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The International Master of Science in Fire Safety Engineering

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Exploring Potential Problems Causing the Final Implemented Design to deviate in Performance Based Fire Safety Design Approach

The Fire Protection Engineering is primarily about the Design of Fire Protection Systems based on identified fire risks in a building. The design process comprises of three main stages i.e. conceptual design stage, construction/implementation stage and final implemented design which is the end product. Sometimes the final implemented design deviates from either the defined goals and objectives, or conceptual design or fire risk assessment. The literature reviews and interviews conducted for the various Swedish fire safety professionals in this thesis, helped to identify the potential reasons which lead to this deviation. The results from the two methods established that the possible major reasons causing this deviation are disassociation of fire risk assessment in design during different stages, lack of justification in application of assumptions and data, problems in sub-system interactions, lack of expertise in monitoring, problems in verification process etc.

A review of the new Swedish building regulations on performance based design approach identified that the new regulations have been able to address some of the identified problems like verification process etc causing deviation in the final design. But still lot more comprehensive research and guidance is required in the areas of sub-system interactions, monitoring during the design implementation etc.
