EXECUTIVE SUMMARY

The Rescue Squad Work Group began work in February 2001 to address specific charges assigned by the Fire and Rescue Commission and to provide a general review and update of issues specific to rescue squad and extrication deployment and operations in Montgomery County.

The Fire and Rescue Commission (FRC), through various work groups and processes, had completed considerable work in this area since the submission of the 1995 Rescue Squad Report. The 2002 Rescue Squad Work Group first worked to identify and document these processes as reflected in attached reports and minutes of the FRC and past work groups. [The reader is encouraged to thoroughly review previous reports, comments, and FRC actions (**see Appendix D**) to fully understand the discussion in this report.]

The 2002 Work Group was able to utilize improved technology to examine MCFRS rescue squad deployment strategies. First, 2000 U.S. Census Bureau data was available for analysis. Second, EMBRS data for years CY2000 and CY2001 was available. Finally, the ability to incorporate population trends and incident activity with Geographic Information System (GIS) modeling has become an improved capability[1] for Montgomery County Fire & Rescue Service (MCFRS) and that capability was utilized to a great extent by this work group. For example, many of the GIS analyses indicated to the work group a close correlation between population and personal injury collision (PIC) incident distribution, given various rescue squad response times.

Eleven specific recommendations are offered by the Work Group relating to overall rescue squad and extrication strategy in Montgomery County, addressing the following topics:

- Rescue squad response time goals
- Location of "core" rescue squads
- Integrated rescue strategy utilizing rescue squads, "rescue-engines," and "rescue-trucks".
- "Tiered" response to vehicle collisions
- Revision of the rescue squad mission on structure fires and specialized rescue incidents
- Staffing on "core" rescue squads
- Reserve rescue squads
- Inventory
- Standard operating procedures
- Specialized training

The specific recommendations and associated rationale can be found within pages 10-25 of this report. In addition, a composite list of recommendations (only) can be seen in **Appendix A, Attachment 1**. It is the Work Group's intention that the three recommendations pertaining to core rescue squad locations, the integrated strategy (i.e., use of rescue squads and rescue engines/trucks), and the tiered response are implemented together – not just one or two of them without the other(s).

[1] The MCFRS GIS Manager, hired in July 2002, provided timely and accurate technical support to this study; thus all analyses and projections in this report reflect current, state-of-the-art GIS capability.

INTRODUCTION

At the Fire and Rescue Commission's (FRC) Operations Committee meeting on October 25, 2000, Chairman Ron Ogens requested a Rescue Squad Work Group be established to examine the following issues:

1. To review the 1995 Rescue Squad Report in the context of the current requests and to update the report as appropriate. (See **Appendix D, Item # 2**)

2. To specifically address and provide recommendations on the following requests:

    - Kensington Volunteer Fire Department's request to the FRC to reconsider the staffing restrictions previously placed on the operation of Rescue Squad 21. (See **Appendix A, Attachment 2**)

    - Silver Spring Volunteer Fire Department's request to the FRC to consider vehicle extrication service from Station 16. (See **Appendix A, Attachment 3**)

On December 12, 2000, Fire Administrator Gordon Aoyagi appointed a diverse work group representing the various elements of the MCFRS, including:

- Chief Dennis Urban – Bethesda FD, and FRC Operations Committee Co-Chair
- Assistant Chief Philip Guercio – DFRS and FRC Operations Committee Co-Chair
- District Chief Vanessa Ridgley – DFRS
- Captain Ed Radcliff – DFRS
- Chief Tom Jones – Glen Echo Volunteer Fire Department
- Chief George Brown – Sandy Spring Volunteer Fire Department
- Deputy Chief Mark Dempsey-Wheaton Volunteer Rescue Squad
- Master Firefighter/Rescuer Doug Finlayson – IAFF Local 1664
- Commissioner Robert Freeman – Fire and Rescue Commission
- District Chief Elwood "Buddy" Ey – MCFRS Research and Planning Office

The Work Group (herein referred to as the "2002 Rescue Squad Work Group" or "2002 Work Group") began meeting in February 2001, first addressing the two specific issues brought to the Fire and Rescue Commission by the Kensington and Silver Spring Volunteer Fire Departments.

The 2002 Work Group then began to review the 1995 Rescue Squad Report and update the report and subsequent recommendations. Considerable work had been done on the issues presented in the 1995 report, and the FRC had initiated several actions. A major task of the new Work Group was to understand the content and recommendations made in the "*1995 Rescue Squad Report*," and subsequent recommendations made by the "*Rescue Squad Work Group Report*," the "*Rescue Squad Work Group Work Session*," and related actions adopted by the FRC. The Work Group used these documents and FRC actions to establish pertinent issues that required review and recommendations. The

Work Group utilized data from the 2000 U.S. Census, Computer-Aided Dispatch (CAD) system, Emergency Management-Based Records System (EMBRS), and current GIS response modeling to obtain information regarding rescue squad location alternatives.

After the initial charge was assigned, five additional charges were presented to the Work Group, as follows:

- To evaluate and make a recommendation on the request of the Cabin John Volunteer Fire Department (CJPVFD) to relocate Rescue Squad 30 to Station 10. (See **Appendix A, Attachment 4**)

- To evaluate the request from the Takoma Park Volunteer Fire Department (TPVFD) to have Truck 2 dispatched in an extrication capacity. (See **Appendix A, Attachment 5**)

- To determine if an air cascade system should continue to be a required item in the FRC-approved minimum inventory for rescue squads. (See **Appendix A, Attachment 6**)

- To consider the request of the Hyattstown Volunteer Fire Department (HVFD) to reclassify Engine 92 to Rescue-Engine 92 on a permanent basis. (See **Appendix A, Attachment 7**)

- To reconsider the previous requests from the Silver Spring Volunteer Fire Department (SSVFD) to operate Aerial Tower 19 in an extrication capacity, and give strong consideration to the current request to operate a pick-up style extrication unit from Station 16. (See **Appendix A, Attachment 8**)

This report addresses the specific charges assigned to the 2002 Work Group and makes overall recommendations on rescue service in Montgomery County.

BACKGROUND

Prior to presenting the analysis and recommendations of the 2002 Work Group, a chronology of previous rescue squad work groups as well as the findings presented in the aforementioned reports and subsequent FRC actions related to rescue squad and extrication service in Montgomery County are presented in this report. Each work group is identified by year for the reader's convenience.

1995 Rescue Squad Work Group and Report

On June 7, 1993, [former] FRC Chairman George Giebel appointed a Rescue Squad Committee and assigned the following charge to the Committee:

- "Review and change/modify the rescue squad and extrication unit minimum equipment inventories from the previous study."

- "Compare recommended inventories to existing rescue squads and extrication units to determine how they comply and what equipment would be required to meet recommended minimum inventory."

- "Evaluate current rescue squad/extrication unit placement and make recommendations on any necessary location/complement changes to provide sufficient coverage countywide. Response times and call loads should be considered."

- "Review and evaluate the engine/extrication concept as recommended by the Master Plan Task Force. If appropriate, develop general specifications and a recommended minimum inventory for engine/extrication units."

- "Examine current dispatch procedures for rescue squad/extrication units and recommend revisions as required."

The findings and recommendations of this work group were published in the "1995 Rescue Squad Report" (see **Appendix D, Item #2**). The key points of that study are summarized below:

- An "appropriate" goal is discussed that provides a 10-minute extrication response and a 15-minute rescue squad response to all citizens of the County. It was recognized that 100% countywide coverage within these goals could not be achieved.

- Apparatus locations are limited by recognition of corporation ownership. These corporation-owned units may be voluntarily relocated within a given corporation response area, but it is unrealistic to relocate the units elsewhere.

- The report endorses the deployment of nine squads located at Rescue Companies 1 and 2 (R1, R2), and Fire-Rescue Stations 3, 4, 9, 15, 17, 21 and 30.

- Recommends that an extrication unit be placed at Station 29.

- The report does not discourage the utilization of hydraulic rescue tools on engines or other apparatus in life threatening situations; however, the report stresses that there are many duties to be performed prior to an actual extrication being initiated. Staffing limitations on these units equipped with rescue tools prevents the crews from doing all required tasks simultaneously. It was reported that staffed rescue squads or extrications units most often arrive in a timely manner to perform extrication.

- A three-year window was recommended for existing rescue squads to meet the recommended inventory requirements. New rescue squads were recommended to

meet the inventory recommendations. It was recommended that mutual aid rescue squads responding into Montgomery County meet the inventory requirements.

- A reserve rescue squad was recommended.

- It was recommended that the "extrication unit" remain as a dedicated, specialized piece of apparatus and that dual designations (e.g., extrication-engine) not be recognized. The report recommended that a unit is an engine or extrication unit, but not both, for planning and dispatching purposes.

- The dispatch of a rescue squad or extrication unit on all vehicle collisions was recommended to continue.

On May 22 1995, the "*Recommendations of the Rescue Squad Committee Final Report*" was submitted to the FRC. The report was then distributed for field review. On September 14, 1995, the report was discussed at the FRC meeting, and was "accepted" but not "adopted". A motion was made and passed to establish a committee to review all submitted comments and report back to the FRC within two months.

On December 5, 1995, Chairman Giebel created a diverse work group (herein referred to as the "1995 Rescue Squad Work Group") to address several unresolved issues. The goal was to report back to the FRC for the February or March 1996 meeting. This work group reviewed the "*Recommendations of the Rescue Squad Committee Final Report,"* and all comments received from the field, and then submitted a report of their own. The views of the 1995 Rescue Squad Work Group are summarized below. Their entire report and associated comments can be found in **Appendix D, Items 2-9**.

- The Work Group proposed that primary heavy rescue squads be located so that 90% of the County's residents could be reached within 10 minutes. To achieve this goal, it was determined that a heavy squad could respond five miles in any direction in less than 10 minutes. [This projection utilized concentric response ranges.]

- For locations beyond the 10-minute response, it is desirable to have an engine company carrying modest vehicle extrication equipment to be responsible for engine company operations and initiating extrication procedures. The engine company may either complete the extrication or turn it over to a heavy squad upon their arrival. **Appendix A, Attachment 11** contains the recommended inventory for these engines.

- The work group concluded that about 94% of County residents could be located within five miles of six primary rescue squads. Guaranteed staffing for these six rescue squads was recommended, using available career and volunteer staff, independent of staffing provided for other units. Secondary rescue squads could be placed in a controlled status and dispatched when additional staffing was available, or they could be used as reserve units.

- The problem of poor coverage in the Station 29's area was acknowledged. An interim measure was recommended to place extrication equipment on E81 and E291; however, this measure was not intended as a substitute for a heavy rescue squad in this area.

- Regarding the linking of rescue squads to specific corporations that purchased them, the work group suggested that "the County would need to work with corporations to move squads. If this is unsuccessful, the County may have to buy the squads".

- The work group discussed the issue of rescue squad utilization versus rate of "turn arounds."[2] The work group recommended a pilot test where E81 or E291 would carry extrication equipment and be dispatched on PICs without a rescue squad unless needed and requested by on scene units. Discussion followed about having a squad remain on the dispatch but to evaluate its need.

- The work group endorsed the recommended inventory for rescue squads. The work group did not conclude that there was a necessity for a separate extrication unit inventory. The group concurred with the list of minimum equipment to be carried on an engine that may initiate extrication at the scene of a vehicle collision.

- The work group agreed the County should continue to accept mutual aid rescue squad assistance and concluded that is it impractical to check the inventory of a responding out-of-County rescue squad. When out-of-County units are closer, they should continue to be recommended for dispatch.

- Regarding the specific request to establish "Rescue-Truck" 19, the work group concluded that the special service offered by a truck must be maintained, and the group did not endorse the concept of a "rescue truck."

- The work group acknowledged the need to obtain more accurate data and GIS information upon which more accurate analyses could be made.

On August 20, 1996, the report of the 1995 Rescue Squad Work Group had been submitted to the FRC. The FRC held a work session on the "*Recommendations of the Rescue Squad Committee Final Report"* and the "*Report of the [1995] Rescue Squad Work Group"* during which several significant actions were taken, including the following:

1. "Rescue Truck" Concept - The Work Group concluded that the special service offered by a truck must be maintained and does not endorse the concept of a "rescue-truck."

[2] "Turn around" – A situation where the rescue squad is placed in service prior to reaching the incident scene, or immediately upon reaching the incident scene, because their specialized services are not needed.

2. Mutual Aid - The Work Group agreed the County should continue to accept mutual aid assistance and concluded that it is impractical to check the inventory of an out-of-county rescue squad responding to assist on a rescue. When out-of-County units are closer to incidents, they should continue to be recommended for dispatch.

3. Rescue Squad Minimum Equipment Inventory - After discussion, the Work Group decided to defer to the experienced judgment of the Rescue Squad subcommittee that developed the inventory list; however, the Work Group concluded there is no necessity for an extrication unit inventory list. The group concurred with the list of minimum equipment to be carried on an engine that could initiate extrication at the scene of a vehicle collision. (See **Appendix A, Attachment 11**)

4. Number of Rescue Squads and Distribution - Estimates of population within ten minutes (i.e., 5 miles) of a rescue squad were provided based upon 1990 U.S. Census data associated with the Geographic Information System. Four graphics were distributed for review.

5. FRC Action - The Commission decided that a rescue squad should be placed at Station 29. The Commissioners concurred that existing Rescue Squad 21, a County-owned 1994 Seagrave, should be moved to Station 29. In January 1998, the unit was placed in service at Station 29 as "RS291."

There was a discussion about the number of squads needed to provide sufficient coverage for the County. A decision was deferred until staff could perform additional research, utilizing the GIS system, so that the most accurate and up-to-date information could be obtained. [Minutes of Rescue Squad Work Group Work Session, August 20, 1996 can be found in **Appendix D, Item #20**.]

In January 1997, the FRC passed a motion to allow LFRDs to place an extrication unit in service subject to a minimum equipment inventory to be developed by the Rescue Squad Work Group, when a rescue squad is out of service for maintenance or repair. This was in response to concerns raised by Chiefs Seavey of the Cabin John Park Volunteer Fire Department and Chief Brown of the Sandy Spring Volunteer Fire Department regarding the August 1996 decision by the FRC to eliminate extrication units. [On May 11, 2000, the Rescue-Engine Subcommittee of the FRC's Operations Committee was charged with developing the minimum inventory as well as the task of clarifying several issues regarding dispatch to vehicular collisions. Related material appears in **Appendix D, Attachments 28-31**.]

On January 26, 1998, another Rescue Squad Work Group met to discuss the GIS findings and the possible use of rescue-engines or extrication units at specific locations to fill the most serious gaps in rescue squad service. To fill the large gap in rescue squad service in Stations 31's area, group leaders had discussed with the Rockville Volunteer Fire Department (RVFD) the concept of establishing a rescue-

engine at Station 31. GIS data was also presented. Based upon the 1995 census information and distribution of residents, the data indicated that up to 88% of the population could be reached within 10 minutes by nine existing rescue squads (excluding RS21 and Extrication 14), and that 85% of the population could be reached within 10 minutes by only seven rescue squads (excluding RS9 and RS30). GIS maps also indicated the presence of a few densely populated areas for which rescue squad response was greater than 10 minutes, notably Station 31's area. The group concluded that the current number and distribution of rescue squads and one extrication unit (Extrication 14) was appropriate to meet the 10 minute/90% coverage goal and that relocation of a rescue squad to the Clarksburg area was likely in the 5-10 year window.

A motion to place a rescue-engine at Station 31, with the specifications to be developed in consultation with the Apparatus Committee and the RVFD, was passed unanimously by the FRC. This motion was never implemented following the changes in MCFRS administration and FRC composition in July-August 1998. On September 14, 2000, the FRC took action concerning this motion by approving a Minimum Inventory List for Rescue-Engines and revising the dispatch assignment for PICs with one trapped/pinned. This inventory can be found in **Appendix A, Attachment 12**.

2002 RESCUE SQUAD UPDATE

In order to provide an updated report on rescue squads and rescue operations in Montgomery County, the 2002 Work Group identified the following issues that should be addressed in answering their FRC-assigned charge:

1. The number of heavy rescue squads that should be in front line service

2. Which fire/rescue stations should house rescue squads

3. Whether MCFRS should continue with the automatic dispatch of a rescue squad on all personal injury collisions, with the exception of Station 14's area where Rescue-Engine 143 is dispatched

4. The frequency in which rescue squads are utilized versus "turned around." Also, when utilized, what is the predominant service -- patient care or patient extrication? In addition, which extrication tools are most frequently utilized?

5. Integration of vehicle extrication with a tiered response strategy that utilizes rescue squads, rescue-engines, and rescue trucks

6. Whether the FRC should reconsider its position on rescue trucks

7. Whether or not the current *Fire, Rescue, and Emergency Medical Services Master Plan* goal for "Special Service" delivery within 9 minutes, 80% of the time, is the

most appropriate planning goal for extrication and rescue squad service. Whether or not this goal should be amended to reflect a delivery time for extrication and a separate delivery time for heavy rescue squad service. Determining how the former FRC goal for 10-minute rescue squad response to 90% of the population compares with the amended Master Plan goal for special service delivery.

8. Whether the current FRC staffing standard of three qualified personnel is adequate for safe and effective operation of heavy rescue squads

9. Adequacy of current training and experience requirements for heavy rescue squad missions

10. Re-evaluation of the mission of heavy rescue squads.

METHODOLOGY

The 2000 Rescue Squad Work Group used a variety of information to develop conclusions and recommendations. First, as previously discussed, a thorough review of past reports, comments, and FRC actions was conducted. Second, analysis of current CAD data regarding rescue squad dispatches was performed. This dispatch data was then correlated with EMBRS data that indicates how frequently rescue equipment is utilized on incidents. Finally, GIS-based analyses of rescue squad response time and the corresponding relationship to population receiving coverage under various scenarios were performed. The 2002 Work Group's recommendations are based on the interrelationship of this combined information.

Throughout the study, the 2002 Work Group found the in-house GIS capability invaluable. Early rescue squad committees/work groups did not have this technology available, and even work groups of the late 1990s did not have the full advantage of this technology at their disposal. Whereas rescue squad coverage was illustrated in terms of concentric circles in the mid 1990s, the present day work group was able to view rescue squad response time coverage more precisely across the road network. Having the MCFRS GIS capability close at hand also allowed the 2002 Work Group to obtain GIS maps and GIS-derived data much quicker than ever before. The mapping skills and analytical skills of the MCFRS GIS Manager have made it possible for the Work Group to base its analyses and conclusions on extremely accurate maps and data.

RECCOMMENDATIONS AND RATIONALE

• RESCUE SQUAD DISPATCH AND DEPLOYMENT

Recommendation 1: Recommended actions concerning rescue squad deployment and dispatch are described in Recommendations 2A through 2E below.

Recommendation 1A: The Work Group recommends that six (6) heavy rescue squads be assigned as "core" heavy rescue squads in MCFRS and that they be located at Rescue Companies 1 and 2, and at Fire-Rescue Stations 3, 15, 29 and 40. These "core" heavy rescue squads should be staffed by four qualified personnel, utilizing career and volunteer resources, 24 hours/day.

The number of heavy rescue squads required in MCFRS and the subsequent location of these rescue squads has been a difficult issue for the Service to reach consensus. Regarding the placement of heavy rescue squads, the 1995 Rescue Squad Report identified four areas that were analyzed to evaluate the placement of Rescue Squad and Extrication units, including: 1) geographic location and response time; 2) demand on current units; 3) cost of providing additional service; 4) future demographics of areas evaluated. The 1995 report further stated "apparatus location options were limited by the recognition of corporation ownership. While the Committee believes corporation-owned units may be relocated voluntarily within a corporation's response area, it is unrealistic to relocate such units elsewhere. From a practical aspect, only County-owned units were considered for relocation. The 1995 report recommended no change in rescue squad locations, therefore heavy rescue squads would remain at Rescue Companies 1 and 2, and Stations 3, 4, 9, 15, 17, 21 and 30. The 1995 Rescue Squad Report did recommend placement of an "extrication unit" at Station 29.

The [1996] "*Rescue Squad Work Group* Report" took a different position on rescue squad locations. Once again, the 1996 Work Group was formed by the FRC Chairman to review the comments submitted from the field on the "*1995 Rescue Squad Report*." This group proposed that "primary heavy rescue squads be located so that 90% of the County's residents can be reached within 10 minutes. For locations within and beyond the 10-minute response, it is desirable to have an engine company carrying modest vehicle extrication equipment to be responsible for engine company operations and initiating extrication. Reliable data indicates where County residents live, and we concluded that six rescue squads can be judiciously located within five miles of 94% of County residents. We, therefore, recommend that the County's fire service community should move immediately and progressively toward properly locating six heavy rescue squads, with guaranteed (career/volunteer) staffing, to be within five miles of at least 90% of County residents. Continuing support for additional rescue squads should be prioritized among other competing fire service needs. Since complete realignment of squad locations will take time, final locations can be adjusted, as more data becomes available."

At the Rescue Squad Work Group Work Session on August 20, 1996, the FRC established the goal to provide a rescue squad response within 10 minutes to 90% of the County's population. At the same meeting, the FRC determined that [former] Rescue Squad 21 was not needed to meet the FRC-adopted response time goal for rescue squads, and the vehicle was reassigned to Germantown Station 29.

Further action on placement of rescue squads was deferred until the County's GIS system could be applied to this issue. On January 26, 1998, the Rescue Squad Work Group met to discuss GIS findings and the possible use of rescue-engines or extrication units at specific locations to fill the most serious gaps in rescue squad service. A minimum inventory for extrication units was also discussed.

Minutes of the July 9, 1998 FRC Meeting indicate that the 1998 Work Group reached the conclusion that "the current number and distribution of nine rescue squads and one extrication unit was appropriate, in general, to meet the [then] 10-minute/90% coverage criteria; however, redistribution of at least one up-county rescue squad (i.e. Hyattstown RS9) is likely as anticipated growth in Clarksburg and Germantown occurs over the next 5-10 years." In addition, some members of the group questioned whether "rescue-engines could replace some of the rescue squads that are presently cross-staffed and whether rescue-engines could be placed in service within populated areas lacking 10 minute response coverage." Furthermore, to fill the large gap in rescue squad service in Station 31's area, group leaders had discussed with the Rockville Volunteer Fire Department (RVFD) the concept of establishing a rescue-engine at Station 31, and the RVFD was "receptive to the concept." A motion was passed at this meeting to place a rescue-engine at Station 31.

The 2002 Rescue Squad Work Group utilized the County's improved GIS capability and data from the 2000 U.S. Census to project various rescue squad deployment scenarios. The 2002 Work Group also evaluated the impact of incident locations, current location of heavy rescue squads, and what were believed to be "political realities."

Concerning mutual aid rescue squads, the 2002 Work Group believes that Montgomery County should continue to utilize mutual aid rescue squads; however, provisions for truck-based extrication service in the lower Silver Spring/Takoma Park and Hillandale areas should continue and be improved. This truck-based extrication service will compliment first-due rescue squad service provided to these areas by Prince George's County Fire & Rescue. Although these station areas comprise a small geographic area of the county, the incident frequency is very high.

Based upon the above analyses, the 2002 Work Group believes that six core rescue squads should be located in the County. The group defines a "core rescue squad" as one essential to the provision of basic level rescue service and that must be capable of reliable response on a 24-hour basis. GIS-based response time modeling indicates that these six core rescue squads could provide the population and PIC incident coverage indicated in **Appendix B, Figure 2**. **Figure 4** shows the integrated coverage provided by the proposed six core rescue squads and extrication-capable engines and trucks (see

Recommendation 1B). **Figure 5** shows where 2000 and 2001 PICs occurred, by station area. **Figures 6 and 7** show distribution of PICs and structure fires by the uniform WSSC grid system (i.e., 0.8 square mile per grid).

Recommendation 1B: **Extrication-capable units should be located at Stations 2, 9, 10, 12, 13, 14, 17 and 31. Specifically, Trucks 10 and 31 should be equipped as rescue-trucks, Truck 12 should continue to operate with extrication capability, and Truck 2 should be approved to operate in this capacity if the equipment complement meets the current rescue-truck standard. Engines 143 and 92 should remain extrication-capable, and an engine at Stations 13 and 17 should be upgraded to current extrication standards for rescue-engines.**

In areas outside or on the fringe of the core rescue squad response areas, extrication service would be enhanced though the utilization of "extrication-capable" engines and trucks. **Appendix B, Figure 3** shows 9-minute extrication service coverage by extrication-capable units located at Stations 2, 9, 10, 12, 13, 14, 17 and 31. **Figures 3 and 4** show the integrated coverage provided by the proposed six core rescue squads and extrication-capable engines and trucks. This integrated service can be delivered to 97.6% of the county's population within the proposed response time goals for rescue squads and extrication-capable units. The only areas outside this large area of coverage are sparsely populated and have an extremely small incidence of PICs and other rescue-type incidents.

Recommendation 1C: Recommended actions concerning current rescue squads that would not be located in the "core" deployment area include the following:

- **Rescue Squads 9, 17 and 30: RS9, RS17 and RS30 (non-core rescue squads) should be considered as "supplemental" units to the core rescue squads and staffed only when qualified personnel are available to staff priority station services (i.e., EMS unit, engine) first.**

  While the Work Group endorses the six core rescue squad concept, the group does not wish to preclude the supplemental response of existing rescue squads (see **Appendix B, Figure 1**) that have not been included as core units. The Work Group, however, believes that Rescue Squads 9, 17 and 30 should only be dispatched when qualified personnel are available, first, to staff the front line engine and EMS unit in each of these three stations. If additional qualified personnel are in quarters to staff these rescue squads, the units should be placed in "controlled" status by the ECC.

- **Rescue Squad 4: Relocate RS4 to Station 40**.

  GIS data in **Appendix B, Figure 10** indicates that the relocation of RS4 to Station 40 will achieve significant gains in population coverage and PIC incident coverage within response time goals. There would be some minimal overlap with RS3 and RS29. [Note: Overlap currently exists between RS4 and RS15]. GIS analysis

examining the advantage of relocating RS4 to Station 40 indicates a population coverage increase of approximately 39,000 residents reached within the 9-minute response time goal and an increase of incident frequency of approximately 300 PICs per year.

- **Rescue Squad 21: Recommend that the current FRC staffing restriction on RS21 remain in effect. Should the recommendation (above) regarding supplemental rescue squad deployment be adopted, RS21 should be considered for dispatch by the same procedures as other non-core rescue squads.**

  Appendix B, Figure 8 shows the coverage provided by RS21. Note that with the proposed core rescue squad configuration, all of Station 21's area is already covered by neighboring rescue squads within an 8-minute travel time. As an additional reference, Attachment 7, "Background of Rescue Squad Reports and Subsequent FRC Actions Regarding Rescue Squad 21" is included, so that the reader can understand the depth of the issue relating to FRC actions on Rescue Squad 21.

- **Rescue Squad 30: The Work Group does <u>not</u> recommend the relocation of the CJPVFD rescue squad from Station 30 to Station 10.**

  The heavy rescue squad assigned to Rescue Company 1 (R1) provides such significant coverage to the Station 10 area that this relocation cannot be justified. Figure 12 shows the significant overlap of coverage if RS30 was to be relocated to Station 10. While population coverage is not significantly increased by locating RS30 at Station 30, the population and incidents in the overlap area between a rescue squad at Station 10 and Rescue Company 1 is significant. Approximately 60,000 persons live in the potential overlap area, about one third of the total population in these response areas, based upon an 8-minute (4.3-mile) travel time. Over 1600 PICs occurred in the overlap area in 2001.

<u>Recommendation 1D</u> - Extrication service from Station 16 on a pick-up chassis-type unit should <u>not</u> be implemented.

The 2002 Work Group does <u>not</u> endorse the requirement to cross-staff a pickup chassis-type extrication unit with Engine 161. The Work Group considers the cross-staffing of E161 and the proposed extrication unit undesirable, as it would result in one of the County's busiest engines being understaffed or un-staffed when the extrication unit and crew were out of the station. Furthermore, Station 16's area is currently covered adequately by rescue squad service provided by Rescue Company 2 and extrication service provided by Truck 12. Truck 2, if equipped with extrication equipment, could be dispatched to PICs with reports of entrapment when closer than a heavy rescue squad, which would also enhance coverage to Station 16's area.

The Work Group also considered other factors significant to this recommendation:

- Truck 12, with a compliment of extrication equipment meeting the requirement for "rescue-engines" and staffed on a 24-hour basis, is located at neighboring Station 12 in Hillandale. This extrication-capable truck is currently dispatched for extrication incidents when closer than a heavy rescue squad.

- The recommendation of the previous Rescue Squad Work Group was to equip engines that cover areas outside a 10-minute rescue squad response with extrication equipment. This concept is significantly different than establishing separate extrication units and initiating cross-staffing.

- Truck 2 could be dispatched in an extrication capacity, which provides additional protection to Station 16's area.

Recommendation 1E: Should the Work Group's recommendations for six core rescue squads and use of non-core rescue squads as supplemental units not be adopted, then the current practice of selectively dispatching RS30 and RS4 should be discontinued.

Through the review of dispatch procedures for Rescue Squad 21, the issue of "cross staffing" certain rescue squads and engines was reviewed. On June 13, 1996, the FRC adopted a motion to have ECC dispatch either the engine or rescue squad at Stations 4, 21, and 30, unless volunteers are available in the station to place both units into a "controlled" status. Although a special staffing provision is currently in effect for Rescue Squad 21, this "selective dispatching" remains in effect at Stations 4 and 30.

Should the Work Group's recommendations for six core rescue squads and use of non-core rescue squads as supplemental units not be adopted, then the 2002 Work Group recommends that the FRC reconsider the action to "selectively dispatch" units at Stations 4 and 30. This decision appears to have been made to improve the efficiency of dispatches from these stations; however, this need was based upon the number of "failures to respond" from these stations. It is this Work Group's opinion that RS4 and RS30, if determined by the FRC to be necessary to meet countywide response goals, be dispatched and operate in the strategic manner as all other units in MCFRS.

Recommendation 2: Recommend that the FRC adopt the concept of strategically-located extrication-equipped aerial units.

This Work Group recommends that the FRC reconsider its position on the "rescue-truck" concept adopted during the August 20, 1996 Rescue Squad Work Group Work Session. The FRC's position was that the special service offered by a truck must be maintained and does not endorse the concept of a rescue truck.

The 2002 Work Group believes that the aerial unit, particularly in the tractor-trailer configuration, provides a significant opportunity for MCFRS to enhance vehicle extrication service. These units provide compartment space for extrication equipment, powerful generators in the 12KW range, significant lighting capability, and necessary staffing resources. The Work Group does not believe that these units should replace rescue squads; rather, they compliment their capability. The utilization of extrication-capable aerial units should be considered as one element of a strategic plan for rescue response in MCFRS. This work group also believes there is already a significant discrepancy in the FRC decision on the rescue truck concept and normal operating procedures. Aerial units are routinely dispatched for a variety of medical emergencies that have no relationship to the "special service" offered by aerial units. Charts and graphs showing aerial unit response to EMS incidents can be found in **Appendix C, Items #2, 3 and 4**. Since the adoption of the ALS first responder procedures, aerial units staffed with paramedics respond to an even higher number of medical emergencies than before. These medical emergencies far exceed the frequency in which an extrication-equipped aerial unit would respond to a vehicle collision with a report of people trapped/pinned. It should be noted that on September 12, 2000, the FRC approved that Truck 12 could respond in the capacity of a rescue truck.

The 2002 Work Group recognizes that Silver Spring initially requested that Truck 19 (now Aerial Tower 19) be dispatched in an extrication capacity prior to August 1996. Normally, dispatch of aerial units should be limited to collisions with reports of people trapped/pinned, when they are closer than a rescue squad. The work group is specifically recommending the utilization of tractor-trailer ladder trucks as "rescue trucks;" however, straight chassis trucks would also serve as an acceptable platform. In addition, if any of the LFRDs who would have extrication-capable units chooses to equip an engine to meet the adopted inventory requirements for extrication operations, the Work Group would endorse that practice. It should be recognized that extrication equipment will provide increased capability for aerial units to force entry during structural fire operations and provide adequate extrication redundancy during peak periods of demand, such as during ice/snow storms.

Recommendation 3: Establish a "tiered" response to vehicle collisions, as follows:

- **"Low-Severity" PIC[3]: The dispatch assignment would consist of an EMS unit, and engine (or aerial unit or rescue squad if closer).**

- **"High-Severity" PIC[4]: The dispatch assignment would consist of a medic unit and ambulance (if closer), engine, heavy rescue squad and extrication-capable unit (if closer), and a command officer.**

[3] A "Low Severity" PIC is a reported PIC without any apparent entrapment, persons pinned, high speed impact, or the apparent need for specialized rescue tools such as those carried on an extrication-capable unit or a heavy rescue squad.

The MCFRS policy of automatic dispatch of heavy rescue squads on virtually all vehicle collisions requires further review. **Appendix C, Item #1** shows the high number of rescue squad responses during CY01 and CY02. As background, the 1995 Rescue Squad Report states: "Review of current dispatch procedures on auto accidents regarding both future call loads and actual unit utilization indicated that we have a good balance. The present compliment of units means that we can always have a unit responding until the need is verified. If there is no requirement for this service, the unit is simply placed in service. Many jurisdictions can not meet this standard and must wait until other responding units identify a need before a Rescue Squad or Extrication Unit is dispatched. This practice cuts into the traumatically injured patient's golden hour. The current auto accident dispatch procedures therefore, are justified and should continue. Engine and truck companies that possess extrication equipment should continue to be dispatched according to current policy."

Further historical examination of this topic revealed that the 1996 Rescue Squad Work Group did not endorse this strategy and recommended a pilot test dispatch for Station 8's response area. Rather than initially dispatching a heavy rescue squad on reported personal injury accidents, Engine 81, carrying extrication equipment, would provide initial service, with a squad dispatched only if needed and requested by on-scene units. That work group recommended that "the Communications Committee be requested to develop a dispatch procedure for the Station 8 response area and to design an evaluation of the procedure." The FRC took no action on this issue at the ensuing August 20, 1996 Work Session.

The 2002 Work Group evaluated automatic dispatch of a rescue squad on PICs from several perspectives. First, an informal review of personal injury vehicle collision assignments was conducted for the following neighboring jurisdictions: Prince Georges County, Anne Arundel County, Baltimore County, Howard County, Fairfax County, Baltimore City and Washington, D.C. Secondly, an analysis of MCFRS CAD and EMBRS data was performed to evaluate the frequency of extrication tool usage in CY2001. The "Emergency Medical Dispatch" guide[5] was reviewed, as well. The work group also examined the position concerning this issue appearing in the 1995 Rescue Squad Report.

Review of PIC dispatch procedures for jurisdictions in the Baltimore-Washington corridor were conducted by informal telephone interview to the respective emergency communications centers or directly with personnel familiar with the jurisdiction's operational procedures. None of the surveyed jurisdictions automatically dispatches a heavy rescue squad on every PIC. Howard County appears to come closest to MCFRS

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[4] A "High Severity" PIC is a reported PIC with entrapment, persons pinned, or high speed impact; or a PIC at an intersection or portion of a roadway known by ECC to have a history of severe PICs; or any PIC where, in the ECC Supervisor's judgment, the conditions warrant the dispatch of a heavy rescue squad.

[5] The "Emergency Medical Dispatch" guide is a reference used by ECC personnel to assist them in asking questions of 911 callers to obtain the exact nature of an emergency requiring EMS units, so that they can dispatch the appropriate unit(s).

dispatch procedures with the dispatch of a unit with a rescue tool to each PIC; however, this response is provided by either a rescue-engine, extrication-equipped aerial unit, or heavy rescue squad. The remaining jurisdictions utilize a tiered response to PICs based upon information received and evaluated at the respective jurisdiction's ECC or based on speed limits and roadway types. There are some variations, but a basic response to a PIC is generally an EMS unit and the closest engine. If a rescue squad is housed with the closest engine, it may replace the engine on PICs. If the ECC believes the incident is more serious or that people are trapped/pinned, then the dispatch also includes the closest extrication-capable unit, heavy rescue squad, advanced life support (ALS) unit, and command officer.

Prince George's County uses a different "triage" process to determine the initial vehicle collision dispatch. One engine company and one BLS ambulance are dispatched to a PIC on a roadway with a posted speed limit of 40 MPH or less and no indication of entrapment or unusual circumstances. One engine, one BLS unit, one ALS transport unit, and a rescue squad are dispatched to a PIC on an undivided roadway with posted speed limit of more than 40MPH or with indication of entrapment or unusual circumstances.

Neighboring jurisdictions all use some additional dispatch for interstate highways or divided highways that include multi-directional response (e.g., inner loop and outer loop assignments) similar to MCFRS dispatch procedures.

This survey appears to indicate that neighboring jurisdictions do not require the dispatch of a heavy rescue squad or extrication capability on every PIC. Those jurisdictions surveyed do not wait until initial dispatched units arrive on the scene to determine the need for extrication or ALS service. Based on information received at the respective ECC, extrication capability and ALS service are initially dispatched only when needed. No system is 100% accurate, and there are always a small percentage of situations where initially-arriving units must call for extrication, ALS, or fire suppression units.

The 2002 Work Group also conducted an extrication tool usage analysis using CY01 PIC incident data. Utilizing CAD and EMBRS data, an analysis was conducted to determine the frequency of extrication tool usage for the various categories of PICs during CY2001, and the data is presented in **Table 3** below.

Table 3: Extrication Tool Usage - CY2001

Incident Type	# Incidents	Incidents with Extrication Tool Usage	Percentage Where Extrication Tool Used
PIC	8293	164	2.00%
PIC/PIN	173	47	27.2%
PIC/ALS	209	22	10.5%
PIC/FIRE	32	2	6.3%
PED/PIN	4	0	0.0%
PIC/HM	6	0	0.0%
PIC/CYCLE	153	0	0.0%
Totals	**8870**	**235**	**2.7%**

The data indicates that heavy rescue squads are utilized for extrication operations less than 3% of the dispatches to PICs.

This analysis indicates some important points. The ECC is frequently able to obtain incident scene information and accurately make an appropriate dispatch. The PIC/PIN and PIC/ALS incident types have relatively high rates of extrication tool usage. This indicates that ECC, to some extent, has the ability to triage PIC calls and make different levels of dispatch to meet the conditions anticipated.

Finally, the 2002 Work Group does not agree with the position of the 1995 Rescue Squad Report relative to rescue squad resources in MCFRS. The present group does not believe that MCFRS has nine heavy rescue squads available on a 24-hour basis. The 1995 report addresses rescue squad units but does not discuss rescue squad staffing. Currently, at Stations 4 and 30, adequate staffing does not exist to deploy the stations' primary services; therefore the engine or rescue squad is "selectively dispatched." Although Station 9 is not selectively dispatched, the same situation exists there. In fact, all other rescue squads in the county are cross-staffed with other primary units. The 2002 Work Group's point is that a heavy rescue squad is composed of the vehicle, equipment, and personnel. [The MCFRS must think of all its resources in this manner.]

The 2002 Work Group's proposed tiered response to PICs is analogous to the adaptive response adopted by the County in the 1970s to certain low severity/low probability structure fire-type incidents. That adaptive response is predicated on the concept that an entire building fire assignment is not typically required for certain fire-related incidents reported by 911 callers such as alarm bells ringing, activated smoke detectors, odor of smoke, food on the stove, electrical short, etc. It was determined that the practice of sending a full assignment to these types of calls was an inefficient use of fire-rescue resources. This is not to say that occasionally these adaptive responses do not turn out to be working fires, but the frequency of this situation occurring has been very low. The practice of adaptive response to low severity fire-type incidents has been proven by the test of time, and it remains a valid practice today.

The Work Group feels that an adaptive, or "tiered," response to PICs is equally valid. The group's premise is: why dispatch a heavy rescue squad on PICs that 911 callers have described as being of a low severity nature? If ECC personnel glean from the 911 caller that the PIC involved a low speed impact with no one trapped or pinned, or perhaps the caller is not even sure that anyone is injured, then why dispatch a heavy rescue squad when an EMS unit and engine can most likely mitigate the situation effectively and safely? On the other hand, if ECC personnel believe the PIC to be of a serious nature with a high probability of persons requiring rescue with the aid of extrication and stabilization equipment, then a full PIC assignment, including a rescue squad and extrication-capable unit (if closer), can be dispatched. The fact that other nearby jurisdictions (see above) use this tiered response concept with positive results strengthens the validity of the Work Group's recommendation.

- **RESCUE SQUAD RESPONSE TIME GOALS**

The 1994 "*Fire, Rescue, and Emergency Medical Services Master Plan*," as amended February 29, 2000, has a goal for "special service" delivery within 9 minutes, 80% of the time. The Master Plan defines response time as "the elapsed time from the initiation of a call to 911 in the ECC to the arrival on the scene of the appropriate fire/rescue unit(s)." The FRC had previously adopted a response goal for rescue squads (not identified in the Master Plan) establishing a 10-minute rescue squad response to 90% of the County's population. Originally, the FRC correlated a 5-mile rescue squad response with the 10 minute goal. Included in this 5-mile/10-minute response goal was ECC call processing time, dispatch of units, and station turnout time. This goal does not coincide with the accepted Rand Study parameters[6] currently utilized in MCFRS planning. The work group believes that both of these goals should be consolidated into one goal for rescue squad and extrication response.

A change occurred in the late 1990s regarding the rescue squad response time goal that the FRC established in 1996 versus the goal that the FRC adopted in 1999 that was included in the 2000 amendments to the "*Fire, Rescue, and Emergency Medical Services Master Plan*" adopted by the County Council. The 10-minute response coming from the earlier goal correlates to a 5-mile/9-minute response range, because the 1996 Rescue Squad Work Group assumed only <u>one</u> minute for 911 call processing, dispatch and station turnout. The planning model used by the 1998 Rescue Squad Work Group (based upon the conclusions and recommendations of the Response Time Work Group of the "*Master Plan Priority Issues Study*") included <u>two</u> minutes for 911 call processing, dispatch and station turnout, based upon analysis of actual incident dispatch data. The 9-minute response time for special service units (i.e., rescue squads and aerial units) to 80% of the rescue incidents was, therefore, broken down into 2 minutes for call processing, dispatch and turnout, and 7 minutes for travel time, resulting in a 3.7-mile travel range per the Rand model.

<u>Recommendation 4</u>: Amend the response time goal for special services established in the 1994 "*FRC Fire, Rescue, and Emergency Medical Services Master Plan*," as amended February 29, 2000, to create a separate response time goal for rescue service. The 2002 Work Group recommends that the response time goal for rescue service should be a twofold goal as follows:

[6] In the 1970s, the Rand Institute conducted a response time study involving New York City Fire Department apparatus. The study's findings (see **Appendix C, Item #5**) showed that the NYCFD apparatus traveled at an average "cruising speed" of 39.2 mph, following the initial 0.5 mile of the response route when the units were accelerating to that cruising speed. The study is widely accepted throughout the nation, and similar results have been replicated in municipalities of varying sizes elsewhere in the U.S.

- **Extrication service should be provided to 85% of the high-severity PICs in the county within a 9-minute response time from receipt of the 911 call to arrival of an extrication-capable unit**

- **Rescue squad service should be provided within a 12-minute response time to 90% of the high-severity PICs and structure fire incidents**

Utilizing the proposed "core" heavy rescue squad locations (i.e., R1, R2, Stations 3, 15, 29, and 40), 62.5% of the 2000 population is covered within the current 9-minute response time goal[7] (i.e., 3.7 miles traveled within 7 minutes). For comparison, the existing 9 rescue squads located at R1, R2, and Stations 3, 4, 9, 15, 17, 29 and 30, reach 64% of the county population with regard to the existing response time goal of 9 minutes to 80% of the population. A 12-minute response time (i.e., 5.7 miles traveled within 10 minutes) from the proposed core rescue squad locations would increase the percentage of population reached to over 90%. As can be seen in Table 1 and **Appendix B, Figure 2**, the Work Group also examined scenarios for 10- and 11-minute response times for the heavy rescue squads. The 2002 Work Group favors the 12-minute goal for the six core rescue squads, in combination with the 9-minute goal for extrication service provided by extrication-capable units (see below).

Table 1 - Percentage of Population and PICs Within Select Travel Distances of the Proposed Core Rescue Squads

Response Time*	Travel Distance/Time**	Percent Population Covered	Percent PICs Covered
9 minutes	3.7 mi./7 mins.	62.5	64.8
10 minutes	4.3 mi/8 mins.	71.8	78.1
11 minutes	5.0 mi/9mins.	83.0	87.5
12 minutes	5.7 mi/10mins.	90.2	93.5

* Includes the 2-minutes (average time) for 911 call processing, dispatch and turnout
** Not including the 2-minutes for 911 call processing, dispatch and turnout

The areas outside of the proposed core rescue squad response time goal would be provided with extrication-capable engines or aerial units to initiate extrication prior to the arrival of a heavy rescue squad. These include portions of Station Areas 9, 13, 14, 17, 30, and 31. This coverage is shown in **Appendix B, Figure 4**. These entire station areas comprise only 8.0% of the 2001 countywide PIC dispatches (see **Table 2** below). As easily seen in **Figure 4**, a considerable portion of these station areas can be covered by the recommended six core rescue squads within the Work Group's proposed 12-minute response time goal (i.e., 10 minute travel time). In addition, the most populated portions of these areas having the most heavily traveled roadways can be reached within the 9-

[7] "Response time" includes 2 minutes for 911 call processing, dispatch of the unit, and turnout from the station. The remainder of response time is travel time – the time taken by the unit to reach the incident scene.

minute goal (7-minute travel) for extrication-capable units, as seen in **Appendix B, Figure 3.**

Table 2 – Areas Outside 10-minute Core Rescue Squad Travel Time (CY2001 PIC Dispatches)

Fire Station Area	PIC Dispatches	% of Total
FS30	68	0.8%
FS31	267	3.2%
FS14	46	0.6%
FS9	82	1.0%
FS13	100	1.2%
FS17	102	1.2%
Totals	**665**	**8.0%**

- ## RESCUE SQUAD MISSION, STAFFING AND TRAINING OF PERSONNEL

Recommendation 5: Revise the mission of the heavy rescue squad in MCFRS, as described in Recommendations 5A and 5B below.

The 2002 Work Group believes that MCFRS must evaluate the "environment" in which heavy squads operate today and determine if the system is utilizing their capabilities in the most optimal manner. This discussion will focus on the two primary roles of the heavy rescue squad -- structural fire operations and "rescue" operations.

Recommendation 5A: The heavy rescue squad dispatched on box alarm assignments should be assigned the SOP responsibility for initial Rapid Intervention Crew (RIC) deployment.

The current FRC SOP titled "Safe Structural Firefighting Operations" assigns two primary roles for the rescue squad on structural fires -- those of primary search and utility control. There is nothing that gives the rescue squad any distinct advantage in performing these two assignments. Any crew can accomplish utility control. Primary search, often times with the aid of thermal imaging cameras, is accomplished by rescue squads, trucks and even engines – rescue squads have no exclusive search capability.

In recent times, firefighter safety has become an issue of increased awareness. The establishment of the "2 in/2 out" regulation, "Safety Dispatch," and "Personnel and Unit Accountability Procedure" are measures that MCFRS has implemented to increase the ability to rescue firefighters in imminent danger. This Work Group recommends that the MCFRS response to firefighter safety could be improved by changing the box alarm SOP

assignment for the heavy rescue squad to be automatically assigned as the Rapid Intervention Crew (RIC). The role of the RIC is to rescue trapped firefighters or respond to a difficult rescue of building occupants. There is not a more suitable company than the heavy rescue squad to handle this assignment. The tools to cut, lift, and breech structural elements are carried on the heavy rescue squads. The crews that staff the heavy rescue squads are most familiar with utilization of the unit's specialized tools. The assignment of RIC functions to the heavy rescue squad on the box assignment would provide for an automatic, rapid, and effective transition from 2 in/2 out operations to RIC protection.

Recommendation 5B: The six "core" heavy rescue squads, and personnel assigned to staff them, should be trained to intervene in a wide range of "heavy" and "special" rescue incidents. This response should integrate seamlessly with the response of MCFRS specialty teams.

The role of the heavy rescue squad in both "heavy" and "specialized" rescues in MCFRS appears to be eroding. Many types of specialized rescues that were once the mission of the heavy rescue squad have transitioned to specialty teams. Examples of these types of incidents include structural collapse, trench rescues, confined space rescues, high angle rescues, and water rescues. The only types of rescue that the majority of heavy rescue squads accomplish or play a lead role in today are vehicular/transportation rescues.

The 2002 Work Group believes that strategically located rescue squads should play a lead role in all types of heavy and specialized rescues and the heavy rescue squad response should integrate seamlessly with any specialty team response. Personnel that staff the heavy rescue squads must possess the necessary training to accomplish this specialized role.

Recommendation 6: The six "core" heavy rescue squads must be staffed by four qualified personnel to effectively and safely accomplish the mitigation of rescue incidents.

The Work Group recommends a staffing level of four qualified personnel on the proposed core rescue squads for several reasons. First, the MCFRS *Fire, Rescue, and Emergency Medical Services Master Plan*, on page 56, states that the desirable staffing level for a rescue squad is four personnel. Secondly, a rescue squad crew of four qualified personnel would allow rescue functions to be performed with greater effectiveness and safety. Operations with four personnel would provide a division of labor allowing for the following advantages:

- The rescue squad officer to operate in a supervisory role
- The driver/operator to focus on unit operation and tool readiness
- Two firefighter/rescuers to perform the actual rescue tasks
- The four-person crew would also allow the division of the crew into two 2-person teams, when needed

[Note: The training requirements for "qualified" rescue squad personnel are addressed in Recommendation 7 below.]

Recommendation 7: The minimum and desired training requirements for personnel making up minimum staffing on the "core" heavy rescue squads should be as follows:

- **Minimum training requirement: Completion of the "Practical Rescue Course" taught at the County's Public Services Training Academy, or equivalent**
- **Desired training requirement: To meet the "operational level" of training described in the following NPFA standards:**
    - **NFPA 1670, "Standard for Operations and Training for Technical Rescue Incidents"**
    - **NFPA 1006, "Standard for Rescue Technician Professional Qualifications"**

The Work Group believes that the core heavy rescue squads should be staffed by personnel who have received training beyond the current minimum requirement. Presently, it is possible for a 3-person rescue squad crew to have one person (i.e., the 3rd person behind the driver and unit officer) that has not completed the PSTA's "Practical Rescue Course." If staffing is greater than three, then more than one crew member may not have taken the Practical Rescue Course. This situation reduces the ability of the rescue squad crew to perform their rescue functions at a peak level of effectiveness and safety. The Work Group strongly believes that each of the four personnel staffing a core rescue squad (minimum recommended staffing – see Recommendation 6 above) must be trained at or above the Practical Rescue level. Due to the high level of specialized skills required to mitigate the more difficult rescues to which heavy rescue squads are dispatched, the Work Group feels that a desirable level of training would be that required in NFPA Standards 1670 and 1006.

• RESERVE RESCUE SQUADS

Recommendation 8: There should be two reserve rescue squads in the county to maintain the availability of the "core" heavy rescue squad fleet on a 24-hour, 7 day per week (24/7) basis.

It is important to ensure that the six proposed core rescue squads are in service at all times. Steps must be taken to have two reserve rescue squads available to fill in for any unit that goes out of service due to mechanical problems or damage. The reserve unit must be ready on short notice to serve as a core rescue squad at the station where the disabled unit normally serves.

Rescue Company 1 has a backup rescue squad (i.e., RS18) that can immediately serve as the reserve unit if RS19 goes out of service. With a backup for one of the six proposed core rescue squads presumably addressed, the County must have readily available two reserve rescue squads should any of the remaining five core rescue squads (RS28, RS3, RS15, RS291, "RS40") go out of service. Preferably, these reserve units should be county-owned rescue squads, so that they can be moved quickly to the appropriate station when the need arises. Alternately, a non-core reserve squad could serve as a reserve unit provided that the LFRD-owned unit can be moved on short notice to the appropriate station (i.e., Rescue Company 2, or Station 3, 15, 29 or 40).

• RESCUE SQUAD INVENTORY

Four inventories are included as **Appendix A, Attachments 9-12**. The first is the inventory adopted by the FRC as recommended in the 1995 Rescue Squad Report. The second inventory is the inventory for the past "extrication" unit. The third inventory was not adopted, but identifies the minimum equipment for an extrication engine or truck that was discussed in the initial concept of utilizing rescue squads and "rescue-engines" in an integrated extrication strategy. The fourth inventory is that adopted by the FRC to equip a "rescue-engine." While the Work Group can offer two recommendations concerning specific inventory items, the group did not attempt to examine the existing rescue squad and rescue-engine inventories and requests input from the entire MCFRS on whether the inventories require revision.

Recommendation 9: Rescue squads should be equipped with thermal imaging capability.

Thermal imaging cameras are invaluable in expediting the search of individuals trapped in an IDLH. The Fire and Rescue Commission *SOPs for Safe Structure Firefighting Operations* policy assigns search and rescue responsibility as the primary function to the rescue squad on a structure fire assignment. The rescue squad should be equipped with thermal imaging capability to enable its crew to react quickly should it become necessary to enter the building to rescue occupants or firefighters.

Recommendation 10: If a rescue squad carries a cascade system to fill SCBA cylinders, then it must be equipped with an approved blast shield containment system.

To maximize safety for fire/rescue personnel in the event of a catastrophic failure of an SCBA cylinder during filling operations, air cascade systems on rescue squads should have an approved blast shield containment system.

- **UPDATING OF SOPs**

Recommendation 11: The FRC "*Vehicle Accident Response Policy*" should be updated to reflect current administrative, organizational and operational strategy.

"*Standard Operating Procedure 24-04 - Vehicle Accident Response Policy*" requires review and revision. First, standard language and definitions require updating to reflect the current MCFRS organization. Second, if the current PIC dispatch is amended as a "tiered" response as recommended, then the SOP must reflect this change. The integration of "rescue-engines" and "rescue trucks" operating in conjunction with the rescue squad must also be addressed.