



## **Information Briefing Summary**

### *Kennett Fire and EMS Regional Commission*

#### **An Analysis of Kennett Fire Company Fire & Rescue Response Performance**

**Date Presented:** March 4, 2021  
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#### **Action Forcing Event**

In February 2021 the leadership of Kennett Fire Company comprised of Deputy Chief Steve Melton, Vice President and Office Manager Gina Puoci, and Sargent Rick Franks, asked Kennett Township to complete an analysis of fire responses for Kennett Fire Company (“the company”) for calendar year 2020 to determine if there was justification to add paid firefighters (“paid fire”) to the company’s operations. They further asked that the findings be provided to the Kennett Fire and EMS Regional Commission (“the Commission”) to complement a request for funding for paid fire if justified.

This Information Briefing Summary is a summary of the analyzed data designed to inform decision-making by Kennett Fire Company No. 1, the Kennett Fire and EMS Regional Commission, Borough of Kennett Square Council and Mayor, and Kennett Township Board of Supervisors. This Briefing Summary is not a policy review, nor does it endorse any recommendations.

#### **Background**

The analysis was completed with oversight by the Company who provided all the necessary data to be analyzed leading to this report. Additionally, this analysis and written report (“the report”) was completed by the Kennett Township staff at no cost to the Commission or the Fire Company. The contents of this report have been reviewed and approved by the Company for accuracy and disbursement.

This report only focused on call data for 2020 as provided by Kennett Fire Company. If there are any inaccuracies within the reports provided by the Company, then those inaccuracies would translate to this report. Additionally, the report makes assumptions which are detailed throughout and are necessary to sift through the voluminous data. Importantly, the report only focuses on responses to fire calls based on Incident Type (see page 2 for those Incident Types that were excluded from this study). While some analysis focuses on the Tanker, the majority is focused on the Engine, Truck (ladder), and Rescue.

The purpose of the report is to develop a complete understanding of the quality of fire and rescue responses from the Company in 2020 to inform operational changes that may be necessary moving forward. The reporting system in the Company is not setup to drill down on the quality of fire and rescue responses as it relates to the staffing of apparatus or the time it took an apparatus to respond to an incident. Therefore, an individual analysis of each dispatch was necessary to develop a comprehensive understanding.

## Analysis

At the onset of this analysis Kennett Fire Company laid out standards that they hold their company to for fire and rescue responses. It was those standards that were investigated, measured, and reported on in this analysis. The two standards that were analyzed were Turn Out Time and Apparatus Staffing. These two standards were applied only to the first due apparatus per incident.

For the analysis, the provided data was sorted to only focus on incidents that require a fire response. Accordingly, only UNITS/Apparatus ENG24, RES24 and TRK24 were considered for this analysis. (AM241, AM241, ATV24, BOT1, BOT2, BOT3, BRU24, CHF24, FP, NA, OFC, POV24, SQD24, TNK24 and UTL24 were deleted.) Similarly, INCIDENT TYPES 341, 360, 361, 363, 500, 520, 551, 571, 600, 812, 813, 900 and 911 were deleted if present. This brought the number of dispatches down from 1,057 to 323. Note that the number of "dispatches" is not the same as number "incidents." Rather, this is the number of times ENG24, RES24, and TRK24 logged a DISPATCH TIME.

Often, more than one apparatus responds to an incident, so after the initial condensing of the data mentioned above, the dispatches were sorted to determine which of the pertinent apparatus was considered the "first due" apparatus. Either the Fire Engine, Rescue Engine, and Ladder Truck were first due 209 times in 2020. The remainder of the analysis focuses on the 209 times those three units responded to a dispatch on a first due basis.

The 209 first due apparatus then had the standard of Turn Out Time applied. The first due Fire Engine (ENG24), Rescue Engine (RES24), or Ladder Truck (TRK24) must "turn out" within 7 minutes and 59 seconds of being dispatched to be considered qualified. This is referred to as "turn out time" and is a Chester County standard.<sup>1</sup> Turn Out Time was calculated as the Roll Time minus the Dispatch Time. In other words, an apparatus has 7 minutes and 59 seconds from the time a dispatch call comes in (Dispatch Time) until the time they pull out of the station to go to that call (Roll Time). If an apparatus did not turn out within the allotted time frame, then the response is a failed response.

The second standard of Minimal Staffing was applied next. An appropriately staffed unit is set by the Company and follows the standards set by the Southern Chester County Fire Chiefs.<sup>2</sup> For a Fire Engine and a Ladder to be minimally staffed for the Company, they must have at least 3 Qualified Interior Firefighters plus 1 Driver or 4 Qualified Interior Firefighters. There are some Qualified Interior Firefighters who are trained to operate a three-person rig. If three of them were on an apparatus, it also counted as qualified. Additionally, the paid staff of the Company counted as qualified for this analysis. Junior Firefighters, Exterior Firefighters, Fire Police, or firefighters who will not wear an air pack and enter a burning building, are not counted in the Minimal Staffing levels per the policy. If RES24 was the first due to a motor vehicle crash (Incident Types 322, 323, 324, 351, 463, and 542), it needed to have at least 3 Vehicle Rescue Technicians to be Minimally Staffed.

If an apparatus does not have these Minimal Staffing on it, then the response is considered a failed response. Notably, most often when qualified, the first due apparatus has more than 3 qualified responders on it. Also, of note, just because a response is a failed response does not necessarily mean that it does not go to the incident, rather it is doing so either not on time, with inadequate staffing, or both.

## Turn Out Time Results

Kennett Fire Company turned out within 7 minutes and 59 seconds 164 times, or 78.47% of the time, out of the 209 first due apparatus dispatches. The Company had a failed response based on Turn Out Time 45 times, or 21.53%. The review also breaks down the qualified responses by apparatus.

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<sup>1</sup> Chester County FireEMS Dispatch SOP, Department of Emergency Services, Chester County PA, January 20, 2021

<sup>2</sup> Staffed Unit Guideline, Southern Chester County Fire Chiefs Association, January 2021

First Due UNIT Turn Out Time		Turn Out Time	Q% of Sum	Qualified 1st Due UNIT Turn Out Time	
	Qualified	164	78.47%	ENG24	113
	Unqualified	45	21.53%	RES24	46
	Sum	209		TRK24	5
				TOTAL	164
				% out of 209	78.47%

After determining annual Turn Out Time ratios we wanted to review how the data broke down into shift categories. The three shifts are Weekday: Monday – Friday 7:00am to 5:00pm, Weeknight: Monday – Thursday 5:01pm to 6:59am, and Weekend: Friday 5:01pm to Sunday 11:59pm. Dispatches from 12:00am Monday to 6:59am Monday are included in the Weeknight shift.

The below tables show Turn Out Time by shift and apparatus.

ALL First Due Shift Breakdown Q and UQ Turn Out Time		% of total	ENG24 Qual by Turn Out Time Only		RES24 Qual by Turn Out Time Only		TRK24 Qual by Turn Out Time Only	
Weekday	77	36.84%	Weekday	43	Weekday	19	Weekday	1
Weeknight	53	25.36%	Weeknight	32	Weeknight	7	Weeknight	1
Weekend	79	37.80%	Weekend	38	Weekend	20	Weekend	3
TOTAL	209		Total	113	Total	46	Total	5

The “ALL Shift” break down shows that Kennett Fire Company turns out on time most often during the day with 81.82% success and less often on weeknights with a success rate of 75.47%.

Qualified 1st Due Turn Out Time Shift Breakdown		Q% ALL Shift	UQ% ALL Shift
Weekday	63	81.82%	18.18%
Weeknight	40	75.47%	24.53%
Weekend	61	77.22%	22.78%
Sum	164		
TOTAL	209		

### Minimal Staffing Results

Out of the 164 times the first due apparatus turned out timely, 87 were at least minimally staffed. This translates to a successful annual response rate of 41.63% with Kennett Fire Company having a failed response rate of 53.59%.

First Due + Turn Out Time + Minimum Staffing		Filters Applied	% of total
	Qualified	87	41.63%
	Unqualified	16	7.66%
	Sum	103	
	Out of Total	209	

Qualified 1st Due Rig Turn Out Time Minimum Staffing	
ENG24	71
RES24	14
TRK24	2
TOTAL	87
Q% / 209	41.63%
UQ% / 209	53.59%

The response breakdown based on Turn Out Time and Minimal Staffing can be viewed by apparatus and shift below. The table in dark gray is the total annual dispatches outlined above.

ALL First Due Shift Breakdown Q and UQ Turn Out Time		% of total	ENG24 Qual by Turn Out Time & Minimum Staffing		RES24 Qual by Turn Out Time & Minimum Staffing		TRK24 Qual by Turn Out Time & Minimum Staffing	
Weekday	77	36.84%	Weekday	18	Weekday	2	Weekday	0
Weeknight	53	25.36%	Weeknight	24	Weeknight	4	Weeknight	1
Weekend	79	37.80%	Weekend	29	Weekend	8	Weekend	1
TOTAL	209		Total	71	Total	14	Total	2

The total qualified response ratio for first due dispatches by shift with the two standards (Turn Out Time and Minimal Staffing) is broken down below. Kennett Fire Company has a total Weekday success rate of 25.07% or fail rate of 74.03%. The Weeknight and Weekend success rate is 54.72% and 48.10% respectively.

Qualified 1st Due Turn Out Time & Minimum Staffing Shift Breakdown		Q% ALL Shift	UQ% ALL Shift
Weekday	20	25.97%	74.03%
Weeknight	29	54.72%	45.28%
Weekend	38	48.10%	51.90%
Sum	87		
TOTAL	209		

### Comparisons for Context

While this analysis can provide valuable information to aid decision making processes, it is also helpful to understand the performance of Kennett Fire Company within the region it serves especially as it considers budgetary options. To assist, Kennett Township performed the same analysis on Longwood Fire Company with the same assumptions and standards to add context to the analysis of Kennett Fire Company response performance.

Longwood Fire Company has an overall failed response rate of 5.38% when applying the same standards of Turn Out Time and Minimal Staffing with 520 total first due dispatches. With paid staff on during the day the failed response rate

drops to 2.26%. On Weeknights and Weekends, when they are solely volunteer, their failed response rates are 7.91% and 6.56% respectively.

Qualified 1st Due Turn Out Time 3 or More Staff		ALL First Due Shift Breakdown Q and UQ		Qualified 1st Due Turn Out Time Minimum Staffing Shift Breakdown		Q% ALL Shift	UQ% ALL Shift
E251	117			Weekday	216	97.74%	2.26%
E252	238			Weeknight	163	92.09%	7.91%
LAD25	34			Weekend	114	93.44%	6.56%
RES25	104	Weekday	221	42.50%	Sum	493	
TOTAL	493	Weeknight	177	34.04%	TOTAL	520	
Q% / 520	94.81%	Weekend	122	23.46%			
UQ% / 520	5.38%	TOTAL	520				

**Conclusion**

In conclusion, the data provided by Kennett Fire Company that was analyzed shows an annual failed response rate of 53.59% when dispatched to fire calls when considering Turn Out Time and Minimal Staffing when looking at qualified first due dispatches. Because the Company turns out their apparatus within the county standard time frame 78.47% of the time, the challenge appears to be with volunteer performance or availability. Kennett Fire Company frequently responds to incidents with less than the required minimum staffing using volunteers who are either inadequately trained, are minors, or with an apparatus that has less than three responders.

-End of Briefing-