

Some Observations on Water Pipe Breaks Before and after Hurricane Ike

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Abstract: In order to study the effect of hurricane, we investigate breaks before and after hurricane Ike. Monthly breaks and calls increased a lot one year later after hurricane.

1. Introduction:

On September 13th, 2008, Hurricane Ike made its landfall in Galveston, Texas and passed across the City of Houston. The wind speed was around 80 mph and hurricane Ike was category 1(74-95 mph). Many researchers studied the impact on the facilities above the ground, for example houses, electrical poles and so on. However, nobody pay attention to the hurricane impact on water mains underground which are also very important facility for the city. Therefore nobody knows whether hurricane has any impact for underground structures. From the City of Houston, they have very few calls on September 2008 with only 42. But the Calls were increased 5 times in October 2008. (Figure 1) However from Figure 2, monthly total breaks did not change much from August, 2008 to October, 2008.

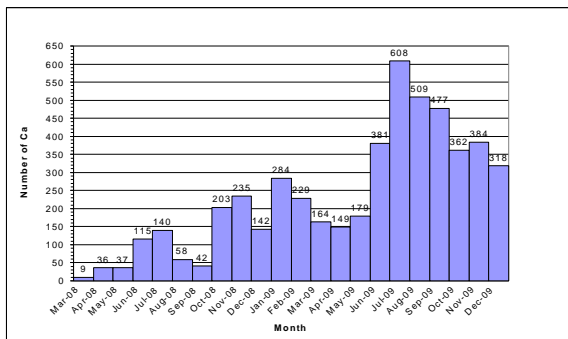


Figure 1 Monthly Call from COH Powerpoint

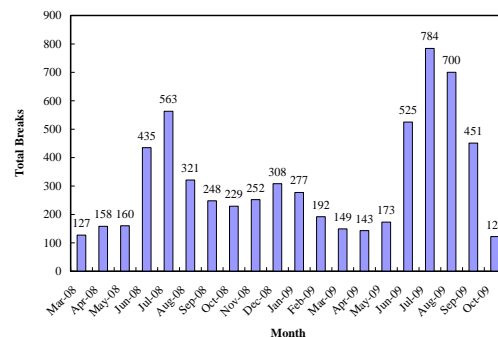


Figure 2 Monthly Total Breaks

2. Objectives:

The objective of this study was to study the effect of hurricane Ike on water mains in the city.

3. Analyses and Results

It is well known that the hurricane brings a lot of rain for inlands. The rainfall of City of Houston is 12.07 inches in September which are much higher than other months after hurricane Ike. One year later after hurricane, the monthly breaks increased much from March to September except April. From Figure 4, we can clearly see that the monthly breaks increased little by little one year after hurricane.

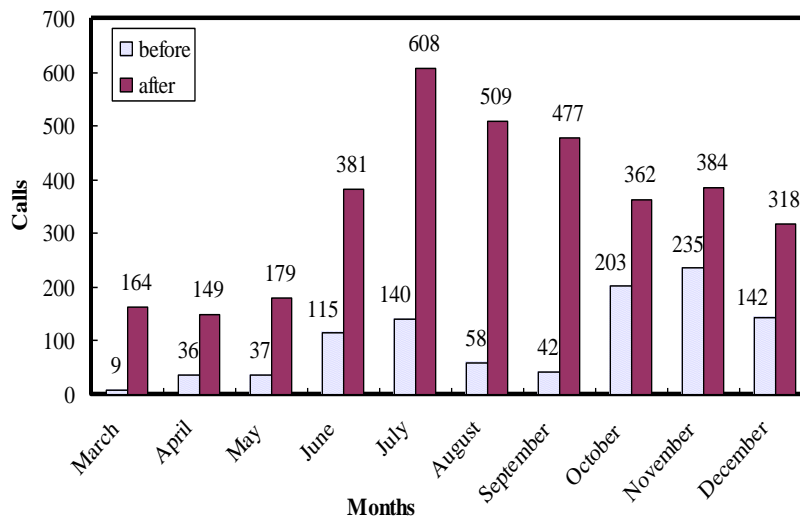


Figure 3 Monthly Calls Before and After Hurricane

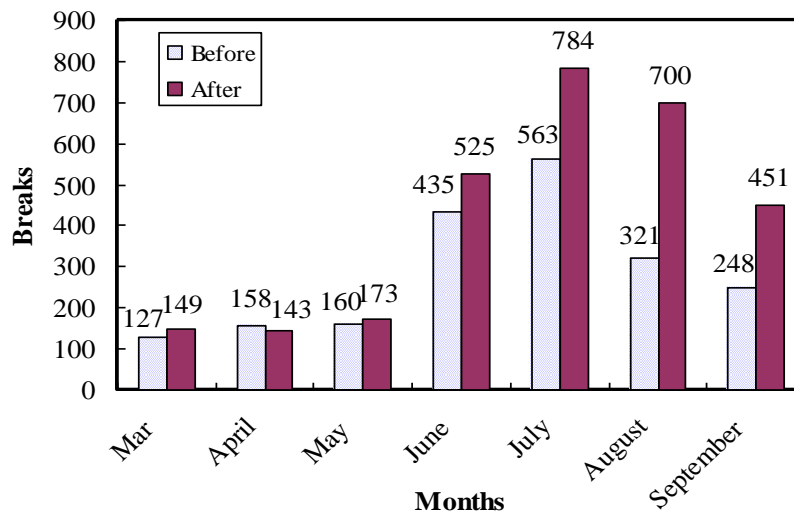


Figure 4 Months Breaks Before and After Hurricane

5. Conclusion

During September of hurricane Ike, the calls were extremely few but the calls increased dramatically in October. However the monthly total breaks were not changed much from August to November. One year after hurricane Ike, the calls and breaks were increased a lot.

6. Acknowledgements:

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7. References:

1. COH powerpoint regarding the water main calls from Mar-2008 to Dec-2009
2. <http://www.wikipedia.org/>