Category V

Criterion 5G: Technical Rescue

The agency operates an adequate, effective, efficient, and safe program directed toward rescuing trapped or endangered persons from any life-endangering cause (e.g., structural collapse, vehicle accidents, swift water or submersion, confined space, cave-in, trench collapse, fire). The agency must conduct a thorough risk-analysis as part of activities in Category II to determine the need for specific technical rescue programs. Agencies that only provide first responder services must also complete this criterion.

Summary:

Lawrence-Douglas County Fire Medical has a technical rescue program in place designed to address potential rescue situations in the community. An Operations Division Chief manages the technical rescue program consisting of the following specialty areas: rope rescue, confined space rescue, structural collapse rescue, trench rescue, water/ice rescue and vehicle/machinery rescue. Each specialized area of technical rescue has its own set of procedures, equipment, training requirements, and budgetary constraints. A Captain coordinates the training of each specialized area and uses technical rescue team members as shift trainers. The shift trainers deliver rescue training to all Operations Division members at an operations competency level in these technical rescue areas. Station 5 houses the technical rescue equipment and response vehicles, Station 5 members comprise the department technical rescue team. The Department responds to technical rescue emergencies in Lawrence and will assist or take the lead role as needed in all other cities and areas within Douglas County. The Department is also a participating member of NE Kansas Homeland Security Region USAR Task Force 2 (KS-TF2).
Performance Indicators:

CC 5G.1 Given the agency’s standards of cover and emergency deployment objectives, the agency meets its staffing, response time, station(s), apparatus, and equipment deployment objectives for each type and level of risk of a technical rescue incident(s).

Description
The department meets its baseline deployment objectives as identified in department SOP Response Performance and Outcomes Appendix A, Baselines (2013-2017). Response performance objectives are described to include staffing, response time, pumping capacity, and other capabilities of the first arriving unit (distribution) and the effective response force (concentration). The department is also working on a GPS traffic pre-emption system with the Public Works Department which enhances travel time to incidents based on control over all travel lights between a unit’s geographic position and the location of an incident.

Distribution / First unit to stop loss
For 90 percent of all low risk technical rescue incidents, the total response time for the arrival of the first due unit, with a minimum of 2 firefighters and 1 officer; (3) total, is: 9 minutes and 33 seconds in urban areas. The first due is capable of: establishing command; assessing scene safety; performing a scene assessment; requesting additional resources; These operations are performed utilizing safe operational procedures.

For 90 percent of all moderate risk technical rescue incidents, the total response time for the arrival of the first due unit, with a minimum of 2 firefighters and 1 officer; (3) total, is: 8 minutes and 59 seconds in urban areas. The first due is capable of: establishing command; assessing scene safety; performing a scene assessment; requesting additional resources; These operations are performed utilizing safe operational procedures.

For 90 percent of all high risk technical rescue incidents, the total response time for the arrival of the first due unit, with a minimum of 2 firefighters and 1 officer; (3) total, is: 8
minutes and 41 seconds in urban areas. The first due is capable of: establishing command; assessing scene safety; performing a scene assessment; requesting additional resources; These operations are performed utilizing safe operational procedures.

For 90 percent of all maximum risk technical rescue incidents, the total response time for the arrival of the first due unit, with a minimum of 2 firefighters and 1 officer; (3) total, is: 12 minutes and 55 seconds in urban areas. The first due is capable of: establishing command; assessing scene safety; performing a scene assessment; requesting additional resources; These operations are performed utilizing safe operational procedures.

Concentration / Effective Response Force

For 90 percent of all low risk technical rescue incidents, the total response time for the arrival of the effective response force (ERF), with a minimum of 2 firefighters and 1 officer; (3) total, is: 9 minutes and 38 seconds in urban areas. The first due is capable of: establishing command; assessing scene safety; performing a scene assessment; requesting additional resources; These operations are performed utilizing safe operational procedures.

For 90 percent of all moderate risk technical rescue incidents, the total response time for the arrival of the effective response force (ERF), with a minimum of 4 firefighters and 2 officers; (6) total, is: 10 minutes and 13 seconds in urban areas. The effective response force is capable of: establishing command; assessing scene safety; performing a scene assessment; requesting additional resources; hazard mitigation; providing patient care; providing transportation to the hospital. These operations are performed utilizing safe operational procedures.

For 90 percent of all high risk technical rescue incidents, the total response time for the arrival of the effective response force (ERF), with a minimum of 6 firefighters and 4 officers; (10) total, is: not applicable because there were no qualifying incidents in urban areas. The effective response force is capable of: establishing command; assessing scene safety; performing a scene assessment; requesting additional resources; hazard mitigation; performing mechanical extrication; providing patient care; providing transportation to the
hospital. These operations are performed utilizing safe operational procedures.

For 90 percent of all maximum risk technical rescue incidents, the total response time for the arrival of the first due unit, with a minimum of 10 firefighters and 6 officers; 3 being technician level rescuers; (16) total, is: 32 minutes and 54 seconds in urban areas. The effective response force is capable of: establishing command; assessing scene safety; performing a scene assessment; requesting additional resources; hazard mitigation; performing mechanical extrication; performing air-quality analysis; performing a confined space rescue; performing a trench rescue; performing a water/ice rescue; performing a high angle rescue; providing patient care; providing transportation to the hospital. These operations are performed utilizing safe operational procedures.

**Appraisal**

The effectiveness of the program has been measured based on historical response outputs, such as response time for the first arriving unit and the effective response force. Transitioning the focus of performance quality towards program specific outcomes would assist the department to identify the effectiveness the ERF.

**Plan**

The accreditation manager will communicate with the fire chief identifying resources needs in order to mine outcome data more specifically in order to establish baseline outcome performances in different planning zones by May of 2018. These measures will lead to goals and focused areas for prevention or enhanced response strategies.

**References**

5G.2 The agency establishes **minimum training and operational standards**: compliant with local, state/provincial, and national standards, and that all personnel who function in the technical rescue program meet training and operational standards.

**Description**

The Operations Division Chief in charge of the Technical Rescue Program identifies training needs, identifies levels of training, develops training plans, and coordinates training delivery using the Station 5 officers and shift trainers. The department references NFPA 1006 and NFPA 1670 in developing training plans. Select members of the Technical Rescue Team on each shift serve as trainers for each rescue discipline. Members of the team have received specialized rescue training from Kansas University Fire & Rescue Training Institute (KUFRTI), Dive Rescue International, and other agencies locally, regionally, and out of state. They develop lesson plans and deliver training to the Technical Rescue Team and all Operations Division personnel according to Level I – NFPA 1006 and Operations Level – NFPA 1670 criteria.

All Operations Division members receive training in each rescue discipline in a two year cycle at Level I-NFPA 1006 and Operations Level-NFPA 1670. Certain members of the Technical Rescue Team have received formal training in Structural Collapse Level II-NFPA 1006, advanced swift water rescue, and large vehicle extrication. The Technical Rescue Team members have to be flexible in time management in order to train to a more advanced level from Level I-NFPA 1006 and Operations Level-NFPA 1670.

**Appraisal**

The technical rescue-training plan has improved the quantity and quality of rescue training. Lesson plans and learning objectives using the skills identified in NFPA 1006 and 1670 provide the training framework. Annually the Technical Rescue Team trains in each discipline, the Technical Rescue Team conducts training in every rescue discipline for the department members every two years. The use of private sector facilities such as Hallmark Cards, ICL, and Ottawa COOP grain storage facilities has allowed the technical rescue team to train in complex situations. Department technical rescue team members
have received IFSAC certification as Rope Rescue Level I and Structural Collapse Technician.

**Plan**

The Operations Division Chief in charge of the Technical Rescue Program will continue to evaluate the training plan and its delivery. The increase of technical ability and competency of technical rescue team members will result in modifications to lesson plans and training objectives. Private sector sites will continue to be used as available. Members of the technical rescue team pursue certification in other technical disciplines as available through Kansas University Fire and Rescue Training Institute as available. Shift captains and trainers will evaluate and modify this system as necessary.

The Division Chief in charge of the Technical Rescue Program will meet formally with the Division Chief of Training and the Executive Staff to identify realistic skill levels for the Technical Rescue Team. The use of available grants and partnership with KS-TF2 will continue. The department will continue to seek opportunities to train in off-site facilities for more technical experience. Evaluation of training delivered to the Operations Division members will continue in order to identify potential needs.

**References**

Technical Rescue training plans

Technical Rescue organization chart
CC 5G.3 The agency conducts a **formal and documented appraisal, at least annually**, to determine the effectiveness of the technical rescue program and its **impact on meeting the agency's goals and objectives**. This appraisal must include a full-scale evaluation of the response components, including mutual aid, when part of the deployment model.

**Description**

The Operations Division Chief in charge of the Technical Rescue Team meets informally with the Division Chief of Training and the Station 5 officers to determine the progress of the technical rescue team and program. The executive staff receives updates on equipment needs and purchasing, training plans, and staffing issues during scheduled meetings.

Annually, the manager for each technical rescue discipline conducts a formal and documented program appraisal at the monthly manager’s meeting. The appraisal includes an analysis of standard operating procedures, response components, equipment and training to determine the impact of the program. At least two goals and objectives are identified for the next program appraisal cycle.

**Appraisal**

The appraisal process works well to determine the effectiveness of the technical rescue program. By reviewing each discipline or special team separately, the appraisal process provides a complete analysis on each component of the technical rescue program. In addition to the review of each discipline, the department lacks and overall evaluation of the technical rescue program. The appraisal process has identified a need to collect more data on potential hazards and incorporating those into a mapping system.

**Plan**

The manager for each technical rescue discipline will continue to conduct a formal and documented program appraisal at the monthly manager’s meeting to determine the effectiveness and impact on meeting the department’s goals and objectives. The technical
rescue managers will investigate opportunities for collecting data on potential hazards and incorporating those into a mapping system.

References
Technical Rescue Annual Program Appraisal