

Town of Farragut, Tennessee

Fire Prevention Office

Fire Prevention Policy, Procedure, and Submittal Requirements



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Town of Farragut
Fire Prevention Policy, Procedure, and Submittal Requirements

Table of Contents:

Mission Statement	3
Adopted Codes	4
Permits Required.....	5
Plans Required	7
Site Plans.....	8
Building Plans.....	10
Sprinkler Plans	11
Fire Alarm Systems	15
Fire Rated Partitions	21
Commercial Hood Suppression Equipment	22
Fire Protection Systems	24
LP-Gas	25
Burn Permits	26
Tar Kettles	29
Cutting and Welding Operations	30
Fireworks	32
Covered Malls.....	38
Compressed Gases	38
Flammable and Combustible Liquids	38
Hazardous Chemicals.....	39
Explosives	39
High Piled Combustible Stock	39
Places of Assembly	39
Aerosol Products	40
Tents and Air Supported Structures	40
Oxidizers and Organic Peroxides	40
Underground Storage Tanks	41

**Town of Farragut
Fire Prevention Policy, Procedure, and Submittal Requirements**

Mission Statement

The Town of Farragut, Tennessee, Fire Prevention Office in conjunction with Rural/Metro Fire Department is dedicated to the preservation of life and conservation of property through code enforcement, progressive life safety education, fire investigation, and innovative community programs.

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Adopted Codes:

2006 ICC *International Fire Code*

2006 NFPA 101 *Life Safety Code*

2006 ICC *International Building Code*

2006 ICC *International Mechanical Code*

2002 NFPA 10 *Standard for Portable Fire Extinguishers*

2002 NFPA 13 *Standard for the Installation of Sprinkler Systems*

2002 NFPA 24 *Standard for the Installation of Private Fire Service Mains and their Appurtenances*

2002 NFPA 25 *Standard for the Inspection, Testing, and Maintenance of Water- Based Fire Protection Systems*

2003 NFPA 30 *Flammable and Combustible Liquids Code*

2005 NFPA 70 *National Electrical Code*

2002 NFPA 72 *National Fire Alarm Code*

2006 NFPA 1126 *Standard for the Use of Pyrotechnics before a Proximate Audience*

This list contains the most widely referenced codes adopted at this time. Several additional codes and standards are adopted by reference. Refer to chapter 45 of the 2006 International Fire Code for a complete list.

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Permits Required

The following is a list of permits required by the Town of Farragut. (Exempt amounts are listed in the appropriate code.) An application must be picked up at the Farragut Town Hall and fees paid if applicable prior to work commencing. A * next to the listed item indicates that 3 sets of plans must also be submitted and approved prior to work commencing on the project.

<u>Type of Operation</u>	<u>Fee</u>
*Sprinkler Systems	\$0.02 per sq ft or \$100 min.
*Alarm Systems	\$0.02 per sq ft or \$100 min.
*Hood Suppression Systems	\$50.00
*Other Suppression Systems	\$50.00
Residential Burn Permits	-0- *Contact Knox County AQM
Compressed Gases	\$50.00
Covered Mall Buildings	\$50.00
Cutting and Welding	\$50.00
Explosives	\$50.00
*Fire Pumps and Related Equipment	\$50.00
Fireworks	\$50.00
Flammable and Combustible Liquids	\$50.00
*LP-Gas	\$50.00
*Private Fire Hydrants	\$50.00
Tar Kettles	\$50.00
*Standpipe Systems	\$50.00
Hazardous Chemicals	\$50.00
High Piled Combustible Stock	\$50.00
Places of Assembly	\$50.00
<i>Exception: Religious Assemblies</i>	
Tents or Air Supported Structures	\$50.00
Aerosol Products	\$50.00

Town of Farragut
Fire Prevention Policy, Procedure, and Submittal Requirements

<u>Type of Operation</u>	<u>Fee</u>
*Underground Storage Tanks (Storage/Removal)	\$50.00
Oxidizers and Organic Peroxides	\$50.00

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Plans Required:

The following is a list of plans that are required to be submitted and approved prior to work commencing on a project. Unless otherwise noted, 3 sets of plans, 24"x36", must be submitted. The following pages explain specific requirements for plans.

- Site plans: Site plans must be submitted in accordance to the Town of Farragut requirements for *Application Procedures for Site Plan Approval* (Pick up yellow packet from receptionist for details.)
- Building Plans: 2 sets of engineer or architect stamped plans must be submitted for approval.
- Sprinkler System
- Alarm System
- Shop drawings for penetrations to fire rated partitions
- Hood Suppression System
- Commercial Hood Exhaust System
- Other Automatic Fire Suppression Systems
- Fire Pumps and Related Equipment
- LP-Gas
- Private Fire Hydrants
- Standpipe Systems
- Underground Storage Tanks (Storage/Removal)
- Smoke Control Systems

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Site Plans

Site plans must be submitted in accordance to the Town of Farragut *Application Procedures for Site Plan Approval* packet. The fire division requirements are:

- Adequate fire department vehicle access. The minimum turning radius for fire apparatus is 53'6".
- Show location of fire lanes and pavement markings. Fire lanes are required to be located at all fire hydrant locations, fire protection equipment, and as required by the fire official. The marking shall be in yellow. The stripes must include the curb. The minimum height of letters is 20". Indicate fire lane with wording "FIRE LANE – NO PARKING" and appropriate striping.
- The minimum driveway width is 18' one way and 25' two-way.
- The minimum height of overhead obstructions is 13'6".
- Adequate turn around must be provided for fire department apparatus.
- Show location and size of all water mains. Fire hydrants shall be supplied by not less than a 6" diameter water main and maintain a minimum flow of 1000 GPM at 20 PSI.
- Underground fire mains must be installed or supervised by a Tennessee licensed sprinkler system contractor from the point immediately after the tap of the service main.
- Show location of all fire hydrants. Hydrants must be located within 400' driving distance to all points of the structure. The first hydrant is to be located at the beginning of the subdivision or commercial property. Modifications may be allowed for structures protected by fire sprinklers
- If using an existing fire hydrant to meet the above requirements, indicate date, time of test, flow in gpm, pressures obtained, and name of tester or agency performing test on all existing fire hydrants.
- Indicate if structure is to be sprinklered.
- Indicate if structure is to have automatic fire detection.
- Show all building locations.

Town of Farragut
Fire Prevention Policy, Procedure, and Submittal Requirements

- Indicate if any building exits shown are not accessible to entire building.
- Indicate if hazardous materials are to be stored or produced at this location.
- Indicate location of required key box.

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Building Plans

Building plans are required to be submitted per the 2006 edition of the *International Building Code* This includes but is not limited to:

- All Group A, E, and I occupancies.
- Buildings and structures three stories and more high.
- Buildings and structures 5,000 sq ft or more in area.

The change of occupancy type in these structures will qualify for meeting the requirements listed above. All required building plans, must contain the seal of the legally registered design professional (architect or engineer) in the State of Tennessee.

Certificate of Occupancy

A new building shall not be occupied or a change made in the occupancy, nature or use of a building or part of a building until after a certificate of occupancy has been issued by the building official and the fire official. This certificate will not be issued until all required electrical, gas, mechanical, plumbing, and fire protection systems have been inspected for compliance with the technical codes and other applicable laws and ordinances and released by said officials. Additionally, any site related items must be in compliance with the Farragut Municipal Code.

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Sprinkler Systems

Sprinkler system plans must be submitted on all new and existing sprinkler systems that are being altered. Work on less than 10 sprinkler heads do not require plans to be submitted. A fire sprinkler permit application must be completed and submitted with 3 sets of sprinkler plans, calculations and material submittals. A fee of \$0.02 per sq ft, will be assessed on this type of permit.

- The distance from a fire hydrant to the fire department connection shall be not less than 40' and no greater than 100'.
- The fire department connection shall be located more than 15' from a gas meter.
- Indicate location of post indicator valve or wall indicator valve on plans.
- A 175-psi pressure relief valve shall be installed on all new or modified sprinkler systems. This shall be placed on the riser or at the inspectors test valve.
- Indicate provision for maintaining riser room above 40 °F if room is not conditioned.
- Reference fire rated penetration section for fire stopping requirements.
- Sprinkler systems are required on all multi-family residential dwellings containing more than four units per building.
- Submit manufacture specification sheets for all devices. Indicate which device by highlighting, arrow, etc. if more than one device is listed per sheet.

Sprinkler plans must contain the following information as indicated in NFPA 13:

- 1) Name of owner and occupant
- 2) Location, including street address
- 3) Point of compass
- 4) Full height cross section, or schematic diagram, if required for clarity; including ceiling construction and method of protection for nonmetallic piping
- 5) Location of partitions
- 6) Location of firewalls
- 7) Occupancy class of each area or room

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Sprinkler Systems continued

- 8) Any small enclosures in which no sprinklers are to be installed
- 9) Size of city main in street and whether dead-end or circulating; and, if dead-end, direction and distance to nearest circulating main. City main test results and system elevation relative to test hydrant
- 10) Other sources of water supply, with pressure or elevation
- 11) Make, type, and nominal orifice size of sprinklers
- 12) Temperature rating and location of high-temperature sprinklers
- 13) Total area protected by each system on each floor
- 14) Number of sprinklers on each riser per floor
- 15) Total number of sprinklers on each dry pipe system, preaction system, combined dry pipe-preaction system, or deluge system.
- 16) Approximate capacity in gallon of each dry pipe system
- 17) Pipe type and schedule of wall thickness
- 18) Nominal pipe size and cutting lengths of pipe (or center to center dimensions)
- 19) Location and size of riser nipples
- 20) Type of fittings and joints and location of all welds and bends. The contractor shall specify on drawing any sections to be shop welded and the type of fittings or formations to be used
- 21) Type and locations of hangers, sleeves, braces, and methods of securing sprinklers when applicable
- 22) All control valves, check valves, drain pipes, and test connections
- 23) Make, type, model, and size of alarm or dry pipe valve
- 24) Make, type, model, and size of preaction or deluge valve
- 25) Kind and location of alarm bells
- 26) Size and location of hose outlets, hand hose, and related equipment

Town of Farragut Fire Prevention Policy, Procedure, and Submittal Requirements

Sprinkler Systems continued

- 27) Underground pipe size, length, location, weight, material, point of connection to city main; the type of valves, meters, and valve pits; and the depth that the top of the pipe is laid below grade
- 28) Piping provisions for flushing
- 29) Where the equipment is to be installed as an addition to an existing system, enough of the existing system indicated on the plans to make all conditions clear
- 30) For hydraulically designed systems, the information on the hydraulic data nameplate
- 31) A graphic representation of the scale used on all plans
- 32) Name and address of contractor
- 33) Hydraulic reference points shown on the plan shall correspond with comparable reference points on the hydraulic calculation sheets
- 34) The minimum rate of water application (density), the design area of water application, in-rack sprinkler demand, and the water required for hose streams both inside and outside
- 35) The total quantity of water and the pressure required noted at a common reference point for each system
- 36) Relative elevations of sprinklers, junction points, and supply or reference points
- 37) If room design method is used, all unprotected wall openings throughout the floor protected
- 38) Calculations of loads for sizing, and details of, sway bracing
- 39) The setting for pressure-reducing devices
- 40) Information about backflow preventers (manufacturer, size, type)
- 41) Information about antifreeze solution used (type and amount)

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Shut down requirements

Sprinkler systems must be operational at all times. If the need to shut down a sprinkler system arises for testing or maintenance of the system, Rural/Metro Fire Department dispatch must be notified at 865-675-4600 prior to shutting down the system.

Sprinkler Systems and Fire Main Inspections

All required inspections must be scheduled a minimum of **24** hours in advance.

The following is a list of **required** inspections:

- Underground pipe placement including thrust-blocks and kickers
- Underground mainline flush
- Underground hydrostatic test (Hydrostatic test of not less than 200 PSI for 2 hours or at 50 PSI in excess of the maximum pressure above 150 PSI)
- Dry pipe air test (40 PSI for 24 hours)
- Dry pipe system operation test
- Main drain flow test
- System operation test

A copy of the *Contractor's Material and Test Certificate for Underground Piping* and a copy of the *Contractor's Material and Test Certificate for Aboveground Piping* must be submitted prior to approval of the sprinkler system and underground fire protection piping.

A copy of all annual inspection reports are to be forwarded to this office.

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Fee for repeated inspections:

A permit holder is required to contact the town office to request required inspections at such time as the construction is at the appropriate stage for the inspection to be completed. It is the responsibility of the permit holder to have the appropriate construction and improvements in place at the time a request for inspection is made. When a request for inspection is made and the codes official finds that the required construction and/or improvements are inadequate to perform the required inspection, a penalty fee of fifty dollars (\$50.00) will be assessed for the purpose of recovering costs incurred for additional follow-up inspections. The penalty fee shall be collected prior to scheduling another inspection and prior to the issuance of a certificate of occupancy. The permit holder will be assessed a penalty of one hundred dollars (\$100.00) for each additional follow-up inspection required. Also the permit holder shall be responsible for notifying the town at such time as he/she is ready for the follow-up inspection to be undertaken.

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Fire Alarm Systems

Fire alarm system plans must be submitted on all new and existing fire alarm systems that are being altered. A fire alarm system permit application must be completed and submitted with 3 sets of fire alarm plans. A fee of \$0.02 per sq ft will be assessed on this type of permit. One and two family residential fire alarm systems do not require a fire alarm permit or separate plans to be submitted.

General Plan Requirements:

- A. Name, address, and phone number of the owner/responsible party
- B. Location of the system, including the street address, building number, and any other relevant information
- C. Names, address, phone numbers, and fax numbers of the permitting/installing contractor
- D. Drawing number, revision number, and date
- E. All plans associated for a particular job should be submitted on sheets of uniform size
- F. Total square footage, square footage of the largest floor, and the number of floors covered by the installation, or suite numbers covered under permit
- G. Drawings must be to scale with graphic representation of scale or distances to devices clearly delineated
- H. Scope of work for project as submitted
- I. Fire alarm systems shall be designed, tested, and accepted in accordance with NFPA 72, 2002 edition
- J. These guidelines pertain to those fire alarm systems that are required to be installed in accordance with any adopted Code or as an equivalency to a section of the code.
- K. Specify all codes and standards, by edition, followed in the design phase
- L. Specify the exact system type being planned: for example, local, remote station, proprietary, central station, auxiliary, or household

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Alarm Systems continued

- M. In “Business” and “Assembly” occupancies show the math for occupant load calculations
- N. If an addressable system, device locations shall be clear plain text so that the fire department personnel will have a clear direction of device location
- O. Submit details of deviations or revisions of the approved plans to the Town of Farragut Fire Prevention Office

Specific Plan Requirements

Prepare separate floor plans reflecting only fire alarm related elements.

- A. Floor layout, including the locations of all doors, walls, and partitions, shall include any building appurtenances that impact system requirements
- B. Points of compass
- C. Location of all devices, labeled so that the type of circuit, circuit number, and the number of the device on the circuit is shown to agree with Riser Diagram below
- D. Installation details necessary to properly clarify how the devices are to be installed
- E. Ceiling heights and slope of ceiling
- F. Occupancy of each room or area. Call special attention to any room or area which might contain high fire hazard contents or processes
- G. Symbol list and legend to agree with Riser Diagram below
- H. Main building entrance should be clearly marked, and should show the location of the fire alarm control panel, and/or fire alarm annunciator
- I. Any other information needed to make all conditions clear
- J. Clearly show all existing fire alarm related elements which will remain in place
- K. Show the planned devices approximate locations
- L. Adequately describe the type of ceiling/ceilings in areas where automatic detection is provided. (Example: smooth or flat, with beam pockets of 18 inch depth)

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Alarm Systems continued

- M. Provide the UL listed spacing and coverage specifications for each make and model of automatic detector

Riser Diagram Requirements

- A. Riser diagram(s), a.k.a. “one-line” drawings, are required to show the wire gauge, number, and types of conductors needed for proper installation. Devices should be labeled to indicate circuit type, circuit number, and the number of the devices on the circuit
- B. Provide wiring list and legend
- C. Provide material list and legend, showing quantity, symbol, description, and model numbers of all devices (**Cut sheets shall be attached.**)
- D. Special notes. These are to include any restrictions, which the manufacturer or the listing agency places on the equipment or installation of the system

Control Panel and Device Wiring Details

- A. Provide control panel wiring details. This is commonly called a “point-to-point” wiring diagram. Origin, destination, type, and style of all circuits need to be clearly shown
- B. Provide all device wiring details
- C. Provide sequence of operation, including all inputs, and the resulting primary and auxiliary functions. Functions that will not operate when the panel is on standby power need to be noted
- D. Provide source of primary power and that it is on a dedicated circuit, including electrical box I.D. and circuit breaker number
- E. Provide source(s) of standby power, and the calculations showing that they are adequate. Sufficient manufacturer information to verify figures used in calculations
- F. Any additional information required to determine the proper wiring of the system

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Alarm Systems continued

- G. Fire alarm control panel or remote annunciator must be within **50'** of main entrance

Additional Information Required

- A. Reference fire rated penetration section of this manual for fire stopping requirements
- B. Device cut sheets, with relevant information highlighted, arrowed, or boxed
- C. Device compatibility information (smoke/fire detectors and fire alarms)
- D. Power supply and standby power calculations
- E. New or existing building, sprinkled or non-sprinkled, monitored presently or not. Fixed fire protection equipment such as kitchen hood suppression, protection of special hazards, i.e. janitor closets, boiler/furnace rooms, laundry rooms
- F. Indicate all new and existing related elements interfaced with the fire alarm system. i.e. fire pumps, generators, sprinkler valves, HVAC (w/CFM), elevator rooms, wet and dry chemical suppression systems, smoke doors with hold open devices, etc.

Approval and Acceptance

- A. The Town of Farragut Fire Prevention Office shall be notified prior to installation or alteration of equipment or wiring. A minimum of **24** hours advanced notice shall be given for the acceptance test. All devices will be tested. Installer must have appropriate equipment to perform each type of acceptance test
- B. Before requesting final approval of the installation, the installing contractor shall furnish a written statement to the effect that the system has been installed in accordance with approved plans and tested in accordance with the manufacture's specifications and appropriate NFPA requirements

All systems shall have a certificate of completion. A copy of the certificate shall be given to the system owner and the Town of Farragut Fire Prevention Office after completion of the installation, wiring test, and the operational acceptance testing.

Town of Farragut Fire Prevention Policy, Procedure, and Submittal Requirements

Alarm Systems continued

- C. Per NFPA 72, service personnel should be properly certified for the particular system that they are installing. It should be clear that the vendor have these certifications
- D. Per NFPA 72, after any component is added, deleted, or modified on any part of the hardware or software is modified, 100% of the operational changes must be tested and 10% of the non-affected devices must be tested

Permanent Records and Required As-Built Documentation

- A. Documentation (drawings) should be verified by a visual inspection of all wire runs, junctions, and/or T-Taps for all initiating device circuits
- B. Certificate of Completion attached at the end of the specification must be finalized
- C. Contractor shall furnish final As-Built drawings to the Town of Farragut Fire Prevention Office. These drawings may have to be certified by a registered engineer competent in the technical field related to fire protection or a technician certified in Fire Protection and Alarm System design by the National Institute of Certified Engineering Technician (NICET)

Fee for repeated inspections:

A permit holder is required to contact the town office to request required inspections at such time as the construction is at the appropriate stage for the inspection to be completed. It is the responsibility of the permit holder to have the appropriate construction and improvements in place at the time a request for inspection is made. When a request for inspection is made and the codes official finds that the required construction and/or improvements are inadequate to perform the required inspection, a penalty fee of fifty dollars (\$50.00) will be assessed for the purpose of recovering costs incurred for additional follow-up inspections. The penalty fee shall be collected prior to scheduling another inspection and prior to the issuance of a certificate of occupancy. The permit holder will be assessed a penalty of one hundred dollars (\$100.00) for each additional follow-up inspection required. Also the permit holder shall be responsible for

Town of Farragut Fire Prevention Policy, Procedure, and Submittal Requirements

Alarm Systems continued

notifying the town at such time as he/she is ready for the follow-up inspection to be undertaken.

Inspections

All test and inspections as required in Chapter 10 of NFPA 72 shall be performed and documented. A copy of this documentation shall be forwarded to the Town of Farragut Fire Prevention Office.

One and Two Family Dwelling Fire Alarm Systems

One and two family residential dwellings are required to have smoke detectors installed in **each** sleeping room, outside of each separate sleeping area in the immediate vicinity of the bedrooms and on each additional story of the dwelling, including basements and cellars but not including crawl spaces and uninhabitable attics. All detectors shall be interconnected such that the actuation of one alarm will actuate all alarms in the individual unit. All detectors shall be approved and listed and shall be installed in accordance to the manufacturer's instructions.

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Fire Rated Partitions

Fire rated partitions must be protected as required by the *International Building Code*, *Life Safety Code*, and *National Electrical Code*. Three (3) sets of fire rated partition protection plans must be submitted and approved. Failure to comply **prior** to installation of materials may require the removal and replacement of materials with specified products. The plans shall contain the following information:

- A detailed drawing showing the appropriate fire rated assembly and penetration type from an approved testing agency. These drawings must represent field conditions and indicate the testing method used for approval
- Manufacturers cut sheets for the specific products being used
- A separate drawing must be submitted for each type of penetration being protected
- Joint systems must meet the cycling requirements of ASTM E 1399
- All ridge vents must terminate at least 2'0" on each side of the rated separation wall. When wrap backs are used, the ridge vents shall be terminated at least 4'0" from the rated separation.

Inspections

Inspections of fire rated assemblies are required prior to covering the assembly or painting. The inspection must be scheduled at least **24** hours in advance. A re-inspection fee of \$50.00 dollars will be assessed the construction is determined to be inadequate or incomplete. Subsequent re-inspections will be assessed a fee of \$100.00 for each re-inspection required.

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Commercial Hood Suppression Equipment

Commercial hood suppression equipment plans must be submitted on all new and existing systems that are being altered. A commercial hood suppression systems permit application must be completed and submitted with 3 sets of plans. A fee of \$50.00 will be assessed on this type of permit. The ventilation control and fire protection equipment must meet the minimum standards in the 2004 edition of *NFPA 96* and 2006 *International Mechanical Code*.

Plans Required

The following criteria must be shown on commercial hood suppression drawings:

- An accurate to scale drawing of all cooking equipment to be located under the hood.
- Show penetrations of combustible and non-combustible materials and clearances to each.
- Shop drawings of all hood and duct components, including cleanouts.
- Submit calculations for air balance of the make up air and exhaust.
- Fire extinguishing system must meet requirements of UL 300 or other equivalent standard.
- Grease filters must be tested and listed to meet the UL 1046 standard.
- Access panels shall be labeled “ACCESS PANEL-DO NOT OBSTRUCT”
- Show location of exhaust fan and makeup air intake.
- Show interface with fire alarm system, if installed, in structure.
- Shop drawings of piping and nozzles (indicating spray coverage and flow)
- Show fuel and electrical shut-off devices.
- Indicate type and storage of suppression agent.
- Manual cut-off devices shall be located between 42 and 60 inches above the floor in the path of exit or egress and clearly identify the hazard protected.
- A class K fire extinguisher is required.

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Commercial Hood Suppression Equipment continued

Fee for repeated inspections:

A permit holder is required to contact the town office to request required inspections at such time as the construction is at the appropriate stage for the inspection to be completed. It is the responsibility of the permit holder to have the appropriate construction and improvements in place at the time a request for inspection is made. When a request for inspection is made and the codes official finds that the required construction and/or improvements are inadequate to perform the required inspection, a penalty fee of fifty dollars (\$50.00) will be assessed for the purpose of recovering costs incurred for additional follow-up inspections. The penalty fee shall be collected prior to scheduling another inspection and prior to the issuance of a certificate of occupancy. The permit holder will be assessed a penalty of one hundred dollars (\$100.00) for each additional follow-up inspection required. Also the permit holder shall be responsible for notifying the town at such time as he/she is ready for the follow-up inspection to be undertaken.

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Fire Protection Systems

The addition, modification, or removal of fire protection systems listed below requires that a permit be obtained prior to work commencing. Three (3) sets of plans must be submitted and a \$50.00 permit fee will be assessed.

- Fire pumps and related equipment
- Private fire hydrants
- Standpipe systems
- Other fire suppression systems (Carbon Dioxide, Halon, Gaylord, etc.)

Fee for repeated inspections:

A permit holder is required to contact the town office to request required inspections at such time as the construction is at the appropriate stage for the inspection to be completed. It is the responsibility of the permit holder to have the appropriate construction and improvements in place at the time a request for inspection is made. When a request for inspection is made and the codes official finds that the required construction and/or improvements are inadequate to perform the required inspection, a penalty fee of fifty dollars (\$50.00) will be assessed for the purpose of recovering costs incurred for additional follow-up inspections. The penalty fee shall be collected prior to scheduling another inspection and prior to the issuance of a certificate of occupancy. The permit holder will be assessed a penalty of one hundred dollars (\$100.00) for each additional follow-up inspection required. Also the permit holder shall be responsible for notifying the town at such time as he/she is ready for the follow-up inspection to be undertaken.

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

LP-Gas

LP-Gas installation plans must be submitted on all new and existing systems that are being altered. Plans must also be submitted for portable liquid propane gas exchange stations. An LP-Gas permit application must be completed and submitted with 3 sets plans. A fee of \$50.00 will be assessed on this type of permit. The installation must meet all standards of the 2004 edition of *NFPA 58*.

Plans required:

Plans are required to be submitted for all portable liquid propane exchange stations and all LP-Gas cylinder installations greater than 125 gallons in size. The plans shall contain the following information:

- Site plan showing location of cylinder and/or exchange station including distances to structures, property lines, building openings, other LP containers, and/or oxygen containers.

Portable Containers Awaiting Use, Resale, or Exchange

Portable containers awaiting use, resale, or exchange must meet the criteria of chapter 5 of *NFPA 58*. This includes, but is not limited to:

- Containers cannot be located closer than 5 feet to any building exit.
- Containers must be protected from vehicle impact
- A minimum of one 18 lb dry chemical fire extinguisher with a B: C rating shall be provided within 50 feet of travel distance

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Burn Permits

A burn permit is required to be obtained from Knox County Air Quality Management for any open fire on private property or a fire in any public street, alley, road, or other public or private ground. The Town of Farragut has established a coordinated effort with Knox County Department of Air Quality Management to provide permitting and regulating of open burning. The person holding the permit must adhere to the following regulations:

Exceptions to permit requirement:

Open burning, as listed below, may be conducted without permits subject to specified limitations and provided further that no detriment to public health, no land, air, or water traffic hazard is created, and no public nuisance is or will be created by such open burning. This grant of exemption shall in no way relieve the person responsible for such burning from the consequences or the damages, injuries, or claims resulting from such burning, or of the responsibility of obtaining any other permit from any other agency.

- A. Fire used for cooking food, ceremonial, or recreation purposes, including barbecues, and outdoor fireplaces. This exception does not include commercial food preparation facilities and their operation.
- B. Comfort heating on construction jobs provided the burning is in suitable metal containers and only untreated wood is burned. This is not to be construed to allow burning of painted or chemically treated wood for comfort heating. Open burning for comfort heat is not allowed when the ambient temperature exceeds 45°F.

Open burning with a permit:

Open burning may be allowed in the Town of Farragut when a valid burn permit has been obtained from Knox County Department of Air Quality Management for the following purposes prior to the initiation of the open burning provided no detriment to public health, no land, air, or water traffic hazard is created, and no public nuisance is or will be created by such open burning.

- A. Open burning may be conducted to clear land of brush wood (of which no part may exceed three (3) inches in diameter) grown on that land where the land is being maintained for the following purposes:
 - Established private residences, consisting of one or two dwelling units.
 - Farming operations, growing crops for human or animal consumption or raising livestock. Note: commercial nursery operations are not included in this description.
 - Established church congregational properties.

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Burn Permits continued

- B. Open fires may be set for the training and instruction of public or private firefighting personnel. Provided all applicable conditions are met: including, but not limited to:
1. Application is made not less than 10 days prior to the proposed burn date. Failure to submit completed forms or to supply any requested supplementary information concerning a proposed open burning operation shall constitute just cause for refusing issuance of a permit.
 2. The following certifications must be made with the application, on the date of the application:
 - Certification that the structure is free of asbestos
 - Certification that the structure is free of asphalt shingles
 - Certification that the burn is for training purposes and a completed checklist from *NFPA 1403*
 - Certification that a traffic hazard will not be generated
 3. Routine demolition of structures via supervised burning by responsible fire control personnel will not be considered fire training or an elimination of a fire hazard. Therefore, such activity deemed not for training or fire hazard elimination purposes is prohibited.
- C. Open burning controlled by an air curtain destructor may be conducted when operated as directed by this Office.

Open Burning Conditions – With Permit

All open burning shall be between the hours of 9:00 a.m. and 3:00 p.m. or as authorized by the Fire Prevention Office.

- A. All vestiges of open burning shall be non-existent in the air no later than 4:00 p.m. NOTE: Materials may not be burned in piles exceeding 144 cubic feet.
- B. Under adverse meteorological or weather conditions as determined by the Fire Marshal or his/her designee, all permits shall be invalid, and no open burning shall be allowed.
- C. Permits are only valid for one (1) day unless specified otherwise and the effective date(s) for open burning shall appear on the permit form.
- D. Permits for the operation of air curtain destructors must be posted at the job site.
- E. The granting of an open burning permit shall in no way relieve the person responsible for such burning from the consequences or the damages, injuries, or

Town of Farragut
Fire Prevention Policy, Procedure, and Submittal Requirements

claims resulting from such burning, or of the responsibility of obtaining any other permit from any other agency.

Burn Permits continued

The above listed paragraphs are not to be construed to allow the open burning of leaves, tires, plastics, synthetics, grass clippings, stumps, waste fluids, garbage, treated wood, wire insulation, or construction rubbish including, but not limited to shingles, siding, insulation, asphalt, or coal tar impregnated products, etc.

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Tar Kettles

A permit is required to be obtained prior to use of a tar kettle for roofing operations. A permit fee of \$50.00 will be assessed. The permit shall apply to any type of equipment, including, but not limited to, chassis-mounted equipment used for preheating or heating tar, asphalt, pitch, or similar substances for roofs, floors, pipes, or similar object. Tar kettle operations shall meet the following criteria:

- Operating kettles shall not be located inside of, or on the roof of any building
- The kettle shall be operated in a controlled area identified by traffic cones, barriers, or other suitable means as approved by the Fire Marshal
- An operating kettle shall be attended by a minimum of 1 employee knowledgeable of the operations and hazards. The employee shall be within 25 feet of the kettle and have the kettle within sight.
- Two approved 20:BC fire extinguishers shall be provided and maintained within 25 ft of the operating kettle. Fire extinguishers shall be mounted in an accessible and visible or identified location.
- Roofing kettles shall not block exits, means of egress, gates, roadways, or entrances. And in no case shall a kettle be closer than 10 ft from exits or means of egress.

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Cutting and Welding Operations

A permit is required to be obtained prior to the use of cutting and/or welding operations. A permit fee of \$50.00 will be assessed. Cutting and welding operations shall comply with all requirements of *NFPA 51B*. A permit shall not be required where a permit system established for control of the fire hazards involved have been approved by the Fire Marshal.

Permissible Area

Cutting or welding shall be permitted only in areas that are or have been made fire safe. The cutting or welding operations shall be located either:

- A specific area designated or approved for such work, such as a maintenance shop or a detached outside location that shall be of non-combustible or fire-resistive construction, essentially free of combustible and flammable contents, and suitably segregated for adjacent areas; or,
- Where work cannot be moved practically, as in most construction work, an area made fire safe by removing combustible or protecting combustibles from ignition sources.

Cutting or welding shall not be permitted:

- In areas not authorized by management
- In sprinklered buildings while such protection is impaired
- In the presence of explosive atmospheres or explosive atmospheres that can develop inside uncleaned or improperly prepared drums, tanks, or other containers and equipment that have previously contained such materials or that can develop in areas with an accumulation of combustible dusts
- In areas near the storage of large quantities of exposed, readily ignitable materials.

The area shall be inspected by the permit holder or designee prior to work and at least once a day while the permit is in effect to ensure that the area is fire safe.

Fire Watch

- Fire watchers shall have fire extinguishing equipment readily available and be trained in its use
- Fire watchers shall be familiar with the facility and procedures for sounding an alarm in the event of a fire
- Fire watchers shall watch for fires in all exposed areas, and try to extinguish them first only when obviously within the capacity of the equipment available, or otherwise sound the alarm immediately

Town of Farragut
Fire Prevention Policy, Procedure, and Submittal Requirements

Cutting and Welding continued

- A fire watch shall be maintained for at least a half hour after completion of cutting or welding operations to detect and extinguish smoldering fires

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Fireworks

Fireworks may only be displayed with a permit. A \$50.00 permit fee will be assessed per event. The application for permit must be submitted no less than ten (10) days prior to the planned event. The approved permit and plans must be kept on site. The fireworks event must meet all requirements of the applicable NFPA standard:

- NFPA 1123 *Code for Fireworks Display*
- NFPA 1126 *Standard for the Use of Pyrotechnics before a Proximate Audience*

Outdoor Fireworks Displays

An application for permit for fireworks display must contain the following information:

1. The name, address, and phone number of the individual, group, or organization sponsoring the outdoor fireworks display.
2. The name, address, and phone number of the supplier of the fireworks to the operator, if different than that of the operator.
3. Evidence of financial responsibility by the sponsor of the event or festival and by the operator of the fireworks display. This could take the form of an insurance certificate or other document attesting to coverage or responsibility.
4. The date and time of day at which the outdoor fireworks display is to be held, with a proposed rain/wind date and time in the event the display is postponed.
5. The exact location planned for the outdoor fireworks display.
6. Confirmation of the state license of the operator and the number of assistants that are to be present.
7. The approximate number and kinds of fireworks to be discharged.
8. The manner and place of storage of such fireworks prior to delivery to the outdoor fireworks display site.
9. A diagram of the grounds on which the outdoor fireworks display is to be held showing the point at which the fireworks are to be discharged, the location of all buildings, highways, and other lines of communication, the lines behind which the audience is to be restrained, and the location of other possible overhead obstructions.

Planning and Preparation

The following information is from Appendix F of NFPA 1123 and will be used as a planning and preparation guide:

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Fireworks continued

F-1.1 Approval.

The outdoor display of fireworks should only be conducted when and where approved by the authority having jurisdiction. To the extent required by the authority having jurisdiction, written documentation describing the location and operation of the outdoor display should be submitted by the display operator, sponsor, or both for review and approval by the authority having jurisdiction. The authority having jurisdiction should review these documents as well as inspect and approve the display site prior to issuing any approval to conduct an outdoor display.

F-1.2 Revocation or Modification.

The authority having jurisdiction can revoke or restrict any approval to conduct an outdoor display whenever conditions such as site location, weather, traffic, communication, security procedures, available public protection, or other safety precautions make such action necessary to safeguard the health, safety, or welfare of the public.

F-1.2.1

The authority having jurisdiction should determine the level of fire protection to be provided by the display operator, sponsor, or both for any outdoor display. Standby fire marshals, fire fighters, and fire equipment might be required by the authority having jurisdiction.

F-1.2.2

Wherever any condition deemed hazardous by the authority having jurisdiction or the operator arises before or during an outdoor display, the display should be interrupted or postponed until the condition is corrected or the hazard is abated. Such conditions might include adverse weather conditions or crowd behavior.

F-1.3 Other Approvals.

Public displays conducted at locations subject to multiple jurisdictions should be reviewed and approved where required by each applicable authority having jurisdiction.

F-1.3.1

Transportation and storage of fireworks, in particular interstate transit, should be done in accordance with the appropriate federal or state regulatory authority.

F-1.3.1.1

Interstate commerce in fireworks is regulated in the United States by the Department of Treasury, Bureau of Alcohol, Tobacco, and Firearms (ATF). An ATF license is required to purchase fireworks classed as 1.3G explosives.

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Fireworks continued

F-1.3.4

Where necessary, permission to close roadways, divert traffic, or restrict access to roadways or other public rights of way should be obtained from the relevant authorities.

F-1.4 Proof of Insurance.

The display operator, sponsor, or both should present verifiable proof of liability insurance of a type and amount deemed appropriate by the authority having jurisdiction.

F-1.4.1

Separate insurance coverage might be required for personal injuries or accidents arising from other aspects of the event. Insurance is intended to indemnify the operator in the event of an accident arising from the outdoor display.

F-2 Site Plans.

F-2.1

Public displays are often conducted at the same site annually or on a regular periodic basis. Plans can be reused or filed with the authority having jurisdiction for reference whenever an application is made.

F-2.1.1

The display operator, sponsor, or both should prepare and submit site plans to the authority having jurisdiction for approval. These diagrams should be drawn to approximate scale, should illustrate compliance with Chapter 3, and to the extent required by the authority having jurisdiction, should contain the information described in this section.

- Display site — identify significant ground features, public rights of way, significant buildings or structures, overhead obstructions, parking areas, and spectator viewing areas;
- Location of fireworks storage areas;
- Fallout area, including dimensions;
- North arrow;
- Likely wind direction;
- Location of significant roadways, including access and control points;
- Traffic plans indicating the flow of vehicles into and out of the site before and after the display; and
- Location of emergency vehicle staging area and access routes.

F-2.1.2 Discharge Details.

To the extent required by the authority having jurisdiction, diagrams should be prepared and submitted to illustrate the general arrangement and size of mortars and the location of

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Fireworks continued

shell storage at the discharge site. These diagrams should include the location of the electrical firing unit.

Fireworks continued

F-2.1.3 Changes.

Plans should be revised or updated as often as required by the authority having jurisdiction to maintain their accuracy. Any changes in site conditions between the time plans are prepared and the display is conducted should be brought to the immediate attention of the authority having jurisdiction and the display operator, sponsor, or both.

F-3 Operating Procedures.

F-3.1 Event Procedures.

Where required, a description of the public display event should be prepared by the sponsor and submitted to the authority having jurisdiction for review and approval. To the extent required by the authority having jurisdiction, event descriptions should include the time and schedule of events, attendance estimates, and procedures for the following:

- Communications;
- Weather monitoring;
- Site security;
- Crowd control;
- Emergency forces notification;
- First-aid fire fighting; and
- Emergency medical services.

F-3.2 Firing Procedures.

If required by the authority having jurisdiction, operating procedures should be prepared and submitted to the authority having jurisdiction for review and approval. Where required, the operating procedures should illustrate compliance with Chapter 4 and contain the following information:

- Identification of operator;
- Copies of applicable display personnel licenses, permits, or certificates of fitness; and
- Description of the firing method.

F-3.3 Termination Procedures.

If required by the authority having jurisdiction a description of the procedures to be taken upon completion of the outdoor display should be prepared and submitted to the authority having jurisdiction. Where required, the termination procedures should contain the following information:

- Procedures for inspecting the discharge site and fallout area for any defective or unexploded fireworks; and

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Fireworks continued

- Procedures for disposing of defective fireworks and fireworks materials.

F-3.4 Emergency Procedures.

Where required by the authority having jurisdiction, emergency instructions should be prepared and submitted to the authority having jurisdiction for approval. If required, these procedures should include the following information:

- Description of the means of alerting staff of emergencies;
- Identification of the signal and means to notify the display operator, sponsor, or both to terminate the loading or firing of fireworks in the event a hazard arises during the outdoor display;
- Identification of the means of notifying public emergency forces; and
- Emergency reporting instructions describing the information that should be provided to emergency operators.

F-3.4.1

Where required for safety by the authority having jurisdiction, a public address system should be provided to ensure the timely and effective notification of spectators of conditions affecting their safety. Public address announcements should be used to ensure an orderly spectator response. The following are situations that can be anticipated at an event of this type:

- Fire;
- Medical emergency;
- Vehicle accident;
- Crowd disturbance; and
- Adverse weather conditions.

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Firework Displays before a Proximate Audience

An application for permit for fireworks display before a proximate audience must contain the following information:

1. The name of the person, group, or organization sponsoring the production.
2. The date and time of day of the production.
3. The exact location of the production.
4. The name of the person actually in charge of firing the pyrotechnics (i.e., the pyrotechnic operator).
5. The number, names, and ages of all assistants who are to be present.
6. The qualifications of the pyrotechnic operator.
7. The pyrotechnic experience of the operator.
8. Confirmation of any applicable state and federal licenses held by the operator or assistant(s).
9. Evidence of the permittee's insurance carrier or financial responsibility.
10. The number and types of pyrotechnic devices and materials to be used, the operator's experience with those devices and effects, and a definition of the general responsibilities of assistants.
11. A diagram of the grounds or facilities where the production is to be held. This diagram shall show the point at which the pyrotechnic devices are to be fired, the fallout radius for each pyrotechnic device used in the performance, and the lines behind which the audience shall be restrained.
12. The point of on-site assembly of pyrotechnic devices.
13. The manner and place of storage of the pyrotechnic materials and devices.
14. A material safety data sheet (MSDS) for the pyrotechnic material(s) to be used.
15. Certifications that the set, scenery, and rigging materials are inherently flame-retardant or have been treated to achieve flame retardancy.

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Covered Mall Buildings

A permit shall be required annually for facilities that utilize the mall area for exhibits or displays. Exhibits and displays include community service projects, sidewalk sales, holiday sales, etc. A \$50.00 permit fee shall be assessed.

Compressed Gases

A permit shall be required for the storage, handling, or use at normal temperature and pressure of more than 2,000 cu ft of flammable gas or 6,000 cu. ft. of nonflammable compressed gas. A \$50.00 permit fee will be assessed. The permit must be renewed annually.

Flammable and Combustible Liquids

A permit must be obtained for the following:

1. Storage, handling or use of Class I flammable liquids in excess of 3 gallons in any dwelling or other place of human habitation, or in excess of 6 gallons in any other building or other occupancy, or in excess of 10 gallons outside of any building.

Exceptions:

- The storage or use of flammable liquids in the fuel tank of a motor vehicle, aircraft, motorboat, mobile power plant or mobile heating plant.
 - The storage or use of paints, oils, varnishes or similar flammable mixtures when such liquids are stored for maintenance, painting, or similar purposes for a period of not more than 30 days.
2. Storage, handling, or use of Class II or III liquids in excess of 25 gallons in a building, or in excess of 60 gallons outside of a building, except for fuel oil used in connection with oil burning equipment.
 3. For the storage of flammable or combustible liquids in stationary tanks.

An annual permit fee of \$50.00 will be assessed.

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Hazardous Chemicals

An annual permit will be required for the storage, dispensing, use, or handling of hazardous materials in excess of those quantities listed in 2006 *International Fire Prevention Code*. A \$50.00 fee will be assessed for the permit.

Explosives

A permit will be required for explosives meeting the following criteria:

1. To manufacture, possess, store, sell, or otherwise dispose of explosive materials.
2. To transport explosive materials.
3. To use explosive materials.
4. To operate a terminal for handling explosive materials.

A separate permit, valid for no more than 90 days, shall be required to conduct blasting operations. A \$50.00 fee will be assessed for each permit.

High Piled Combustible Stock

No person shall use any building or portion of a building, exceeding 2,500 sq ft for the storage of high piled combustible stock without first obtaining a permit from the fire official. A floor plan showing the dimensions and locations of stockpiles and aisles shall be submitted upon application for the permit. A \$50.00 permit fee will be assessed.

Places of Assembly

No place of assembly with an occupant load greater than 100 shall be maintained, operated, or used without an annual permit. A permit fee of \$50.00 will be assessed.

Exception: Religious occupancies will be exempt from the permit requirement.

Aerosol Products

A permit shall be required for the manufacture, storage, and retail display of Level 2 and Level 3 aerosol products in excess of 500 lb. net weight. A \$50.00 permit fee will be assessed.

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Tents or Air Supported Structures

A permit will be required to erect, operate, or maintain any tent or air supported structure covering an area in excess of 200 sq. ft. or canopies in excess of 400 sq. ft. A \$50.00 permit fee will be assessed for such an operation. The person applying for the permit certifies that all manufacturers' specifications will be adhered while erecting the tent or air supported structure. Chapter 24 of the *2006 International Fire Code* addresses the requirements to be met prior to a permit being issued.

Oxidizers and Organic Peroxides

A permit will be required for oxidizers and organic peroxides meeting any of the following criteria:

- Materials classified as having more than one hazard category if the quantity limits are exceeded in any category
- Repair, abandonment, removal, placing temporarily out-of-service, closing, or substantial modification a storage facility
- Installation, modification, alteration, or addition to any stationary aboveground or underground hazardous materials storage tank, secondary containment system, ventilation system, exhaust treatment system, explosion venting or suppression systems, or gas detection systems
- Storage, handling, or use of chlorine
- Installation or modification to any chlorine gas system

Oxidizers and organic peroxides will be regulated by the *2006 International Fire Code*.

A permit fee of \$50.00 will be assessed.

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Underground Storage Tanks

A permit will be required for the installation, removal, or abandonment of underground storage tanks. A permit fee of \$50.00 will be assessed. Three (3) sets of plans must be submitted and approved prior to a permit being issued.

No product shall be introduced into tanks or lines until the Fire Marshal or designee has witnessed the required test(s) or inspections and granted written approval.

Plans:

1. Three copies of the completed site plan must be submitted for review and approval, showing location of the tank(s), distances from the tank(s) to all above or underground structures, and location and layout of all piping and dispensing units associated with the tank(s).
2. Three copies of complete elevation plans shall also be submitted, showing depth of burial, fill material, overtop slab if present, ballast slab if present, fill and vent piping and vapor recovery. Tank specifications including manufacturer's cut sheets shall also be included. Information on spill and overflow protection shall be shown.
3. Three copies of buoyancy calculations from the tank manufacturer or submitter for underground tanks.

Inspections:

Prior to pit closure and covering of product lines, the testing and inspection requirements in NFPA 30 shall be taken by the installer and witnessed by the Fire Prevention Office official. A minimum of 24 hours notice will be required for inspections.

Removal/Abandonment of Storage Tanks:

A permit will be required prior to the removal/abandonment of underground storage tanks. The removal shall be in accordance with NFPA 30 Appendix C and the following:

Temporarily out of Service (Maximum 90 Day Period)

1. Cap or plug all lines as FILL LINE, GAGE OPENING, PUMP SUCTION, and VAPOR RETURN.
2. Secure all lines against tampering.
3. Disconnect piping at all openings

Abandoning Tanks in Place

1. Remove all flammable and combustible liquid from tank and from all connecting lines.
2. Disconnect the SUCTION, INLET, GAGE, AND VENT LINES.
3. Fill the tank completely with an inert solid material.
4. Cap remaining underground piping.

Town of Farragut

Fire Prevention Policy, Procedure, and Submittal Requirements

Removal of Underground Tanks

1. Remove all flammable or combustible liquid from tank and from all connecting lines.
2. Disconnect piping at all tank openings.
3. Remove sections of connecting lines that are not to be used further.
4. Cap or plug all tank openings.
5. Once fuel is removed, fill with dry ice or inert gas before removal from pit.
6. Oxygen and LEL levels must be monitored on site during procedures.
7. Tank may be gas freed on site if it can be done safely. If not, transport to an inaccessible area.
8. If disposed of as junk, tank should be retested for flammable vapors.
9. After junking, and prior to releasing to a junk dealer, tank should be rendered unfit to use by making a sufficient number of holes or openings in it.