



FREDERICK COUNTY GOVERNMENT

Jan H. Gardner
County Executive

INTERAGENCY INTERNAL AUDIT AUTHORITY


Tricia Griffis, Director of Internal Audit

Memorandum

To: Chief Thomas Owens
Director/Fire Chief, Frederick County Division of Fire & Rescue Services

Deputy Chief Thomas Coe
Deputy Chief of Emergency Services, Frederick County Division of Fire & Rescue Services

Deputy Chief Steve Leatherman
Deputy Chief of Administrative Services, Frederick County Division of Fire & Rescue Services

From: 
Tricia A. Griffis, CPA
Director, Internal Audit Division

Date: December 21, 2016

Subject: Special Project on Overtime & Staffing of Operational Services for the Frederick County Division of Fire & Rescue Services

Introduction and Summary

At the request of the Frederick County Division of Fire & Rescue Services (DFRS) the Internal Audit Division (IA) performed a non-attest special project reviewing and analyzing overtime and staffing within the operational services of DFRS. The procedures and work performed by IA constitutes a non-attest engagement and does not fall under the guidance of Government Auditing Standards (GAS).

During the special project IA reviewed and analyzed the following data and criteria:

- Current staffing by shift at all stations
- Staffing plans by shift for FY17
- Staffing plans by shift for FY18
- Staffing plans by shift under the U.S. Department of Homeland Security's Staffing for Adequate Fire and Emergency Response (SAFER) Grant program
- Current regular day off (RDO) schedules by staffing level
- Current leave allotment per day and shift
- Historic sick leave utilized based on calendar years 2014, 2015 and 2016 to date

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- Historic family medical leave act leave utilized based on calendar years 2014, 2015 and 2016 to date
- Historic annual leave utilized based on calendar years 2014, 2015, and 2016 to date
- Upcoming retirement numbers for the next 4 calendar years
- Call late and fail counts for each station based on calendar years 2014, 2015 and 2016 to date
- Detail duty staffing figures for calendar years 2015 and 2016 to date
- Fiscal year 2018 budgeted operation salary and fringe figures for Captain, Lieutenant, Technician, and Firefighter III thru I
- Service Plans prepared by DFRS in 2013, 2014 and 2016

It is management's responsibility to design and implement an adequate system of internal control, and it is the IA's responsibility to determine if management's system of internal control is functioning properly in relation to the objectives of the special project. It is also management's responsibility to decide if action should be taken in response to any reported recommendations, taking into consideration related costs and benefits. Management, therefore, assumes the risk of making the decision not to implement any reported recommendations.

The objectives of the special project were as follows:

- To review current staffing assignments per stations alongside required staffing per station and future staffing plans.
- To review the RDO schedules per station and shift and coverage for RDO and how it impacts staffing at each station and shift.
- To evaluate the cost of hiring new firefighter recruits and implementing them into shift duty versus the cost of overtime paid to cover vacancies and leave.
- To evaluate upcoming vacancies that could result from retirement and determine needs to cover required station staffing based on historical retirement data.

Background

At the current time DFRS appears to be understaffed operationally within each of its 3 24 hour shifts and one 12 hour day shift (Monday thru Friday only). Factors such as RDOs, planned leave, family medical leave act, sick leave and retirement are contributing factors to long term and current under staffing issues overall in the Division. To help alleviate staffing issues DFRS has requested 12 positions in the fiscal year (FY) 2017 budget and has obtained a Federal Grant which will allow for 41 positions to be implemented and covered over a 2 year period. The U.S. Department of Homeland Security's SAFER Grant (SAFER Grant) will expire after 2 years and therefore the County must cover these additional operational staff members after that period has elapsed. IA reviewed DFRS service plans, last finalized in 2013, and budget needs surrounding operational positions noting that plans for the FY 2018 budget looks to add 24 additional positions and FY 2019 and FY 2020 had an estimated plan for 15 positions each year totaling 54 positions over the 3 year period. Newer projections by DFRS staff in FY16 looked to add approximately 41 positions over a 3 year period based on planned tactical staffing and

staffing needs to cover volunteer station changes and needs. The grant allowing for 41 positions in FY 2017/2018 will cover these requested positions all at one time and will eliminate the need to build these positions for the 2 year grace period under the terms of the budget.

Current staffing at DFRS consists of three 24 hour shifts across 15 stations with varying equipment types, a day shift across 4 stations with varying equipment types and 3 stations with a mixture of 24 hour and day shift staffing with varying equipment types. Therefore, DFRS currently supports staffing at a total of 22 stations with career staffing.

The three 24 hour shifts are made up of 18 to 19 positions at the captain/lieutenant (C/L) level and 84 positions at the firefighter/technician/medic level (FTM). The day shift is made up of 3 positions at the C/L level and 16 positions at the FTM level. In total, current staffing plans require a total of 327 career personnel between all shifts.

The plan for additional staffing under the SAFER Grant is to implement "tactical unit staffing". According to DFRS leadership "tactical unit staffing", ie. tactical staffing, is the ability to place multiple career staff on each apparatus unit. Depending on the apparatus type staffing is different. For example, each ambulance will be staffed by 2 career employees and a rescue squad or engine will be staffed by at least 3 career employees. Therefore, when an emergency call comes into a station each unit would have the ability to run a call with adequate minimum staffing per unit as defined by the DFRS leadership team.

Once DFRS implements the grant program and tactical staffing, 16 stations will have 24 hour staffing, 3 stations will have day shift staffing and 4 stations will have a mixture of 24 hour and day shift staffing. At that time DFRS will support 23 stations with career staffing. The staffing mix for the 24 hour shifts will change to 21 to 22 positions at the C/L level and 92 positions at the FTM level and for the day shift to 4 positions at the C/L level and 15 positions at the FTM level. In total tactical staffing plans will require a total of 360 career personnel between all shifts (not including additional potential RDO and leave impact needs).

With these changes in additional staffing there will need to be promotional activity in order to support the additional staffing to allow for proper oversight and unit supervision.

Leave impact

IA found that DFRS allots a total of 7 leave spots per 24 hour shift and 3 spots per day shift. The 24 hour shift allows for 2 C/L spots and 5 FTM spots. The day shift allows for 1 C/L spot and 2 FTM spots. These spots appear to leave adequate availability to the C/L level and day shift, however 5 spots at the FTM level on shifts A, B, and C only allows for 7.5% of the workforce to utilize annual leave on a daily basis. Over the past few years it has come to the attention of DFRS that employees are having a very difficult time obtaining annual leave when needed. Therefore, this creates an atmosphere where employees are forced to utilize sick leave in order to obtain necessary time off which in turn creates more overtime issues (noting that on average there are about 2 positions lost every single day to sick leave). If DFRS adds 3 leave spots to the 24 hour shift rotation for FTM level staff there will be an allowable 11.94% of the FTM staffing level to request leave daily and minimize the potential for sick leave abuse.

IA reviewed historical data over calendar years 2014, 2015 and 2016 (through June 30th) surrounding leave and leave impact to operational services. It was found that on average on a daily basis 1.36 positions are lost to family medical leave act leave (FMLA), 1.38 positions are lost on sick leave and 4.84 positions are lost for annual leave. Total daily leave impact on average is calculated at 7.58 positions on a daily/shift basis. Given that 7 to 10 annual leave spots are allotted on a daily basis, ideally the impact would be minimal however, coverage appears to be needed by utilizing overtime as there are not enough current positions to cover the amount of leave being taken. Overtime for 1 full position on a regular full time shift basis at the firefighter I level costs \$73,928.96 in overtime (covering compensation, taxes and workers compensation), which is \$5,964.48 more than hiring 1 brand new full time position covering compensation, taxes and all benefits to alleviate leave impact.

Shift and staffing analysis

IA reviewed the current staffing components for FY 2017 by shift and station to determine if the current level of staff on hand is operationally sufficient to cover RDOs and annual leave spots. This current staffing level includes the additional 12 positions that were approved in the budget for FY17 but does not include the 41 positions being added by the SAFER Grant. In order to conduct this analysis positions were split by C/L and by FTM for each shift including A shift, B shift, C shift and Day shift. Current staffing reflects that some RDO spots will need to be organized to relieve some of the overtime pressures, once RDO spots are adjusted it appears that the prior to the tactical staffing SAFER Grant staffing mix DFRS would need 1 C/L position on C shift, 1 C/L position on day shift and 3 FTM positions on day shift. These positions would be needed just to cover current staffing RDO and annual leave, not including sick and FMLA coverage.

IA also reviewed future staffing for FY 2018 which includes the staffing mix to allow for tactical staffing as applied for under the SAFER grant. In order for DFRS to operationally staff up units to comply with their definition of "tactical unit staffing" they will add 33 positions to cover tactical staffing and 8 positions to cover RDO and leave impact (totaling 41 positions) over the 12 added in FY17. This staffing is provided under the current station and apparatus set up under DFRS. If apparatus changes occur tactical staffing will require changes as well, therefore anytime additional services are added to the fleet, staffing to operate that equipment may also increase. With the addition of tactical staffing under the current DFRS station and apparatus structure, IA found the following:

- A, B & C shift will each need at least 2 detail FTM to cover annual leave and RDO impact. Which requires 6 total positions.
- C shift will need 1 C/L in order to cover annual leave and RDO impact.
- Day shift will need 2 detail positions at the C/L level to cover annual leave and RDO impact.
- Day shift will need 3 FTM detail positions to cover annual leave and RDO impact.

Overall, it appears that in order to move to tactical staffing with the equipment on hand currently, in addition to the 41 positions being provided by the SAFER grant, DFRS will need an additional 4 positions (total of 12 noted in the bulleted list above less 8 provided by the SAFER

Grant) in order provide adequate annual leave and RDO impact. If DFRS decides to increase annual leave spots, the need for additional leave impact positions will increase. Under tactical staffing and FY 2018 plans with SAFER grant positions DFRS would need an additional 9 positions (3 on each A, B and C shift) to allow for 3 additional leave spots at the 24 hour FTM level. The increase in annual leave spots per day would hopefully decrease the number on average sick leave spots per day. Overall under tactical staffing and the SAFER Grant staffing mix DFRS will need to add an additional 4 positions for current annual leave and RDO impact. If DFRS determines that 3 additional leave spots should be granted at the FTM level, then an additional 13 positions are needed. This does not include sick and FMLA impact.

Retirements may also play a large role in the DFRS staffing model. Currently there are about 65 operational employees who are and will be eligible for retirement by the year 2020.

Detail assignments

From time to time operational staff may be utilized on duty away from their station shift for other work such as training in a recruit class, testing or other miscellaneous assignments. These duties usually only take a portion of the staff's day rather than an entire 24 hour or 12 hour shift assignment. These tasks do not occur on a regular basis. At times DFRS utilizes staff for detail projects/assignments that may also be able to be contracted out.

Observations and Recommendations

- The analysis under this special project did not include a review of apparatus needs and station apparatus matrix, call volume, call rates, and the determination of call areas to apparatus needs. IA recommends that DFRS have an analysis performed to determine if apparatus stationed by location is appropriate and most efficient for the needs of the community. Tactical staffing as laid out in the background above relies on the apparatus type and location. Currently there is not data on hand for IA to make a determination on the need of staffing to units especially when it comes to large or specialized apparatus types (such as tower and ladder units) and the direct regionalization of, call volume and need associated with these units. IA can determine and make recommendations on staffing based purely on the current apparatus and how DFRS would like to staff them. However, IA did not analyze apparatus needs per area and call volume by location to determine if the desire to tactically staff the apparatus is most efficient or if all apparatus by location is most efficient. Therefore, the recommendations on staffing provided below are based solely on current apparatus and station staffing matrix rather than on the full needs based on apparatus, station location and call volume. DFRS should seriously look at having an analysis performed in regards to apparatus, station area and call volume in order to most efficiently staff the county with career operational staff under tactical staffing plans especially with 4 stations in the immediate downtown Frederick area, the wide disbursement of rural and urban stations along with some station configurations neighboring one another in close mile proximity. A service plan performed and released by DFRS mentions that our service may be too high in

- rescue squads and rescue engines by comparison to other local jurisdictions. Although it appears that only 1 career station has dedicated staffing to a rescue squad, decreasing these apparatus could potentially decrease the number of staffing necessary and change the staffing recommendations noted in this report. Being that the service plan calls for a reduction in these units IA recommends that DFRS configure staffing to match the reduction in these units in order to analyze if a reduction in staffing could result.
- After reviewing the call fail/late reports, IA noted that in the recent reporting (2016) the breakdown of call fail/late is in greater detail and appears to allow for greater analysis whereas the prior reporting did not breakdown the call fail/late to fails versus late calls. IA recommends that DFRS gather reporting data with as much detail as possible in order to analyze the necessity of apparatus and station locations for future staffing plans. Ideally data collection would include apparatus type and need per location as well to ensure there is not an abundance of apparatus type being staffed in certain locations or call areas unnecessarily. Once a history of volume and fail/late data is gathered DFRS should be able to analyze the apparatus needs which contribute to staffing which it appears that cannot do at this time.
 - With the number of DFRS career employees increasing to 364 to 373 career operational staff, IA recommends that DFRS keep an eye on when to move to a 4 shift system rather than a 3 shift system. The 4 shift system would allow DFRS to remove the RDO day for 24 hour shift employees and therefore reduce the need to cover RDO leave impact. With plans for tactical staffing, if DFRS reaches a point of employing over 400 career operational staff the 4 shift system should be seriously looked at for cost savings and reduction of overtime coverage due to RDO impact, with current staffing and needs, the 4 shift system would be much more costly however, as staffing grows there could be a point where the 4 shift system becomes a cost savings.
 - With the plans for tactical staffing by DFRS, IA recommends that DFRS review the potential for new minimum staffing standards. DFRS will need to ensure they comply with the SAFER Grant tactical staffing mix but should analyze their mix to be sure there is not an opportunity to rely on new minimum staffing standards. Therefore, it is recommended that minimum staffing policy be reviewed and updated to match new tactical staffing standards and that the policies match the terms required under the grant.
 - In order to minimize the potential for sick leave abuse, IA recommends that DFRS increase annual leave spots for the FTM level on A, B and C shift only to 8 from 5. Increasing these spots could ideally decrease the on average 2 positions lost per day due to sick leave. After a year, DFRS should analyze the data to determine if sick leave is decreasing with the increased annual availability.
 - With the high volume of sick and FMLA leave taken averaging to about 3 positions out daily, it appears to be more cost efficient to hire additional staff to cover this leave impact rather than utilize overtime. The cost of overtime for one firefighter at the firefighter I level is \$5,964.48 more than hiring a full time position at that level with full benefits. The analysis provided to DFRS from IA reflects that on average 2 positions are needed per shift to cover sick and FMLA impact which is 6 positions.

- IA recommends that DFRS put in place the additional leave spots first to determine if the daily leave impact for sick decreases before adding sick or FMLA impact positions. Data collection of at least one year would be reasonable to assist with the analysis prior to adding in positions that could end up being unnecessary costs.
- IA recommends that if DFRS deems it necessary to hire positions to cover leave impact as noted in the above recommendation that they pursue utilizing part time career operational staff. It appears that DFRS does not employ many part time career operational staff, however, part time staff to cover leave impact can reduce overtime and employee costs greatly. Part time staff cost less in benefits and are an efficient use of staffing. The cost of utilizing a part time staff at the firefighter I level for half of a full time staffing year costs \$9,339 less and the cost at the tech and Lieutenant level costs \$17,000 to \$18,000 less.
 - IA recommends that DFRS look at RDO schedules every time there are assignment transfers and new hires in order to maintain the most efficient schedules possible. RDO schedules can cause additional leave impact unnecessarily when scheduled inappropriately. At the time of this analysis all shifts had RDO overlap issues which were costing the County unnecessary funds in overtime to cover RDO leave impact.
 - In order to cover the current staffing needs with planned tactical staffing at DFRS IA recommends DFRS hire for 6 positions to cover 2 detail FTM positions (at the firefighter I level for optimum efficiency) on each A, B and C shift in order to reduce overtime and cover annual leave and RDO impact if apparatus needs are as they are currently placed.
 - In order to cover the current staffing needs with planned tactical staffing at DFRS IA also recommends DFRS hire 1 C shift C/L position in order to cover annual leave and RDO impact assisting with the reduction of overtime.
 - In order to cover the current staffing needs with planned tactical staffing at DFRS IA also recommends DFRS hire 2 detail positions at the C/L level on the day shift and 3 detail FTM positions (at the firefighter I level) on the day shift to cover annual leave and RDO impact.
 - If DFRS does increase annual leave spots for A, B, and C shift by 3 at the FTM level, IA recommends that DFRS hire 9 positions (3 on each A, B and C shift) at the firefighter I level in order to cover leave impact without utilizing overtime which is more costly.
 - With an estimated 65 individuals to be eligible for retirement between now and 2020 DFRS will need to plan for vacancies. Of these 65 individuals 23 are currently eligible through the end of the 2016 calendar year, 5 in 2017, 12 in 2018, 14 in 2019 and 11 in 2020. IA recommends that DFRS first implement their staffing plan for tactical and minimum staffing along with station and apparatus analysis and then plan to fill retirement vacancies. Over the past 3 years DFRS has lost 2, 4 and 3 positions respectfully, due to retirement. With the upcoming eligibility figures once staffing plans are set IA recommends DFRS plan for at least 4 retirement vacancies per year.
 - Operational staff are pulled from their station duties from time to time for training, and other special detail projects. After reviewing telestaff detail assignments, IA recommends that minimum staffing or part time staffing be utilized first for cost

effective coverage. Otherwise due to the uncertain and short term nature of detailed duties, overtime should be utilized. Detailed duties are normally portions of a day and not always full 24 hour assignments. The cost of hiring at the firefighter I position full time is about \$67,964.48/year including benefits. The 24 hour shift full time positions work about 2,928 hours per year and the full time day shift positions work about 3,132 hours per year. It takes about 2,692 hours in overtime to reach the full time cost of the firefighter I position (\$67,964.48). An additional position to cover detail activity would be over and above the current staffing plans and unnecessary due to the uncertainty of detailed special projects. IA does want to note that with the staffing recruit plans over the next two years overtime will most likely be on the rise due to shift coverage for trainers. IA recommends that DFRS employ part-time retired career professionals to help alleviate the need for trainers rather than filling spots with overtime. IA also recommends that DFRS come up with a minimum staffing plan that would adhere to the SAFER Grant staffing mix which could potentially allow for and alleviate overtime costs in covering trainer positions. Where overtime is necessary to cover trainer positions, the least expensive manpower coverage should be utilized.

- IA also recommends that DFRS first look at the cost variance for utilizing third party contractors for special projects rather than detailing career operational staff. When detailing career operational staff and not utilizing minimum staffing (when available and under the SAFER Grant staffing mix) or part-time assistant DFRS is paying overtime to cover the operational staffing holes. A cost analysis should be performed prior to each special project in order to validate the cost benefit.
- In the coming two years due to multiple large recruit classes DFRS is going to incur a lot of overtime and cost overages in staffing in order to utilize DFRS career operational staff for training. Career operational staff will be taken off their assigned shift, leaving a gap for DFRS to fill utilizing overtime most likely. IA recommends that DFRS look to utilize minimum staffing (when available and under the SAFER Grant staffing mix) or part time staff to fill this coming need or utilize retired DFRS employees qualified to assist with the training on a part time basis.

Overall staffing does appear low within the operational units of DFRS. However, there also appears to be some opportunity for DFRS to make adjustments as they increase staffing to create minimum staffing rules just below the tactical staffing requirements and analyze apparatus and station assignments. These adjustments would create efficiency and reduce the need to cover irregular absences and detailed special projects with overtime as well as potentially reduce the workforce with an apparatus analysis.

To summarize the total staffing needs under the SAFER Grant program and the DFRS desire for "tactical staffing" moving forward into FY18 it appears there needs to be a total of 4 positions to cover RDO and current leave impact with planned staffing. If DFRS adds 3 more leave spots to the FTM 24 hour shift then they will also need an additional 9 positions. This is a total of 13 positions needed to cover this current staffing plan. If additional leave spots are added to the FTM 24 hour shift then IA recommends not adding sick and FMLA

leave impact coverage until those numbers can be reassessed with the newly added positions.

Deliverables

As a result of this special project IA has provided specific schedules and data to DFRS. Those schedules include the following:

- Shift needs analysis by fiscal year in an excel workbook. This workbook provides a tool for DFRS to analyze staffing by each shift and station along with RDO days for each position level.
- Salary analysis in an excel workbook. This workbook provides data on salaries and benefits for operational staff by level and compares the cost to overtime costs by staffing level.
- Historical data on sick, FMLA and annual leave in excel workbooks.
- Retirement figure data in an excel workbook.

DFRS should seriously consider the recommendations presented by IA noted above, if agreed upon. DFRS should respond to these recommendations separately to IA and the Interagency Internal Audit Authority (IIAA) at its earliest convenience. IA will be available to assist with the review and recommendation in formulating above needed policies and procedures.

The recommendations provided above are presented to assist DFRS in the ability to staff under NFPA standards and reduce overtime costs by hiring full time employees rather than utilizing overtime to cover full time employee positions.

During this analysis and investigation it was a pleasure to work with all of the DFRS personnel and IA sincerely appreciates their full cooperation and assistance with the support and information required to perform the necessary work. The work performed under this special project was not performed in accordance with Generally Accepted Government Auditing Standards and is considered a non-audit service.

Please let the Director of IA, Tricia A. Griffis, CPA, know if you have any questions or concerns as it relates to this special project. IA staff will be happy to assist in any way that we can.

Pc: Dawn Reed, Administrative Coordinator, Internal Audit
IIAA, Interagency Internal Audit Authority, Frederick County, Maryland