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## **MEMORANDUM**

TO: Alison Perdue Rogers, Escambia County Attorney

Jack Brown, Escambia County Administrator

FROM: Edward P. Fleming

RE: PRELIMINARY REPORT REGARDING CIRCUMSTANCES

SURROUNDING EXPLOSION AT ESCAMBIA COUNTY JAIL

DATE: August 25, 2014

Our File No. EPF-14-0018

At approximately 11:20 p.m. on the night of April 30<sup>th</sup>, 2014, an explosion at the County's Central Booking Facility (CBF) killed two inmates, caused serious injuries to a corrections officer, and caused injuries of varying severity to numerous other corrections officers and inmates.

The apparent cause of the explosion was a natural gas leak in the basement of the CBF. This report is termed "preliminary," as any final conclusions as to the precise cause of that leak would require a physical examination of the basement area where the natural gas lines enter the building. That has not been possible due to the structural instability of the damaged building.

A likely source of the gas leak, one consistent with the observable physical evidence and eyewitness statements, together with the history of natural gas explosions in other reported cases, is that the gas dryers floated during the flood event causing their gas lines to come loose. Witnesses who observed a video recording of the basement during the flooding reported seeing the gas dryers floating. It is well established that there is a danger of this occurring if gas dryers are not bolted down. Project specifications for the dryers in place at the time of the explosion required that appliances be "bolted" down "as necessary." (See Section 11230 B 3.2(C)).

It is believed that the dryers in place at the time of the 2012 flood were bolted down, as they were not displaced despite the basement being filled with water to the same extent as occurred in 2014. Thus, the flood did not cause a gas leak. The purpose of bolting the dryers to the flood, making such attachment "necessary" in a flood-prone basement, is that flood waters can float the dryers, loosening or breaking their connection to the gas lines.

There is no evidence that county maintenance officials, or others, were aware the gas dryers had not been bolted down prior to the flood event on April 30, 2014. As discussed below, there is no evidence that anyone in the chain of command for the CBF at the time of the explosion was aware of an unresolved gas leak.

A timeline of events leading up to the explosion is as follows based on the 16 interviews with eyewitnesses to the events conducted thus far:

- 1. On the evening of April 29<sup>th</sup>, the day before the flood, Gary Jones of facilities was called in to address any issues caused by heavy rains that started late afternoon/early evening. He and others put up sandbags at Central Booking and other county facilities in hopes of preventing flooding.
- 2. David Wheeler, Director of Facilities, initiated delivery of portable chillers, a generator to run the chillers, and contacted a water remediation company from Atlanta to ask them to get to the site to deal with the aftermath of any flooding. Those efforts were coordinated through the Acting County Administrator, Larry Newsome.
- 3. By early morning on April 30<sup>th</sup> (between midnight and 1 a.m.), the basement had flooded to within a foot of the top of the service entry door. (Marked with an arrow on Exhibit 1 to Gary Jones sworn statement). By 7:30 am, the basement would have been completed filled with water with the exception of a likely air pocket between the top of the doors, and the 12-foot ceiling.
- 4. On the night of the flood, prior to the water getting too deep to continue, there were several people working in the basement removing linens, food from the kitchen, and other items, to mitigate damages. No one reported smelling gas in the basement, the only place in the building where gas outlets are located.<sup>1</sup>
- 5. The water continued to rise throughout the night (early morning of April 30<sup>th</sup>) to the point that Commander Whitlock made contingency plans for evacuating the first floor.
- 6. On the day of the explosion, Gary Jones, after working throughout the night, received a report of the smell of gas between noon and 1 p.m. He reported the following actions taken:

"Well, I walked the whole building and did not smell gas. So I went out back where the flood was and observed to see if I could see any big bubbles or anything coming out. You know, because I couldn't get to anything, (basement being flooded), so I tried to observe. But I never smelled it.

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<sup>&</sup>lt;sup>1</sup> There are, however, several propane tanks on a hill to the north of the Central Booking Facility adjacent to the Sheriff's vehicle maintenance garage.

"And then I walked over to the sheriff's office garage side, and then we have a propane station over there. And found bubbling there. And I thought, well, maybe they're getting the smell from that through the vents. And I waded probably thigh length water and shut a value off there to stop that from going. Some debris had knocked a valve open.

"And I closed that off and stopped the bubbling. And the guys at the sheriff's garage said when I came back after I ran across the street to the county office building; they said the smell went away when I closed the valve."

- 7. The theory that the gas from the propane leak was being pulled into a fresh air vent located on the north side of the building where the tanks are located, is supported by the following facts:
  - -- The prevailing winds were from the North throughout the morning, when the smell of gas was first reported.
  - -- The North wind would have blown the propane gas and its chemical "marker" towards the four-story CBF building to the South of the tanks.
  - -- The outside air vent for the CBF building is located on its North side, and is at a level below the level of the propane tanks. In fact, this area forms a "bowl" effect at an elevation below where the propane was leaking.
  - -- Propane is heaver than air. Thus, gas from the propane leak located and repaired early afternoon on the day of the explosion could have collected at the rear of the building and been pulled into the outside vent located on the north side of the building facing those propane tanks.
  - -- Gary Jones "walked the whole building" and did not find a source of a gas leak in the building. He knew where the gas services were located in the basement, looked for any evidence of gas bubbles or leaks coming from the basement, and found no such evidence.
  - -- After correcting the gas leak at the propane tanks, no further reports were made to facilities of the smell of gas. The person who reported the gas leak before the corrective actions by Gary Jones, Charles "Chuck" Varvorine, said that when he left work at 7 p.m. the night of the explosion he had no reason to believe the gas leak had not been corrected.
  - -- Lt. Roberta Varvorine, who began her shift at 7 p.m., has said there was no smell of gas in the building between the start of her shift, and the time of the explosion. Her visits took her to the stairwell (elevator not operating) of the fourth floor at one point to deal with an inmate problem, and she did not detect any smell of gas at any time between her shift beginning, and the time of the blast. She has testified she did not at any time, between her shift starting at 7 p.m., and

the explosion at 11:20 a.m., have any reason to believe there was a gas leak in the building.

- -- Lt. Joe Ryals, Shift Commander for the CBF at the time of the explosion, was at numerous locations within the building the evening before the blast, and noted no smells of gas. He did say he had reports of inmates complaining of "smells," had those checked out, and received no reports back as to the smell of gas. The air intake vent at the back of the building was known to pull in exhaust fumes from the back-up generator. Lt. Ryals was at his desk at the time of the blast, and suffered head and hand injuries from falling concrete. He reported he did not, at anytime prior to the blast, have reason to believe there was a gas leak in the building.
- 8. Based on information reported by facilities, there are no penetrations in the ceiling of the basement area where the gas leak that caused the explosion is believed to have occurred. Thus, once the water level reached above the door, which would have occurred by early morning on the day of the explosion, gas leaking from the gas lines to the gas dryers would have been trapped in the five to six foot cavity between the top of the doors (and small "dumb waiter" elevator) with no means of escape.
- 9. By 11:20 p.m. on the night of the explosion, the water level began declining. The water level appeared to be about chest high on a firefighter who was about six feet tall during his rescue of one of the two corrections office who fell through the hole above the basement created by the explosion. (As reported by Lt. Roberta Varvorines). That would have placed the water level at about 2 to 3 feet below the top of the door, allowing trapped natural gas from compromised gas lines to leave the basement area where it could find a source of ignition, which can be an electric motor.
- 10. Assuming there are no penetrations in the basement ceiling in the vicinity of the laundry room, as facilities personnel familiar with the building have testified, no one could have smelled the natural gas leak that caused the explosion until the water level dropped below the top of the door. That did not occur until a few hours before the explosion. In any event, no one we have spoken to thus far reports smelling natural gas the evening of the blast, and the smell detected earlier would appear to have been propane gas from the gas leak identified and corrected some 10 hours prior to the explosion.
- 11. There is no evidence that anyone in the chain of command ignored a report of a gas leak. Any issues with the building are recorded on maintenance requests, and there were no reports to facilities (other than the oral report to Gary Jones discussed above) that were made the day of, the day before, or days before, the explosion. Media reports that inmates were complaining of headaches from the smell of gas are not supported by nursing notes, and nurses were in the facility the night of the explosion tending to inmates.
- 12. There is no evidence of the smell of gas in the building during the hours prior to the explosion. Witnesses who had every reason to have reported the smell of gas had

there have been one, as their own personal safety was involved, reported no smell of gas. The highest ranking officer on duty at the time of the explosion, Lt. Ryals, has an office directly above the basement, and neither smelled gas, nor had anyone report to him the smell of gas.

- 13. The efficient proximate cause of the explosion, based on all evidence thus far, would be a gas leak that was a direct consequence of two events:
  - -- A flood exceeding the 100-year flood event of 2012 less than two years later. On that point, it should be noted that the County had work in progress to prevent future flooding, and had put in place emergency plans to prevent the problems experienced with the 2012 flooding (interruption of power, air conditioning).
  - -- Failure to bolt commercial gas dryers in a flood-prone basement to the floor despite contract specifications that instructed the contractor to "bolt, level and group all equipment as necessary." The risk of unattached gas dryers in a flood are so well known within the industry that the building code requires bolting in a "flood hazard" area. Although the CBF had not been designed as a "flood hazard" area, and thus the failure to attach the dryers was not a code violation, the contractor had actual knowledge that the basement was prone to flooding, and thus knew or should have known that bolting of the dryers was "necessary" to avoid a gas leak risk. I found no evidence to show the County knew the specification had been ignored.
- 14. Reports by Media. News reports that inmates had been reporting the smell of gas for weeks is not supported by either the sworn testimony of those to whom the reports would have been made, or by the written records. Reports that inmates were ill from the effects of smelling natural gas are not supported by medical records as examined by the head of medical services for the jail. No inmate had complained of smelling gas to medical personnel.

Some of the reports, such as those claiming their daughter was working in the kitchen and reported smelling gas two hours before the explosion are **demonstrably false**, as the kitchen had at least four to five feet of water in it at the time of the explosion, and the water would have been deeper two hours before.

## **PRELIMINARY CONCLUSION**

All evidence uncovered shows that County officials, from the top down, took reasonable precautions against all known risks. The basement had flooded to the same intensity less than two years earlier, with no gas leaks. The Pensacola Energy website, under its "hurricane plan" recommendations, states that:

"Natural gas lines *require you to take no special precautions*. In cases of severe lightening, you might want to unplug natural gas appliances to avoid possible electrical damage."

The preparation for hurricanes would, of course, cover flooding, as storm surge is one of the primary consequences of hurricanes. ESP makes no specific recommendations for "flash floods" that would change its "no special precautions" needed advice.

County officials had put into place a flood remediation plan, had put into place a flood emergency plan, and all reasonably foreseeable risks of a repeat of the 2012 flood had been planned for and were being addressed. Actions taken before the flood, during the flood, and after the flood, support a finding that the personnel involved acted with all due concern for the life and safety of the inmates under their care, as well as the corrections officers and staff.

The negligence of the contractor for failing to bolt the dryers to the floor may be imputed to the County, but the County has the right to indemnification from the contractor. I have found no evidence to support a finding that County employees acted with reckless disregard for the life and safety of their colleagues or the inmates under their charge. In fact, all evidence I have found supports the exact opposite conclusion.