>
> *Q: ...Earlier, you testified that no one was on the bridge that had the authority to EDS* [order activation of the Emergency Disconnect Sequence]*. Was that correct, Ma'am?*
>
> *A: Correct.*
>
> *Q: Isn't there multiple other locations on the rig where authorized personnel can EDS?*
>
> *A: The only other one I know of is the Drill Shack.*

What does all this testimony tell us about the events of April 20?

When Deepwater Horizon is at its moment of maximum danger, before the first explosion occurs, the rig's safety indicators are warning that extremely high levels of gas - combustible gas - have entered the vessel. The lights show that gas alarms are coming from various parts of the rig, not just one place.

Although she is trained to sound the alarm whenever more than one light flashes, Andrea has never previously experienced so many warnings occurring at the same time. As she later told investigators:

> *It was a lot to take in. There was a lot going on.*

As a result, she does not sound a general alarm at the time the sensors are first flashing. She sounds the general alarm after the first explosion.

Andrea's testimony also tells us that the Emergency Disconnect Sequence wasn't used before the explosion. The *New Orleans Times Picayune* explains why that matters:

Also critical to protecting people in the drilling area was a system that could have cut off ignition sources once gas entered the rig. Fleytas said there was an emergency shutdown system someone could have activated to shut off ventilation to certain areas, such as the drill shack and engine room, to keep methane gas from igniting or overspeeding the engines.

But Fleytas said she knew of no protocols for activating the emergency shutdown and no one activated it. Gas likely ignited in the drilling area, killing everyone there, and also caused the two active engines to rev so high that all power on the rig was lost, preventing fire pumps from working and keeping the rig from moving away from the spewing well.

Although she survived the disaster, Andrea suffered from post-traumatic stress for two years after the catastrophe.

Today she has exchanged her Marine license for a small-business permit allowing her to bake goods in her own home. Her business, called Bricklane Bread, is thriving - and - Andrea is happy with her career change.

Credits:

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http://www.awesomestories.com/asset/AcademicAlignment/Andrea-Fleytas-and-the-Deepwater-Horizon-Explosion

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