JICA Emergency and Rescue Technical Training Texts

1. Fire Service in Japan（日本の消防制度）
2. Japanese Fire Fighting Standards（日本の消防力の基準）
3. Regulation Training（規律訓練）
4. Outline of The Current System of Rescue Service（救助体制とその現状）
5. The Current State of Japan's Ambulance Service System（救急体制と実施状況）
6. First Aid Treatment（応急処置論）
7. Protecting Against Disasters in Petrochemical Complexes
   （石油コンビナート区域における災害予防）
8. Theory for Rescue Command（救助指揮理論）
9. Safety Control（安全管理）
10. Rope-Handling Techniques（ロープ取扱い技術）
11. Technology for Utilization of Rescue Equipment（消防器具活用技術）
12. Climbing, Crossing and Descending Techniques（登はん、渡過、降下等技術）
13. Countermeasures to Earthquake Disaster（震災対策）
14. Rescue Techniques（救助技術）
15 Water Rescue Training（水難救助訓練）
16. Search Techniques（検索技術）
17. Accidents in The mountains（山岳事故）
18. Aviation Rescue Corp. Training（航空救助訓練）
19. Entry Techniques（進入技術）

FIRE SERVICE IN JAPAN

(Contents)

1 Outline of Japan's Service System 1

2. Situation Regarding Disasters 4

3. Regal Framework Concerning Fire Service 8

4. System for fire Prevention 10

5. System for Regulation of Hazardous Materials 12

6. Training of Fire Service Personnel and Volunteers 13

7. The Emergency Relief Team and
the International Rescue Team of Japanese Fire Service 15

(Reference) Regions and Prefectures in Japan 19

1. Outline of Japan's Service System

(1) Duty of Fire Service

The duties of the Fire Service shall be to protect life and property against fire, control fire, flood, earthquake and other disasters and minimize the damage caused by such disasters, using available facilities, equipment and personnel effectively. (Fire Service Organization Law, Article 1)

(2) Fire Service Organization

①Municipal responsibility

Municipalities shall be responsible for providing an adequate fire service within their jurisdiction. (Fire Service Organization Law, Article 6)

Municipalities are responsible for establishing, managing and operating fire service organizations, and Fire and Disaster Management Agency and prefectural governments provide the necessary advice, guidance and support.

Municipalities are to respond promptly and precisely to major disasters and special disasters with assistance from other municipalities based on disaster agreements and from emergency fire-fighting support units.

② Role of the Fire and Disaster Management Agency, Prefectures and Municipalities

○ Role of the Fire and Disaster Management Agency (National government)

- Planning and formulation of the overall fire service system
- Guidance for and assistance in strengthening fire defense facilities
- Research concerning fire defense science and technology
- Training for fire service personnel and officers in the volunteer fire corps
- Advice, guidance and recommendations regarding prefectural and municipal fire services
- Requests for support during an emergency and instructions for deployment of emergency response fire fighting teams
- Planning, formulation and coordination regarding disaster prevention measures by local governments

○ Role of prefectures

- Liaison and coordination among municipal fire services
- Advice, guidance and recommendations regarding municipal fire services
- Direction regarding disaster prevention measures and requests for assistance measures during an emergency
- Training for fire service personnel and volunteers (at prefectural fire academies)
- Formulation of prefectural disaster prevention plans and implementation of comprehensive disaster countermeasures

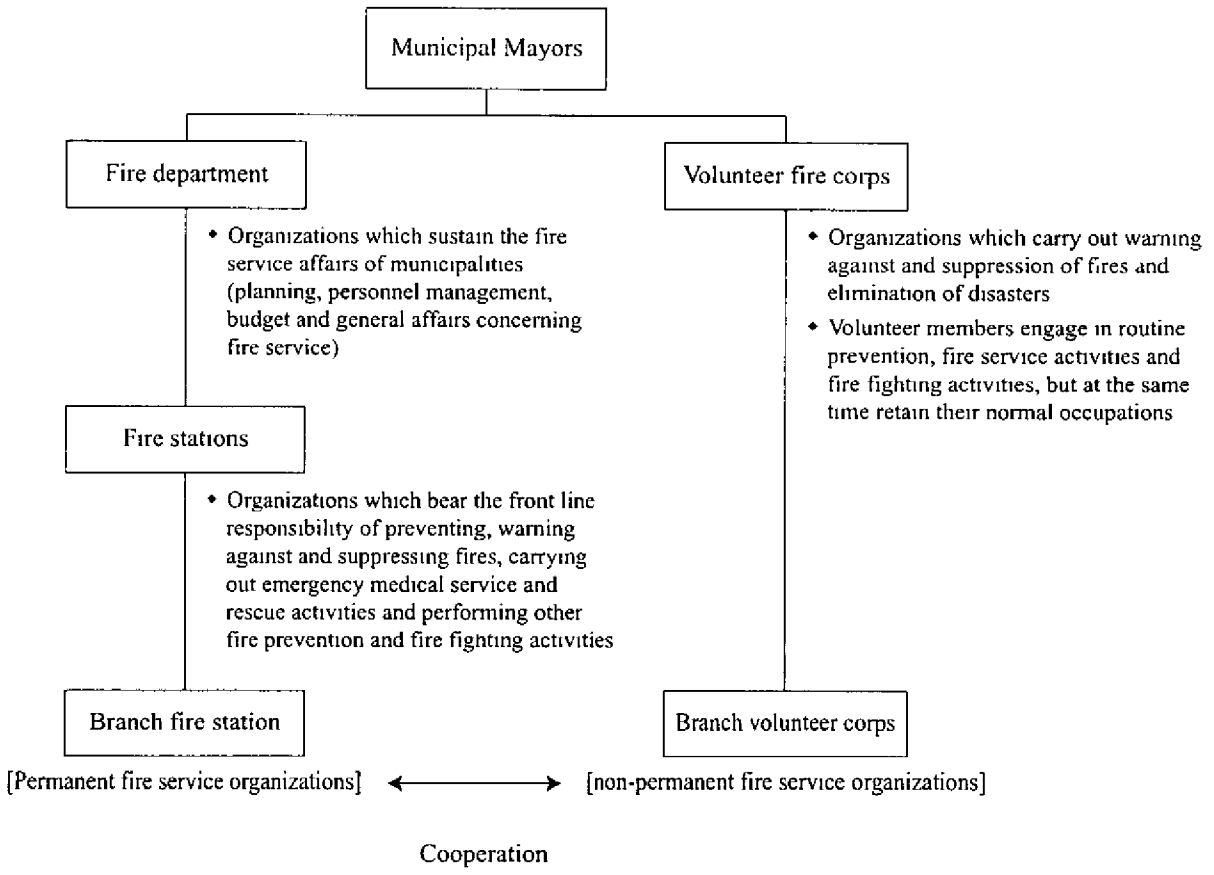
○ Role of municipalities (fire department, fire station, volunteer fire corps)

- Establishment, management and operation of fire service organizations
- Fire prevention, fire fighting, rescue and emergency medical treatment and response to disaster

(3) Outline of File Service Organization

Municipal mayors are responsible for the management and administration of their municipal fire service

Municipalities shall establish fire departments, fire stations and volunteer fire corps, or any of the said fire defense organizations as required, to fulfill their fire service responsibilities (Fire Service Organization Law, Article 9)



(4) Current State of the Fire Service System

Fire service in Japan was separated from the police and was established as a local government fire service setup based around municipalities in 1948. This system is made up of the permanent fire service consisting of fire departments and fire stations, and volunteer fire corps manned by volunteering citizens. As of April 1, 2004, there are 155,524 fire service personnel and 919,105 fire service volunteers.

Moreover, concerning the number of fire departments, whereas the permanent establishment of headquarters is advancing, the number of headquarters is being reduced as a result of wide area management (whereas the number of headquarters was 931 in 1988, this had fallen to 886 by 2004)

Conditions of the Fire Service System

Classification		As of April 1, 1989	As of April 1, 2004
Fire Departments	Number of departments	931	886
	Number of fire service personnel (female staff)	132,437 (601)	155,524 (2,731)
Volunteer fire corps	Number of corps	3,649	3,524
	Number of volunteers (female volunteers)	1,002,371 (1,655)	919,105 (13,148)

Conditions of Fire Service Permanent Establishment

Classification		As of April 1, 2004
Permanent establishment ratio	Number of municipalities	98.2%
	Population	99.8%
Ratio of associations		71.7% (2,182/3,044)

• Ratio of associations: municipalities forming associations/number of permanent establishment municipalities

(5) Number of Fire Fighting equipment

(As of April 1, 2004)

Classification	Fire department	Volunteer fire corps	Total
Fire engine	4,187	14,205	18,392
Fire engine with water tank	3,738	835	4,573
Fire engine with ladder	1,296	1	1,297
Chemical fire engine	1,042	3	1,045
Ambulance	5,636	1	5,637
Command vehicles	2,065	760	2,825
Fireboat	53	15	68
Rescue truck	1,217	—	1,217
Forest fire truck	45	56	101
Power supply and lighting vehicle	132	42	174
Loading truck with portable pump	473	34,019	34,492
Hand-drawn pump	828	2,798	3,626
Portable pump	2,260	17,411	19,671
Other fire service vehicle	7,278	1,590	8,868
Fire service helicopter	27	—	27

2. Situation Regarding Disasters

(1) Situation Regarding Fires

The number of fire incidents in 2003 was 56,333 and these resulted in damages amounting to 133.0 billion yen and 2,248 fatalities. Arson was the most frequent cause of fires accounting for 8,354 cases, and this was followed in order by kitchen range, suspected arson, smoking, and bonfires,

Number of Fires by Cause (During 2003)

	Number of fires	Building	Forest	Automobile	Boat/Ship	Aircraft	Other	Damage (1,000s of ¥)
Arson	8,354	3,966	73	1,172	4	0	3,139	7,935,206
Kitchen range	5,850	5,778	1	28	3	0	40	7,325,581
Suspected arson	5,707	2,539	176	781	9	0	2,202	11,241,625
Smoking	5,357	3,330	249	241	4	0	1,533	10,447,644
Bonfire	2,780	512	449	61	2	0	1,756	1,016,834
Playing with fire	1,966	863	115	31	0	0	957	2,328,806
Heater	1,955	1,931	0	6	1	0	17	9,403,450
Light & telephone wiring, etc.	1,396	1,081	2	30	16	0	267	4,967,769
Burn off of vegetation	1,123	112	230	13	0	0	768	172,058
Wiring fixture	1,003	825	1	81	6	0	90	2,771,651
Match or lighter	944	468	35	188	5	0	248	986,502
Electrical equipment	899	680	0	162	3	0	54	2,331,898
Exhaust pipe	881	53	0	798	5	0	25	504,058
Lamplight	632	598	2	2	0	0	30	2,470,914
Welding and cutting machinery	575	341	6	25	10	0	193	1,188,079
Electrical apparatus	514	306	1	150	2	0	55	1,060,758
Incinerator	509	218	23	19	2	0	247	1,357,570
Bathwater heater	474	459	0	0	0	0	15	996,402
Chimney or flue	303	278	0	3	1	0	21	1,186,400
Struck by fireworks	297	2	0	289	0	0	6	361,578
Internal-combustion engine	296	20	1	268	1	0	6	138,001
Removal of ashes	234	172	8	10	0	0	44	621,481
Oven	136	100	0	17	0	0	19	478,941
Boiler	126	110	0	1	0	0	15	206,904
Kotatsu	99	99	0	0	0	0	0	505,964
Furnace	67	55	1	0	0	0	11	289,405
Other	7,516	3,853	181	1,970	28	1	1,483	12,992,646
Uncertain or under investigation	6,340	3,785	256	1,020	34	2	1,243	47,810,640
Total	56,333	32,534	1,810	7,366	136	3	14,484	133,098,765

(2) Situation Regarding Emergency Medical Service Work

Looking at the situation regarding emergency medical service work throughout Japan in 2003, the number of emergency dispatches (including helicopters) was 4,830,813 and the number of people transported was 4,575,325.

This means that ambulances were called out on average 13,235 times per day or once every 6.5 seconds and that one in every 28 citizens was carried in an ambulance.

Looking at the number of ambulance dispatches according to the type of accident, acute illnesses account for half, and these are followed in order by traffic accidents and common injuries.

Situation Regarding Dispatch of Ambulances

Type of Emergency	2002		2003		Difference (2002-2001)
	Number of cases	Ratio (%)	Number of cases	Ratio (%)	
Acute illness	2,610,812	57.3	2,819,620	58 4	208,808
Traffic accident	670,698	14.7	662,542	13 7	-8,156
Other	1,274,371	28.0	1,348,651	27.9	74,280
Total	4,555,881	100 0	4,830,813	100.0	274,932

(3) Rescue Activity Implementation Conditions

Human rescue carried out by fire service organizations refers to activities for eliminating danger and evacuating people to safety by manual or mechanical means in cases of fires, traffic accidents, flooding, natural disasters and machine accidents, etc

Looking at the situation regarding rescue activities throughout Japan in 2003, there were 51,810 cases of rescue activity resulting in the rescue of 52,301 people.

Outline of Rescue Activities and Personnel Dispatched by Type of Accident (During 2003)

Class \ Type		Fire	Traffic accident	Water accident	Natural disaster	Machine accident, etc	Building accident, etc	Oxygen shortage or gas accident	Explosion	Other	Total
Number of rescue cases		6,418 (12 4)	20,414 (39 4)	2,143 (4 1)	118 (0 2)	1,066 (2 1)	13,432 (25 9)	125 (0 2)	3 (0 0)	8,091 (15 6)	51,810 (100.0)
Number of rescue personnel		1,491 (2.9)	26,646 (50.9)	1,891 (3 6)	243 (0 5)	1,313 (2 5)	13,142 (25 1)	103 (0 2)	1 (0 0)	7,471 (14 3)	52,301 (100.0)
Career fire service	Mobilized personnel	301,179 (25 9)	400,057 (34 3)	61,665 (5 3)	2,144 (0.2)	22,864 (2.0)	168,757 (14 5)	4,098 (0 4)	216 (0 0)	203,941 (17 5)	1,164,921 (100.0)
	Activated personnel	109,047 (21 0)	194,256 (37 5)	32,651 (6 3)	1,054 (0 2)	10,263 (2 0)	101,894 (19 6)	1,557 (0 3)	72 (0 0)	67,804 (13 1)	518,598 (100 0)
Volunteer fire service	Mobilized personnel	143,836 (81 2)	2,494 (1 4)	5,892 (3 3)	945 (0 5)	122 (0 1)	358 (0 2)	83 (0.0)	0 (0 0)	23,332 (13 2)	177,062 (100 0)
	Activated personnel	20,291 (62 0)	885 (2 7)	3,881 (11 9)	683 (2 1)	23 (0 1)	83 (0.3)	0 (0.0)	0 (0 0)	6,885 (21 0)	32,731 (100 0)
Mobilized personnel per case		20 2	9 6	17 0	14 7	9.6	7 6	12 5	24 0	9 2	10 6

Notes

1. Data from review of implemented rescue work
2. Percent distribution shown in parenthesis
3. "Mobilized personnel" are all personnel dispatched as part of rescue activities
4. "Activated personnel" are those mobilized personnel who were actually engaged in rescue activities

(4) Situation Regarding Natural Disasters

① Storm and flood damage

In 2003, human harm resulting from disasters which accompanied extraordinary natural phenomena such as storm and flood damage and snow damage (not including earthquakes and volcanic eruptions) consisted of 60 fatalities or persons going missing (48 people in 2002) and 483 injuries (472 people in 2002). As for damage to housing, 115 buildings were totally damaged (74 in 2002), 238 were half damaged (259 in 2002), and 3,355 were partially damaged (5,440 in 2002).

② Volcanic disasters

There are currently 108 active volcanoes in Japan (including the Northern Territories) and a wide range of disasters such as lava flows, cinders, ash fallout, pyroclastic flows, mud flows, landslides and gas emission, tsunamis, etc., arise from these.

③ Earthquake disasters

In 2003, the number of earthquakes detected where the level of intensity was over 1 on the 7-point Japanese scale was 2,179; of which the number recorded as having a level of intensity over 4 was 71.

(5) Great Hanshin Earthquake

The Great Hanshin Earthquake was felt over a wide area from the southern part of the Tohoku region to Kyushu. Damage was incurred in 15 prefecture centering around Hyogo Prefecture, and the disaster resulted in 6,433 fatalities, 3 persons missing, 43,792 injuries (including 8,772 heavily injured people), 104,906 houses totally destroyed, 144,274 houses semi destroyed, and more than 310,000 evacuees at the peak time.

Moreover, the earthquake triggered 285 fires which resulted in the total or semi burning of 7,071 buildings.

Date and time	: 05:46, January 17, 1995
Epicenter	: Awaji Island
Depth of hypocenter	: 16 km
Size of earthquake	: Magnitude 7.3
Fatalities and persons missing	: 6,433 (as of December 25, 2003)
Injuries	: 43,792 (same as above)

(6) Nuclear Power Disasters, Etc.

To ensure the safety of atomic power plants and nuclear facilities, safety audits, pre-startup safety inspections and regular audits are implemented and procedures for the approval of compliance with security regulations in operations management are carried out in accordance with the Electric Utilities Industry Law and the Law on the Regulation of Nuclear Source Material, Nuclear Fuels Material and Reactors. Measures to ensure safety are also provided by the provisions set forth in the Nuclear Disaster Special Measures Law and include the establishment of a nuclear disaster headquarters and the implementation of emergency response protocols and other actions to be taken in the event of a nuclear accident.

As to recent major accidents at nuclear power facilities, on November 7, 2001, there was an incident at the Hamaoka Nuclear Power Station, Shizuoka Prefecture, in which a steam pipe forming part of the emergency core cooling system's residual heat removal system ruptured and steam containing radioactive materials leaked into the reactor building.

Furthermore, on May 12, 2002, a fire occurred at the Leona Filament Plant of Asahi Kasei Corporation's Nobeoka Office, and though there was no emission of radioactive materials, 9407 residents from 3698 households in the surrounding area were urged to evacuate due to concern over toxic gas emissions.

3. Legal Framework Concerning Fire Service

The supreme legislation in Japan is the Constitution of Japan, and laws are prescribed for various items based on the Constitution,

Basic laws which can be raised concerning fire service are the Fire Service Organization Law, which prescribes basic items concerning fire service organization and management of the central government (Fire and Disaster Management Agency) and local public authorities (prefectures and municipalities), and the Fire Service Law, which gives stipulations concerning the actual working of fire service such as fire prevention, extinguishing activities and emergency medical service activities, etc.

The Fire Service Organization Law was established in 1947 and the Fire Service Law in 1948, and both laws have undergone numerous revisions up until the present day.

In addition to the above, there are various other laws which are related to fire service.

○ The Disaster Countermeasures Basic Act (1961)

This law prescribes basic items for disaster countermeasures by the central government, local public authorities and other public agencies , and it provides the basis for administrative processing with respect to disaster preparedness.

○ Large Scale Earthquake Countermeasures Act (1976)

Established out of the need to strengthen earthquake countermeasures, this law is intended to bolster earthquake disaster preparedness measures through for example designating districts for the bolstering of earthquake countermeasures an establishing an earthquake observation system, etc .

○ Law on the Prevention of Disasters in Petroleum Industrial Complex (1975)

Through prescribing basic items concerning the prevention of disasters in districts where large quantities of petroleum or high pressure gas are handled, this law intends to promote comprehensive countermeasures for preventing the occurrence or spread of disasters in such areas.

The following can be raised as other laws concerning the organization and operation of fire service organizations.

○ Main legislation concerning organization and operation of local public authorities

- Local Autonomy Law
- Local Public Service Law
- Local Finance Law
- Local Allocation Tax Law

○ Legislation directly related to the Fire Organization Law

- Law of Mutual Aid Fund for Official Casualties
- Fire Equipment Reinforcement Promotion Law
- Law Relating to Dispatch of Japan Disaster Relief Team, Etc.

○ Main legislation concerning prevention of disasters
- Building Standard Law
- Explosives Control Law
- High Pressure Gas Safety Law
- Law Relating to Safety and Proper Dealing of Liquid Petroleum Gas, Etc.

○ Legislation established for other agencies concerning fire service action
- Police Law
- Maritime Safety Agency Law
- Self Defense Forces Law, Etc.

○ Legislation established with respect to disaster restoration and financial measures
- Law Relating to Special Financial Aid for Dealing with Designated Serious Disasters
- Law Relating to Central Government Special Financial Measures Concerning Mass Relocation for Disaster Preparedness, Etc.

○ Legislation established to protect citizens in the event of an attack
- Passed on June 14, 2004, at the 159th parliamentary session
- Promulgated on June 18 and enacted on September 17 of the same year

4. System for Fire Prevention

(1) Fire Protection Management System

① Fire protection managers

In the Fire Service Law, it is compulsory for fire protection managers to be appointed from persons who have authority for managing fire protection buildings which accommodate large numbers of people, and for such managers to carry out a designated degree of fire protection management work such as the preparation of fire service plans which prescribe the implementation of fire extinguishing, reporting and evacuation training, etc. As of March 31, 2004, the number of buildings for which fire protection managers must be appointed was 1,039,998, and fire protection managers had been appointed for 74.2% of these.

② Combined fire protection management

In the Fire Service Law, concerning high level buildings (in excess of 31 m in height), underground arcades and structures which are designated fire protection buildings of a certain size or bigger and which have multiple managers, it is compulsory to establish joint fire protection councils to discuss the appointment of supervisory fire protection managers, the preparation of fire service plans for overall fire protection buildings, and the implementation of training for fire extinguishing, reporting and evacuation, and to secure fire prevention and safety of overall fire protection buildings.

(2) Regulations for Fire Protection Equipment, etc.

① Installation of fire protection equipment, etc.

In the Fire Service Law, it is prescribed that persons related to fire protection buildings must establish and appropriately maintain the required fire protection equipment (fire extinguishing system, alarm system, evacuation equipment, and equipment required for fire extinguishing water and fire fighting activities) according to the purpose of use, scale, structure and accommodated personnel of the fire protection building in question.

② Fire protection engineers

Concerning fire protection equipment and so on, performance is secured through an inspection system for mechanical apparatus use in fire protection, however, if problems or defects occur in the installation or development stage, it becomes impossible for equipment to display its inherent functions. In order to prevent such situations from arising, it is prescribed that installation or development of designated fire protection equipment can only be carried out by fire protection engineers. As of March 31, 2004 the total number of fire protection engineers stood at 832,839.

③ Flame retardant regulations

Concerning items such as curtains and carpets, etc and their materials used in high level structures, underground structures and other fire protection buildings which require special attention for fire prevention due to their shape, and also fire protection buildings such as theaters, night clubs, inns and hospitals, etc. which are used by large numbers of non designated persons or persons who are at a disadvantage in the event of disaster, the Fire Service Law

makes it compulsory for these items and materials to process set flame resistant performance.

(3) Fire Service Consent and Preventive Inspections, etc.

① Actual state of fire service consent

The purpose of fire service consent is to raise the safety of buildings through having fire service agencies take an active involvement from the design stage as fire protection experts. The number of cases of fire service consent throughout Japan in fiscal 2002 was 321,697, and of applications made for fire service consent, guidance was provided by fire service agencies in 93,009 cases (29.2%).

② On-the-Spot Inspections

In cases where it is deemed necessary for fire prevention, fire service agencies carry out on-the-spot inspections of fire protection buildings according to Article 4 of the Fire Service Law. The number of fire inspections in fiscal 2003 stood at 1,040,839 with fire prevention guidance being provide where necessary.

③ Improvement of violations

Concerning fire protection management deficiencies or non-installation of fire equipment discovered in fire protection buildings in fire inspections, the chief of the fire department or the fire station chief can order the owners or managers, etc. of the facilities in question to appoint fire protection managers and to install fire equipment, etc. Moreover, in cases where it is deemed necessary from the viewpoint of fire prevention or in cases where human life may be put at risk in the event of fire, the chief of the fire development or the fire station chief can order necessary steps including the renovation, relocation or prohibition of use of the fire protection building in question.

In cases where violations of the Fire Service Law are discovered in fire inspections, guidance on improvement is provided in the form of instructions, warnings and orders, etc. from the chief of the fire department or the fire station chief and guidance for correction of the violation is offered to ensure compliance with legislation.

(4) Inspection of Fire Service Machinery and Apparatus, etc.

① Inspections

With respect to 14 products including fire extinguishers and closed sprinkler heads, etc , sale activity or display with a view to sale must not be carried out unless the said items pass inspections and carry a pass mark.

These inspections consist of model approval (recognizing conformance of the shape, etc. with technical criteria prescribed by the Ministry of Home Affairs) and individual inspections (confirming that each apparatus is the same as the item which has received model approval).

② Self certification

This system allows manufacturers themselves to conduct inspections to make sure that government technical criteria are conformed with and to apply designated markings. Power fire pumps and fire suction tubes are targeted under the self marking system.

5. System for Regulation of Hazardous Materials

In the Fire Service Law, materials which have a high risk of causing fire, a high risk of spreading fire in the event of occurrence, or high potential for hindering fire extinguishing activities in the event of fire, etc. are designated as hazardous materials, and regulations are implemented with respect to their storage, handling and carrying from the viewpoint of fire prevention.

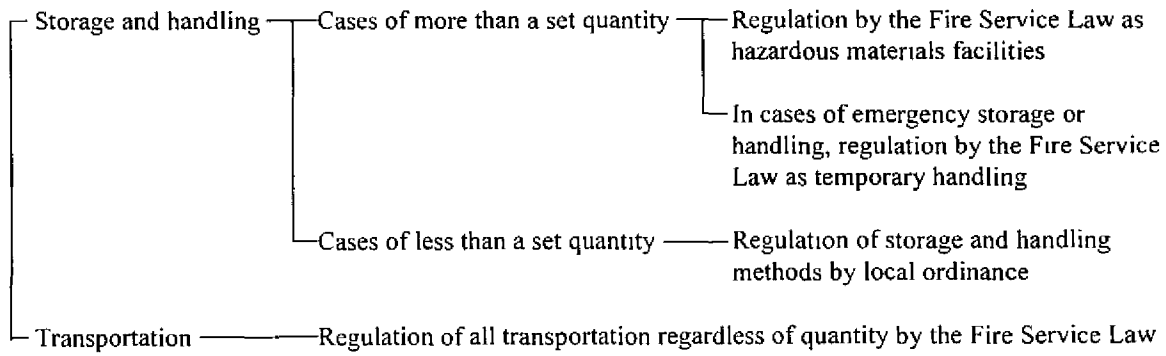
Hazardous materials of a certain quantity or more must not be stored or handled in areas other than designated facilities. Parties which install hazardous materials facilities must ensure that the location, structure and equipment of facilities conform with technical standards prescribed in regulatory legislation, and they must obtain permission from the head of the municipality in question, etc,

With respect to the carrying of hazardous materials, regardless of the quantity in question, this must be carried out according to technical standards prescribed by ordinance relating to the regulation of hazardous materials.

Furthermore, concerning the storage and handling of hazardous materials less than a set quantity, it is required that municipalities prescribe standards and regulations concerning storage and handling.

○System of Regulations

- Hazardous materials: items raised in the separate table of the Fire Service Law; the properties of these items are given in the same table according to the given classifications.



6. Training of Fire Service Personnel and Volunteers

(1) Training

In order for fire service personnel and volunteers to appropriately deal with the growing complexity and variety of disasters and the sophistication of emergency medical service work and fire prevention work, improvement of know-how and skills is essential and training of fire service personnel and fire volunteers is extremely important.

Training of fire service personnel and volunteers is based around training at each fire department headquarters (training section), fire station and volunteer fire corps, however, in order to impart fire service know-how and skills, the Fire and Disaster Management College has been established at the national level and fire academies at the prefectural level, etc. Furthermore, expert training is carried out at emergency life saving technique academies, etc

In this way, functions for the training of fire service personnel and volunteers are shared by the central government, prefectures and municipalities, and training is implemented based on mutual linkage between these bodies.

(2) On-the-Job Training

Planned training (on-the-job training) is routinely carried out in each Fire Department with consideration given to local characteristics.

Standards for workplace training consist of the Fire Service Training Service Standards, the Fire Service Muster Standards, and the Fire Service Rescue Muster Standards. Moreover, the Fire and Disaster Management Agency promotes efficient and safe training through offering guidance on the maintenance of safety control setups, etc. during training.

(3) Training at Fire Academies

Prefectural governments must establish fire academies independently or jointly "except for cases where financial or other special conditions exist". Moreover, designated cities are allowed to establish fire academies "independently or jointly with prefectures" (Fire Service Organization Law, Article 26).

Standards for establishing and running fire academies are the Standards for Fire Academy Facilities, Personnel and Running.

Based on these, as of April 1, 2004, 56 fire academies are established in each of the 47 prefectures, seven designated cities (Sapporo, Chiba, Yokohama, Nagoya, Kyoto, Osaka, Kobe and Fukuoka), and Tokyo Fire Department.

As training standards in fire academies, the Fire Academy Training Standards have been established. According to these, training in fire academies consists of. 1) recruit training, special course training, manager training and special training for fire service personnel, and 2) basic training, special course training, manager training and special training for volunteers

Actual Training in Fire Academies

○Training for Fire Service Personnel

Course		Contents	Number of Students	
			2002	2003
Recruit training		Basic training carried out for all newly recruited fire service personnel (six months and more)	3,436	3,664
Special course training	Fire defense course	Training for present fire service personnel, this is intended to impart expert know-how and skills concerning fire defense, etc	1,608	1,362
	Prevention course	Training for present fire service personnel, this is intended to impart expert know-how and skills concerning fire equipment, etc	2,447	2,544
	Engine course	Training for present fire service personnel, this is intended to impart expert know-how and skills concerning fire engines, etc.	564	439
	First aid course	Training for present fire service personnel, this is intended to impart expert know-how and skills concerning first aid in general, etc.	4,398	4,046
	Rescue course	Training for present fire service personnel, this is intended to impart expert know-how and skills concerning rescue basic training, etc.	1,671	1,559
Manager training		General training for fire service management carried out for managers or personnel scheduled to be promoted as managers	3,714	3,564
Special training		Training other than the above which is carried out with specific objectives	7,690	7,717

○Training for Volunteers

Course		Contents	Number of Students		
			1998	1999	2000
Ordinary training		Basic training carried out for all volunteers (four days and more)	14,278	15,259	14,261
Special course training	Fire defense course	Expert training in fire defense, etc , this is conducted for volunteers who have completed ordinary training.	1,050	493	1,816
	Prevention course	Expert training in inspections, etc , this is conducted for volunteers who have completed ordinary training.	117	139	138
	Engine course	Expert training in pump fire engines, etc , this is conducted for volunteers who have completed ordinary training.	717	769	1,236
Manager training		General training for fire service management carried out for managers or personnel scheduled to be promoted as managers	8,124	8,693	12,291
Special training		Training other than the above which is carried out with specific objectives.	33,959	34,765	48,838

○Education for Citizens

Fiscal Year	1999	2000	2001	2002	2003
Persons	22,302	20,661	20,117	17,229	13,334

Because volunteer firefighters are assigned individual duties, a firefighting school may dispatch an instructor to provide training when it is found that it will be difficult to satisfy the educational needs of firefighters through the system of training provided at a firefighting school.

7. Emergency Fire Response Teams and the International Rescue Team of Japanese Fire Service

(1) Emergency Fire Response Teams

① Overview

With the lessons learned from the Great Hanshin Earthquake of January 1995, the Nation's fire fighting forces were assembled to form a swift acting rescue system with the establishment of the Emergency Fire Response Teams in June of 1995 for better equipped and more efficient life saving activities during large-scale domestic disasters such earthquakes.

In addition to its rescue, firefighting and first-aid units, the system of Emergency Fire Response Teams also consists of command-support units engaging in advance surveys and guidance for fire-service headquarters on site, prefectural team command units overseeing and directing the activities of prefectural teams, logistical-support units securing supplies, such as food stuffs, necessary to the functioning of relief units active at the disaster site, special-disaster units capable of handling extraordinary disasters, special equipment units whose activities employ specialized apparatus, airborne units consisting of helicopters for fire fighting and fire prevention, and waterborne units made up of fireboats, which may be mobilized at the request and instruction of the Commissioner of the Fire and Disaster Management Agency in times of large-scale disasters in accordance with the Law of Fire Defense Organization

② Team Composition

As of April 1, 2003, the system of Emergency Fire Response Teams consists of 2,821 units and approximately 35,000 registered members from 812 headquarters nationwide.

Command-support units	28
Prefectural teams	
Prefectural team command units	103
Fire fighting units	1,107
Rescue units	277
First-aid units	610
Logistical-support units	205
Airborne units	66
Waterborne units	19
Special-disaster units	221
Special equipment units	283
Total	2,821

③ Response Record

Emergency Response Record (Years 1996 to 2004)

Year	Duration of activity	Description of disaster	Mobilized Emergency Response Units		
1996	12/6~12/12 (7 days)	Debris flow at Gamaharazawa near border of Nagano and Niigata Prefectures on 12/6	Tokyo Fire Department Nagoya City Fire Bureau	Total 49 units (268 personnel) Total 23 units (114 personnel)	
1998	9/4 (1 day)	Earthquake in the inland region of Iwate Prefecture on 9/3 measuring lower 6 on Japanese scale	Sendai City Fire Bureau Tokyo Fire Department	Command-support units Airborne units	1 (1 personnel) 1 (6 personnel)
2000	3/29~5/10 (40 days)	Volcanic eruption at Mt Usuzan in Hokkaido Prefecture on 3/31	Sendai City Fire Bureau Yokohama City Fire Bureau Tokyo Fire Department Kawasaki City Fire Bureau	Command-support units	1 (5 personnel) 3 (25 personnel) 6 (21 personnel) 4 (14 personnel)
	10/6 (1 day)	Earthquake in western region of Tottori Prefecture on 10/6 measuring lower 6 on Japanese scale	Hiroshima City Fire Bureau Kobe City Fire Bureau	Command-support & airborne units Command-support & airborne units	2 (6 personnel) 2 (9 personnel)
2001	3/24~3/26 (3 days)	Earthquake offshore of Geiyo islands on 3/24 measuring lower 6 on Japanese scale	Tottori Prefecture Osaka City Fire Bureau Kobe City Fire Bureau Okayama City Fire Bureau Kitakyushu City Fire Bureau Fukuoka City Fire Bureau	Airborne units Command-support & airborne units Command-support & airborne units Airborne units Airborne units Command-support & airborne units	1 (6 personnel) 2 (7 personnel) 2 (8 personnel) 1 (5 personnel) 1 (6 personnel) 2 (5 personnel)
2003	7/26~7/28 (3 days)	Earthquakes in northern region of Miyagi Prefecture on 7/26 measuring lower and higher 6 on Japanese scale	Sapporo City Fire Bureau Ibaraki Prefecture	Command-support & airborne units Airborne units	2 (12 personnel) 1 (4 personnel)
	8/22~7/25 (4 days)	Explosion at refuse-derived-fuel power generation plant on 8/22 in Tadocho, Mie Prefecture	Nagoya City Fire Bureau Command-support, special-disaster, airborne, and other units (Total 23 units, 56 personnel)		
	9/8~9/9 (2 days)	Fire at Bridgestone Corporation's Tochigi Plant on 9/8 in Kuroiso city, Tochigi Prefecture	Tokyo Fire Department Command-support, special-disaster, airborne, and other units (Total 30 units, 136 personnel)		
	9/26 (1 day)	Earthquake offshore of Tokachi in Hokaido Prefecture on 9/26 measuring lower 6 on Japanese scale.	Hokkaido Prefecture Aomori Prefecture Miyagi Prefecture Akita Prefecture Fukushima Prefecture Ibaraki Prefecture Metropolis of Tokyo Kanagawa Prefecture Kyoto Prefecture Osaka Prefecture Hyogo Prefecture	Sapporo City Fire Bureau Aomori Regional Fire Service North Kamikita Regional Fire Service Hachinohe Regional Fire Service Sendai City Fire Service Akita City Fire Service Oga District Fire Service Iwaki City Fire Service Hitachi City Fire Service Kashima South Fire Service Tokyo Fire Department Kawasaki City Fire Bureau Fujisawa City Fire Service Kyoto City Fire Bureau Osaka City Fire Bureau Kobe City Fire Bureau	Command-support & airborne units Airborne units Special-disaster units Special-disaster units Special-disaster units Special-disaster, airborne & other units Special-disaster units Special-disaster units Special-disaster units Special-disaster units Special-disaster & long-range pump units Special-disaster & long-range pump units Long-range pump units Long-range pump units Long-range pump units Long-range pump units Total. 381 vehicles and 1,417 personnel
	9/28~10/21 (24 days)	Fire at Idemitsu Kosan Hokkaido Refinery on 9/28 in Tomakomai, Hokkaido Prefecture			
2004	7/13~7/15	Torrential rain and collapse of river embankments on 7/13 in Niigata Prefecture due to stationary seasonal front. Rescue by lifeboat and helicopter of citizens stranded in homes, etc., in municipalities of Sanjo, Mitsuke and Nakanoshima-machi Deployed rescue personnel, 1,855 (92 by helicopter)	Dispatching prefectures (12) Miyagi, Yamagata, Ibaraki, Gunma, Saitama, Tokyo, Kanagawa, Toyama Ishikawa, Yamanashi, Nagano, Gifu Total of 171 units and 693 personnel (71 personnel from 9 airborne units) dispatched for 3 days Command units 17 Rescue units 76 Firefighting units 4 First-aid units 10 Logistical-support units 55 Airborne units 9	(66 lifeboats) (9 helicopters)	

Year	Duration of activity	Description of disaster	Mobilized Emergency Response Units
2004	7/18~7/19	Torrential rain and collapse of river embankments on 7/18 in Fukui Prefecture due to seasonal stationary front Rescue by lifeboat and helicopter of citizens stranded in homes, etc , in municipalities of Fukui, Sabae and Miyama Deployed rescue personnel: 388 (187 by helicopter)	Dispatching prefectures (12) Kanagawa, Toyama, Ishikawa, Nagano, Aichi, Shiga, Kyoto, Osaka, Hyogo, Nara, Tottori, Shimane Total of 159 units (679 personnel) dispatched for 2 days, 9 units of which were airborne (65 personnel) Command units 16 Rescue units 69 (80 lifeboats) Firefighting units 19 First-aid units: 19 Logistical-support units 27 Airborne units, 9 (9 helicopters)
	10/21~10/22	Torrential rain due to Typhoon No 23 and collapse of river embankments on 10/21 in municipality of Toyooka, Hyogo Prefecture Rescue by lifeboat of citizens stranded in homes, etc Deployed rescue personnel 127	Dispatching prefectures (4) Osaka, Okayama, Shiga, Aichi 70 units (284 personnel) dispatched for 2 days, 2 units of which were airborne (8 personnel) Command units 5 Rescue units 44 (42 lifeboats) First-aid units 3 Logistical-support units 16 Airborne units 2 (2 helicopters)
	10/23~11/1	Earthquake in the Chuetsu region of Niigata Prefecture on 10/23 measuring 7 on Japanese scale Deployed rescue personnel 453 (282 by helicopter)	Dispatching prefectures (15) Miyagi, Yamagata, Fukushima, Ibaraki, Tochigi, Gunma, Saitama, Chiba, Tokyo, Kanagawa, Toyama, Ishikawa, Yamanashi, Nagano, Aichi 480 units (2,121 personnel) dispatched for 10 days, 39 units of which were airborne (244 personnel) Command units 23 Rescue units, 83 Firefighting units, 99 First-aid units 80 Logistical-support units 148 Airborne units: 39 (20 helicopters) Other units, 8

④ Training Implementation Situation

When the system of Emergency Fire Response Teams began in November 1995, the first nationwide joint training was held in metropolitan Tokyo with almost 1,500 members taking part from 98 fire service groups from all over Japan, and since that time ancillary joint training according to regional blocks has been carried out every year. And just recently, in June 2005 on the tenth year since the Team's inception, the third nationwide joint training was held in Sizuoka.

(2) International Rescue Team of the Japanese Fire Service

○ International Rescue Team of the Japanese Fire Service (IRT-JF)
This team is commonly known as 'The hand of love.'

○ International Rescue Team of Japanese Fire Service members
62 fire departments: 599 members

○IRT-JF Response Record

Period	Name of disaster	Disaster-stricken area	Casualties and damage	Scale of mobilization and activity outline
Aug. 27, 1986 to Sept. 6, 1986	Lake Nyos Toxic Gas Release Disaster	Republic of Cameroon (Lake Nyos neighborhood)	More than 1,700 deaths	1 personnel (from Tokyo Fire Department (TFD)) Guidance on the use of respiratory protective equipment for the investigation team in preparation for a possible rerelease of toxic gas
Oct. 11, 1986 to Oct. 20, 1986	El Salvador Earthquake	San Salvador, Republic of El Salvador	1,226 deaths 30,000 collapsed residential and other buildings	9 personnel (5 from TFD, 3 from Yokohama Fire Department and 1 from Fire Defense Agency (FDA), predecessor of FDMA) Rescue of victims from collapsed buildings
June 22, 1990 to Jul. 2, 1990	Iranian Earthquake	Islamic Republic of Iran (coastal area of Caspian sea)	More than 80,000 deaths	6 personnel (5 from TFD and 1 from FDA) Rescue of victims from collapsed buildings
Jul. 18, 1990 to July 26, 1990	Filipino Earthquake	Republic of the Philippines (northern Luzon)	More than 1,600 deaths	11 personnel (2 from TFD, 4 from Nagoya City Fire Department, 4 from Hiroshima Fire Department and 1 from FDA) Rescue of victims from collapsed buildings
May 15, 1991 to June 6, 1991	Bangladeshi Cyclone Disaster	People's Republic of Bangladesh	Approx. 130,000 deaths	38 personnel (17 from TFD, 11 from Osaka Municipal Fire Department, 4 from Kawasaki City Fire Department, 4 from Kobe Fire Department and 2 from FDA) and 2 helicopters Delivery of relief supplies to victims, etc.
Dec. 13, 1993 to Dec. 20, 1993	Malaysian Building Collapse Disaster	Malaysia (Ulu Kelang area, located on the outskirts of Kuala Lumpur)	48 deaths 1 collapsed building	11 personnel (6 from TFD, 2 from Nagoya City Fire Department, 2 from Kitakyushu City Fire Department and 1 from FDA) Rescue of victims from collapsed building
Oct. 30, 1996 to Dec. 6, 1996	Egyptian Building Collapse Disaster	Arab Republic of Egypt (Heliopolis, located on the outskirts of Cairo)	64 deaths 1 collapsed building	9 personnel (3 from TFD, 2 from Sapporo Fire Department, 2 from Osaka Municipal Fire Department, 1 from Matsudo Fire Department and 1 from FDMA)
Oct. 22, 1997 to Nov. 11, 1997	Indonesian Forest Fires	Republic of Indonesia (Lampung Province)	Burnt-out area 18,000 ha (inside Lampung Province)	30 personnel (19 from TFD, 5 from Nagoya City Fire Department, 3 from Osaka Municipal Fife Department, 2 from Yokohama Fire Department and 1 from FDMA) and 2 helicopters Aerial reconnaissance on individual fires and advice/guidance on firefighting operations
Jan. 26, 1999 to Feb. 4, 1999	Colombian Earthquake	Republic of Colombia (Armenia City neighborhood)	At least 1,171 deaths At least 4,765 injuries	15 personnel (8 from TFD, 2 from Osaka Municipal Fire Department, 2 from Chiba Fire Department, 2 from Funabashi Fire Department and 1 from FDMA) Rescue of victims from collapsed buildings
Aug. 17, 1999 to Aug. 24, 1999	Turkish Earthquake	Republic of Turkey (Yalova City neighborhood)	At least 17,127 deaths At least 43,953 injuries	25 personnel (12 from TFD, 4 from Kawasaki City Fire Department, 4 from Kobe Fire Department, 2 from Ichikawa Fire Department, 2 from Amagasaki Fire Department and 1 from FDMA) Rescue of victims from collapsed buildings
Sept. 21, 1999 to Sept. 28, 1999	Taiwanese Earthquake	Central Taiwan	2,333 deaths 10,002 injuries 39 unaccounted-for	46 personnel (18 from TFD, 4 from Sendai Fire Department, 3 from Chiba Fire Department, 4 from Kyoto Fire Department, 2 each from Kawaguchi, Matsudo, Niigata, Okayama, Kurashiki, Sasebo and Kagoshima fire departments and 3 from FDMA) Rescue of victims from collapsed buildings
May 22, 2003 to May 29, 2003	Algerian Earthquake	Near the town of Thenia, Algeria	2,047 deaths 8,626 injuries (Source: Algerian Ministry of Interior, May 26, 2003)	17 personnel (8 from TFD, 2 each from Kyoto, Sendai and Kawaguchi fire departments, 2 from Asaka area divisional administration association, and 1 from FDMA Rescue of victims from collapsed buildings
Feb. 25, 2004 to Mar. 1, 2004	Morocco Earthquake	Kingdom of Morocco Near Al Hoceima	More than 564 deaths More than 300 injuries	International Firefighters Mobilized. 7 (4 from the Tokyo Fire Department, 1 from the Kyoto City Fire Department, 1 from the Fire and Disaster Prevention Agency) Survey of extent of damage on site and provision of technical assistance in handling of rescue equipment
Dec. 29, 2004 to Jan. 20, 2005	Great Sumatra Earthquake and Indian Ocean Tsunami	Kingdom of Thailand near Phuket	More than 160,000 dead	46 from International Rescue Team of the Japanese Fire Service (23 from TFD, 15 from the Osaka City Fire Bureau, 2 from the Chiba City Fire Bureau, 1 from the Yokohama City Fire Bureau, 1 from the Sagamihara Fire Service, 1 from the Kawagoe Greater Regional Fire Service, and 3 from FDMA) and 2 helicopters Search and rescue, transport of personnel and materials, and instruction of search and rescue techniques, etc.

(Reference)

Regions and Prefectures in Japan