

Kobe, Hyogo Prefecture: Youki Dormitory of the Youkikai (social welfare foundation)

PHOTO

1. Characteristics of the fire

Eight seriously disabled residents died in a fire that broke out after bedtime in a facility for the intellectually disabled. There were no particular problems with the facility in terms of hard, physical aspects; and, even in terms of soft, service aspects, the staff displayed a higher degree of fire prevention awareness than staff members at most facilities. Despite that, however, the tragedy occurred, calling into question the adequacy of measures for facilities for people who may not be able to adequately respond to disasters themselves.

2. Overview of the fire outbreak

(1) Date and time of outbreak

Approximately 23:40, Thursday, July 31, 1986

(2) Detection

00:03, Friday, August 1, 1986 (emergency call to fire department)

(3) Under control

05:29, Friday, August 1, 1986

3. Overview of fire origin

(1) Location

2509-2 Arino, Arino-cho, Kita-ku, Kobe, Hyogo Prefecture, Japan

(2) Building of fire origin

Youki Dormitory of the Youkikai (a social welfare foundation)

(3) Structure of building of fire origin, etc.

(1) Date of construction

June 1964

(2) Additions/renovations

Renovated November 12, 1970 (with at least 2 additions and several remodelings carried out since that time).

(3) Building utilization

Facility for the care of the intellectually disabled (Category 6, 95 (ro))

(4) Building structure

Steel frame, 2-story

(5) Area

Building area: 524.00 m²

Floor area: 1,023.38 m²

(6) Capacity

63 residents

(7) Occupants at the time of outbreak

a. Residents: 61 (first floor: 19; second floor: 42)

b. On-duty attendance: 3 (first-floor: 1; second floor: 2)

(7) Area and utilization by floor

Floor	Main building	New building
2	518.50 m ²	Dormitory rooms, etc.
1	504.88 m ²	Dormitory rooms, etc.
Total	1,023.38 m ²	

(4) Firefighting equipment, etc.

(1) Firefighting equipment

Fire extinguishers (8 powder extinguishers type-10), interior fire hydrants (2 locations; 1st and 2nd floor)

(2) Alarm devices

Automatic fire alarm

(3) Evacuation facilities

Exit lights (nine locations; 1st and 2nd floor)

(4) Other facilities necessary for firefighting

None

(5) Fire prevention system

(1) Fire prevention officer

The manager of the Youkikai was the fire prevention officer; but, in order to reinforce the fire safety organization at night, male attendants also acquired fire prevention officer qualifications.

(2) Fire prevention plan

Presented

(3) Fire drills

A safety committee had been established to direct activities for all employees related to fire prevention/fighting. Also, detailed guidance was provided in relation to smoking on the part of residents, heater usage, and other potential exposures to open flame.

4. Weather conditions

(1) Weather

Clear

(2) Wind direction, speed

West southwesterly, speed 2.9m/s

(3) Temperature, humidity

Temperature: 27.6°C, humidity: 76.0%

(4) Weather warnings, bulletins, etc.

None

5. Cause of fire

(1) Ignition source

Unclear

(2) Route

Suspicion of arson

(3) Ignited substance

Unclear

6. Fire damage

(1) People

(1) Fatalities

8 males

(2) Injuries

None

(2) Property

(1) Building where the fire emerged

a. Extent of fire loss

Total loss

b. Area of fire loss

1,023 m²

c. Monetary loss

50,702,000 yen

(2) Other buildings

a) No. of other buildings

6

b) Extent of fire losses

Total loss: 1 building; half loss: 1 building; partial loss: 3 buildings;

damaged: 1 building

c. Area of fire loss

1,375 m²

7. Fire route (progression)

(1) Overview of outbreak location

Bottom of built-in closet in Room 7 West, second floor.

(2) Situation up to the outbreak

The ignition source and ignited substance remain unclear. It is inferred, however, that the fire spread from the area of vinyl flush door of a built-in closet and rose to the ceiling, whereupon it began to proceed laterally along a print-paneled wall and partitions made of (flammable) acrylic sheet.

(3) Progression up to fire detection

An attendant on duty, awakened by an automatic fire alarm (bell), heard residents exclaiming "There's smoke!" and, upon entering Room 7 West, saw flames in the vicinity of a built-in closet within the room.

(4) Notification of fire department

The manager, who lived approximately 70 m away, heard the alarm, hurried to the Youki dormitory, confirmed the fire outbreak, and directed his son to notify the fire department.

(5) Initial firefighting attempts

The 2nd-floor Youki dormitory attendant, who was the first to confirm the outbreak, took one type-10 powder fire extinguisher from the front of Room 5 East and sprayed it on the flames near the built-in closet of Room 7. Because that did not have much effect, he next pulled out a hose from an interior fire hydrant within the Room 7 hallway and opened the valve, only to find that no water came out.

(6) Fire spread

The building was constructed more than 20 years ago and has been expanded and remodeled several times. Many of the partitions between rooms were made of acrylic. When initial firefighting efforts failed to prevent the flames from spreading beyond the area of the built-in closet, there were no (fire-effective) walls or fire doors to contain the blaze, which rapidly propagated through the ceiling. Acrylic sheets placed around the outside of an outer veranda as privacy panels also caught on fire and, dropping as they burned, acted to spread the fire to the 1st floor.

(7) Evacuation

Escaping on their own in response to a call for evacuation were (1) 44 people from the Youki dormitory (1st floor: 13 people; 2nd floor: 31 people), (2) 34 people from the Yorokobi dormitory (1st floor: 17 people; 2nd floor: 17 people), and (3) 17 people from the Wakakusa dormitory.

Escaping on their own after receiving assistance from an attendant were (1) 1 person from the Youki dormitory (2nd floor) and (2) 2 people from the Yorokobi dormitory. Escaping with assistance from an attendant, another resident, or a member of the neighboring community were (1) 6 people from the Youki dormitory (1st floor), (2) 8 people from the Yorokobi dormitory (1st floor: 6 people; 2nd floor: 2 people), (3) 7 people from the Wakatake dormitory, and (4) 1 person from the Wakakusa dormitory.

(8) Activities of employee firefighting unit

(1) With regards to the residents of the Yorokobi dormitory, attendants completed evacuations within 5–10 minutes after the outbreak of the fire.

(2) Residents of the various dormitories did begin to converge at the primary evacuation point under the guidance of attendants; however, despite previous drills, not all of the 142 residents acted as they had been drilled. We infer that it was relatively easy to take a headcount of the residents of the Wakamatsu dormitory, which escaped damage.

(9) Fatalities

Eight people died. All were males having severe disabilities and living on the 2nd floor of the Youki dormitory. One would have been unable to evacuate himself, and the other 7 would have had difficulty doing so. All were determined to have died of burns.

8. Activities of firefighting units

(1) Dispatched units, etc.

(1) Dispatched vehicles: 13 (on station), 6 (emergency assignment)

(2) Dispatched personnel: 46 (on station), 147 (emergency assignment)

(2) Firefighting and rescue activities

Upon arrival firefighters observed flames blowing out from the 2nd floor of the building. They were told that not everyone had been accounted for. The firefighters were nonetheless unable

to proceed to the 2nd floor. Instead, upon confirming that 1st-floor residents had been evacuated, they began to fight the fire at the Youki dormitory and try to keep it from spreading to other buildings.

9. Problems, lessons

(1) The building was a steel-frame structure built in 1964 and which had since been expanded. The fire spread with great rapidity along the ceiling portion.

(2) The second-floor veranda had been modified into dormitory rooms by partitioning it with aluminum-framed acrylic panels. These acrylic panels not only hindered escape but also acted to spread the fire.

(3) The nighttime management apparatus consisted of 7 attendants (employees who stay overnight) throughout the buildings, which is not particularly small number for such a facility. Still, an early discovery of the fire was negated by a mishap with initial firefighting, that is, a failure to push the start button for the internal hydrant pump.

(4) It is difficult to predict how people with intellectual disabilities will act in such a situation, and indeed the evacuation did not proceed in line with fire drills. It thus seems necessary to reconsider how drills are conducted at such facilities.

(5) The Youkikai facility is comprised of several buildings over a plot of land, including the Youki dormitory and 3 other dormitories, a training center, and the manager's residence. The Youki dormitory, the site of the fire, did not have an outside telephone that could be used to directly call the fire department. It did have a dedicated (internal) telephone for use in contacting the training center and/or manager's residence in an emergency, with the call to the fire department to be placed from such a location. Here, it is necessary to establish a rapid communication system for use in

emergencies and to conduct drills accordingly.

10. Documents



10. Materials

Figure 1: Youkikai facility overview

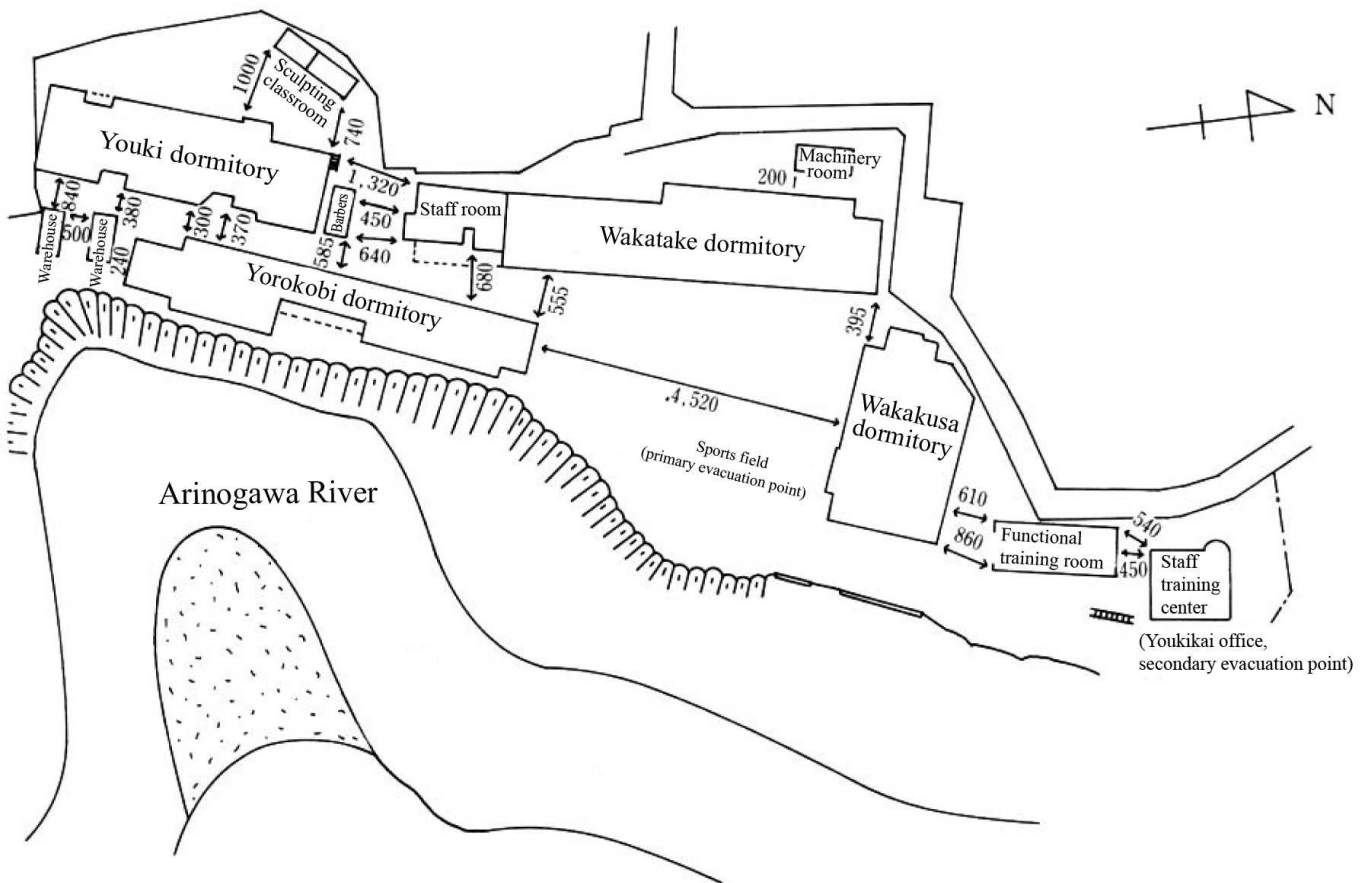


Figure 2: Floorplan, first floor

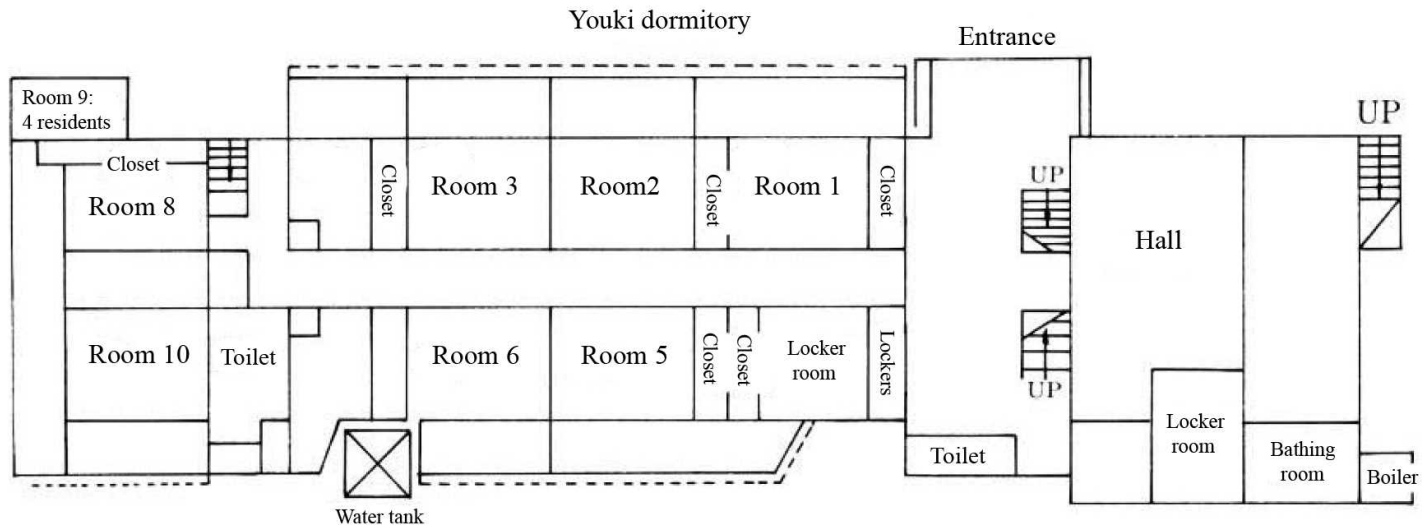


Figure 3: Floorplan, second floor

