One year ago, on June 14, 2017, a fire broke out in a 24-story tower housing 120 homes, called Grenfell Tower, located in West London, England. The fire quickly spread from a fourth-floor apartment up 19 stories in just 21 minutes. 72 people were killed in this horrific conflagration.

ONE-PAGE EXECUTIVE SUMMARY

One year ago, on June 14, 2017, a fire broke out in a 24-story tower housing 120 homes, called Grenfell Tower, located in West London, England. The fire quickly spread from a fourth-floor apartment up 19 stories in just 21 minutes. 72 people were killed in this horrific conflagration.

*This tragic fire occurred due to the Regulatory Reform (Fire Safety) Order 2005 passed in England which ended a requirement for government building inspectors to certify that buildings had met life safety codes and instead shifted to a system of self-policing of construction by the building owners themselves. Business-friendly legislators cut "red tape" with the attitude that the cost concern outweighed the risks of paring back safety regulations. Even though the building was designed by architects and engineers, the lack of government oversight of the changes during construction allowed the building owners themselves to substitute a less expensive, but extremely combustible, exterior panel system that saved them about $**6,100,** at a cost of 72 deaths. This exterior panel system would never have been approved by a building official. Saving money took precedence over safety.*

Why should we in Utah be concerned with a fire in England? Because, following in British footsteps, the Utah Homebuilders Association (HBA) representative stated publically on the record during the hearing for HB346S01 in the 2018 legislative session, which bill was proposed by the HBA itself, their desire to "avoid the review process" completely, noting that a plan stamped by an architect and engineer was "sound" and therefore a review by an outside building official was unnecessary, even for a high-rise apartment. This statement was reiterated and supported by the committee chairman, who demanded an example where the lack of a plan review by a building official ever resulted in a fire in a high-rise apartment. This is a direct response to the Chairman's question.

A governmental inquiry into the Grenfill Tower fire, released in May 2018, should be of great concern to Utah legislators and the Utah public due to the rapid expansion of increased density high-rise residential buildings in Utah. The lack of code official oversight was determined to be the primary cause of this catastrophic conflagration in the Grenfill Tower, accompanied by the primary motivation to do things as quickly and cheaply as possible rather than to deliver quality homes which are safe, and a lack of regulatory oversight of building standards independent from clients, designers and contractors. This attitude was described by the British chief investigator as a "race to the bottom" with insufficient focus on delivering the best quality building possible to ensure that residents are safe.

Under the British self-regulating owner-based construction track which omitted code official oversight and building plan reviews, as the HBA and other Utah developers would like to do, even architect and engineer stamped drawings did not prevent the Grenfill tragedy. As noted by the British investigators, building plan reviews, properly conducted, must not be compromised, for they are vital in preserving the safety of buildings and the health of their residents. Actions by Utah legislators during the past few years reveal a slow and steady chipping away of and disregard for life safety codes at the peril of all Utah residents. Utah legislation passed historically has been directed towards allowing developers to avoid the increased costs in having to update to new building code requirements, energy conservation requirements and fire safety codes and, as in HB346S01, to severely limit the ability of building officials to complete thorough reviews of construction documents for life safety and building code compliance, even in the case of tall apartment and hotel buildings. This allows developers to speed up construction times and reduce their costs.

Currently, Utah requires that all plans and specifications for new buildings and alterations to existing buildings be reviewed by a building official for life safety code compliance before a construction permit can be issued. This life safety requirement must not continue to be diluted or discarded for the sake of negligible cost savings in any case. But specifically, plan reviews for tall apartments must be protected by legislative statute as vital to the safety of these buildings and their inhabitants and should be excluded from the requirements included in HB346S01.

WHITE PAPER REPORT

The tragic Grenfill Tower fire occurred due to the Regulatory Reform (Fire Safety) Order 2005 passed in England which ended a requirement for government building inspectors to certify that buildings had met life safety codes and instead shifted to a system of self-policing of construction by the building owners themselves. Business-friendly legislators cut "red tape" with the attitude that the cost concern outweighed the risks of paring back safety regulations. Even though the building was designed by architects and engineers, the lack of government oversight of the changes during construction allowed the building owners themselves to substitute a less expensive, but extremely combustible, exterior panel system that saved them only $**6,100**, at a cost of 72 human lives. This exterior panel system would never have been approved by a building official. Ronnie King, a former fire chief who advises the British parliamentary fire safety group concluded that "the construction industry appears to be stronger and more powerful than the safety lobby. Their voice is louder." Saving money took precedence over safety.

So why should we here in Utah be concerned about a catastrophic fire and the resulting investigation that occurred in England? Precisely because, following in British footsteps, the Utah Homebuilders Association (HBA) representative stated publically on the record during the hearing for HB346S01 in the 2018 legislative session, which bill was proposed by the HBA, their desire to "avoid the review process" completely, noting that a plan stamped by an architect and engineer was "sound" and therefore a review by an outside building official was unnecessary, even for a high-density, high-rise apartment building. This statement was reiterated and supported by the committee chairman, who pushed for an example where the lack of a plan review by a building official resulted in a fire in a high-rise apartment. The entire hearing can be heard in the following endnote.[i] This paper is a direct response to the Chairman's question.

In the investigative report into the Grenfill Tower fire released in May 2018, the lack of code official oversight was determined to be the primary cause of this catastrophic conflagration in the Grenfill Tower, accompanied by the primary motivation to do things as quickly and cheaply as possible rather than to deliver quality homes which are safe, and a lack of regulatory oversight of building standards independent from clients, designers and contractors. This attitude was described by the chief investigator as a "race to the bottom" with insufficient focus on delivering the best quality building possible to ensure that residents are safe. Under the British self-regulating owner-based construction track which omitted code official oversight and building plan reviews, as the HBA and other Utah developers would like to do, even architect and engineer stamped drawings did not prevent the Grenfill tragedy. And interestingly, in spite of the developers' contentions, architects and engineers themselves do not want to assume the full responsibility of certifying code compliance without the jurisdictions providing their own plan reviews. Not only does a potential conflict of interest exist when the design professionals examine their own plans, but they also depend on a governmental review to lessen their liability for errors and omissions. As noted by the British investigators, building official plan reviews, properly conducted, must not be compromised, for they are vital in preserving the safety of buildings and structures and the health of their residents.

Actions by Utah legislators during the past few years reveal a slow and steady chipping away of and disregard for life safety codes at the peril of all Utah residents. Utah legislation passed historically has been directed towards allowing developers to avoid the increased costs in having to update to new building code requirements, energy conservation requirements and fire safety codes and, as in HB346S01 (2018 Session), to severely curtail the ability of building officials to complete thorough reviews of

construction documents for life safety and building code compliance, even in the case of high-density, tall apartment buildings. This allows developers to speed up construction times and reduce their costs. Unfortunately, the rationale for this legislation is that the public does not want to pay the increased costs to meet current building codes and fire safety codes, even though the increase in costs would be minimal compared to the cost of the building over time. For example:

- SB 211 (2009 General Session) Under Title 15A, the Utah Uniform Building Commission (UBCC) and the State Fire Prevention Board were charged with vetting the most recent building codes, published every 3 years, and recommending to the Legislative Business and Labor Committees any changes to the construction and fire codes here in Utah. However, SB 211 significantly changed the code adoption process to bypass this vetting process and allow code changes to be effected through a legislative hearing giving lay legislators, instead of competent building and fire officials, the authority to adopt or review building codes in Utah.

- H.B. 285 (2015 session) This bill, proposed by the Utah Home Builders, sought to delay implementation of the current 3-year adoption cycle of the International Residential Code (IRC) in favor of relying on residential building codes that were at least 7 to 8 years old. Even though there was stiff opposition to this proposed legislation, the Business and Labor Committee chose to approve the adoption of a 6-year cycle instead of the 3-year cycle. This means that new residential building codes will not be reviewed until **2021**. This bill failed to be heard on the floor as a third substitute in the 2015 session but was reintroduced in the 2016 session as H.B. 316.

- H.B. 316 (2016 session) This bill changes IRC code adoption to a six-year cycle with other changes. Included in this bill was a carry–over item from H.B. 285 of the 2015 session regarding the ICC Energy Conservation Code requirements for one and two-family homes and townhouses. The Building and Labor Committee refused to implement the more recent 2015 energy code in favor of utilizing the outdated **2006** energy code. Building homes to this outdated energy code saves the home builders significant costs in upgrades. However, it is uncontroverted that constructing new homes and buildings with attention to energy conservation is cheaper and easier than retrofitting the buildings with new efficiency measures after construction is complete. Energy expenses are typically the second greatest expense for homeowners, after the mortgage– greater than property taxes and insurance. Having an energy efficient home would be advantageous to the home owner.

  Also, after the public comment time period was closed in the House Business and Labor Committee public hearing for this bill, at the recommendation of a House committee member, without proper vetting or approval by the UBCC, the Committee inserted an amendment to include the requirement that Polyurethane Insulated Concrete Forms must be approved for construction. If this wasn't enough of a conflict of interest, the Senate Business and Labor Committee included another amendment to include Non-polyurethane Insulating Forms into law. There are no proven tests which show compliance with the ICC Codes for either of these types of products, yet Utah legislators placed into law an unproven construction system.

- H.B. 37 (2017 session) This bill deletes the NEC requirements to install ARC Fault Interrupt Circuits for all residential occupancies, against the explicit opposition of the Utah Uniform Building Commission and the State Fire Prevention Board. Again, the Utah Homebuilders Association continues to push legislation based on their position that these items push the price of homes out of the reach of most people. ARC Fault Interrupt Circuits save lives by cutting off power to faulty equipment and appliances. An average home with these devices installed would add approximately $350 to $700 to the cost of construction.

A recent report by the U.S. Fire Administration clearly identifies that 14% of nonconfined residential fires are caused by an electrical malfunction which ARC Fault protection could prevent.[ii] In fact, a fire that killed two elderly people locally could have been prevented by ARC fault protection when their Christmas tree lights malfunctioned.[iii]

- H.B. 281 (2017 session) This bill deletes fire sprinkler requirements for 1 and 2 family residences on the premise that it was too costly to install fire sprinklers in family residences.

- H.B. 346S01 (2018 session) This bill, proposed by the Utah Homebuilders Association, arbitrarily curtails building official and fire official plan review time periods for residential occupancies, including one and two family residences, townhomes, dormitories, assisted living facilities, drug addiction and other rehab facilities, and high-density, high-rise apartment complexes, and allows architect and engineers to review and stamp their own plans as code compliant without a building official or fire safety review of these plans if the limited time period is not met. During the hearing, several commenters pleaded with the Committee to exclude buildings taller than 3 stories from the mandated restricted review period given their greater potential for loss of life in a catastrophic fire, but the Committee refused to budge on this.

OFFICIAL FINDINGS OF THE GOVERNMENTAL INVESTIGATION INTO THE GRENFILL FIRE[iv]

A governmental inquiry looking into the circumstances leading up to and surrounding the Grenfill fire was just completed and its findings and recommendations were released in May 2018 and should be of great interest to Utah legislators and the Utah public due to the rapid expansion of increased-density high-rise residential building in Utah.

The conclusions and recommendations contained in this report are extremely telling in their condemnations of recent building industry practices in Britain, which highlight the need for continued stringent building code enforcement **in any location**.

THE PROBLEMS

The key problems leading to the system-wide failure that led to the Grenfell Tower fire include:

- **Ignorance** – regulations and guidance are not always read by those who need to, and when they do the guidance is misunderstood and misinterpreted.
- **Indifference** – the primary motivation is to do things as quickly and cheaply as possible rather than to deliver quality homes which are safe for people to live in. When concerns are raised, by others involved in building work or by residents, they are often ignored. Some of those undertaking building work fail to prioritize safety, using the ambiguity of regulations and guidance to game the system.
- **Lack of clarity on roles and responsibilities** – there is ambiguity over where responsibility lies, exacerbated by a level of fragmentation within the industry, and precluding robust ownership of accountability.
- **Inadequate regulatory oversight and enforcement tools** – the size or complexity of a project does not seem to inform the way in which it is overseen by the regulator. Where enforcement is necessary, it is often not pursued. Where it is pursued, the penalties are so small as to be an ineffective deterrent.

THE SOLUTIONS

This final report recommends a very clear model of risk ownership, with clear responsibilities for the Client, Designer, Contractor and Owner to demonstrate the delivery and maintenance of safe buildings, overseen and held to account by a new Joint Competent Authority (JCA) to be formed.

The new regulatory framework must be simpler and more effective. It must be truly outcomes-based (rather than based on prescriptive rules and complex guidance) and it must have real teeth, so that it can drive the right behaviors. This will create an environment where there are incentives to do the right thing and serious penalties for those who choose to game the system and as a result put the users of the 'product' at risk;

A **series of robust gateway points to** strengthen regulatory oversight that will require duty holders to show to the JCA that their plans are detailed and robust; that their understanding and management of building safety is appropriate; and that they can properly account for the safety of the completed building in order to gain permission to move onto the next phase of work and, in due course, allow their building to be occupied;

A **stronger change control process** that will require robust record-keeping by the duty holder of all changes made to the detailed plans previously signed off by the JCA. More significant changes will require permission from the JCA to proceed;

A **single, more streamlined, regulatory route to oversee building standards** as part of the JCA to ensure that regulatory oversight of these buildings is independent from clients, designers and contractors and that enforcement can and does take place where that is necessary. Oversight of high risk residential buildings will only be provided through Local Authority Building Standards as part of the JCA, with Approved Inspectors available to expand local authority capacity/expertise or to newly provide accredited verification and consultancy services to duty holders; and

More rigorous enforcement powers. A wider and more flexible range of powers will be created to focus incentives on the creation of reliably safe buildings from the outset. This also means more serious penalties for those who choose to game the system and place residents at risk.

RAMIFICATIONS FOR HIGH-RISE RESIDENTIAL PROPERTIES

This analysis concludes that it is most relevant to target **new and existing high-rise residential properties which are taller than 75 feet above grade or more**, including those being erected currently in Utah and subject to the curtailed life safety review time restrictions currently imposed by Utah legislators. Not only is the likelihood of fire greater in high-rise buildings, but, as exhibited in the fire at Grenfell Tower, the rate of fatalities is also greater in such buildings.[v] For the purposes of this report such buildings are known as higher risk residential buildings or HRRBs. Complex systems that are designed for residential multi-occupancy must be subject to a higher level of regulatory oversight that is proportionate to the number of people who are potentially put at risk.

Other industry sectors have developed a mature and proportionate way to manage and regulate the safety of higher-risk and complex installations. These approaches now need to be repeated in relation to the safety and quality of complex buildings and to the safety of those who live in these buildings. A revised framework for the Construction (Design and Management) Regulations (CDM Regulations) must be created.

APPLICATION OF THESE CONCLUSIONS TO THE UTAH RESIDENTIAL CONSTRUCTION INDUSTRY

The Grenville Tower report urges a greater level of regulatory oversight for complex systems designed for residential multi-occupancy, such as those high-rise apartments being erected currently in Utah and subject to the curtailed life safety review time restrictions currently imposed by Utah legislators. Not only is the likelihood of fire greater in such buildings, but the rate of fatalities is also greater in such buildings. Utah legislators have lumped together all residential occupancies as being the same in terms of life-safety code requirements. What they were advised, but don't realize, is that residential occupancies over 75 feet above grade are considered high-rise occupancies per the International Building Code and therefore fall under a different section of the International Building Code that requires a much more complex set of building codes and therefore requires a more complicated life safety review, often by several different disciplines. It would certainly be in the best interest of Utah residents to have these high-rise apartments removed completely from the time limitations for plan reviews as are in place in HB346S01 appropriately for smaller residential projects.

Currently, Utah requires all jurisdictions to have plans and specifications for new buildings and alterations to existing buildings reviewed for life safety code compliance before a construct permit can be issued. This life safety requirement must not continue to be diluted or discarded for the sake of negligible cost savings. Jurisdictional plan reviews, properly conducted, must not and should not, be compromised because they are vital to insuring the safety of buildings and those who inhabit them and must be protected by all legislators and legislative statute.

Additionally, future changes to the state's construction and fire codes being considered by the legislature, should first be vetted with the Utah Uniform Building Code Commission which can provide experienced expert input. It is further recommended that any proposed changes be vetted with the building and fire code officials in their respective organizations, such as, Utah Code Officials Legislative Affairs Committee (COLA), Utah Association of Building Officials (UABO), Utah Associations of Fire Marshals, and the other International Code Council Utah Chapters.

As noted by a British building official, "***There are some events so huge they have a profound impact on the world. The fire at Grenfell Tower a year ago is one of those rare events. The scale of the tragedy is so vast, and the human pain so raw and immediate, that anyone who sees the photos knows this can never be allowed to happen again. That is true even more so for those of us who work in the building industry where your worst nightmare is that someone dies because of actions or decisions you have made, or failed to make. Grenfell was that nightmare at a level beyond imagination or comprehension. The sense that we have to guard against it ever happening again anywhere remains real and profound."***

[i] http://utahlegislature.granicus.com/MediaPlayer.php?clip_id=22750&meta_id=834504#.Wp8J_pO3ykY.email

[ii]U. S. Fire Administration Report at p. 6. https://www.usfa.fema.gov/contact.html

[iii] http://kutv.com/news/local/couple-dies-after-woods-cross-house-fire

[iv] **https://www.gov.uk/government/publications/independent-review-of-building-regulations-and-fire-safety-final-report**

[v] https://en.wikipedia.org/wiki/Skyscraper_fire