YONKERS — The smaller size of the city’s fire crews puts firefighters at a life-threatening disadvantage when responding to high-rise blazes, the union chief said Wednesday, pointing to a new trade association study.

The National Fire Protection Association’s report, High-Rise Fireground Field Experiments, found that crews of four firefighters — the number deployed per truck in Yonkers — took 11 minutes longer than six-member crews to complete such “critical tasks” as getting water on a fire and completing search-and-rescue operations.

Smaller crews take longer to stage their response and end up battling fires that are larger because the flames have had more time to spread, the study found. And longer response times put more lives at risk, said union President Barry McGoey.

“This research makes clear that having too few firefighters on each piece of apparatus can have devastating consequences,” McGoey said.

His comments come as the union and Mayor Mike Spano’s administration wade into mediation to resolve long-running contract disputes over staffing levels, wages and sick leave.

The union has sought to thwart Spano’s cost-cutting plan to lower the minimum firefighter staffing level from 57 to 48 per tour before replacements can be brought in at higher pay. Spano is not seeking to reduce crew size.

Fire Commissioner Robert Sweeney said the department will review the study and consider whether any change in tactics is warranted. He also said the department recently bought two nozzles specially designed for fighting high-rise fires.