Appendix 3

Comments on revised Atrium Smoke Control Report (Rev. 3—Sept. 23, 2020)
Prepared by Jonathan Ochshorn December 17, 2020

I just received a copy of the Rand Hall Atrium Smoke Control Report (Rev. 3—Sept. 23, 2020) on December 15, 2020 after submitting a FOIL request to the City of Ithaca. As I stated in Appendix 1, "any such ex post facto revisions cannot be used to defend a Building Division determination that was made on the basis of inaccurate and, therefore, noncompliant documents." Nevertheless, having looked through the *revised* Smoke Control Report, it appears that there are still major deficiencies, including the following:

1. The revised Atrium Smoke Control Report doesn't indicate whether its underlying model accounts for the openings in the bookstack floors adjacent to the atrium.

2. The revised Atrium Smoke Control Report now includes consideration of a "rooftop terrace" but assigns it an occupancy load of only 76, with only half of those occupants assumed to egress into the primary exit access stair. The actual occupant load for that rooftop art gallery *should be 263*, not 76, and far more than half should be assigned to the primary exit in order to model a realistic worst-case scenario (see my Exhibit 2 and corresponding comments in Appendix 1).

3. The revised Atrium Smoke Control Report doesn't define its "egress destinations" so it is not possible to assess the significance of its computed evacuation times.

4. The revised Atrium Smoke Control Report models an evacuation time for the rooftop terrace of only 230 seconds, which is *less than that* of the fourth-floor occupants (272 seconds), even though the rooftop occupants must first exit the roof level and then proceed through the unprotected fourth-floor level, and even though there are many more occupants on the rooftop level than on the fourth-floor level. This implies (but is never actually stated in the Report) that the "egress destination" for the rooftop occupants is modeled as the rooftop exit door leading to the open exit access stairway. If so, the additional evacuation time needed to reach the continuation of the exit access stairway at the eastern end of the fourth floor—through an unprotected access route immediately below the atrium ceiling—has not been counted or considered. And in that case, the *uncounted* portion of the evacuation route is precisely where the smoke layer at the top of the atrium constrains visibility after only 290 seconds and calls into question the Report's conclusion about the viability of egress from the rooftop art gallery.

5. The revised Atrium Smoke Control Report continues to falsely claim (p.10) that its evacuation assumptions are "…based upon the ability of occupants to see/smell/hear what is happening within the open atrium space" even though occupants on the rooftop space are completely separated from the atrium below.

6. The revised Atrium Smoke Control Report is inconsistent in identifying the various floor levels. For example, the evacuation timetable (p. 10) lists 2nd floor, 2nd floor stacks, third floor stacks, fourth floor stacks, and rooftop terrace; whereas the occupancy load table (p. 9) lists second floor, raised second floor, second floor mezzanine, upper mezzanine floor, and rooftop terrace.

7. The revised Atrium Smoke Control Report claims (or appears to claim—the description in the text is not that precise) that steel beams at the roof level delay "smoke from rising to the higher roof" of the exit access stair that leads to the rooftop art gallery. As I wrote in Appendix 1: "Claiming that these beams are 'preventing any smoke from adjacent area from flowing directly into the stair area' seems specious, if not deliberately deceptive, since if such beams actually prevented smoke from entering the stair area, they would also prevent smoke from entering the array of smoke exhaust vents!"