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What counts as a reasonable extent?

- A systems approach for understanding fire safety in Sweden

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Abstract. Swedish legislation requires that any owner or user of a building maintain a reasonable level of fire protection measures to ensure the safety of all people located in the building. If a building, in the wake of a fire, in court is determined not to have had a reasonable fire protection, the blame will likewise be assigned to the building owner or user. Using the perspective of risk governance this study aims at analysing how regulation and stakeholders interact to maintain a specific level of fire protection in hotels. The focus is on identifying problems and frictions that has emerged from the complex relationships, and differences of interests, between the different stakeholders. Based on a stakeholder analysis 11 respondents were selected for an interview study. The main problems identified in the analysis are that there are ambiguities for the individual hotel owner to know whether her fire protection measures are reasonable according to the law, that the system has emerged without clear political goals, problems related to the process of local supervision, that the ambiguous situation gives rise to opportunities of other stakeholders to claim the definition of what counts as a reasonable extent, and the ethical problems associated with convicting a single individual for failure in a complex multi-actor system.

Keywords: Fire safety, Stakeholders, Risk Governance, Complexity, Blame

1. Introduction

The number of fatalities in Swedish fires has during recent years been around 100 people per year. In monetary terms there is no statistics as to the costs of damages caused by building fires. Regarding fire safety in buildings there are two obvious interests standing against one another. The first interest concerns the desire to minimize harm to people and property. The second interest concerns saving money but also being able to maintain operation without letting fire protection solutions limit the business or affect it negatively. Fire protection

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measures, such as education, fire alarms and sprinklers, costs money but will hopefully never have to be used. The owner may therefore be reluctant to invest in these measures. For that reason it is not surprising that these interests sometimes can act as counterparts and that a compromise must be made. Somewhere a line must be drawn between fire safety and other interests. In Sweden this line, representing the lowest acceptable level of fire protection, is essentially drawn by the legislator. The demands in Swedish legislature concerning fire safety in buildings and owners' responsibilities is concentrated in one paragraph in the Civil Protection Act (SFS, 2003:778), chapter 2 § 2 which states the following:

Owners or users of buildings or other facilities shall, to a reasonable extent, provide and maintain equipment for extinguishing fire and for survival in case of fire or other accidents and otherwise take the necessary measures to prevent fire and to prevent or limit damage by fire.

The word *reasonable* has been subject of much discussion and is not clearly defined in law or in any other regulations. An article on Swedish legislature concerning fire protection in a Legal Management paper found that "the overall settlement can be indistinct and difficult to overview for owners or users of buildings" (Persson 2009). However, as Larsson, Dekker & Tingvall (2009) has noted, holding one individual as solely responsible in the wake of an accident is not the only approach to safety management. They showed how authorities surrounding Swedish road safety had adopted a systems approach in which the responsibility of systems safety is shared between the road-users, the designers and the professional operators of the system. This approach has been enforced from a political level and has so far been successful in lowering casualties on Swedish roads.

The issue of a reasonable level of fire safety was tried in court after a fire broke out at a small Swedish hotel in April 2004, killing two of the hotel guests. A court stated that the owner did not have a “reasonable” protection and sentenced him for involuntary manslaughter. The case was highlighted in media and by members of both the fire protection industry and the hotel industry. The trial is the only case known when someone had been sentenced to a punishment for not having fulfilled the demands in the Civil Protection Act. A sentence to punishment, compared to forcing a measure according to administrative law, demands more from the legal system regarding the individual’s possibility to know beforehand what protective measures are needed (Persson, 2009).

The present study was initiated as a result of the verdict against the owner of the hotel. Of specific interest was whether applying a systems perspective to the case (and to building fire safety in general) would give a complementary picture of how fire safety is maintained in Swedish buildings. The aim of the study was to offer a deeper understanding of the system surrounding fire protection in existing buildings. In order to do so we asked the questions how laws and stakeholders interact in the system of establishing a certain level of fire safety in hotels, what conditions the system give hotel owners to meet the requirements imposed by law and if there are problems associated with judging individuals for criminal negligence for not having maintained reasonable fire protection.

The focus on regulation and stakeholder interaction places this study in the research field of Risk Governance (Renn & Graham, 2005; Renn, Klinke & van Asselt, 2011).

From a Risk Governance perspective the focus of analysis is on “the various ways in which many actors, individuals, and institutions, public and private, deal with risks surrounded by uncertainty, complexity, and/or ambiguity” (van Asselt & Renn, 2011 p. 432). The focus of the study will therefore be descriptive rather than normative.

1.1 A historical background to Swedish fire protection legislation

Statutory fire safety in Sweden can be traced back to the early Middle Ages but it is first in Magnus Eriksson’s national law from the 14th century that there is a description regarding how to build to prevent fires (Swedish Rescue Service Agency, 1992). During the 20th century there was an opinion for reducing detailed regulations nationwide. For example, there was a reduction in the overall governmental management, which changed with a parliamentary resolution in 1987 (Prop. 1986/87: 99, 1987) and further described in a governmental proposition from 1998 (Prop. 1997/98: 136, 1998). The general idea was that authorities and other stakeholders were to be given extended freedom in their use of resources to reach established goals. The purpose of this was to open up for new solutions and in that way use the community resources more efficiently. Fire prevention policy makers adopted the overall idea of a goal-oriented (as opposed to detail-oriented) approach. In 1999 the government set up an investigation with the objective to develop a proposal for a reformed and goal-oriented legislation (Dir 1999:94). In 2004 the parliament passed the new law, the Civil Protection Act (SFS 2003:778), which replaced the old one (SFS 1986:1102). The new law clarified owners’ responsibility for fire safety of their own property and changed the way the municipality made their supervision of the owner’s safety arrangements. The supervision changed from being a physical control with regulated intervals to a control of the owners’s documentation of the building’s

fire protection. Since the implementation of the new law physical controls only occur as random sample checks. This change was done with the aim to avoid a common misunderstanding: that the rescue services approved a certain level of fire protection in a building. Neither the new nor the old law, or any other legislation, clarifies the term *reasonable*. The investigation preceding the new law (SOU 2002:10) states that the definition should be made through interpretation of existing rules, information and advice from local supervisors and community and through cases in administrative courts.

During the process of construction, fire safety measures are regulated by the building regulations. As soon as the construction is completed the Civil Protection Act (SFS 2003:778) regulates the level of fire protection. In theory, the system concerning fire safety in buildings is relatively simple. As long as the building regulations from the year of construction is satisfied and obtained during the building's lifetime the building is considered having technical reasonable fire protection. The problems emerge when a building is older and have been rebuilt several times. Fire protection measures are more expensive when rebuilding compared to when building, which inflects on the term reasonable. It appears likely that the demand on safety has increased over the years and it may therefore be problematic for building owners to know what arrangements the law consider reasonable.

If an individual does not comply with the rules in the Civil Protection Act (SFS 2003:778) he can be held responsible either according to the Act or according to the penal code. The latter can be done if someone, directly or indirectly, kills a person, or in any other way affects his/her health, as stated by the Penal code. Decisions taken

concerning requirements of fire safety measures connected to the municipalities supervision can be appealed, although it is fairly uncommon that such decisions are a subject to legal examination (Persson, 2009).

2. Method

In order to answer the main question an entirely qualitative approach was applied. The process was divided into four parts: stakeholder analysis, interview study, processing of results and analysis.

Initially, a document analysis was conducted to identify important stakeholders in the system of fire protection in buildings. Legislative histories, publications, laws, legislative proposals and other legal documents were the basis for the stakeholder analysis. From these documents all mentioned stakeholders and system participants were noted and the ones with significant influence on the system surrounding fire protection in hotels were chosen for further analysis. Their role and function in the system was described from the perspective of their responsibilities prescribed by law. The stakeholders estimated to have most direct impact on the system were then selected for further analysis. The aim of this analysis was to capture the wide range of interactions of stakeholders, not to identify all possible.

The following actors were identified as important stakeholders in the system of fire safety in Swedish hotels:

- **The hotel owners** are the ones assigned by law to be responsible to maintain a reasonable level of fire safety measures.

- **The Civil Contingencies Agency (MSB)** is the agency responsible for the legislative area of the Civil Protection Act.
- **The rescue services** functions as the local authority responsible for supervising the hotel owners' fulfilment of the requirements stated in the Civil Protection Act as well as being a fire and rescue department. Mainly the rescue services functions at a municipal level but some of them have also merged into larger unions.
- **The Swedish National Board of Housing, Building and Planning (Boverket)** is the agency responsible for the legislative area of building and housing.
- **The Swedish hotel and restaurant association (SHR)** is the union caring for the interests of Swedish hotel owners.
- **The Swedish Fire Protection Association (SFPA)** is an association with the objective to reduce the costs and damages caused by fires. This is done through information, education and lobbying. The insurance companies have the right to appoint two members in the association's board.

Based on the stakeholder analysis 11 respondents were selected to participate in an interview study. The purpose was not to find a selection group from which the result could be statistically representative in a population. Instead the focus has been on choosing people who could contribute with deeper thoughts, reflexions or ideas concerning the system surrounding fire protection in hotels. Two respondents have a direct connection to the fire resulting in a criminal verdict (a hotel owner and a prosecutor). The aim of including these two respondents was to enrich the analysis with case-specific experiences.

The interviews were conducted using a combination of open and semi-structured approaches (Lantz, 2007). A number of themes were defined as well as a few specific

questions (related to the role of the respondent) with the purpose to direct the conversations. The respondents were encouraged to steer the conversation in the direction they felt relevant and the authors followed up with questions and new issues whenever it was found necessary. The themes were selected to allow for the respondents to reflect on their own roles as well as the roles of other stakeholders. In that sense the interviews also functioned as a quality assurance that the stakeholders identified were indeed the most important ones, and some additional stakeholders were also identified. The overall aim of the study was to illustrate different viewpoints for the analysis of how different stakeholders interact to establish a particular level of fire safety measures.

The interviews were conducted solely by telephone and lasted between 30 and 70 minutes. All interviews were recorded. The result consists of direct quotes from the interviews that were transcribed from the recordings. The transcript data was processed and sorted according to the different themes.

The interview data was analysed by comparing and contrasting the various answers given for each theme. The focus of the analysis was to find critical interactions, diverse perspectives (e.g. conflicts of goals and interests), and commonalities among the stakeholders of the system.

3. Results and analysis

3.1 Who gets to say what is reasonable?

Several of the respondents expressed that it is difficult, for hotel owners as well as local authorities, to know which level of fire protection the law considers reasonable.

The individual hotel owner cannot understand what is a reasonable fire protection. You can compare it with the Motor Vehicle Inspection, if you would not know that 3 mm is the minimum groove depth your tires may have. Then you would have to stand there and argue “I think 2 mm is reasonable, we have very good roads here, it never rains and there is no risk for aquaplaning”. That would not work. Hotel owners need to have guidelines in order to take their responsibility.

- Bengt Andersson, Chief officer, the Fire and Rescue Brigade of Öland

Today, more effort is put into clarifying that the individual is responsible for fire protection in buildings, which also was a purpose with the revision of the old law. This should also in all likelihood lead to the desire to make it as clear as possible for the individual to know what is expected of him/her.

The preparatory work preceding the Civil Protection Act states that one of the major purposes with the new law would be to clarify what fire protection measures that can be required from an individual building owner. The clarification would come through the interpretation of existing rules, by authorities' information and advisory responsibility, and through precedents (SOU 2002:10). The answers from respondents indicate that none of these methods have succeeded completely.

It is almost impossible for the individual hotel owner to know what is a reasonable level of fire protection. Of course the norm helped a lot and the general advice too, but, there is still a very wide range for interpretation and that is not good. This is precisely where the problem lies. It is a court's assessment that must decide in the end. So, if there is a fire in your hotel, you will not know until you've been in court whether you have done right or wrong.

- Clemens Wantschura, Development manager, SHR

As for the local authorities' information and advisory responsibility, it appears according to the respondents that the communication is inadequate. The local authority has a responsibility according to the law but to what extent is not specified.

The local authorities should have to focus more on consultation with the existing trade associations. The authorities' mission should be to initiate a dialogue and prioritize "soft questions" instead of the exercise of authority. (...)

The best thing would be if the local authorities would begin to actually obey the law and accept their information-responsibility and to take it seriously. To initiate a dialogue, carry a conversation, try to learn to understand.

- Clemens Wantschura, Development manager, SHR

Different inspectors are of course different by nature. Everybody does not give advice. Maybe you let the building owner contact a consultant instead. Others accept their role as advisers. After all it is demanded by law. But even these inspectors take that responsibility to different levels.

- Cecilia Uneram, fire protection engineer, SFPA

One reason for the differences could be that a more comprehensive advice from the authorities may be in conflict with the Competition Law which states that the public sector shall not compete with the private. Even though the subject, regarding the local fire rescues services' different types of services, lately has been highlighted (Bodström, 2010; Kask, 2007; Swedish Competition Authority, 2000) there is still some clarification missing and it is therefore not strange that the individual supervisors feel unsure of the boundaries of their legal authority.

Adjudication through case law and precedents leaves *reasonable* to be defined by courts, thus courts can be considered the owners of the concept. As to fire protection in buildings this method has, according to the respondents with legal knowledge, been proven inadequate.

Since almost all court cases are from the lowest or second lowest level, they have really no value as precedents and can only be considered to have value in very specific situations. It would take about 500 such verdicts before one can draw any firm conclusions. It is hard to get any good legal description based on a precedent formation in this way. The method is slow and complex and requires a lot of guidance from us. Without the work from us, the individual's opportunity to find out what applies is virtually zero in this field. (...)

Adjudications through case law require that injunctions are written and appealed so that the judicial decisions come from higher courts. But today there is hardly any injunctions, few of them are being appealed and the process is also

a bit awkward. Infinitely long delays at the courts have a strong deterrent effect in the precedent process. If you have to wait 1-2 years before the court makes a decision then perhaps the building owner's rather choose to do as the local authorities says. If precedents should shape the legal formation then there must be more decisions, which you get with more injunctions and faster processes.

- Torkel Schlegel, head of Law division, MSB

3.2 The system has emerged without goals or distinct management

One aspect mentioned during the interviews is that the system is a remnant from earlier years, when society was different.

Reasonable fire protection origins from the legislation of 1962. But at that time society was quite different.

- Patrik Perbeck, head of division of fire protection and flammable materials, MSB

The respondents stressed that since then the system has developed organically, on its own, without clear goals regarding neither fire safety nor legal protection.

I'm not sure what the thoughts were from the legislature about this, if they really have made a consideration about this or not. I think that the area has evolved by itself and that no one really has had a clear thought on how to develop this area (...) There is no one who has said: "let's do like this, let's develop fire protection in Sweden, in this way will we achieve our goals set concerning rule of law and a better fire protection."

- Torkel Schlegel, Head of Law Division, MSB

It seems as if the system would need clear political goals and ambitions together with a strategy of how to reach these goals. To believe that the industry by itself can solve all problems seems, according to our results, wishful thinking. The second paragraph in the Civil Protection Act contains a requirement that affects all buildings and facilities in Sweden. Such an impact may cause politicians to feel a certain resistance towards taking a stance. However, the system may need a stronger political guiding so that the industry then by itself could work with different methods to reach the goal.

Reasonable fire protection is a complex subject that deserves to be brought up for discussion. There is a lot that can be done. I would like a government commission in the future to investigate whether the Civil Protection Act should be rewritten, clarified or in some way fractioned, and on top of that consider whether implementation regulations can be added to the law. (...) The law contains requirements concerning every building and facility in the country and additionally a pretty essential and vital safety measure. It deserves more than the text in the Civil Protection Act 2:2, it should at least have been an own chapter in the law. But no, it is one single little rule. Besides, as mentioned before and I think many would agree, it is a complex subject. The buildings are so many, it is a wide scope, it is during a long period of time and therefore it creates a very complex situation.

- Torkel Schlegel, Head of Law Division, MSB

The development of building regulations also has an impact on the functioning of the system.

The legislation concerning building has historically been very detailed and changed towards the more goal-oriented approach over time. It seems that coordinating the legislation concerning building with the legislation concerning protection against accidents causes problems to the extent that MSB finds it difficult to write advice.

MSB has no regulatory rights to clarify the meaning of reasonable fire protection. What we can do is to develop advice to express what we think is a reasonable level. We could produce more general advices for various areas, but it is a complex method since the building technological parts must derive from the building regulations, and they are updated and changed constantly. Take for example requirements for firewalls which have varied over time and that there is also the possibility to achieve the same protection through other arrangements.

- Patrik Perbeck, head of division of fire protection and flammable materials,
MSB

Amongst other things this causes, as stated by several respondents, difficulties for the individual owner to know what counts as reasonable.

3.3 The local supervision process

Currently there is little authoritative guidance for the interpretation of *reasonable*. MSB has written advice for the hotel industry (SRVFS 2008:3) but several respondents raised the question about MSB's lack of regulatory power. Why MSB has not received permission to publish by-laws regarding fire safety in buildings is perhaps because the government wants to avoid an increasing number of rules in general in society. It may also involve a political fear

of handing out responsibility for the detailed requirements of such a complex field.

The situation is a bit better concerning hotels since MSB published the advice concerning fire protection in hotels. (...) Why MSB doesn't publish any other advice is a good question. It might be because they have to be given the assignment first, otherwise they might be afraid that the advice will be perceived as by-laws, and they are not allowed to publish by-laws. It feels a bit weird when comparing with other authorities. For example there are the social services and the environment which both have authorities that have lots of opinions. (...) It should be a central authority that together with business owners set the standard for reasonable fire protection and produce advice and instructions.

- Bengt Andersson, Chief officer, the Fire and Rescue Brigade of Öland

The difference between advice and by-law is a bureaucratic difference to hide behind if the law is perceived as too complex. Instead everything is left to the local authorities to take care of. Then of course we have municipal self-government in Sweden, which permeates a lot in society and to some extent also this.

- Claes Malmqvist, fire protection engineer, Brandkonsulten AB

There is a problem concerning the fact that requirements are different throughout the country. A hotel chain with several buildings in different municipalities can receive different remarks at different times. They wonder "how come it is allowed there but not here, we have a building that is exactly

the same there but then no one said anything about it.” (...) The fact that people know each other too well in small towns is also a problem. One does not want to pose too much demand because it might result in bankruptcy for a business.

- Cecilia Uneram, fire protection engineer, SFPA

As Uneram states, a hotel chain established at several locations in Sweden could face different requirements in different municipalities due to the fact that various rescue services interpret the notion of reasonable in different ways. Perhaps the general Swedish principle of local self-government is a contributing factor to why the central authorities avoid interfering in matters related to local authority.

I wish one could make sure that the supervision is performed in the same way throughout the country. I am not so sure I appreciate the way it works when the municipalities are given all responsibility and the situation then becomes dependant on how the local authorities apportion the economical resources.

(...) One can't require that hotels look the same throughout the country if supervision does not.

- Clemens Wantschura, Development manager, SHR

Despite the problems mentioned above the law demands the individual owner to keep a reasonable level of fire protection. As a result a space is left where other stakeholders are free to interpret and claim the meaning of *reasonable*.

3.4 Problems occur when the wording is left to others to interpret

The previously stated ambiguities surrounding the interpretation of *reasonable* result in a

number of consequences. Both of the rescue services represented in this study have developed own definitions.

We have developed a definition of what we think is reasonable fire protection. We sat down and looked at all the laws that have existed in modern times. We made an inventory of what kind of hotels that we have on Öland, and based on that we wrote down what we felt was reasonable, and then we sent it out to all hotels. We then instantly received a slap on the wrist by the Swedish Rescue Service Agency who thought that we had created rules. We thought we had not. It is obviously an evaluation of each case, but we ought to be clear about what we expect. (...) Hotel owners must have guidance in order to take their own responsibility. Therefore we ignored the agency's opinions. We discussed it with the rescue services in Lund, as I recall, who had done the same thing. The agency's point of view felt unnecessary. This has been done throughout history. When I worked in Gothenburg we had a centrally placed fire protection engineer who worked with various issues and questions from business owner's and set standards, e.g. "this type door is good enough for this kind of attic". It was basically the same. We created our own standards in our own little "book of the law". (...) And when the general process goes towards putting the responsibility on the user, how will that work if there are no instructions and if the users does not understand what is meant by reasonable?

- Bengt Andersson, Chief officer, the Fire and Rescue Brigade of Öland

We have a paper that states what is reasonable fire protection. It's not what is in the building regulations but rather a comprehensive assessment of what is a

reasonable fire protection in the form of recommendations. We have done this work for 20 different types of businesses. It describes e.g. that linen should be locked, about signs, etc. There one can find all the answers. There is also an information perspective. The purpose of an inspection is not to turn someone down. But you should not have to die if you stay at a hotel and that's why we are strict in these questions.

- Cleas-Göran Öhman, Fire protection engineer and local supervisor.

Why the rescue services find it important to provide more information on technological aspects of fire protection than what can be found in the Civil Protection Act (SFS 2003:778) is probably because they, as it is the rescue services that work closest to the hotel owners, have seen the problems that the individual building owners have. The hotel owner that will be given Öland's or Södertörn's "recommendations" will not need to wonder what reasonable means. But the recommendations might not be completely correspondent to the Civil Protection Act (SFS 2003:778).

When the local authorities make their own definitions of reasonable they do it against the intention of legislators. What they can do is to set guidelines, but then they are tiptoeing close to making their own interpretation of the law.

They have to be careful not to make any kind of local regulations, because they have no right to do so. But of course one can express "if you do like this and this then you meet the reasonable level," and referring to what is in MSB's advice. But they have to be careful not to create a minimum level that can not be extracted from any other law, MSB's advice or past court cases (...)

Otherwise there is the risk that requirements are not identical throughout the country.

- Patrick Perbeck, head unit fire and flammable materials MSB

In the vacant space of central authorities' guidelines and precedents other stakeholders are developing their own definitions of reasonable. The Swedish Fire Protection Association (SFPA) has already published "Reasonable fire protection in care centers" (Swedish Fire Protection Association, 2010) and is planning to, together with a fire protection consultant company, continue to publish definitions for other areas.

We do not normally work with cost-benefit-analyses to balance what is reasonable. I would say we do not consider the cost. It is more MSB, the building authorities and fire protection consultants who work in that way. We work more with promoting fire safety in Sweden. It is our role and objective to increase the level of fire protection. Of course we interpret what the law says, but we also occasionally write in our literature that we as an association recommend a higher level. In our writings about reasonable fire protection we make more of an interpretation of the law in such a way that we look at precedents. It is an interpretation of what is the minimum level according to the law, but I do not know if we also have references to our own recommendations.

-Cecilia Uneram, fire protection engineer, SFPA

SFPA have great interest in minimizing risks because the insurance companies are members and sponsors of the organisation. It is a fact that the insurance

companies not always would stop with reasonable fire protection. They do not want any fires at all. For them it is ideal if the risk becomes zero. SFPA can sometimes be the insurance companies' representatives, while MSB perhaps to a greater extent tries to get an overall perspective.

- Torkel Schlegel, Head of Law Division MSB

It is not necessarily a problem that the private sector sets the standard but then it should be in accordance with the legislator's intention (Persson, 2009). The insurance companies have much to gain from a safety level that is as high as possible. That is because the individual pays for costs associated with a higher protection. With the small number of agents on the market, the insurance premium level is adjusting slowly, making a high safety level good profit for the companies (Mattson, 2004). Therefore, there is a risk that private stakeholders set the standard at a level that was not the intention of the legislator and is not justified from a cost-benefit aspect. There is thus a conflict of interpretation between the various stakeholders who themselves have different interests in claiming the notion of *reasonable*.

If there is a need for definition and the central authorities do not provide one, then the market will develop their own. You could argue that other interests can influence the definition and maybe call for an emergency alarm even though an objective investigation would show that it was not needed. Of course, that risk exists.

- Bengt Andersson, Chief officer, the Fire and Rescue Brigade of Öland

There is also a risk concerning other stakeholders' definitions as problems may arise when courts, in the vacancy of other standards, use privately produced definitions in

criminal cases. SFPA and the SHR have together made a norm for hotels that they call “fire protected hotel”.

The industry’s practices are relevant to the evaluation of what is reasonable. What the industry does is saying "this is achievable". If the industry adapts rules in this way then it must be considered that these rules are fair. (...) Take for example the certification "fire protected hotel", if you are a serious hotel owner and develop the business properly then you can never be sentenced for such an offense, if one does not cause the fire by himself, of course.

- Bo Svensson, prosecutors Kalmar District Court

The insurance industry provides SFPA with financial funds in return for the right to appoint two members of SFPA board. Also, according to many respondents SFPA has a definition of reasonable that is higher than the level of other stakeholders. If the courts use their definition in trials there is a risk that an assessment is made according to a level that was not intended by the legislator.

3.5 A gentle practice by the authorities, as requested by building owners, may in the end strike back on the owners themselves

According to several respondents MSB has earlier promoted an exercise of authority based on dialogue and trust. One of the respondents mentions that this attitude has encouraged the use of what in Swedish is called “mjukisprotokoll”, directly translated and from here on called “softie-protocols”. Softie-protocols are the protocols written after a supervision visit that do not include an injunction but can still give recommendations for fire protection measures. Much time during the interviews were spent talking about softie-protocols and most of the

respondents agreed with the fact that using softie-protocols leads to legal uncertainties as an individual can not be sure of how a court would use the protocol in case an accident happens.

The use of softie-protocols is extensive, as understood from the follow-up on the Civil Protection Act (Ds 2009:47), and a contributing reason might be the rescue services' self image together with society's image of the rescue services.

The reason to why so few injunctions are written is probably because many rescue services wants to be everybody's friend. You do not want to make demands and act authoritarian, because it is tiresome when you have to stand up for the things you claim to be true.

- Cleas-Göran Öhman, Fire protection engineer and local supervisor.

It is not uncommon that employees start as fire fighters and later on in the career advance and perform supervisions. It might cause some problems to come from a role where helping and courtesy is important if the new tasks are about posing demands. Society's image of the helpful fire fighter is of course a convenient role for the supervisor and therefore it is not surprising if a person keeps that role.

I do also believe it might have to do with cultural aspects. The rescue services are not, and have not been, very academic. It is just recently fire protection engineers have graduated and joined the rescue services, but it was not a long time ago that everybody else had a very different background. This leads to the fact that there are many fire inspectors who have problems with legal arguments, to motivate decisions in written language, to use legal text and to

write injunctions. In that aspect there is a lack of knowledge within the rescue service. (...) The over-emphasis on searching for agreed upon, and voluntary, fire protection measures is also a result of the lack of competence for formal processes.

- Torkel Schlegel, Head of Law Division MSB

This is an unexplored world, or at least it was, to many of the rescue services because honestly they were, and in many cases are, lousy bureaucrats. They did not choose their profession to be bureaucrats, they choose it to play some football and drive the fire engine. Somewhat simplified. Many who work with the rescue services were recruited during the 70's as good athletes and have worked their way up in the hierarchy and attended further education. But there is no requirement to attend a basic legal education that one could think the majority of all inspectors should have knowledge of. Because of that the rescue services are not historically good with making demands based on legal text.

(...) There has also been an attitude at the Civil Contingencies Agency that it is better to motivate people in a friendly manner.

- Claes Malmqvist fire protection engineer, Brandkonsulten AB

The lack of clarity in a softie-protocol put owners of buildings in a difficult position because they cannot appeal the decision but still risk getting sentenced for not following it, just like the owner who got sentenced for the fire in his small Swedish hotel. The hotel owners called during the interviews for a public authority that promotes dialogue and it is therefore not surprising if a conflict sometimes emerges between that interest and the importance to be distinct from the authorities perspective. In addition, local authorities are required to provide

advice by the law, but it is unclear to what extent.

3.6 The responsibility of the individual

Something that has been discussed in the interviews is what makes the individual hotel owner establish a satisfying level of fire protection. Several respondents pointed towards motivational factors and the need for the individual's engagement into his fire protection measures.

If the fire protection at a hotel is good or not has mainly to do with personality and leadership of the person assigned with the fire protection responsibility. However larger hotels might have more technology. But if fire cell boundaries are successful or not has more to do with leadership, knowledge and understanding than the size of the hotel. Major hotel chains can of course have a different approach when it comes to protection and safety (...). But once again I do not think that it has to do with the size of the hotel chain but rather with the engagement of the responsible person, the profile of the management group and how important it is for them that their hotel does not burn down.

- Cleas-Göran Öhman, Fire protection engineer and local supervisor.

This kind of explanation derives a certain level of fire safety (high, low and anything in between) to a conscious choice. However for a decision to be conscious and rational also implies access to perfect and complete information, no goal conflicts or mixed signals (Page, 2008).

We do not take the motivational explanations to fire protection as satisfactory. No hotel owner wants her hotel burnt down. Furthermore, the rational choice model described above can be characterized as reductionist in the sense that it holds the notion of the behaviour of the system as a whole being traceable to the behaviour of one single actor (poorly motivated hotel owner causes fire). The last twenty years the research community of systems safety (to which this journal belongs) has made great efforts to contrast this view. Instead of using reductionist approaches modern accident theories are rather inspired by systems thinking and complexity theory (Dekker, Cilliers & Hofmeyr, 2011). In a complex system all actions are seen as local, based on local knowledge and local goals (Cilliers, 1998; 2005). To understand specific actions (that might look irrational after a specific event) the best one can do is to make an effort to step into the shoes of the (seemingly irrational) actor to understand why the specific actions made sense there and then (Dekker, 2005). In a complex system, such as the system of multiple actors surrounding fire protection, the behaviour of the whole cannot be explained by the behaviour of the constituent actors alone but by the relationships and interactions between the actors that make up the system (Dekker, 2011; Cillier, 1998).

4. Discussion

A completely qualitative approach was chosen for the study. The possibility to use a semi-quantitative method, with the benefit of a statistically comparable result, for example a survey with the aim to describe hotel owners' perceptions of the system, was initially discussed. However it was concluded that the best way to describe the system was through the perspectives of the different stakeholders, and that an entirely qualitative approach would support and strengthen the depth of the study. As stated by

Asper (2007), when the individual's perception is of interest, a qualitative approach is preferable.

The strength of this study is the variation and diversity among the respondents, together with their knowledge and the amount of material collected. The aim of the study was to offer a deeper understanding of the system surrounding fire protection in buildings and to succeed both depth (the possibility to go down with each respondent) and breadth (choosing respondents representing several of the actors) was desired.

One can discuss whether it is possible to draw general conclusions of a system's function based on 11 interviews. It should therefore be kept in mind that the result of the study is a product of 11 specific individuals' views and opinions. The result could have been different if 11 other individuals had been chosen, even if they would have represented the same stakeholders.

What also can be discussed is how the attributes of the respondents have affected the result. No conscious choice of respondents regarding demographic factors, such as gender, age or education, has been made. For example only one woman has been interviewed. How this may have affected the result is unclear, although the respondents' professional roles have been considered most important for the result.

We believe that the interpretive analysis of the interview results was satisfactory for problematizing the notion of fire safety in hotels from a holistic perspective. The problems identified show the need for extending the analysis of fire safety to the system as a whole rather than the individual actors. In that sense the aim of identifying

problems with the system has been reached. The Risk Governance-approach to analyse the multiple interactions and relations between the actors was descriptive rather than normative. This has to do with it being impossible to come up with simple solutions to complex problems (Cilliers, 1998). However there is currently an interesting development in the field of fire protection in Sweden that has embraced several of the problems discussed in this research.

5. Conclusions

On the basis of the interviews, the study of the legal system and the performed analysis a number of conclusions can be drawn.

In Sweden it is clear that a system has been chosen that places all legal responsibility for fire protection on the individual building owner. However how to reach the reasonable extent of fire protection measures, or even to know what would count as a reasonable extent, is not as clear. The individual is left with mixed signals, few abilities to appeal against a decision or recommendation (because of the nature of “softie-protocols”), different local authorities choosing different approaches and making different interpretations, the main agency not being allowed to develop central regulations, and other stakeholders (with certain interests) making an effort to fill the gap.

Based on the analysis, important factors for the emergence of the system into its current state is that the system has evolved without clear and agreed objectives and the law is a relic from a time when society was different than today. Another factor is the vague wording in the law, together with the fact that responsible authorities have left

the definition of *reasonable* to other stakeholders. The self-image of the local fire brigade and the image that society has of the organization, which makes it difficult to put clear demands on the individual hotel owner, is in itself also an important factor for the understanding of how the system has emerged into its current state. This contributes to the ambiguity that already exists within system.

Based on our data treating fire protection measures using a rational choice model and motivational factors seem to be ethically problematic. Instead of limiting any causal analysis to the individual a more fruitful way forward seems to be to make a holistic analysis in which a certain level of fire safety is reached by a complex system of actors (from regulatory body, supervisory actor, to the end user). Then a certain level of fire safety must be an emergent property of the system resulting from the various relationships and interactions between these different actors and should not be searched for at one actor alone.

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