MEASURES TO DEAL WITH DISASTERS CAUSED BY TERROR

Section 1 : What are disasters caused by terror?

In this instructional material, disasters caused by terror are defined as "disasters due to acts of terror by terrorists" and explanations about them are given.

According to a definition of the U.S. Federal Bureau of Investigation, Terror is an abbreviation for Terrorism and defined as, "the unlawful use of force or violence against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives." Those who follow terrorism are called Terrorists. (Source : FEMA : EMERGENCY RESPONSE TO TERRORISM : SELF-STUDY)

1 - 1 "Safety" is the most important of all the aspects requiring attention at the site where a case of terrorism may be occurring or have occurred.

(Fire Fighting and Rescue Work in case of a Terror Attack)

On 10th April of 1998, a Cabinet meeting adopted the "Law concerning Initial Countermeasures taken by the Government in case of Serious Terror Attacks." This law stipulates the fundamental rules for the initial countermeasures to be taken against terrorism cases occurring in Japan. The law stipulates that "The national government shall take stern measures against any terrorism cases etc. which cause or may cause serious damage to citizen's lives, health or properties (hereinafter referred to as "Serious Terror") and maintain national law and order. Where any serious terror attack occurs, the national government shall integrally take initial countermeasures which are explained later.
The Fire Defense Agency has been working to establish a system for countermeasures against terrorism with regard to items under the charge of the Agency, according to the above law adopted by the Cabinet meeting and other government policies.

Needless to say, in a case which causes or may cause serious damage to the lives of citizen, their health or properties, regardless of the cause of such a case, the fire department shall fight any fire and perform rescue/emergency works for the victims.

This text describes how the fire fighting and rescue teams should deal with a terror disaster at the disaster sites, depending on the type of disaster. In dealing with such a disaster, fire fighters and/or fire brigade members (hereinafter referred to as "fire fighters") may be exposed to the danger of injury or death, particularly if they act carelessly. It is important, therefore, that you should consider how to secure the safety of the fire fighters involved and how to deal with disasters appropriately and quickly.

Among terrorism disasters, terror attacks on dangerous facilities such as nuclear power generation plants and terror attacks using biochemical weapons are called NBC disasters, against which you must take special precautions. In "The subway sarin case" that occurred in Tokyo on 20th March, 1995, some of the emergency rescue team members were exposed to sarin. In "The disastrous nuclear accident in the Tokaimura uranium processing plant (JCO Co., Ltd.)" though it was not a case of terror, some of the emergency team members were exposed to radiation.

Such real examples as the above cases are put to full use in considering how the fire fighting and rescue teams should deal with disasters caused by biochemical weapons or nuclear accidents. The accident case above has also taught those who are concerned with fire fighting and rescue work that it is essential to secure the safety of fire fighters directly involved at a disaster site. Fire fighting and rescue work can not be performed without securing the safety of the fire fighters, so it is very important to secure their safety.

1 - 2 What is terrorism?

The following descriptions are from a part of the "EMERGENCY RESPONSE TO TERRORISM: SELF-STUDY" prepared by the Federal Crisis Management Agency etc. Please read them first to understand the outlines concerning "What is terrorism?"

According to a definition of the Federal Bureau of Investigation (FBI), Terrorism is defined as "the unlawful use of force or violence against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives."

This definition comprises the following three factors:

(1) Terror activities are unlawful and include use of force or violence.
(2) Terror acts are performed for the purpose of intimidation or coercion.
(3) Terror acts are founded on political or social objectives.

In a sense, whether or not a case is due to acts of terror makes no difference for those first involved in dealing with the case. Regardless of the cause of a disaster, you must deal with the case as a member of the first team at the disaster site.

It is important to consider the scale and type of each terror act. It is also important to note that the real nature of a terror attack is different from that of an ordinary emergency.

You will have to deal with situations quite different from those of building/house fires, car accidents, or dangerous objects.

In addition to the above factors relating to terrorism, an academic expert on crisis management has pointed out the following three features of the multiple acts of terror of 9-11 in the US:
Firstly, the terrorists used the cruel means of hijacking commercial airplanes and flying them directly into buildings. Secondly, they laid a very detailed plan, with careful preparations and training, and carried out the terrorist attacks precisely on schedule. Thirdly, they directly aimed at the centers of economy and politics in the US.

In preparation for the future in Japan, it is essential for those who are concerned with fire fighting and rescue work to pay full attention to methods for dealing with terrorist attacks similar to the above, particularly the means for dealing with terrorist attacks using biochemical weapons or attacks on dangerous facilities such as nuclear power generation plants.

1 - 3 The Actual threat in the real world

According to the aforementioned "EMERGENCY RESPONSE TO TERRORISM in US," the following types of buildings or sites are likely targets of terror attacks:

- National or local assembly buildings
- Public facilities
- Mass transport systems
- Economically influential sites
- Communication system facilities
- Historically and/or symbolically important sites

Soon after the multiple acts of terror occurred in the US on 11th September, 2001, the Japanese government adopted the "Government Countermeasure Policies" in the Security Council of Japan (on 12th September, 2001).
Among the policies, it has stipulated:
"3. The Japanese government shall tighten the guard and patrol of the US military bases and their facilities in Japan, and shall take necessary actions as required." Among the US military bases, their facilities, and important Japanese facilities, the following facilities are guarded by the National Police Agency (as of October, 2001).

(1) The American Embassy in Japan, and American facilities in Japan such as the US military bases (American Embassy, American Consulate-General, US military bases in Japan, Ammunition bunkers, American corporations, American schools, etc.)
(2) Facilities of foreign countries who support American policies such as the United Kingdom (British Embassy, British Consulate-General, etc.)
(3) Dangerous facilities such as nuclear power generation plants
(4) Japanese government facilities such as the official residence of the Japanese Prime Minister/Important facilities such as airports

"The Matsumoto sarin case" and "The subway sarin case" perpetrated in Japan by Aum Shinrikyo in 1994 and 1995, where biochemical weapons were used, shocked the people of Japan and the world. Regarding these cases, a police white paper (in 1996) describes as follows, reminding us of the intimidation of those terrorist attacks.

(The Matsumoto sarin case)
In June of 1991, the cult purchased approx. 900 square meters of land in Matsumoto City of Nagano Prefecture, where they intended to build a training hall for the cult.

However, the land was designated as an area supervised by the Governor of Nagano Prefecture under the Act for Planning Utilization of the National Land. It was therefore necessary to report to the Governor when buying and selling land of more than 500 square meters. To avoid reporting to the Governor, the cult decided to purchase a part of the land under the name of the cult and to take a lease contract with the land owner for the other part of the land under the name of their affiliated company. The land owner subsequently notified the cult of cancellation of the lease contract, since he discovered that he had been swindled, as the cult concealed their name despite being the actual user of the land. The cult submitted a complaint against this cancellation, requesting a provisional disposition on the prevention of sabotage against construction works at the Matsumoto Branch of the Nagano District Court (hereinafter referred to as "Matsumoto Branch"). The land owner also filed a claim for a provisional disposition on the prohibition of construction works to the Matsumoto Branch. On 17th January, 1992, the Matsumoto Branch approved the claim from the land owner rejecting the complaint from the cult. The Tokyo High Court subsequently approved the conclusion of the Matsumoto Branch.

The cult changed their initial plan and intended to build a cult facility in the land area they had purchased. However, the landowner filed a suit in May, 1992 against the cult, demanding prohibition of building construction works and the return of all the land the cult had purchased and rented. The suit hearing was concluded on 10th May, 1994 and a judgment was scheduled for 19th July in the same year. At that time, the cult representatives were advised by their lawyer that they would probably lose the case.

During the conflict between the cult and the landowner, a "Committee to countermeasure for preventing the Aum cult from staying in Matsumoto" was organized. Many residents in Matsumoto City and others held a campaign collecting signatures against the Aum cult staying in Matsumoto. Finally 140,000 signatures were collected and submitted to the Matsumoto Branch, thus the issue of opening a Matsumoto branch of the Aum cult became a matter of public concern.

Because of the aforementioned proceedings, the cult representative decided to murder the judges of the Matsumoto Branch and residents in the neighborhood, by spraying sarin near the branch, as he had a grudge against them. The cult had already been producing sarin in large quantities. On/around 20th June, the cult representative invited four leading members of the cult to his room in No. 6 Satyam located in Kamikuisshiki village to give his instructions regarding the criminal act. As instructed, the leading and other members of the cult planned to spray sarin via a thermal sprayer loaded on the deck of a car. They built a spraying system on a car.

The cult member group of seven (4 leading members designated by the representative and another 3 members designated by the leading members as guard persons) left for Matsumoto city by the car designed for spraying and another wagon car in the late afternoon of 27th June. As it was evening, they assumed the judges would have already left the office in the Matsumoto Branch, so they changed their target to the judges' dormitory, approx. 400 meters away from the Matsumoto Branch.

They put forged license plates on the two cars to avoid detection as the perpetrators of the crime, should the cars be observed near the judges' dormitory. They also prepared gas masks made of vinyl bags connected to oxygen bottles so that they could avoid inhaling the sarin. After considering the wind direction etc., they chose a parking lot near the dormitory as the best position for spraying the sarin.
Soon after they arrived, they donned the gas masks and sprayed sarin for about 10 minutes. As a result, seven residents near the parking lot were killed and 144 residents were injured.

(The subway sarin case)

A. Motivation for the criminal act

The cult representative instructed the leading members and they committed the crime of the abduction and confinement of a notary public office manager on 28th February, 1995. The case was detected by the police soon after, and newspapers and magazines widely reported that the cult may have been involved in the case.

Because of such circumstances, the cult representative feared that the police might conduct a large-scale compulsory investigation on the cult. He laid a plot that would damage the police organization as well as cause massive confusion in the Metropolitan area. This would make it impossible for the police to conduct a compulsory investigation on the cult. Thus, he made up his mind to murder many people including subway passengers by spraying sarin. In Matsumoto they had already experienced spraying in the subway trains running through the Kasumigaseki station. The national government office buildings including the Metropolitan Police Department are located near the station.

B. Production of sarin

After the Matsumoto sarin case, the cult had disposed of all their sarin to protect themselves against a police investigation. Therefore, in their facility located in Kamikuisshiki village they had to urgently produce sarin for the criminal act.

They produced a liquid mixture of sarin and put 600 grams each of the liquid in two nylon bags. They used two-ply nylon bags to prevent breakage as they were carried. They produced a total of eleven nylon bags containing the sarin liquid.

C. Execution

Five members of the cult were selected to execute the spraying of sarin in the subway train. In No. 7 Satyam, they practiced piercing nylon bags containing water with sharp-pointed umbrella rods as a rehearsal for spraying sarin in the subway train.

Those responsible decided to spray sarin in three subway trains of the Hibiya line, the Eidan Marunouchi line, and the Eidan Chiyoda line of the Teito Rapid Transit Authority subway (hereinafter referred to as the Eidan), which run through the Kasumigaseki subway station located near the Metropolitan Police Department building. On 20th March, 1995, at around 8:00 am, targeted as a time when the subway trains would be congested, they pierced the nylon bags containing the sarin liquid with the sharp-pointed ends of umbrella rods in the subway trains as they had practiced. Spilled sarin was diffused inside the trains and the station and eleven people including passengers and station offices were killed and many people were injured.

A police white paper (1999) describes the transitions and present status of terror acts and other cases occurring in Japan during the 50-year period since the end of the war, so please read this white paper for reference.

The important issues are described below.

Public Safety Maintenance

1. Changes in the 50 years since the end of the war
   (1) Changes in Social Environment
      a) The violent extreme left groups that conducted armed fighting in group, terror and guerrilla activities against the Japan-US Security Treaty etc.

The violent extreme left groups gradually expanded their powers during the days of the student movement. In protest at the revision of the Japan-US Security Treaty in 1960, they insisted that the revision was designed for "changes to a formal military alliance," and caused an incident such as "The Breaking-in at the Diet Building by the National Federation of Students Self-government Associations." Between 1965 and 1970, they conducted violent activities which is called "year 1970 fight" for many days, focusing on the revision of the Japan-US Security Treaty. This was in a climate of a rising anti-Establishment movement resulting from the anti-Vietnam war movement, an anti-USA trend, and student activism. During the period, they conducted the "Primary Haneda Case" to stop the Prime Minister's visit to Vietnam in October, 1967, the "Shinjyuku Station Riot Case" where they occupied the Shinjyuku station and threw frangible grenades in the street in October, 1968. They also played leading roles in campus riots such as the occupation of the Yasuda Auditorium of Tokyo University in 1968 through 1969, including campus conflicts as part of the revolution.

In June of 1970, on/after the Japan-US Security Treaty was automatically extended, a violent extreme left group have been involved in "Narita Fight", that contained their major assertion since 1967 when they began a joint struggle with the "Sanrizuka Shibayama Union Anti-Airport Association." Their violent activities have been increasingly radicalized as seen in cases such as the "Toho Crossroads Case" where they killed three policemen in the "Fight to stop execution by proxy" in September of 1971. Some sects spread from Japan into foreign countries and organized extreme groups such as the Japanese Red Army. (See item c) However, those violent extreme left groups committed criminal acts, including the "Asama Lodge Case" by the Coalition Red Army in February of 1972, the "Mitsubishi Heavy Industry Building Bombing Case" by the East-Asia Anti-Japan Armed Battle Line in August of 1974, and some other cases of bombing enterprises. Under such circumstances, students and workers who had previously supported those violent extreme left groups withdrew their support, because they feared their increasingly escalating violence and they were disappointed when they found out about the internal conflicts. The groups became socially isolated.

After those days, however, the extreme left groups conducted further unlawful deeds of various types, sticking to their policy of armed group fighting. In the "Fight against the opening of the New Tokyo International Airport" of March, 1978, they occupied and destroyed the control tower to defer the opening of the airport. While conducting such armed group fighting, from around 1971 they started forming a covert military syndicate. In the "Fight against Tokyo Summit" of May, 1986, they committed the "Case of Shooting Explosives at a Guest Residence."

In particular, they conducted 143 acts of terror and guerrilla warfare in 1990 under a slogan of the "Fight against the Imperial system in 1990". They opposed the Emperor's mourning and enthronement ceremonies and the good harvest festival, which were held after the demise of the Emperor Showa. Even in recent years, they have committed vicious crimes using explosives and time ignition devices in the "Narita Fight" etc.

The membership of those violent extreme left groups is estimated to be currently 27,000.

b) The right-wing groups are becoming more anti-government while opposing the extreme left groups.

The right-wing groups were reorganized as the government removed the restriction on right-wing groups (in 1951). They felt a sense of crisis as the extreme left groups increased in fighting power in/after 1959, and caused such cases as the "Socialist Party Chairman Asanuma Murder Case" in order to achieve a breakthrough by taking matters into their own hands. Some of the right-wing group members advocated the "Racial Self-defense Theory" and the "Coup D'etat Rationalism," and in 1961 some members broke into the house of Mr. Shimanaka, president of Chuo Koron Magazine, to murder or injure his family. This was called the "Shimanaka Case." They also gave rise to a coup d'etat attempt called the "Sanyu Case," the first case since the war. Around the middle of the 1960s, when the violent extreme left groups were spreading, they strengthened their attitude of fighting against the extreme left groups. They aggressively conducted activities such as a protest against normalization of diplomatic relations between Japan and China, an appeal for return of the northern territories, etc. Another extreme case was the "Mishima Case" in 1970, where an activist appealed to the Self-defense Forces for a coup d'etat. This case acted as an impetus for the New Right which advocated anti-USA and anti-establishment theories.

In the middle of the 1970s, they held further to their insistence on the anti-establishment theory and widely conducted activities against the government, business world, etc. They conducted some vicious terror cases using weapons including guns, such as the "Case of Breaking into the Hall of Japan Federation of Economic Organizations" (in 1977), the " Case of the Attempted Murder Nagasaki Mayor Motojima" (in 1990), the " Case of Attempted Murder of the Liberal Democratic Party Vice President Kanamaru" (in 1992) etc.

It is estimated that there are approx. 900 right-wing groups with approx. 10,000 members in total involved in apparent activities such as propaganda campaigns in the street via cars with loudspeakers.

c) (Omitted)

d) The threat of a new type of terror act became obvious with the Aum Shinrikyo case.

After a series of cases such as the "Matsumoto Sarin Case" (in 1994) and the "Subway Sarin Case" (in 1995), we recognized a new kind of terror attack that uses biochemical weapons etc. as a threat in the real world. Therefore, by force of such circumstances, we had to immediately take countermeasures against such attacks.

e) International Terrorist Groups including the Japan Red Army which performed serious terror attacks etc.

In the category of international terror acts, an ultra left violent group caused the "Airplane Yodo Hijack Case" in 1970 in accordance with the premise of the "International Base Construction" for revolution in Japan. They went to North Korea and have since been engaged in harmful activities against Japan.

Another violent ultra left group, the Japan Red Army, working with Palestinian extremists in the Middle East etc., gave rise to many cases of terrorism. The "Tel Aviv Lod Airport Case" was their first case overseas (in 1972), followed by hijack cases including the "Dacca Case" (in 1977), etc. They used trench mortars and explosives targeting the summit meeting etc. in/after 1986. On the other hand, an increasing number of terror acts have been caused by foreign extremist groups such as the "Abduction Case of Manila Branch Manager of Mitsui & Co., Ltd." by the Philippines New People's Army in 1986, the "Airplane Explosion Case in Philippines" by the Islamic fundamentalism extremist group in 1994, and the "Occupation Case of Japanese Embassy in Peru" by the Tupac Amaru revolutionary movement group (MRTA) in 1996. These cases imply that the threat to Japan's interests and Japanese people residing in foreign countries is growing.

1 - 4 Outline and Types of Terror Acts

The following descriptions are also made with reference to the aforementioned "EMERGENCY RESPONSE TO TERRORISM" in the US.

1 - 4 - 1 Biological Weapon Cases

Some bacilli, such as anthrax bacillus, the smallpox virus, botulinus bacillus, plague bacillus, etc., can be used as biochemical weapons in terrorism.

These bacilli may be scattered by dispersing from an airplane or via an aerosol (sprayer), or transmitted by oral infection through contaminated foods or water, by skin infection when contacting harmful substances, or by injection, etc. Bacilli are classified into groups of bacteria, viruses, toxins, etc.

Bacteria are unicellular organism growing by cell division and causing illness in humans, plants, and animals.

Anthrax bacillus, cholera bacteria, plague bacillus, etc. belong to the bacteria group.

Anthrax bacillus is well known, and contained in the bodies of cows, sheep, and horses. Contacting contaminated fur, wool, skin, meat, or other parts of animals may lead to suffering from cutaneous anthrax. There might also be some cases where terrorists intentionally spread bacillo-spores via a sprayer. In the days after the multiple acts of terror of 9-11 in the US, six people were killed by terrorism due to pulmonary anthrax as they contacted mail articles containing anthrax bacillus.

A virus is the simplest type of microbe, having no self-metabolism, so it relies on a living cell to grow. A virus can not live long outside a living cell. Viruses used as biochemical weapons include the smallpox virus, the Venezuelan equine encephalitis virus, and viruses causing viral hemorrhagic fever such as the Ebola virus, the Marburg disease virus, the Lassa fever virus, etc.

Toxin is a natural poisonous chemical substance created from animals, plants and microbes. Different from artificial chemical substances, it is naturally created, in general having a complicated substance structure.

Toxin is easily extracted, therefore prone to use as a weapon for terrorism. There are four toxins used as biochemical weapons, i.e. botulinus toxin, SEB (Staphylo-enterotoxin B), lysine, and mycotoxin.

The main infection routes for biochemical weapons are inhalation and ingestion, so terrorists often select the spraying method.

1 - 4 - 2 Nuclear Terror Cases

As for nuclear terror cases, it is generally assumed that terrorists may target nuclear facilities. Some national governments assume that a terrorist group may use a truck bomb (a large truck loaded with an amount of explosives) near a nuclear power generation plant or near radioactive material cargo under transportation.

It is apparent that such a terror act will cause wide ranging damage.

Should such a nuclear terror act occur in Japan, we would take the same anti-disaster system measures as for an accident occurring in nuclear facilities etc.

The main radioactive rays emitted from a radioactive substance are alpha rays, beta rays, gamma rays and neutron rays. The following are examples of damage caused by these rays:

If you eat, drink or inhale food or a substance contaminated by alpha ray particles, you will be exposed to radiation from the radioactive substance in your body, probably harming your health.

If your skin is exposed to beta ray particles for a long time, you may be burnt. In the same way as for alpha ray particles, if you eat, drink or inhale a food or a substance contaminated by alpha ray particles, it will probably harm your health.

A Gamma ray is pure energy, thus having higher penetrating power than alpha and beta rays and being capable of traveling a very long distance. Furthermore, gamma rays penetrate through almost all kinds of substances. If you are exposed to them, all your cellular tissues and organs will be hurt. If many gamma rays penetrate the human body, they cause acute radiation sickness. The symptoms are skin irritation, nausea, vomiting, high fever, hair loss, skin burn, etc.

Neutron rays have great energy and their penetrating power is higher than that of gamma rays. As neutrons hit substances and release protons and gamma rays, cellular structures will be damaged.

1 - 4 - 3 Arson Terror Cases

In arson terror attacks, an ignition device is often used.

The ignition timing devices are made of chemical, electric and/or mechanical components. Some devices are made with only one type of component, and others are made with combined components

Substances used for arson terror attacks will keep on burning for a certain period of time. They use such substances for burning target objects or structures.

Devices used for arson are various shapes and sizes, and can be simple or complicated.

They can be as simple as a match for burning a sheet of paper, or sometimes a complicated chemical device with automatic ignition.

In general, arson devices contain a single substance or mixture, which, when it reaches its ignition point, creates enough heat and fire for the terrorist purpose. The devices comprise three fundamental parts; an ignition unit or a fuse, a container or a main body, and a chemical material or filler for burning.

Depending on the situation, they use containers made of glass, metals, plastics, or paper. Chemical devices are generally put into robust containers made of metal, or any hard materials. However, in the case of a burning device that contains a liquid chemical reaction activator (e.g. a frangible grenade), a fragile material such as glass is used.

It is necessary to bear in mind that ignition and fatalities may occur if an inexperienced person finds and handles such a device.

1 - 4 - 4 Biochemical Terror Cases

Chemicals may be classified into the following five groups.

- Nervous effect agent : Disables nerves, preventing transmission of information.
- Vesicant : Causes serious inflammation of the cell tissues of the eyes, skin and airways.
- Hematologic Agent : Inhibits the blood from carrying oxygen.
- Asphyxiant : Causes serious damage to the cell tissues of the respiratory system.
- Stimulant : Causes respiratory disorder and watery eyes, making people incompetent as well as giving acute pain to the skin, particularly in the wet parts of the body.

The nerve agent has the same chemical formation as that of an organophosphate insecticide, but the agent is much more poisonous than the insecticide. Just a drip of agent is a lethal dose, regardless of its density.

There are several types of nerve agent such as sarin, soman, tabun, VX agent, etc. Sarin was used by the Aum Shinrikyo in Japan. Iraq also used it against Iran.

Those substances are in liquid form, so they can usually be spread by sprayer.

If a nerve agent is sprayed, the victims immediately show initial symptoms such as, salivation, watering eye, incontinence, diarrhea. These are similar to the toxic symptoms caused by the organophosphate agent. The nerve agent may also cause the following symptoms:

- Eyes : Contracted pupils, blurred vision, pains irritated by sunlight
- Skin : Excessive sweating, muscular shivering
- Muscle : Unconscious convulsion and contraction
- Respiratory system : Running nose and nasal congestion, chest compression, cough, respiratory difficulty
- Digestive system : Excessive salivation, gnawing pain, nausea, vomiting, diarrhea and incontinence
- Nervous system : Dizziness, anxiety, confusion, insomnia (incubus)

The nerve agent is similar to water or light oils in its pure form, giving no smell. Spraying is the most effective dispersion method for terrorists. The agent may kill not only people but also animals, insects and birds. If many animal carcasses are discovered somewhere, it is an indication that a nerve agent may have been used.

The vesicant is also called the mustard agent because of its unique smell. It easily penetrates clothes and then quickly into the skin.

Mustard and lewisite are typical vesicants. A drip of any vesicant causes a serious disorder if it contacts the skin. When three grams of it penetrate the skin, it will become fatal. However, it takes several hours or a few days before initial symptoms appear.

The vesicant may cause the following symptoms:

- Eyes : Redness, bloodshot, inflammation, sensation of dust infection. In serious cases, swelling eyelids, deep pain, eyelid spasms.
- Skin : In 1 - 12 hours, initially light itching and then erythema, burning pain, burning progressing to blisters. These symptoms will get worse in the warm and wet parts of the body, such as the base of the thigh and the armpit.

- Respiratory system : In 2 - 12 hours, burning pains in the nose and the throat, hoarse voice, excessive running nose, severe coughing, breathlessness.
- Digestive system : In 2 - 3 hours, abdominal pain, nausea, bloody vomiting, bloody diarrhea.

The vesicant is a heavy oily liquid, which may be scattered by a sprayer or by evaporation. It is transparent with no smell, but if any impurities are mixed, it turns dark colored, giving a smell similar to mustard, garlic or onion. If such a smell is present and you feel any eye pain and a stimulus to the respiratory system, you may assume some vesicant has been scattered. The symptoms appear in many of the people who have been exposed to the vesicant.

The hematologic agent inhibits the blood from carrying oxygen and finally causes the victims to choke.

In general, hydrocyanic acid gas and cyanogens chloride etc. are used as hematologic agents. Potassium cyanide and other cyanides are normally used as industrial chemical materials.

Cyanogens chloride causes victims to suffer from watery eyes and a stimulus to the lungs. If the density of the hematologic agent is high, the toxic effect is so serious that victims will die in a short time.

The following are the symptoms of victims exposed to the hematologic agent.

- Respiratory distress
- Vomiting and diarrhea
- Dizziness and headache

The hematologic agent is a liquid when pressurized, and changes to a gas if not pressurized. All the hematologic agents have an odor like bitter almonds or peaches.

The asphyxiant stimulates the airway and causes edema (a state where a liquid accumulates in the lungs), and causes the victim to suffer a state similar to drowning. Chlorine and phosgene are general industrial chemical materials, but they are used by terrorists as an asphyxiant

The symptoms are a strong stimulus to the eyes and respiratory distress (cough and difficulty in breathing), etc. The smell of chloride is a characteristic of the asphyxiant. They say phosgene smells like hay. Both chloride and phosgene are gases

There is also a stimulant called tear gas, which is designed to immobilize people. In general, the stimulant is not fatal, but it may be possible to cause the victims to choke if used under certain conditions.

Chloropicrin, tear gases, etc. are the stimulants most often used.

They may cause the following symptoms:

- Eyes and Throat : Feeling of burning, or inflammation, watery eyes.
- Respiratory system : Respiratory distress, coughing, breathlessness, difficulty in breathing.
- Digestive system : Nausea and/or vomiting if the concentration is high enough.

These stimulants may cause pain (sometimes a severe pain) to the skin, particularly wet parts of the skin. It is said that they give off a smell like pepper or tear gas. Indications that these stimulants have been used include the presence of such a smell and scattering devices. It is well known that the stimulants are commercially available, thus causing foreign odor cases.

1 - 4 - 5 Explosion Terror Cases

It is assumed that explosives are the most frequently used terror devices in the world.

There are some substances or objects (including devices) which may function as explosives through an internal chemical reaction, even though they are not explosives in their original nature or they are not originally made to function as explosives.

Those explosives and bombs are designed and fabricated to blow up and cause fire, rapidly emit gas and heat, thus causing damage to people and structures such as residential buildings.

It is important to bear in mind that an explosive device causes fire and the fire will cause secondary explosions. Therefore, those who find such an explosive device must always remember that another hazard may exist in the device.

1 - 4 - 6 Suicide Bomb Terror Cases

Suicide bomb terrorism should be especially stressed, as it is a very extreme method compared with the five aforementioned categories. For example, terrorists may attack a structure (such as a nuclear facility) with a car loaded with explosives, designed to blow up and cause fire, resulting in many casualties and much damage. It is also feared that they may perform a suicide attack against a building with a small airplane.

The multiple acts of terror that occurred in the US on 11th September, 2001 are really extreme cases of suicide bomb terrorism. Therefore, we should be fully aware that similar cases of suicide bomb terrorism may occur and make preparations for dealing with the ensuing disasters.