Utah State

Fire Marshal's Office

Fire Alarm Certification Program
Basic Fire Alarm Technician
Task Book
September 2016

Task Book Assigned To:
Individual's Name **Michael Kimball**
Company Name **Fire Suppression Services Inc.**
Date Issued by State Fire Marshal's Office

The material contained in this book accurately defines the performance expected of the position for which it was developed. This task book is approved for use as a position qualification document in accordance with the instructions contained herein.

EVALUATOR

DO NOT COMPLETE THIS UNLESS YOU ARE RECOMMEDNING THE APPLICANT FOR CERTIFICATION

VERIFICATION OF COMPLETED TASK BOOK FOR THE POSITION OF

BASIC; FIRE ALARM; or MASTER TECHNICIAN

FINAL EVALUATOR'S VERIFICATION

I verify that all tasks have been performed and are documented with appropriate initials.

FINAL EVALUATOR'S SIGNATURE AND DATE

EVALUATOR'S PRINTED NAME, TITLE, BUSINESS NAME, AND PHONE NUMBER

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UTAH STATE FIRE MARSHAL
TASK BOOK for

BASIC FIRE ALARM TECHNICIAN

A Task Book (TB) has been developed for this position to meet the requirements as established in Utah Code R710-11 as administered by the Utah State Fire Marshal's Office. The Task Book lists the performance requirements (tasks) for the specific position in a format that allows an applicant to be evaluated against written guidelines. Successful performance of all tasks, as observed and recorded by an evaluator, will result in a recommendation to the State Fire Marshal's Office that the applicant is eligible to be certified as a Basic Fire Alarm Technician.

Evaluation and confirmation of the applicant's performance of all the tasks may involve more that one evaluator. All bullet statements within a task that require an action (contain an action verb) must be demonstrated before that task can be signed off. A more detailed description of this process, definitions of terms, and responsibilities are included in NFPA 72.

The Company is responsible for:

- Selecting technician candidate that meet its needs and meet employment requirements.
- Ensuring that the technician candidate meets the requirements included in the prerequisites for this certification.
- Explaining to the technician candidate the purpose and processes of the Task Book as well as the applicant's responsibilities.
- Providing opportunities for evaluation and/or making the technician candidate available for evaluation.
- Provide an evaluator for assignments.
- Tracking progress of the technician candidate.
- Confirming Task Book completion.
- Determining eligibility and recommendation for examination.

The Basic Technician Candidate is Responsible for:

- Reviewing and understanding the instructions in the Task Book.
- Identifying desired objectives/goals.
- Providing background information to an evaluator
- Satisfactorily demonstrating completion of all tasks listed in the Task Book.
- Assuring the Evaluation Record is complete.
- Notifying company personnel when the Task Book is completed and providing a copy.
- Keeping the original Task Book in personal records.

The Evaluator is Responsible for:

- Understanding the Fire Alarm Basic Technician Task Book, examination and certification program.
- Being qualified and proficient in the systems being evaluated.

- Meeting with the technician candidate and determining past experience, current qualifications, and desired objectives/goals.
- Reviewing tasks with the technician candidate.
- Explaining to the technician candidate the evaluation procedures that will be utilized and which objectives may be attained.
- Identifying tasks to be performed during the evaluation period.
- Accurately evaluating and recording demonstrated performance of tasks. Satisfactory performance shall be documented by dating and initialing completion of the task.

The Final Evaluator is Responsible for:

- Signing the verification statement inside the front cover of the Task Book when all tasks have been initiated and if the technician candidate is recommended for examination.

R710-11 Fire Alarm Inspection, Testing and Maintenance

Manipulative Skills Task Book

Task	Explain how task was performed and why.	Business Address where task was Completed.	Evaluator Initial, Certification No. Completion date of task.
Determine if original installation drawings including floor plan and wiring diagrams are on site.			
Determine if the previous year's inspection and testing records are on site.			
Determine if the building has been remodeled or altered since the last inspection.			

Visual Inspection

Fire Alarm Control Panel (1) Fuses			
(2) Interfaced equipment			
(3) Lamps and LEDs			
(4) Primary power supply			
(5) Trouble signals			
In-building fire emergency voice/alarm communications equipment			
Batteries Check for corrosion or leakage, Tightness of connections, Electrolyte level in lead-acid batteries			
Remote annunciators			
Notification appliance circuit power extenders			
Remote power supplies			
Transient Suppressors (Lightning protection)			
Fiber-Optic Cable Connections			

Initiating Devices – Verify devices are free from damage, visible and unobstructed. (a) Air Sampling			
(b) Duct Detectors			
(c) Electromechanical releasing devices			
(d) Fire Extinguishing Systems or Suppression System Switches			
(e) Manual fire alarm boxes			
(f) Heat detectors			
(g) Radiant energy fire detectors			
(h) Video image smoke and fire detectors			
(i) Smoke detectors			
(j) Projected beam smoke detectors			
(k) Supervisory Signal Devices			
(l) Waterflow devices			
Combination Systems (a) Fire extinguisher monitoring device/systems			
(b) Carbon monoxide detectors/systems			
Fire alarm control interface and emergency control function interface.			
Guard's tour equipment			
Alarm Notification Appliances - verify that appliances are free of damage and are unobstructed			
Exit Marking Audible Notificatio Appliances			
Area of refuge two-way Communication system			

Mass notification System, (a) Control equipment (1) Fuses			
(2) Interfaces			
(3) Lamps			
(4) Primary (main Power supply)			
Secondary power batteries			
Initiating devices			
Notification appliances			
Mass notification system Transceivers			
Verify that no changes have been made that affect equipment performance			

TESTING

Monitoring company notified tha testing will begin and expected duration			
Building occupants notified that testing will begin and expected duration			
Precautions taken to prevent inadvertent actuation of suppression systems			
Fire Alarm Control Panel - Inputs (1) Verify correct receipt of alarm signal			
(2) Verify correct receipt of supervisory signal			
(3) Verify correct receipt of trouble signal			

Fire Alarm Control Panel-Outputs (1) Verify operation of evacuation signals			
(2) Verify door unlocking mechanism			
(3) Verify magnetic door release			
(4) Verify smoke or fire/smoke damper operation			
(5) Verify fan shut-down where required			
FACP Circuit Supervision (1) Verify detection of open circuits			
(2) Verify detection of ground faults			
(3) Verify detection of loss of ac power			
(4) Verify detection of loss of secondary power supply (batteries)			
FACP Trouble Signals (1) Verify operation of audible and visual trouble signals. Verify ring-back feature where applicable.			
(2) Verify the intended function of disconnect switches.			
(3) Verify ground-fault Monitoring circuit.			
(4) Verify transmission of signals to off-premises location.			
Emergency communications Equipment (a) Amplifier/tone generators Verify switching and operation Of backup equipment.			

(b) Call-in signal silence Operate/function and verify receipt of visual and audible signals at control unit.			
(c) Off-hook indicator (ring down) Install phone set or remove phone from hook and verify receipt of signal at control unit.			
(d) Phone jacks visually inspect phone jack and initiate communications path through jack.			
(e) Phone set Activate each phone set and verify correct operation.			
(f) System performance Operate system with a minimum of any five handsets simultaneously. Verify voice quality/clarity.			
Engine-Driven Generator Verify operation of the generator			
Secondary (Standby) Power Supply (1) Disconnect ac power and verify trouble signal			
(2) Verify system's standby and alarm current demand and verify the batteries ability to meet the standby and alarm requirements			
(3) Activate and run the alarm under battery power for 5 minutes or 15 minutes if the system has voice/evacuation requirement			
Uninterruptible power supply UPS Verify by building owner that the power source complies with NFPA 111.			
Battery tests (a) Lead-acid type			

(1) Battery replacement verify that the recharge battery voltage or current is within manufacture's recommendations			
(2) Test operation of battery charger			
(3) Perform discharge test			
(4) Perform load voltage test			
(5) Perform specific gravity test			
(b) Nickel-cadmium type (1) Battery replacement verify that the recharge battery voltage or current is within manufacture's recommendations			
(2) Test operation of battery charger			
(3) Perform discharge test			
(4) Perform load voltage test			
(c) Sealed lead-acid type (1) Battery replacement verify that the recharge battery voltage or current is within manufacture's recommendations			
(2) Test operation of battery charger			
(3) Perform discharge test			
(4) Perform load voltage test			

Remote Annunciators Verify the correct operation and identification at the annunciators			
Conductors - Metallic (1) Test for stray voltage			
(2) Test for ground faults			
(3) Test for short-circuit faults			
(4) Test for Loop resistance			
(5) Test for a trouble signal with the introduction of a fault on any circuit monitored for integrity			
Conductors – Nonmetallic (1) Test all circuits for integrity			
(2) Test fiber optic transmission line			
(3) Test for a trouble signal with The introduction of a fault In any supervised circuit			
Initiating Devices (a) Electromechanical releasing device (1) Non-restorable-type link (2) Restorable-type link			
(b) Test fire extinguishing system(s) or suppression systems(s) alarm switch			
(c) Test fire-gas and other detectors			
(d) Test heat detectors (1) Fixed-temperature, rate-of-rise, rate of compensation, restorable line, spot type (excluding pneumatic tube type)			
(2) Fixed-temperature, Non-restorable line type			

(3) Fixed-temperature, Non-restorable spot type			
(4) Non-restorable (general)			
(5) Restorable line type, pneumatic tube only			
(6) Single-and multiple-Station heat alarms			
(e) Fire alarm boxes (manual pull stations			
(f) Radiant energy fire detectors			
(g) Smoke detectors (1) System detectors and single station smoke alarms			
(3) Smoke/carbon monoxide alarms			
(5) Air sampling			
(6) Duct type			
(7) Projected beam type			
(8) Smoke detector with built-in thermal element			
(9) Smoke detectors with control output functions			
(h) Smoke detectors – Sensitivity testing			
(i) Carbon monoxide detectors/ Carbon monoxide alarms for the purposes of fire detection.			

(j) Initiating devices, supervisory (1) Sprinkler control valve switch			
(2) High or low-air pressure switch			
(3) Room temperature switch			
(4) Water level switch			
(5) Water temperature switch			
(k) Mechanical electrosonic, or pressure-type waterflow device			
(l) Multi-sensor detector or multi-criteria detector or combination detector			
Test Special Hazard Equipment (a) Abort switch (dead-man type)			
(b) Abort switch (recycle type)			
(c) Abort switch (special type)			
(d) Cross zone detection circuit			
(e) Matrix-type circuit			
(f) Release solenoid circuit			
(g) Squibb release circuit			
(h) Verified, sequential, or counting zone circuit			

(i) Verify supervision of all Above circuit.			
Combination systems (a) Fire extinguisher electronic monitoring device/system (b) Carbon monoxide device/ system.			
Guard's tour equipment			
Alarm notification appliances (a) Audible			
(b) Audible textual notification appliances (speakers and other appliances to convey voice message)			
(c) Visible appliances			
Exit marking audible Notification appliance			
Emergency control functions Verify operation and receipt of signals			
Area of refuge two-way Communication system			
Special procedures (a) Alarm verification			
(b) Multiplex systems			
Off-site Monitored Systems (a) Verify receipt of the correct initiating device signals at the monitoring facility within 90 seconds of activation			
(b) If two separate phone lines are in use, test both lines			
(c) Test line seizure capability			

(d) Test digital alarm radio transmitter			
Test Emergency Communications Equipment (a) Amplifier/tone generators			
(b) Call-in signal silence			
(c) Phone jacks			
(d) Phone set			
(f) System performance (minimum of any 5 handsets simultaneously)			
Test Combination Systems (a) Fire extinguisher monitoring device/system			
Test Interface Equipment (Test supervision)			
Test Fire Safety Functions (a) Fan control			
(b) Smoke damper operation			
(c) Elevator recall			
(d) Elevator power shutdown			
(e) Door holder release			
(f) Door unlocking			

Test Special Procedures (a) Alarm verification			
(b) Multiplex systems (1) Verify communications between sending and receiving units under both primary and secondary power			
(2) Verify communications between sending and receiving units under open circuit and short circuit trouble conditions			
(3) Verify communications between sending and receiving units in all directions where multiple pathways are provided			
(4) If redundant central control equipment is provided, switchover and all required functions and operations and features shall be verified			
Test Low-Power Radio Systems (Wireless Systems)			
Mass notification systems (a) Functions			
(b) Fuses			
(c) Interfaced equipment			
(d) Lamps and LEDs			
(e) Primary (main) power supply			
(f) Audible textual notification appliances			
(g) Visible			

(h) Control unit functions and no diagnostic failures are indicated.			
(i) Control unit reset			
(j) Control unit security			
(k) Audible/visible functional test			
(l) Software backup			
(m) Secondary power test			
(n) Wireless signals			
(o) Antenna			
(p) Transceivers			
Notify Monitoring Company that testing has been completed			
Notify Building Occupants that testing has been completed			