RECOMMENDATIONS/ACTIONS TAKEN

After the Knights of Columbus Hall fire on February 15, 2013, that claimed the lives of two company officers and severely injured two firefighters, a committee (Operations Committee) of Bryan Fire Department personnel from all ranks was formed. The responsibility of the committee was to thoroughly review all firefighting and operational standard operating procedures (SOPs) to determine any changes needed to increase the level of safety of our personnel while operating at structure fires. The Operations Committee met numerous times over the months since the fire and has spent many hours in this endeavor. The changes made from the recommendations of the committee include:

Staffing Increase and Resolution

On June 25, 2013, the Bryan City Council unanimously passed a staffing resolution that proposes adding personnel over a ten-year period to raise minimum staffing on all fire apparatus to four firefighters. On the day of the Knights of Columbus Hall fire, each fire company was staffed with three firefighters. While BFD has had success at delivering efficient firefighting services, staffing is many times stretched to accomplish required fire ground tasks. Several national staffing studies show that fire companies with four fighters can accomplish 22 required fire ground tasks 25% faster than a 3-person crew.

In addition, this staffing increase will include a full-time assigned Chief's Aide. It is a very demanding task to monitor and direct a working incident, especially on larger incidents involving commercial structures. When a firefighter mayday situation develops, the abilities of the incident commander can be quickly overwhelmed. During the Knights of Columbus Hall fire, when the rescue situation developed, it was extremely difficult for the incident commander to manage the rescue attempt and the on-going firefighting operations. Having an aide assigned to the Battalion Chief will provide much better management during firefighting operations, and most importantly, during mayday situations. The duties of the Chief's Aide would include operating the Battalion Chief vehicle, which would allow the Battalion Chief to focus on evolving details of the emergency event while en route, assist in incident management, track personnel accountability, perform radio communications, especially during mayday operations, operate the command board, act as a scribe to document all activities and operate the mobile data terminal.

Six additional firefighters were hired in November, 2013, to begin increasing daily staffing levels. In December, 2013, the truck company minimum staffing was raised to four firefighters.

As the City of Bryan has grown over recent years, the ability to inspect commercial structures in a reasonable time period has become difficult. By adding an additional inspector, the ability to inspect commercial structures would be improved. Having commercial structures inspected on a more frequent basis will increase chances of finding potential issues that could lead to a fire at these locations.

An additional Fire Inspector position has been added to the Fire Marshal's Office. After initial training, this additional inspector will assist in increasing the number of commercial fire inspections each year.

Increase of Staffing on Initial Response to a Structure Fire

Another engine company has been added (total of four engines, along with one truck company, Battalion Chief, EMS supervisor and ambulance) to the initial alarm to provide for specific needs. The Company Officer and firefighter(s) on the fourth arriving engine company will deploy a hand line and will be in a stand-by role in the event of a firefighter mayday. This "blocking line" will deploy alongside the Rapid Intervention Team (RIT) solely to provide protection from heat or flashover while the RIT is locating and extracting the downed firefighter. The apparatus operator of the fourth engine will immediately report to the Incident Commander (IC) and serve in the role of a Chief's Aide and scribe. The Chief's Aide will track and document all pertinent information relating to fire ground operations.

Implementation of "Mayday" Mode of Operation

Standard operating procedures for mayday situations were enhanced to ensure critical tasks are accomplished. In the event of a reported firefighter mayday, each company operating at the scene will know their role in rescuing the trapped firefighter. During a mayday mode, the EMS Supervisor who typically serves as incident Safety Officer will report to Command as the Rescue Division Officer when mayday mode is declared by Command. The IC will monitor safety until someone else is assigned to the Safety Officer's position. The trapped/lost firefighter(s) and the company members with them will remain on the assigned radio talkgroup as will the RIT and the blocking line crew. The Rescue Division Officer will monitor the radio traffic, direct the rescue effort and report progress face-to-face with Command. All other companies engaged in firefighting operations will move to a pre-determined tactical channel (Tact 6) to communicate firefighting operations. When a mayday mode is confirmed and declared by Command, RIT and the blocking line will deploy to begin rescue operations. In addition, Command will request an additional alarm for more resources and will have administrative officers immediately paged to respond to the scene.

Coordinated Hose Line Rotations Providing Relief for Attack Crew and Reducing Firefighter Fatigue

With the addition of a blocking line, crews who have been actively involved in firefighting will come out when necessary and report to rehab. Once the crew has replenished their air supply and are rested, they will report to the blocking line and assume those duties. The crew that was previously assigned to the blocking line will now engage in the remaining firefighting tasks. The rotation of crews will continue until no longer needed. The blocking line will remain in place as long as the RIT is standing by.

Thermal Imaging Camera Use

During the Knights of Columbus fire, it was noted that not all Company Officers had a thermal imaging camera (TIC) with them during firefighting efforts. Thermal imaging cameras are carried on all fire companies for use by the Company Officer. Prior to the Knights of Columbus Hall fire, the use of TICs was encouraged and expected but was not addressed as mandatory in standard operating procedures. Standard operating procedures now mandate that all Company Officers have a TIC with them at all times while performing fire ground activities.

All Pre-connected Hose Lines Will be 200 Feet in Length and Different Colors

Previously, all engine companies carried two 150-foot hose lines midsection of the truck (one red in color, one yellow in color) and two 200-foot hose lines on the rear of the truck (one red in color, one yellow in color). While these hose configurations did not cause any issues at the Knights of Columbus Hall fire, the need to make all hose lines the same length became apparent with the change of staffing a blocking line. This will ensure that regardless of which hose is deployed initially by the attack crews, the other hose lines will have adequate length to reach those areas.

The purpose of the different color hose lines is to distinguish between each other in the event a firefighter had to follow a hose line out of a building so they would not confuse another hose line with the one they were following. This proved helpful during the fire at the Knights of Columbus Hall as Lt. Eric Wallace was able to identify which hose he was on when needing assistance (red hose). The Rapid Intervention Team was able to follow the red hose directly to him as a result. With the addition of the blocking line, the need to separately identify all four different hose lines would be very helpful in a similar situation involving the deployment of multiple hose lines.

Communications

Fire ground communication practices were reviewed and, based on factors at the Knights of Columbus Hall fire, several changes have been made. During the rescue operation of Lt. Wallace, it was very difficult at times to communicate due to the number of personnel on scene and the intensity of radio traffic during the rescue. During a typical structure fire, radio communication on one talkgroup is manageable among fire companies operating at the scene. However, it became apparent that when the rescue effort began, radio communications, at times, became overwhelmed. The fire scene became divided between the ongoing firefighting effort and the rescue of Lt. Wallace. The Incident Commander had to manage both efforts while monitoring all radio communications.

Communication changes include separating radio talkgroups when a mayday situation is declared, establishing a designated Rescue Division Officer to monitor rescue operations, and reprogramming portable radios to have voice-announced talkgroups. When a structure fire call is received, a tactical talkgroup is assigned to the incident by the Fire Department dispatcher at the time of alarm. All fire companies assigned operate on the designated talkgroup throughout the incident. Under the new procedure when a mayday is declared by Command, the Rapid

Intervention Team, the blocking line crew and the Rescue Division Officer remain on the originally assigned tactical talkgroup (now known as the rescue talkgroup) while all other crews move to a pre-determined tactical talkgroup (Tact 6) and continue firefighting operations. The Incident Commander monitors Tact 6 and the Rescue Division Officer directs and monitors the rescue talkgroup at the Command Post next to the Incident Commander. The Rescue Division officer and the Incident Commander will monitor accountability and communicate progress and needs in a face-to-face method.

Due to firefighting crews having to change radio talkgroups during a declared mayday, all portable radios have been reprogrammed so each time a radio is turned on, or a change is made in the selection of a talkgroup, the radio operator will hear a voice announcing the selected talkgroup to help ensure the proper talkgroup has been selected. In addition, the radios were previously programmed with talkgroups in descending order (Talkgroup 1, Talkgroup 2, etc.). The last talkgroup on the radio dial is now also programmed to Tact 6 so if any confusion remains as to which talkgroup is which, the radio operator can roll the talkgroup selection clockwise until it stops and they will be on Tact 6 as well.

Upgrades to Personal Protective Equipment (PPE)

After the Knights of Columbus Hall fire, a review was completed of the current specifications of protective clothing. The Bryan Fire Department has been specifying and purchasing high quality firefighting coats and pants for many years. The specifications included Globe brand G-Xtreme gear with Millenia XT outer shell, 3 layer crosstech moisture barrier, and Quantum 3D 2i thermal liner. Although the gear worn during the fire sustained heavy damage, it is believed to have performed well. In an effort to make the gear even better, another layer of Quantum 3D SL2i was added to the complete thermal cape of the coat.

The PPE committee researched firefighting hoods that are currently available to determine if a higher level of protection is available. After much research, the committee recommended the Majestic C6FYR-Hawk, which is a four layer hood with a steam resisting layer of Melange. The department has ordered enough hoods to provide one to everyone in the department along with extras for replacement.

Air Supply

All 30-minute Self-Contained Breathing Apparatus (SCBA) cylinders have been replaced with 45-minute cylinders for additional air supply.

New Hose Load and High-rise Packs

A new hose load was introduced and implemented called a combination roundabout load. The new hose load provides easier deployment and requires less manpower for deployment into structures. All high-rise hose packs were replaced with two-inch hose with combination fog/breakaway nozzles. These hose packs will be used in high-rise firefighting situations but can also be used in commercial settings where a higher flow is required.

Identification of Probationary Firefighters

In order to better recognize probationary firefighters at fire scenes, the tetrahedrons on a probationary firefighter's helmet and the leather helmet front are now green.

Additional Training

Since the Knights of Columbus Hall fire, much training has occurred for all personnel concerning the following topics related to this incident:

- Annual SCBA/PPE requirement
- Knights of Columbus Hall Fire Critique
- RIT drill practical exercise
- Basic Structural Tactical Initiative (BSTI) with 4th engine added; classroom and practical exercises
- BSTI with mayday practical exercise
- New roundabout hose load and breakaway nozzles
- Training was conducted with all dispatchers concerning new procedures and SOPs
- Fire behavior refresher training for all firefighting personnel
- Refresher training on incident safety officer responsibilities and reading smoke for all firefighting personnel

Several Companies also had training in:

- Strategy and Tactics
- Thermal Imaging Cameras
- Building Construction

Command Staff training/discussion on:

- Transitional fire attack
- Risk Management during structure fires
- Truck Company operations
- Parameters for offensive operations in commercial structures

Technology

The BFD PPE Committee evaluated the Scott pack trackers and the SEMS II products in October. The Committee members had mixed opinions and decided more research is needed, and that interviews with departments currently using the products would be valuable.

Current Considerations

The Operations Committee has been tasked with evaluating the recent research performed by the National Institute of Standards and Technology (NIST). After adequate time for all Committee members to review data, decisions will be made regarding any potential strategies and tactics changes. Additionally, the committee has determined the need to draft a commercial occupancy standard operating procedure, similar to the basic structural tactical initiative currently in place.