

P-05-777 Application of the Automatic Fire Suppression Systems Legislation within the current Building Regulations for Wales – Correspondence from the Petitioner to the Committee, 11.10.17

Dear Petitions Committee,

Firstly many thanks for giving me the opportunity to express my beliefs within a forum whereby hopefully impartial, democratic and open decisions can be made.

As many within the Senedd will be aware, I am pushing for an urgent review into the implementation and impacts of the new Fire Suppression legislation within the current Building regulations. After many meetings with my local AM and unsuccessful attempts to obtain satisfactory answers to my questions by Leslie Griffiths and her team I am hopeful that this process will finally put closure to my plight.

Background

To make things clear and for the purpose of understanding, this whole process came about as a result of my building project requirements and the requirement to retrofit a Fire suppression System not only to the area where the main work is being done but also to the dwelling that is not being modified. This seemed unfair as people who do the same via extensions have no requirement to do this. The details of the building work are below:-

- 2 properties that are linked to each other (semi-detached) but do not form part of any other link or terrace.
- They are both modern builds, circa 1996
- The aim is to create 2 openings (1 downstairs and 1 upstairs),
- Remove the existing kitchen from my current dwelling and create a new kitchen in the dwelling next door.
- Create 1 master bedroom instead of the 2 bedrooms in the upstairs of the dwelling next door.
- There are no other major modifications to my existing dwelling other than the 2 openings required for access, so from a bricks and mortar perspective this is no different to building an extension.

Analysis and findings of the new Fire Suppression Legislation

As a result of my requirement to comply with the new Legislation, and my dis-agreement with it, I took it upon myself to conduct an investigation into how and why this Legislation came into force.

The fact that everyone I have consulted with could not believe that it would be applicable to my project, not only compounded my interest but has driven me to gain a better

understating and knowledge of Fire risk by going so far as to even studying for a NEBOSH Certificate in Fire Safety.

As a result of this, conducting over a year of extensive and thorough examination into the Legislative concept, Building Regulations, amendments, meeting transcripts, consultations, pilot studies, fire statistics and BRE Reports it is clear that this legislation has been poorly implemented with very little thought for its impact, both financially and economically. This is now backed up by recent reports that “Loop Holes” have been exploited by builders seeking to avoid the installation of automatic fire suppression systems due to cost.

Wales Fire Facts & Statistics: –

- In 2016–17 the number of fires attended by Welsh Fire and Rescue Authorities reduced by 11% compared with 2015–17.
- In 2016–17 there were 19 fatal casualties from fires in Wales – 0.00006% of the population (
- In 2016–17 there were 621 non-fatal casualties from fires in Wales – 0.002% of the population
- 3 in 10 dwelling fires in Wales in 2016–17, no smoke alarm were installed – This indicates that 30% of all dwelling fires were in buildings built before 1991 / 92.
- 66% of all dwelling fires start as a result of cooking, when including appliances it is estimated that over 80% of all domestic fires start in the kitchen.
- In 2015/16 there were **5 Sprinkler system related failures** which resulted in Fire Service attendance, these were deemed false alarms. ***Note** – it is interesting to see that in the 2016/17 fire statistics this detail has now been amalgamated and placed under “other” along with general system failures so there are no definitive number for this. My belief is this is to hide the true statistic of sprinkler system failures.

Legislative Facts & Statistics: –

- There is no reduction in insurance premiums as a result of fitting a Sprinkler System to a dwelling.
- It is not yet clear if people will actually prefer to buy houses with these systems installed as no census has been conducted. It would be embarrassing for the government if it does turn out that the general public actively avoid houses with these systems in.
- Dwr Cymru does not and cannot guarantee the minimum flow rate (80L/Minute at 2 heads) for the installation of Sprinklers. There is no future requirement to ensure that they can even for new builds, this only leaves 1 option – Pump & Tank.

- All Sprinkler Systems **must** under regulation include a Non-Return valve to prevent water migrating back into the water supply network; these Non-Return valves should have annual maintenance and testing as a minimum to ensure correct functionality and guarantee of performance. Households may be liable for issues arising from such failures.
- Domestic Fire suppression systems have no requirement for electrical backup, therefore if there is an interruption to electrical supply the system may fail to operate even if a Pump & Tank system is installed.
- There is **NO** legislative requirement to maintain the Sprinkler system once installed.
- Legionella – Even though there are no documented fatalities from Sprinkler Systems, I believe Lesley Griffiths’ refusal to recognise this is a real evident risk and danger should be made public and that the following advice taken from ACOP L8 (Approved Code of Practice) which forms part of HSE guidance should be issued:
 - Legionella is active and multiplies between 20°C and 45°C (the average house temperature is 22°C)
 - Legionella can be contracted by exposure to airborne droplets, these can be created from but not exclusive to hot and cold water outlets; atomisers; wet air conditioning plant; and whirlpool or hydrotherapy baths.
 - It is recommended that a full Risk Assessment be carried out to identify any potential risks.
 - A competent person should routinely check, inspect and clean the system, in accordance with the risk assessment.
 - You must identify ‘sentinel’ outlets (furthest and closest to each tank or cylinder) for monthly checking of the distribution temperatures. You should also check cold water tank temperatures at least every six months
 - Stagnant water favours Legionella growth. To reduce the risk you should remove dead legs/dead ends in pipe-work, flush out infrequently used outlets (including showerheads and taps) at least weekly and clean and de-scale shower heads and hoses at least quarterly. Cold-water storage tanks should be cleaned periodically and water should be drained from hot water cylinders to check for debris or signs of corrosion.
 - Legionella can be evident on or around tank connections which show signs of corrosion, this is particularly prevalent in outside installations and these connections should be checked and kept dry.
 - There is also a potential hazard with regard to firefighting systems, in that legionella could develop in water supplies for water mist, sprinkler, drencher and hose reel installations together with site firefighting ring mains (Taken from the Fire Protection Authorities RC63)
- Costs of retrofit Sprinkler install collated to date :-
 - Quotation 1 [REDACTED] – £9210 Inclusive of Pump & Tank
 - Quotation 2 [REDACTED] – £6684 inclusive of Pump & Tank

- Quotation 3 [REDACTED] – £5052 Inclusive of Pump & Tank
- Quotation 4 [REDACTED] – £6720 Mist System
- Cost of pipework upgrade (25mm to 32mm) by Dwr Cymru – £4500 (This may mitigate a Pump & Tank)
- There are only 7 FIRAS registered companies in the whole of Wales.
- 2 major housing developers (Redrow & Persimmon) have withdrawn from building in certain parts of Wales due to this very piece of legislation.
- As the legislation has only been in force since January 2016 with most building applications submitted before this, the true extent of this legislative impact both financially and economically will not be felt until at least 2018/2019.
- The only buildings exempt from this legislation are Listed / Graded buildings, i.e. ones at most risk.
- There have been 2 Senedd commissioned BRE Reports on Fire Sprinklers (2012 & 2016), both reports are conclusive in the fact that Sprinkler Systems are **NOT** cost effective for fire prevention in retrofit circumstance.

Questions:

Given the statistics above, I would like to pose the following questions to the Assembly.

- I would like the Assembly to explain how an existing dwelling with 2 properties and 2 kitchens poses less of a fire risk than 1 dwelling with 1 property and 1 kitchen?
- I would like to ask the Assembly to justify the cost of retrofitting a Sprinkler system? Given that: – the prices they quoted to deliver the measure were financially flawed (£1200–£2000 this is for a Flat, maybe 3 heads. Typical houses require upwards of 10), the combined risk factor is less than 0.003% (Fatal and Injury combined), and that both of the commissioned reports clearly state that retrofits are not financially viable and should not be put in place.
- I would like the Assembly to explain and justify how and why they allowed the implementation of a piece of significant legislation that was evidently based on the documented (*Legislation Committee No1 notes section 164 – 170) emotion of an Assembly member (Ann Jones)? – Clearly any legislation that is based on emotion is flawed as the person with emotional attachment to that legislation is not able give a completely unbiased justification.
- I would like to the Assembly to explain why during the investigative and feasibility phases of the process the committee made promises of acquisition and provision of further detail regarding types and ages of homes that caused Fire deaths and injuries but none was ever provided? This detail would have given a more focused

approach as to where and what building projects had the most impact on Fire death and injury prevention.

- I would like the Assembly to explain why they explicitly chose not include regulatory requirements to maintain the Sprinkler Systems which would ensure the prevention of Legionella and other potential water borne fatal diseases? Given that whilst there is no current data to support any cases of Domestic Sprinkler System born Legionella, it has to be taken into consideration that there is also very little data to provide evidence that Domestic Sprinklers **CAN** cause water borne diseases. After all in industry Sprinkler Systems are heavily maintained pieces of equipment for this very reason.
- I would like to ask the Assembly to publicly state that they will be held responsible for any health issues arising from the non-implementation of maintenance of Fire Sprinklers as a result of the Legislation. Given that evidence does support that non-maintained Sprinkler Systems will fail and is likely to harbour Legionella ([cdc.gov/legionella CS267416-A](https://www.cdc.gov/legionella/CS267416-A) 07/18/2016).
- I would like to ask the Assembly to review the current legislation given all of the facts that has come to light, particularly retrofits, cost effectiveness, and fit for purpose. Bear in mind that the infrastructure is flawed i.e. Water Supply, and the lack of legislated maintenance of these systems needs to be addressed.
- My last question to the Assembly is this, IF anyone (including Anne Jones, Lesley Griffiths and Carl Sargent) believe that this piece of legislation is fit for purpose absolutely necessary, regardless of home improvements and legislation when are they spending the 10K and having **their** houses retrofitted with Sprinklers?

Summary:

Given all of the evidence it is clear to me that Sprinkler System Retrofits are not a financially viable way to reduce Fire deaths within domestic properties, in fact it's questionable whether Sprinkler Systems in all non-multi-occupancy domestic dwellings are viable at all regardless of size, which is backed up by all BRE reports. Given that these systems are very high maintenance items I find it extremely difficult to accept that the Assembly would actively implement such a law that was not backed up by strict and stringent maintenance requirements, a leaflet after installation / sign off does not cut it. It is worth noting that whilst the building industry may be financially focussed it also has a good handle on what people look for in their products, ignoring house builders and their comments will only squeeze the already poor levels of available housing within Wales.

Throughout this whole process I have decided to stop my building work mainly in protest, I have had many conversations with many of the AM's and industry professionals and not one can tell me the difference between what I am doing and someone building an extension. The money that was to be spent locally on businesses and companies to complete the work will not be spent as a result of this legislation, I find it disappointing that professional people, such as Fire and industry specialists make statements like "Retrofitting works, it only costs £1500 to £2000". Retrofitting is a minimum of £6000 and this is the number that should be publicised.

Finally, this piece of legislation needs to be handled separately within the Building regulations and not shoe-horned in where it only partially fits, that way there would be scope to allow building projects that, as part of the building work, reduce fire risk significantly enough **NOT** to install a Sprinkler System.

Nick Harding