

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
Himeji International Conference Hall ----- Himeji, HYOGO	Amusement Hall (16) a	Jan 1, 1971	Fire resistive 4 stories above ground and 0 below	All, <u>[Half]</u> , Partial, Small 1,844 m ² (58 %)	Fatalities 2
		Breakout at 22:00 (approx)	Building area 973.1 m ²		Injured 0 ()
		Noticed at 22:10	Total floor area 3,200.3 m ²		
		Notified by emergency call Extinguished by 23:50			

I. Summary of Fire Incident

(1) Summary	Fire broke out in the 4-story building on the night of New Year's Day and burned 1,844 m ² (from the 2nd to 4th floors of the building). This fire resulted in 2 fatalities. Although the building was a fire-resistive structure, there were no fire compartments inside the building. The interiors were all made of combustible materials and all of the stairwells were widely open. This structural vulnerability and the faulty fire-safety management resulted in the fire spreading and ultimate casualties.							
(2) Conditions per Floor	Floor	Total area	Damaged area	Use (Purpose)	No. of persons	Fatalities	Fire escape equipment	Firefighting equipment
		m ²	m ²				1 set of inside open-ceiling stairs (1st to 4th floors)	Fire extinguishers
	R	27.0		Machine room			2 sets of inside spiral stairs from 1st to 3rd floors and 1 set from 1st to 2nd floors	Indoor fire hydrants
	4	244.4	1,844	Employee dormitory, Machine storage	3			Automatic fire detection system
	3	977.9		Billiard room, Office, Machine room	4	2		Guiding lights
	2	977.9		Dance hall, Mah-jong room, Ping-pong room				
	1	973.1		Pachinko parlor				
	Total	3,200.3	1,844		7	2		
(3) Origin of Fire	(Floor, Room, Part, Combustibles, Habitable/Non-habitable Rooms, Present/Absent)					(4) Cause of Fire		
	<p>From the vicinity of a trashcan and bench next to the spiral stairs in the east-north corner of the ping-pong room.</p> <ul style="list-style-type: none"> There were various combustible materials (paper, wood, rubber) near the spiral stairs. The interior structures (ceiling, wall, and floor) were made of wood, fiberboard, plywood, or thick plywood. 					<p><u>Unknown</u></p> <p>The cause of the fire could not be determined, but based on the traffic of people in the building that day, it is believed to be a burning cigarette because the fire emerged from the vicinity of a bench and trashcan next to the spiral stairs on the 2nd floor.</p>		

(5) Fire Propagation Path	<div><div>(Location of Fire Source)</div><div>From the vicinity of the trashcan and bench in the corner of the ping-pong room</div></div> <div><div>(Propagation from Source)</div><div>Piled-up combustible materials</div></div> <div><div>(Propagation to Upper Floors)</div><div>Spiral stairs</div></div> <div><div>(Propagation to Upper Floors)</div><div>Via the open-ceiling stairwell and multiple spiral stairs</div></div> <div><div>(Propagation to Adjacent Zones)</div><div>From the combustible ceiling and partition walls</div></div>			
	<p>The fire ignited nearby combustible materials and spread to the 3rd floor via the spiral stairs. On the 2nd and 3rd floors, the fire spread horizontally to other spiral stairs, and then via the spiral stairs, it spread to the 3rd and 4th floors.</p>			
	<div><div>○ Main Reasons for Propagation of the Fire</div><div><div>○ The origin of the fire was surrounded by combustible materials that facilitated the fire to grow.</div><div>○ The origin of the fire was next to an open-ceiling spiral stairs leading to the upper floors.</div></div><div><div>○ Smoke Propagation Path</div><div><div>○ The smoke propagated via the spiral stairs, and as the surfaces on fire grew, more smoke was produced and ascended through the open-ceiling stairs and other spiral stairs.</div></div></div></div>			
II. Summary of the Building				
(1) Built	Construction, Completion, and Major Renovations			
Fire Prevention Management	(2) Vertical Shafts		(3) Fire Prevention	
	<div><div>Stairs</div><div>[X]</div><div>Duct Spaces</div><div>[]</div><div>Elevators</div><div>[X]</div><div>Pipe Shafts</div><div>[]</div><div>Escalators</div><div>[]</div><div>Other ()</div><div>[]</div></div>		Crucially neglected: no fire defense plan, no fire drill, and no maintenance of the fire protection equipment.	
	<p>There were many sets of inside stairs leading to the upper floors: 1 set of main stairs in the center, 2 sets of spiral stairs running from the 1st to 3rd floors, and 1 set of stairs running from the 1st to 2nd floors.</p>			
	(4) Fire Compartments		(5) Firefighting Equipment	
<div><div>○ No fire compartments throughout the building. The building was a large open space with a through-stairs that continuously ran through the 1st to 4th floors.</div><div>○ The I-beams of the structural steel frame were exposed and the columns were only partly treated with fire-resistive coating.</div></div>		The automatic fire detection system was turned off.		

III. Actions Taken after Fire was Detected			
(1) First Detected	<ul style="list-style-type: none"> ◦ Detected by (Employee) ◦ How and why (Smoke) ◦ Action taken (Climbed up the stairs and loudly alerted to his colleagues) 		
	<p>On that day, the facilities on the 2nd and 3rd floors only were open for business but closed around 21:40. After 4 employees finished work in the office on the 3rd floor, they started to descend the stairs and saw the fire in the ping-pong room on the north-east side of the 2nd floor. One employee then ran up the stairs to the 3rd and 4th floors and loudly alerted others of the fire. The other 3 employees evacuated as soon as they saw the fire.</p>		
(2) Emergency Call	Emergency Call	Yes [X] () No []	Time elapsed since the discovery (10) minutes
	<p>One of the employees who found the fire loudly alerted others on the 3rd and 4th floors and made a 119 call from the office on the 3rd floor before leaving the building.</p>		
(3) Initial Firefighting Activities	Initiated	Successful [] Failed [X] ◦ Extinguished timing [] ◦ Firefighting difficulties [] ◦ Firefighting method []	(Reasons or Conditions) <p>The employees who first found the fire panicked and evacuated without trying to fight the fire because the fire was spreading.</p>
	<u>Not Initiated</u>	◦ Extinguished timing [] ◦ Firefighting difficulties [] ◦ Firefighting method [] ◦ Other [X]	
(4) Summary of Firefighting Activities	(Obstacles or Difficulties in Fire Control) <p>By the time the firefighters arrived, both flames and black smoke were pouring out of the windows of the 2nd floor. The firefighters could not use the main stairs leading to the 2nd floor because of heavy smoke and intense heat and flames. Therefore, from the street on the north side of the building and the rooftop of adjacent buildings, they sprayed water from 22 discharge hoses. However, the fire spread further and the 3rd and 4th floors were engulfed in flames.</p>		

(5) Evacuation	Means of Escape (No. of Persons)		Obstacles to Evacuation	
	<ul style="list-style-type: none"> ◦ Stairs [X] (4) ◦ Elevators/Escalators [] () ◦ Escape equipment [] () ◦ Directly to ground from windows or openings [] () ◦ Rescued [X] (1) ◦ Other () [] () 		<ul style="list-style-type: none"> ◦ No windows [] ◦ Barred openings [] ◦ Locked emergency doors (Exits) [] ◦ Alarm system [] (Poorly controlled, Malfunctioned, Not installed) ◦ Power outage [] ◦ Other [] 	
<ul style="list-style-type: none"> ◦ The 4 employees who found the fire evacuated via the stairs after loudly alerting others and making a 119 call. ◦ One male employee who was in the employee dormitory on the 4th floor heard someone shouting "Fire!" and ran downstairs, but on the 3rd floor, he was suffocated by the smoke coming up from the lower floor and so ran up to the rooftop and waited to be rescued. The firefighters found him and extended an extinguisher hose from the adjacent building on the west and told him to pull it in by utilizing the TV feeder line and tie the hose to the fence column. He used the hose to descend to the ground. 				
(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 [] (Poorly controlled, Malfunctioned, Not installed) ◦ Power outage [] ◦ Other [] 	
<p>This fire killed 2 female employees, A (age 28) and B (age 23), who were on the 4th floor. They came down the stairs, but on the landing of the 3rd floor, they were trapped by the swelling smoke and tried to escape through the windows on the west. They were familiar with the building layout, but they were found approximately 8 m away from the windows leading to a balcony nearby, indicating they were trapped on the way there and died of carbon monoxide poisoning.</p>				
IV. Issues and Lessons Learned				
<ol style="list-style-type: none"> 1. All stairwells should be protected by self-closing fire doors that are connected to the fire alarm system so they can be closed automatically in the event of a fire, to prevent smoke and/or flames from penetrating. 2. If the 4th floor was an employee dormitory, then the main stairwell needed to be a through stairs. 3. The alarm of the automatic fire detection system was turned off and no-one was in the control panel room when the fire broke out, which subsequently delayed detection and warning all others present in the building. 4. The facility management disregarded fire safety, and the employees were not prepared for an emergency event. As a result, the employees could not respond properly when they first witnessed the fire. 5. There were no fire compartments, and the partition walls were made of plywood, indicating that the fire code for interior materials was disregarded. 6. The facility failed to carry out any security patrols or inspection for fire hazards, and as a result, combustible materials were piled up near the stairwell. 				

