*This model program is intended for general information purposes only. It should not be construed as legal advice or legal opinion regarding any specific or factual situation. Always follow your organization’s policies and procedures as presented by your manager or supervisor.*

**Thermal Imaging Camera Operations**

*This model policy is derived directly from NJ Division of Fire Safety TIC SOP*

[*https://nj.gov/labor/forms\_pdfs/lsse/Alert14.pdf*](https://nj.gov/labor/forms_pdfs/lsse/Alert14.pdf)

*and augmented with best practices from fire departments*

**Purpose**:

Name of agency establishes this guideline to facilitate the most effective method for deploying Thermal Imaging Cameras in a way that provides the most protection for our personnel. This guideline shall serve as a reference document for training personnel in the uses, deployment, limitations, operation, care, and maintenance of the Thermal Imaging Camera.

Thermal imaging cameras offer the benefits of:

* Provide safer navigation in a space with zero visibility due to smoke. They allow firefighters to "see" in a zero-visibility environment, which is a beneficial addition to traditional search techniques.
* Enables suppression crews to execute a faster, more efficient interior attack. The shortest route to the fire, holes in the floor, and obstacles in the structure can be determined and located efficiently
* Reduces fatigue of interior crews because efficiency in performing searches and suppression increases.
* Allows Rapid Intervention Teams to quickly and efficiently locate downed firefighters.
* May be used to determine fluid level within a container, which may be helpful during an incident involving a hazardous material.
* May be used as a search tool to locate lost persons in open wilderness areas.

**Scope**:

This policy shall apply to all members of the name of agency.

**Roles and Responsibilities**:

The Chief of the Department shall be responsible for periodically reviewing and updating this policy to ensure it is current with camera technology, selection, and deployment.

The Training Officer shall be responsible to incorporate developments with camera technology, department policies, and operational best practices into training programs. The Training Officer shall ensure training events are current and delivered by persons qualified to present the lesson plan.

Every firefighter shall be responsible for following this policy and its procedures.

**Procedures**:

It shall be the name of agency's policy to utilize thermal image cameras in every structure fire and any other situations where it will enhance the safety of fire response personnel and the rescue of potential victims.

The following cameras are carried on the following vehicles:

|  |  |  |
| --- | --- | --- |
| Vehicle | Location on vehicle | TIC Manufacturer & Model |
|  |  |  |
|  |  |  |
|  |  |  |

Personnel shall be familiar with the location of the cameras.

The thermal imaging camera displays a two-dimensional view of a smoke-filled environment; therefore, depth perception is limited.

A fire officer shall determine who will operate the camera. Ideally, it will be assigned to the first crew operating on the incident. If conditions warrant using the camera, the interior officer, or designee, shall operate the camera in conjunction with the attack crew. The camera should be directly behind the nozzle operator, or should take the lead for other crews, such as search, rescue, or vent. Command should be notified that the camera is in use.

The operator should make periodic sweeps of the room and structure operating in a while in the suppression mode. When scanning an area with the thermal imager, begin at the ceiling and conclude at the floor area immediately in front of them, moving the camera slowly to avoid blurring objects together. Search and rescue and suppression activities should occur in compliance with name of agency SOG's, sound strategies and best firefighting and rescue practices.

While searching, rescuers must look under and or around beds, sofas, and other objects where victims may have hidden to escape fire.

Water, plastic, and glass are all practical barriers for the thermal imager and may cause a reflective image. The team operating the camera must remember that the image present on the thermal imagers' screen could be a "mirror image" of themselves or fire behind them being reflected off of glass, plastic, or water. To test suspicious images, the crew should wave their arms and determine whether they see their image. Also, firefighters and occupants, who are wet from hose line operations, could be masked from the camera's view during a search because there is a momentary balance of thermal signatures

Camera operators must be aware that they tend to move faster than the rest of the team operating in zero visibility. The camera operator shall not advance too quickly to leave the rest of the team lost in a zero-visibility environment.

Firefighters should remember that they must stay low even if the camera allows them to see that most of the heat is at the ceiling. The possibility of a flashover in the dynamic atmosphere of a structure fire is higher than ever before because of new materials, construction methods, and rapid responses. Walking with the thermal imager is discouraged as trip hazards may be overlooked.

Firefighters must understand that the camera could fail and an escape route must be easily located, either by following a hose line or finding a window or doorway. The thermal imager has the potential to inspire overconfidence because it allows firefighters to "see" in an environment that, in reality, has zero visibility. Firefighters must plan for this possibility by carrying flashlights, maintaining contact with the wall, a hose line, or other routine methods for remaining oriented to location and the position of exits in a zero-visibility environment.

The image displayed by the thermal imaging camera may decrease in quality as soot builds up on the lens and screen while operating on the fire ground. A soft cotton cloth should be used to clean the lens and screen periodically while operating the camera.

Battery life is not substantial (approximately 4 hours insert your manufacturer). A spare battery is also located within the camera holder on the apparatus. If the battery power graph is below the halfway mark upon exiting a structure, the battery must be changed before being handed off to another crew for use.

The Thermal Imaging Camera has not been determined to be intrinsically safe as an ignition source. This device is not to be used in a potentially explosive atmosphere.

After the camera is used on an incident, it should be thoroughly cleaned and dried before it is returned to its case or storage cabinet. Recharge as needed the camera's battery and spare.

**Operation of Department cameras**

*(Insert operating information from the manufacturer for each make and model TIC used by the department. Include how to turn on, each feature, each control, and operational best practices)*

**Inspection and Routine Maintenance**

The camera shall be checked as part of the daily/weekly/shift equipment/apparatus check. The camera should be inspected for cleanliness, If any part of the camera is dirty, a clean soft rag should be dampened with soapy water shall be used to clean the camera. A soft cloth and alcohol should be used to clean soot from the lens. Never use harsh or abrasive detergents or solvents to clean the camera. *(check tht this is as recommended by your camera's manufacturer)*

Turn the camera on and check for proper operation as per manufacturer's instructions. If the battery charge indicator displays more than one bar of discharge, the spare battery should be placed in the unit and discharged battery recharged. Batteries should be rotated weekly on insert a set day.

Check that camera and components are dry. Then, return the camera to the case, secure latches, and return to its storage location on the vehicle.

Problems with the camera should be reported as quickly as possible to who and an Equipment Inspection / Deficiency Form completed.

**Repairs and Servicing**

All repairs and service to the camera shall be made by a qualified manufacturer service agent.

(*Insert your manufacturer's cleaning & maintenance instructions here*)