

Manza Onsen Hotel, Tsumagoi town, Gunma prefecture



1. Characteristics of the fire

The fire in this hotel occurred on the day after the fire in Hotel Zao, which resulted in 11 fatalities, and these successive fires in hotels had a profound impact on both the public and the disaster prevention authorities. Internal fire hydrants and fire extinguishment facilities were not installed in certain parts of this hotel, and at the time the fire emerged, the hotel was under inspection by the fire department for violation of fire prevention ordinances. In addition, a fire prevention manager had not been selected, and the lack of awareness in the hotel with respect to fire prevention naturally led to the emergence of fire.

Although this hotel had a public announcement system installed, the relevant fire certification was not issued.

2. Overview of fire outbreak

- (1) Time and date of emergence
Around 0:50 on February 22, 1983 (Tuesday)
- (2) Time and date of detection
01:08 on February 22, 1983 (Tuesday) (119 call placed)
- (3) Time and date of extinguishment
05:50 on February 22, 1983 (Tuesday)

3. Overview of fire origin

- (1) Location
2401 Sen-no-mata, Agatsuma-gun, Tsumagoi-mura, Gunma prefecture
- (2) Name of building where the fire emerged
Nisshin Building of Manza Onsen Hotel, Ltd.

3) Structure and configuration of building where the fire emerged

① Date of construction

Building A 1981

Building B 1968

Building C

Nisshin Building } Built in the Meiji period (before 1912)

② Status of structural extension and alteration

Extensions in 1929, 1936, 1939, 1943, 1956, and 1971

③ Target use of the building

Hotel (Article 5a)

④ Structure

Building A Four-story reinforced steel concrete

Building B Two-story wooden structure

Building C Three-story wooden structure interconnected via corridors

Nisshin Building Two-story wooden structure

⑤ Area (building area, total floor area)

Total floor area

Building A 5,520 m²

Building B 1,480 m²

Building C 3,314 m²

Nisshin Building 2,914 m²

⑥ Number of accommodated personnel, occupants, enterprises, etc.

(a) Personnel 400

(b) Number of people at the time when the fire emerged 454

⑦ Employees

70

⑧ Target use per floor

Building B (the building where the fire emerged)

Building B

Floor	Floor area	Use
2	669.9 m ²	Guest rooms
1	810.1 m ²	Guest rooms, dining room, reception hall

⑨ Others

Although the hotel was due for issuance of a fire certification, the change was not implemented and was under revision since internal fire hydrants and fire extinguishment facilities had not been installed in certain parts of the hotel.

(4) Status of the installed fire extinguishment and prevention facilities

① Fire extinguishment facilities

Fire extinguishers (entire building), internal fire hydrants (Building A only)

② Alarm systems

Automatic fire alarm system (Building A, part of Building B), short-circuit fire alarm system (non-functional), broadcast system (Building A only)

③ Evacuation facilities

Guiding lights (entire building)

(5) Fire prevention management

① Fire prevention manager

Not selected

② Fire prevention plan

No record

③ Evacuation drills

None except for a single drill on December 22, 1982

4. Weather conditions

(1) Weather

Snowy

(2) Wind speed

Speed: 6 m/s (maximal instantaneous velocity 20 m/s)

(3) Temperature, humidity (relative, effective)

Temperature: -20°C, relative humidity: 37%

(4) Other

Snow coverage 2 m

5. Causes of fire

(1) Ignition source

Unknown

Although not decisively determined, there is a strong possibility that a short circuit caused the fire because smoke was first noticed in the vicinity of the toilet roof, on the 1st floor of block 5 of Building B

(2) Route

Unknown

(3) Ignited substances

Unknown

6. Fire damage

(1) People

- ① No fatalities
- ② Injured 3 (1 guest: male, 20 years of age; 2 staff members: male, 34 and 32 years of age)

(2) Property

- ① Building where the fire emerged
 - (a) Number of blocks 1 (blocks 5 and 7 in Building B)
 - (b) Degree of burning Completely burned
 - (c) Burned area 887 m²
 - (d) Cost of damage 93,908,000 yen
- ② Buildings to which the fire spread
 - Part of Building A burned

7. Fire route (progression)

(1) Overview of outbreak location

In the vicinity of the toilet roof on the 1st floor of Building B (assumed)

(2) Situation up until the outbreak

Unknown

(3) Progression up to fire detection

Although the installed automatic fire alarm system covered a part of the building which included the burned area, it did not sound. The fire was discovered by hotel guests who were passing the place where the fire emerged.

(4) Notification of fire department

Staff members called 119 from the front desk.

(5) Initial attempts at extinguishing the fire

Three staff members from Building A used 5 fire extinguishers in an initial attempt to extinguish the fire. As the fire crossed the corridor between the buildings and started spreading towards Building A, they used the internal fire hydrant from Building A, but without success.

(6) Evacuation

Due to snow coverage of more than 2 m, all 6 emergency exits in the old building were closed. For this reason, many guests broke the windows in their own rooms and in the corridors with their hands and feet and subsequently jumped outside.

(7) Firefighting group activities

The emergency broadcast system was not used for providing evacuation guidance. In block 5 in Building B where the fire emerged, evacuation guidance was provided by both staff members and the guests themselves. Evacuation guidance was provided in the same manner in block 7 of Building B to which the fire spread. In Building A, evacuation guidance was provided via the emergency announcement system.

8. Firefighting activities undertaken by the fire department

(1) Dispatched units

① Dispatched vehicles

Fire station	Pump trucks	2
	Portable pump trucks	2
	Rescue trucks	1
	Ambulances	2
	Command trucks	2
Fire fighting group	Pump trucks	8
	Command trucks	1
	Total	18

② Dispatched personnel

Firefighters	23
Firefighting group	150
Total	173

(2) Firefighting and rescue activities

① Firefighting activities

The fire department stopped the fire from propagating by setting up water transportation posts at a nearby river and a water tank. In addition, several units of the firefighting group drew water from bathtubs, but the water eventually ran out and the pumps subsequently froze.

② Rescue activities

When the first units arrived, both blocks 5 and 7 of Building B were ablaze. They used breathing equipment to perform a search for 2 persons whose evacuation status was unknown. They confirmed that the 2 persons in question had already evacuated from the building.

9. Problems, lessons learned

- (1) Although certain fire extinguishment facilities had partially corroded due to the moisture and vapor at the hot spring facilities, maintenance was not performed.
- (2) The emergency exits could not be opened due to large amounts of snow which had accumulated in front of them.
- (3) Although the hotel had received warnings from the fire department regarding the lack of internal fire hydrants in the old building of the hotel and the lack of a fire prevention manager, no improvements were made.

Fig. 1 Layout

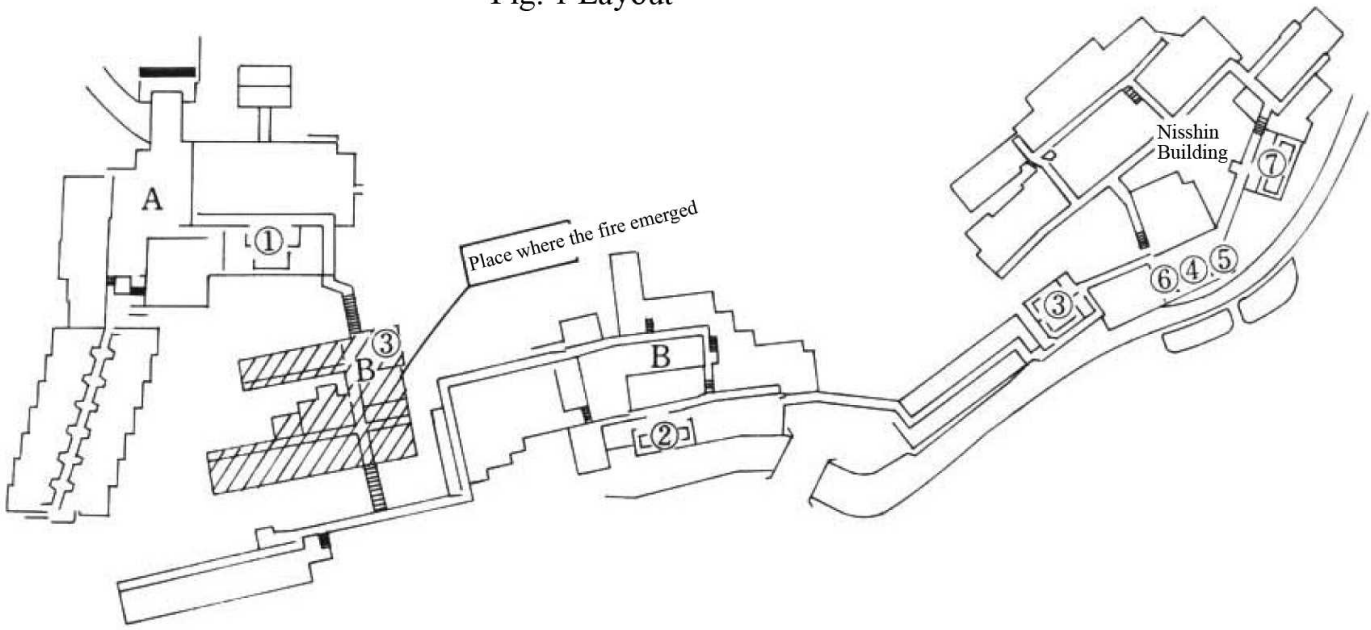


Fig. 2 Floor plans (the floor where the fire emerged; damaged floors; 1st floor; others)

