

Building Name Address	Use (as per FSA Annexed Table 1)	Date and Time of Incident	Structure and Stories Area	Extent of Damage (Damaged Area/ Total Area)	No. of Casualties
Oriental Hotel, Kushiro 7-1 Saiwaicho, Kushiro, HOKKAIDO	Hotel (5) a	June 18, 1973	Fire resistive	All, Half, Partial , Small 830 m ² (14%)	Fatalities 2 Injured 27 (2)
		Breakout at 04:20 (approx) Detected at 04:22 Notified by emergency call Extinguished by 05:39	6 stories above ground and 1 below Building area 1,473 m ² Total floor area 5,735 m ²		

I. Summary of Fire Incident

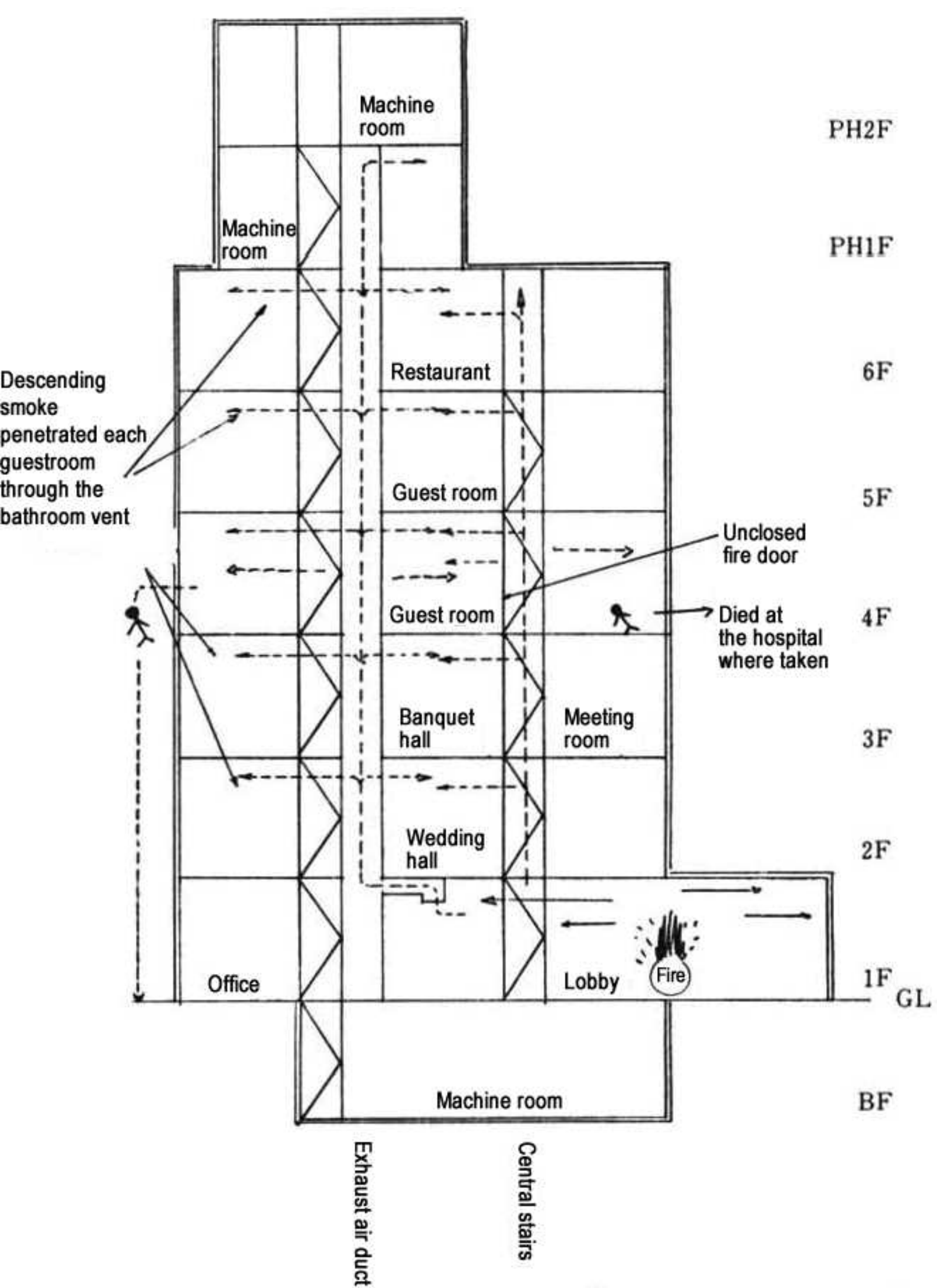
(1) Summary	This fire occurred when the aftershocks started to subside following a magnitude 7.25 earthquake that hit Kushiro city the day before. Although the fire damage was contained within a certain portion of the 1st floor, this fire resulted in 2 fatalities and 27 injuries because of heavy smoke and inadequate evacuation procedures.							
	(2) Conditions per Floor	Floor	Total area	Damaged area	Use (Purpose)	No. of persons	No. of fatalities	Fire escape equipment
PH2		53.4 m ²	m ²	Machine room			2 sets of inside stairs (B1 floor to 6 floor)	Fire extinguishers Indoor fire hydrants
PH1		115.4		Machine room				
6		668.6		Restaurant			1 set of outside stairs (2nd to 6 floor)	Automatic fire detection system
5		668.6		Guest rooms w/ bed	27			
4		668.6		Guest rooms w/ futon	26 (1 employee)	2 males	Evacuation equipment (1 rope ladder)	Emergency alarm system (PA system) Guiding lights
3		668.6		Large hall, Meeting room	2 (2 employees)			
2		668.6		Wedding hall, Restaurant				
1		1,743.4	830	Lobby, Office, Large hall	3 (3 employees)			
B1		480.4		Break room, Machine room	2 (2 employees)			
Total		5,735.2	830		60 (8 employees)	2		

(3) Origin of Fire	(Floor, Room, Part, Combustibles, Habitable/Non-habitable Rooms, Present/Absent) From the vicinity of the small store on the north-east side of the 1st floor <ul style="list-style-type: none">◦ The small store was surrounded by a large amount of combustible material such as shelving units, a suspension door made of plywood, cardboard boxes containing cigarettes, and sales goods.◦ No one was in the small store when the fire broke out.	(A) Cause of Fire	Unknown
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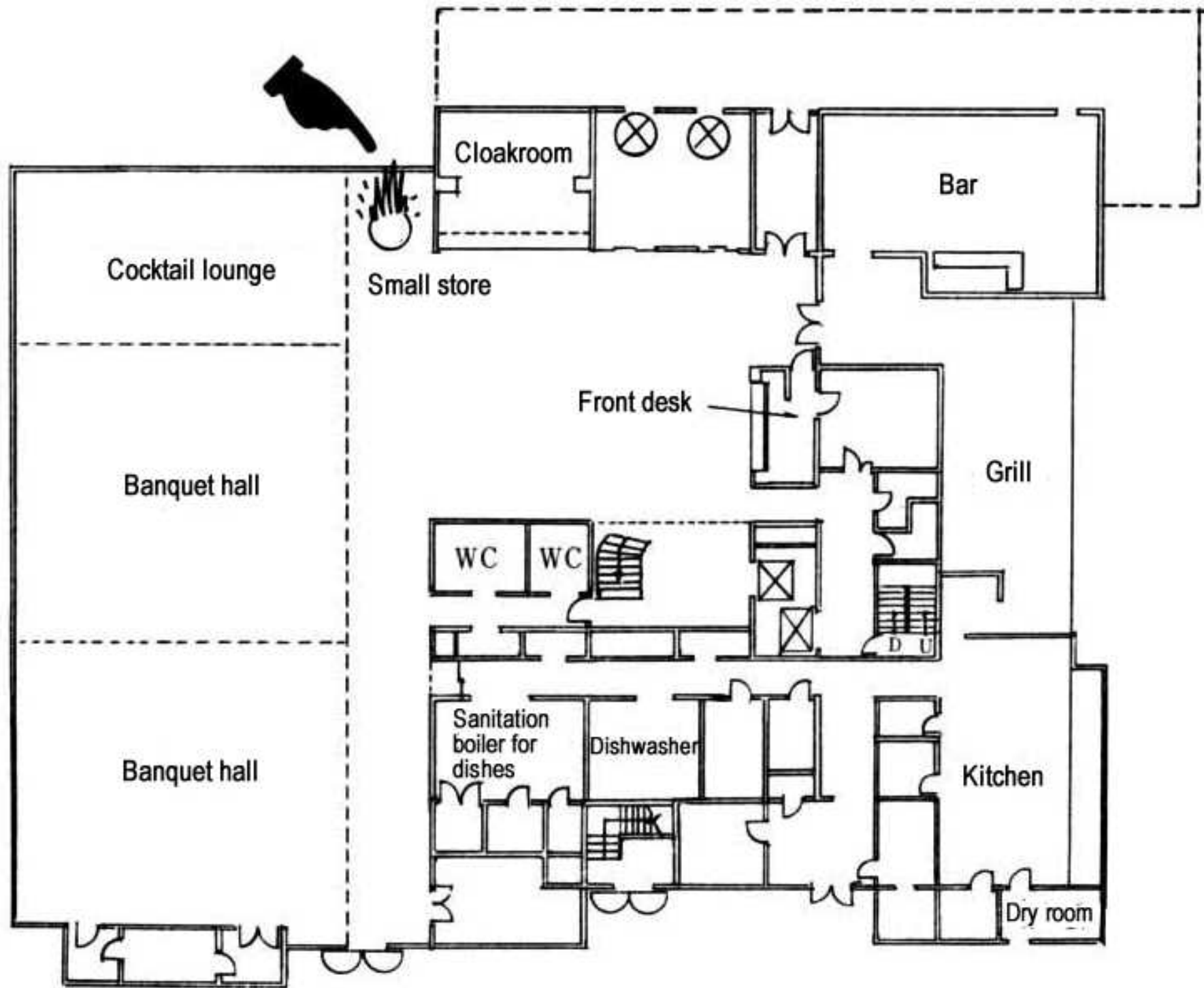
(5) Fire Propagation Path	(Location of Fire Source)	(Propagation from Source)	(Propagation to Adjacent Zones)
	Vicinity of the small store on the northeast side of 1st floor	Burned shelving units and cardboard boxes, and spread to the ceiling	Spread to the cocktail lounge and lobby and then through an unclosed fire door to the large hall
<p>The fire that started in the small store that was located on the north side of the 1st floor ignited combustible materials such as cardboard boxes containing cigarettes, shelving units, and a suspension door made of plywood, and spread to the cocktail lounge and lobby that had a plastic-tile floor and plasterboard wall with fireproof covering. In addition, through an unclosed fire-compartment door on the north side of the floor, the fire spread to the large hall.</p>			
<p>○ Main Reasons for Propagation of the Fire</p> <ul style="list-style-type: none"> ○ The fire spread quickly because the origin of the fire was surrounded by a large amount of combustible materials. ○ A fire-compartment door was left open on the north side of the 1st floor and the fire propagated through this opening. <p>○ Smoke Propagation Path</p> <ul style="list-style-type: none"> ○ After ascending the stairwell in the center of the 1st floor, the smoke propagated to the 4th floor through the unclosed fire door on the 4th floor and to the guest rooms through the unclosed room doors. (A broken window in a guest room facilitated smoke penetration.) ○ The smoke traveled through the unclosed fire-compartment door on the 1st floor. Then, through the canopy and ducts, heavy smoke ascended to the machine room on the roof where the smoke could be exhausted. However, smoke in this exhaust path was excessive and therefore a reversed flow of the smoke propagated to each guest room on the 2nd to 5th floors through bathroom ventilation. 			
II. Summary of the Building			
(1) Built	Construction, Completion, and Major Renovations (Completion) June 1968		
Fire Prevention Management	(2) Vertical Shafts		(3) Fire Prevention
	Stairwell <input checked="" type="checkbox"/>	Duct space <input checked="" type="checkbox"/>	<ul style="list-style-type: none"> ○ The hotel had appointed a fire-prevention manager and submitted their fire defense plan to the local fire station. ○ The fire defense plan was only prepared for a daytime fire and there was no description regarding nighttime security. ○ The hotel had an in-house firefighting team and had training with the local fire station through seminars and movies.
	Elevators <input checked="" type="checkbox"/>	Pipe Shafts <input checked="" type="checkbox"/>	
	Escalators <input type="checkbox"/>	Other () <input type="checkbox"/>	
<p>The vertical shaft had a fire-preventive compartment, but the fire doors were left open on the 1st and 4th floors. As a result, a large amount of smoke penetrated the 4th floor.</p>			
(4) Fire Compartments		(5) Firefighting Equipment	
The manually operated fire-compartment door was left open on the north side of the 1st floor and this facilitated propagation of the fire.		The equipment was well maintained, but the fire alarm sound had been turned off on the control panel.	

III. Actions Taken after the Fire was Detected		
(1) First Detected	<ul style="list-style-type: none"> ◦ Detected by (Front desk personnel) ◦ How and why (Flames) ◦ Action taken (Confirmed the fire and made a 119 call) 	
	<p>Two front-desk personnel who were on duty that night glanced at the small store and saw flames and smoke around the ceiling of the suspension door between the large hall and the cocktail lounge. They rushed to the vicinity of the small store and confirmed the fire.</p> <p>The control panel of the automatic fire detection system was alerting that there was a fire, but the audio alarm was inactive because it was intentionally turned off. Prior to this incident, the system had sent a false alarm several times and therefore since the last false alarm, the audio had been turned off. Thus, when the system detected a real fire, the security guards did not hear any alarm.</p>	
(2) Emergency Call	Emergency Call	Yes <input checked="" type="checkbox"/> (Front desk personnel) Time elapsed since the discovery (1) minute No <input type="checkbox"/>
	<p>The front desk personnel, who confirmed the fire, immediately made a 119 call from the front desk and then instructed the telephone operator on the 3rd floor to make a PA announcement to alert everybody in the hotel.</p>	
(3) Initial Firefighting Activities	Initiated	Successful <input type="checkbox"/> Failed <input checked="" type="checkbox"/> <ul style="list-style-type: none"> ◦ Extinguished timing <input type="checkbox"/> ◦ Firefighting difficulties <input type="checkbox"/> ◦ Firefighting method <input type="checkbox"/>
	Not Initiated	<ul style="list-style-type: none"> ◦ Extinguished timing <input type="checkbox"/> ◦ Firefighting difficulties <input checked="" type="checkbox"/> ◦ Firefighting method <input type="checkbox"/> ◦ Other <input type="checkbox"/>
(Reasons or Conditions) Because of the intense fire and heavy smoke, immediate attempts to extinguish the fire were abandoned.		
(4) Summary of Firefighting Activities	(Obstacles or Difficulties in Fire Control)	
	<ul style="list-style-type: none"> ◦ When the firefighters arrived, heavy smoke was emerging from the main entrance, and therefore finding a way to enter was already impossible. ◦ The rescue operations with the ladder truck proved challenging because 3 sides of the 1st floor were uniquely laid out and 1 side (backside) had high-voltage cables. Because of this, the firefighters were able to rescue only 1 person with the ladder truck. ◦ Alternatively, the firefighters utilized the roof of the 1st floor and a series of rope ladders that were connected in order to rescue people. For the 5th floor, they connected 2 sets of rope ladders with 3 sets of extra rope ladders. 	

(5) Evacuation	Means of Escape (No. of Persons)	Obstacles to Evacuation
	<ul style="list-style-type: none"> ◦ Stairs [X] (10) ◦ Elevators/Escalators [] () ◦ Escape equipment [X] (2) ◦ Directly to ground from windows or openings [X] (6) ◦ Rescued [X] (42) ◦ Other () [] () 	<ul style="list-style-type: none"> ◦ No windows [] ◦ Barred openings [] ◦ Locked emergency doors (Exits) [] ◦ Alarm system [X] (Poorly controlled, Malfunctioned, Not installed) ◦ Power outage [] ◦ Other [X] (Heavy smoke)
<ul style="list-style-type: none"> ◦ There was no night guard on duty on the 4th and 5th floors (a manager was there, but was asleep), so no hotel employee helped the hotel guests to evacuate. ◦ Because of considerable delays in discovery, rapid spread of fire, ascending smoke, inactive alarm sound and an unclear emergency announcement; it was too late for many hotel guests to evacuate safely on their own once they became aware of the fire. ◦ Some people were able to evacuate by themselves: <ul style="list-style-type: none"> From the 1st basement floor, 2 persons escaped via the stairs to the ground From the 1st floor, 3 persons escaped through the entrance From the 3rd floor, 2 telephone operators used a rope ladder to reach the ground From the 4th and the 5th floors, 2 and then 6 persons escaped via the outside stairs From the 4th floor, 3 persons jumped (1 fatality) ◦ By connecting 3 sets of rope ladders, the firefighters rescued 20 and 17 persons from the 4th and 5th floors, respectively. They also rescued 1 person from the 5th floor with the ladder truck and 3 persons via the outside stairs. Although they rescued 1 person from the 4th floor via the outside stairs, he died in hospital. 		
(6) Casualties	Healthy individuals 2 (Drunk persons) Individuals in need of assistance Infants Elderly Handicapped Patients/ill persons	Obstacles to Evacuation
		<ul style="list-style-type: none"> ◦ No windows [] ◦ Barred openings [] ◦ Locked emergency doors (Exits) [] ◦ Alarm system [X] (Poorly controlled, Malfunctioned, Not installed) ◦ Power outage [] ◦ Other [X]
<ul style="list-style-type: none"> ◦ Three persons who were overwhelmed by the smoke (presumably) jumped from the 4th floor, but 1 person who jumped from Room 418 died in hospital. ◦ The firefighters found 1 unconscious male inside Room 425 and he later died of carbon monoxide poisoning in hospital. 		
IV. Issues and Lessons Learned		
<ol style="list-style-type: none"> 1. It is necessary to reinforce nighttime security for fire prevention and to train the employees on evacuation procedures. An adequate number of employees should be assigned per guest-room floor and they should be able to respond appropriately in the event of an emergency. 2. The audio alarm of the automatic fire detection system was inactive because it was intentionally turned off due to repeated false alarms, but this delayed discovery of the fire. If a false alarm reoccurs, it should be investigated and corrected by thorough inspection and undergo proper maintenance. 3. Most of the guests who were able to evacuate by themselves via the outside stairs were those who verified the location of the outside stairs when they checked in. Give this fact, hotels should be proactively advising the hotel guests of the location of evacuation equipment at the time of check in. 4. Fire compartments were incomplete: because of the unclosed fire door on the central stairwell on the 4th floor, a large amount of smoke penetrated the 4th floor, and because of the unclosed fire shutter on the 1st floor, the fire spread to the large hall. 5. Each guest-room door should have a self-closing system to keep smoke out of the room. 6. The guest-room window consisted of triple-layered thick glass and a stopper. Since the stopper allowed the window to open up to 11 cm only in order to prevent falling accidents, the guests broke the glass windows and firefighters rescued them from the windows, but at them same time, many guests were injured from the broken glass. 		

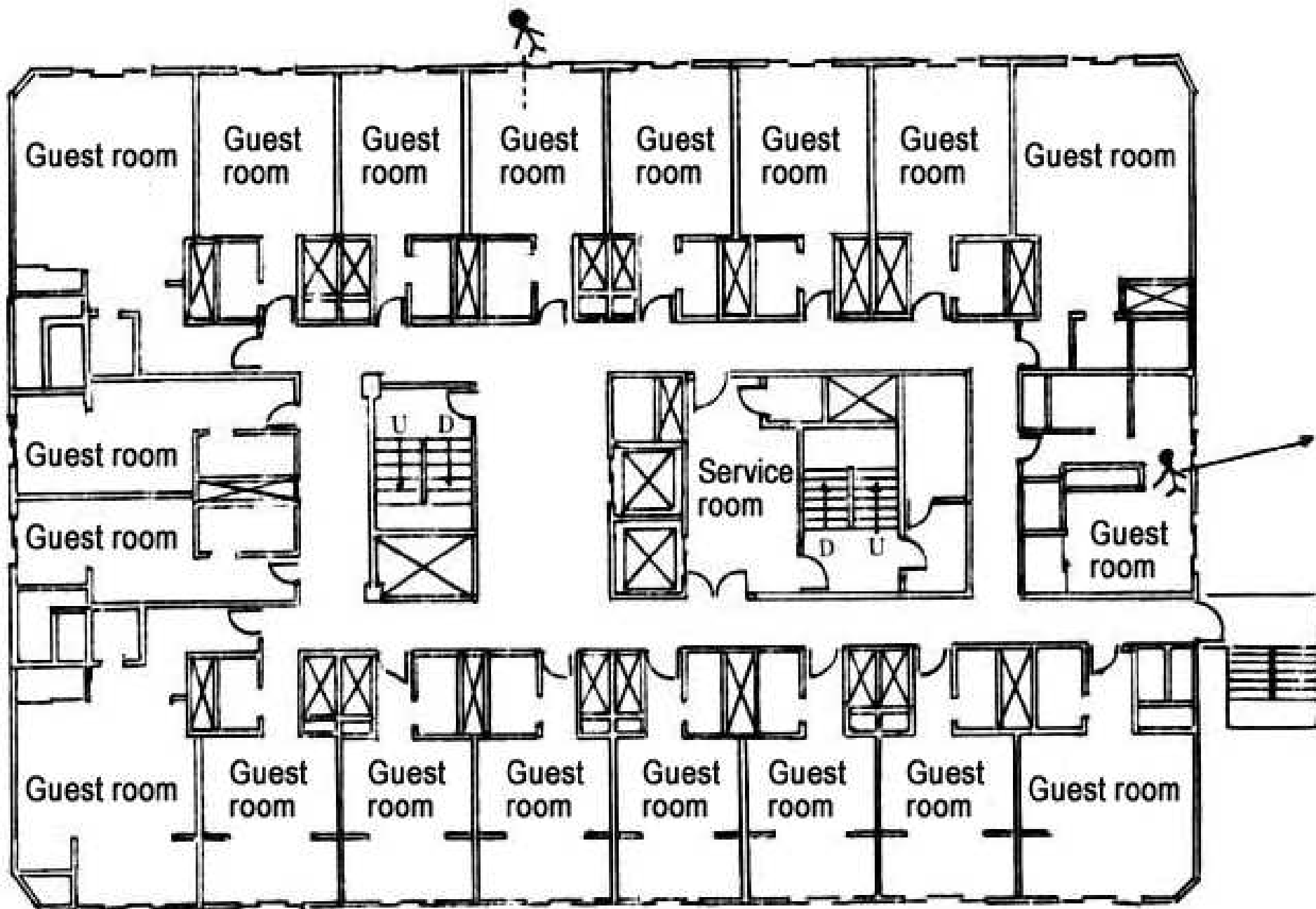


※ Description of the elevator is omitted



1st floor

(Jumped)



Died at the hospital where taken

4th floor