

The 2016 Kumamoto Earthquakes

Rescue from a Buckling Apartment



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1 Occurrence of the main shock

At 01:25 on April 16, I was struck by the main shock, more violent than the foreshock, accompanied by groaning and scraping noises at the Central Fire Station where I was working. I tried to get my body under a desk to protect myself, but I could do nothing but roll around on the floor being tossed about by the shaking.

After that, I checked the office using a flashlight as there was no electricity, and saw that everything that was unfixed had fallen over or overturned. However, the vehicles and shutters were all OK, and to top it off, none of the members were injured, which came as a great relief.

Teams were then dispatched sequentially with rescue instructions given in quick succession.

2 Activity outline

○ From perception to the way we were dispatched

At 02:02, I was dispatched as a team leader of the commanding team from the Central Fire Station, at the reinforcement request of the Shimazaki pump sub-team from the Western Fire Station, which had already been dispatched alone to rescue people from a buckling apartment.

On our way, as we saw the damaged roads and buildings on the edge of collapse illuminated by our headlights in the darkness, I was horrified for a

moment by the return of the undeniable damage situation after the foreshock on April 14, but gathered myself and hurried to the scene imaging what conditions I would find there.

○ Conditions on arrival at the scene

We arrived at the scene and contacted the Shimazaki pump sub-team who had arrived first. According to information from the sub-team leader, the building was seven-stories and fireproof, fuel had leaked from some vehicles caused by the buckling of the parking area on the first floor, the building had numerous cracks in its structure as well as gas leakage, and the number of people in need of rescue was unclear although four people had been seen from outside waving from a seventh floor balcony.

In order to confirm the details at the scene, the first arriving sub-team leader and the other team leaders, myself included, entered the building. In addition, by order of the commanding team leader, two pump sub-teams who came later with special mission set security zones, set up a command headquarters, deployed watch nozzles, and treated the fuel leaks from the vehicles in the parking area.

○ Indoor entry

There were just two paths of entry: the indoor stairs on the west side and the outdoor stairs on the north side. The outdoor stairs were unusable due to the buckling, so we entered the building through the indoor stairs.

When we entered the building from the west entrance, the inside smelled strongly of gas. We saw numerous small and large cracks on the walls, ceilings and floors illuminated by the lights. The building was greatly inclined to the east side.

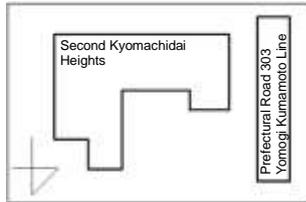


Diagram viewing the building from above



Joint command with the Fukuoka Prefectural Team

Room number		Rescuee name				
701	702	703	704	705		
Two	Two	Three				
801	802	803	804	805	806	807
					Two	One
901	902	903	904	905	906	907
				One	One	One
301	302	303	304	305	306	307
201	202	203	204	205	206	207
	One					
101	Apartment association office	Restaurant				Garage

Number of rescuees and room numbers

the room with the people in need of rescue, but it was impossible to open using just the rescue equipment (a crowbar) we had on hand. We had to consider the possibility of a gas explosion caused by a spark if we broke down the door.

Strong aftershocks continued, so we immediately began searching each dwelling unit and rescued those who had failed to escape in the building which was facing the risk of collapse.

Therefore, we decided to enter the seventh floor from the roof and evacuate the people to the roof. We headed to the roof, but the door leading to the roof was locked and the smell of gas was concentrated at the top of the staircase. Therefore, we broke the glass part of the door carefully and reached a hand through to the knob on the roof side to unlock and open the door, and reach the roof.



Entry to the buckling apartment

We checked the roof and saw that it was undulating like the humps of a camel and inclined downward to the east side, which revealed severe damage to the building. We called out to the people in need of rescue on the seventh floor for a response, and could confirm that the four people were not injured. On the radio we asked the commanding team leader for reinforcements of two members and a single ladder to be delivered to the roof.

o Rescue through the rooftop deck

The smell of gas became stronger as we went up the indoor stairs to the people in need of rescue on the seventh floor. The front doors of the dwelling units, being deformed and swollen outwards, were not humanly possible to open. We arrived on the seventh floor and tried to open the front door, the only entrance to

After the arrival of the two reinforcements and the single ladder, we set the ladder down against the seventh floor and one member climbed down the ladder. The four members including the

team leaders guided the people in need of rescue up to the roof. We assessed evacuation to the ground through the indoor stairs with the gas leak as dangerous, and decided to use the outdoor stairs on the north side of the roof. We reached the outdoor stairs and checked the gate, which was locked with a padlock. We broke the padlock with the crowbar to open the gate, and hurried downstairs. Since the first-floor part of the outdoor stairs was unusable due to the buckling, we evacuated the people we were rescuing using a preset twin ladder set up against the second-floor part of the outdoor stairs to the adjoining land.

After completion of the rescue, we broke into teams to search the other dwelling units and check for people who had failed to escape. As a result, we found eight more people who were in need of

rescue. We broke windows, etc. and evacuated those people to the ground.

In addition, we cooperated with the Fukuoka Prefectural Emergency Fire Response Teams, who arrived during our operation, under joint command searching the crushed vehicles in the parking area on the first floor and all dwelling units. As a result, one new person in need of rescue was found, and the Fukuoka Prefectural Team rescued that person. We then cooperated in closing the gas supply valves and completed the procedure at 03:58.

The total number of rescuees was 13: Kumamoto City Fire Services Bureau rescued 12 and the Fukuoka Prefectural Team rescued one. In this case, we could complete our activities without injury.