

Is EASA as a Regulator an Ally, Threat or Obstacle to a NAA Inspector?

Petteri Peltola | LUND UNIVERSITY



Is EASA as a Regulator an Ally, Threat or Obstacle to a NAA Inspector?

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Petteri Peltola

Under supervision of Anthony Smoker, PhD

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Petteri Peltola

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Avdelningen för Riskhantering och samhällssäkerhet, Lunds tekniska högskola, Lunds
universitet, Lund 2021.

Riskhantering och samhällssäkerhet
Lunds tekniska högskola
Lunds universitet
Box 118
221 00 Lund

<http://www.risk.lth.se>

Telefon: 046 - 222 73 60

Division of Risk Management and Societal Safety
Faculty of Engineering
Lund University
P.O. Box 118
SE-221 00 Lund
Sweden

<http://www.risk.lth.se>

Telephone: +46 46 222 73 60

ABSTRACT

Aviation in Europe has undergone an enormous change from national rulemaking to common European rulemaking. Behind this change is the European Union's decision to delegate some policy implementation functions to decentralised agencies. The European Union Aviation Safety Agency (EASA) is one of these EU agencies and has specific authorisation to implement decisions that directly impact individuals, Member States and state authorities. This EU decision has meant that the position of the National Aviation Authority (NAA) in Finland has changed from that of an independent decision-maker in national aviation matters to that of a distant operative arm of the EASA in European matters in its own country. For the NAA inspector, this has meant being at a 'distance' from rulemaking. The new common European rules also introduced a set of new or changed regulations for inspectors to deal with. The transition from national rules to common European rules has not been easy for either the operators or the NAA inspectors.

This qualitative study was limited to NAA inspectors working with small helicopter organisations in special operations (SPO) in Europe under EASA rules. It attempted to show how the NAA inspectors see their position in this European regulatory system, how they see the EASA from this position, and how they see their work between small organisations and the EASA. The study began with a literature review of the history of aviation regulation in Europe, the regulatory burden, the bureaucratisation of safety, and the flip side of regulation. After this, the study data was collected by interviewing ten NAA inspectors from eight European countries.

The conclusions drawn after the analysis are that the ways in which inspectors experience and interpret regulator and regulations in their daily work with small helicopter SPO operators visibly vary. From the inspectors' perspective, as a regulator, the EASA can be an ally, a threat, or an obstacle. Furthermore, in practice, inspectors' work is not always what it is imagined or described to be by the regulatory system. To keep these small organisations compliant and safe, help in different forms is needed from inspectors. In providing this help, informal work can create better results than formal work, especially when the connection with an organisation is good. Through this informal work, inspectors also compensate for the adverse effects and deficiencies in the regulatory system created by bureaucracy.

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Last but not least. Thank you, Katriina, for your patience.

ABBREVIATIONS AND SYMBOLS

AM	Accountable Manager
AMC	Acceptable Means of Compliance
CAA	Civil Aviation Authority
CAE	Continued Aviation Education
CAT	Commercial Air Transport
CS	Certification Specification
EASA	European Union Safety Agency
EC	European Commission
EPAS	European Plan for Aviation Safety
EU	European Union
GM	Guidance Material
ICAO	International Civil Aviation Organization
JAA	Joint Aviation Authority
JAR	Joint Aviation Requirements
NAA	National Aviation Authority
NP	Nominated Person
OM	Operations Manual
PANEP	Pan-European Partner
SARPs	Standards and Recommended Practices
SMS	Safety Management System
SOP	Standard Operations Procedure
SPO	Special Operations
ToR	Terms of Reference
VFR	Visual Flight Rules

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1 INTRODUCTION

1.1 Personal reflections

I have been flying helicopters for thirty years now. I have also worked for the National Aviation Authority (NAA) as an inspector for fifteen years. The regulatory environment and the NAA's role in a European country such as Finland has changed immensely over these years. This is mainly because of the enormous transformational shift from national rules and regulations to European Union (EU) laws in the EU Member States (Pierre & Peters, 2009; Woodlock & Hyden, 2020).

What has not changed however, is the inspector's position in between the statutes and the aviation organisation, and their readiness to work in this changing regulatory environment. In discussions about what, in practice, is the safe way to operate, these inspectors are on the frontline. This transformational change from national regulations to EU laws has created thousands of pages of rules, which are not always clear for aviation organisations. On the basis of my personal experience in the Finnish authority, they are not so clear for NAA inspectors either. In discussions between organisations and NAA inspectors, the following question commonly arises: 'How does this rule serve the safety of my operations?'. Quite often, the case is not clear enough for the inspectorate to formulate an answer. This can be seen especially in inspectors' work with small aviation organisations.

1.2 Research focus and question

My focus of interest in this complicated socio-technical system of aviation is the position of the inspector: how they see their work for a safer system and how they see the European Union Aviation Safety Agency (EASA) from this position. The mechanisms to support these inspectors vary, and the actual support they receive in their daily work usually comes from colleagues, not from the NAAs or the EASA. Today, in this complicated world, the attitude towards the EASA varies greatly among inspectors working in NAAs.

The literature search concluded that this perspective of inspectors has not been the focus of previous research and that the role of the NAA inspector has been in limbo in discussions on the relationships between stakeholders. The NAA inspector is on the frontline when organisations deal with EASA-produced regulations, and has to try to guide these organisations to be compliant and safe. Thus it is reasonable to ask:

Is EASA as a regulator an ally, threat or obstacle to a NAA inspector?

Albeit that this study is surrounded by an environment of regulations and compliance, this study is about people, about NAA inspectors trying to survive in their complicated world. What is interesting are the individual inspectors and the social processes behind the regulation and its implementation. They all affect the inspectors' overall attitude to safety, EASA regulations and rulemaking.

Today, the regulated world of aviation is broad and complex. This study was not able to cover all its branches. Therefore, it was limited to NAA inspectors working with small helicopter

organisations in special operations (SPO) in Europe under EASA rules. These operations cover all the work except the delivery of passengers, freight or mail. Organisations conducting SPO faced the transition from national regulations to EU laws in 2017. In this study, a small organisation means a commercial helicopter operator with a fleet of under five helicopters. According to the EASA, this fleet size represents 89% of the total number of helicopter operators in EASA membership countries (EASA, 2018).

1.3 Short overview of thesis

The research question addresses the bureaucratisation of safety, regulatory overload and possible problems within the inspectorate of NAAs as the EASA fulfils its mission in the EU environment. The EASA's position, its methods and means of communicating affect ditto.

The next chapter first introduces the reader to the background of the world of organisations and inspectors. To understand this study, it is vital to understand the history of rules and regulations and the position of the EASA in the EU. I also introduce the transition from national rules to common European rules by using a small organisation conducting SPO as an example. The bureaucratisation of safety, regulatory overload and the flip side of regulation is also discussed.

The Methods section presents the epistemology, the theoretical framework methodology, and the methods of this study. The results of the data analysis are presented in the Results section. The first- and higher-order analyses results are presented under core themes and subsidiary themes.

In the Discussion section, the research question is approached from the perspective of the results. Deeper discussion on the world of an inspector follows with the second-order analysis results, and connections between the themes are considered. I finally give my conclusion and envision future work in the last chapter.

2 BACKGROUND AND LITERATURE

2.1 A touch of history

To understand inspectors and their work, one must understand the history of rules and regulations. Previously in Europe, the International Civil Aviation Organization's (ICAO) Standards and Recommended Practices (SARP's) were implemented nationally in the form of more in-depth, detailed rules and regulations. National differences in these SARPs were possible if they were notified. The number and content of the rules and regulations varied in the different European countries. This is because national decision-making was a sovereign right. The NAAs developed these rules quite independently in their countries, with minimal political input into the process. National formal and informal consultations with stakeholders were part of the process, and inspectors working in the authorities were firmly involved in the rulemaking process. (Pierre & Peters, 2009)

The need for more harmonised regulations in Europe was eventually recognised, and the Joint Aviation Authorities (JAA) was set up to serve this goal. The JAA was a network of national civil servants, who met regularly to discuss new regulations to harmonise civil aviation in Europe. The JAA issued Joint Aviation Requirements (JARs), which each country integrated into their national rules. The actual work for JARs was done in standing and ad hoc working groups. NAA inspectors formed the core of these groups, although some members were also from industry and unions. (Pierre & Peters, 2009)

Although expertise was evident in the work of the JAA, the consensus-based decision-making was sensitive to the national interest groups of the aviation industry. EU-level discussions also took place on the lack of political leadership and the lack of linkage between the JARs and EU policy. The European commission (EC) representatives also asked for transparency, which the EU body was able to offer. The solution was seen in the form of an EU agency, and the European Aviation Safety Agency (EASA) was launched in 2003. In January 2007, the EASA assumed control over the JAA. Implementation of Regulation (EC) No 216/2008, today Regulation (EU) 1139/2018, ensured the establishment of the EASA and its intent to harmonise through common rules in the field of civil aviation across the EU (Pierre & Peters, 2009; European Union [EU], 2018).

With these EU decisions, the NAAs' position changed from that of an independent decision-maker in national aviation matters to that of a distant operative arm of the EASA in European matters in their own country (Pierre & Peters, 2009). This new position was strengthened by the term 'competent authority' and a set of requirements for the administration of these national authorities (e.g. European Union Aviation Safety Agency [EASA], 2019; EASA 2020a; EASA 2021a). For an NAA inspector, as a member of this operative arm of the EASA, this meant becoming distanced from rulemaking. The new common European rules also became a set of new or changed regulations for inspectors to deal with.

2.2 European Aviation Safety Agency (EASA)

To understand the relationships among the stakeholders, including inspectors, in this new European regulatory system, it is vital to understand the position of the EASA in the EU. The complex legal system of the EU and the single market programme tied to this system has

increased the administrative workload of the entire legal system (Simoncini, 2015). To cope with this, the EC has increased its administrative capacity, which means that some policy implementation functions have been delegated to decentralised agencies (Simoncini, 2015, p. 313). The EASA is an EU agency that has specific authorisation to implement decisions that directly impact individuals, Member States and state authorities.

The EASA's regulatory powers involve two modes of expression: the issuing of opinions to the Commission for the development of EU regulations (hard law) and the independent issuing of standards (soft law) to directly implement these hard EU regulations (Simoncini, 2015, p.320). Hard law is binding in its entirety. Soft law refers to non-binding rules, quasi-legal instruments of the EU. The EASA issues three different kinds of standards that commit Member States to implementing EU regulations: certification specifications (CS), acceptable means of compliance (AMC) and guidance material (GM).

Of the above, only GM has pure recommendatory content. The other two instruments have the ability to bind national authorities and organisations to the standards set by the EASA (Simoncini, 2015, p. 321). In my daily work, I have seen that hard law is somehow easier for an NAA inspector to understand. This is probably because it is directly binding. However, as an instrument for discussing EASA standards with organisations, soft law is more challenging. A question always arises about 'how binding' this soft law part of the regulation is.

The way of working in this approach to EU regulation relies heavily on the use of soft law (Simoncini, 2015; Marmor, 2019; Woodlock & Hyden, 2020). Soft law, on the other hand, is developed in EASA-administered rulemaking tasks through rulemaking groups and advisory bodies. This same model of rulemaking groups and advisory bodies is used when preparing opinions for the EC on hard law. Although there is a public comment period for these, the practical work is carried out by a relatively small group of people. In general, the attitude towards soft law varies, and some Member States use it for directly binding laws, whereas others discuss its juridical adherence (Marmor, 2019). It is worth remembering that the EASA also uses its regulatory powers with the specific intent to develop the air transport industry market in line with EU single market ideals and the integration objectives of uniformity and harmonisation (Simoncini, 2015, p. 320).

2.3 Implementation of common European rules in Member States: case of special operations (SPO)

The transition from national rules to common European rules has not been easy. One of the latest examples is the rules for operators conducting special operations (SPO), formerly called 'aerial work'. These operations consist of all the work done with aeroplanes or helicopters except the delivery of passengers, freight or mail. The latter is known as commercial air transport (CAT). Most of the countries had minimal, if any, national regulations concerning aerial work, currently called SPO. Besides, the work and publications of the JAA in the sector of operations were mainly for CAT.

In 2017, these aerial work organisations were faced with almost two thousand pages of rules (EASA, 2019) from which they were supposed to find those that applied to their operations. Not included in these were the almost two thousand pages of rules regulating the licenses and certificates of pilots working in these operations (EASA, 2020a). These formed another set of

rules, including the continuing airworthiness management of organisations and their aircrafts, which had another one thousand pages of rules (EASA, 2021a).

This change did not happen overnight and was difficult for these organisations. SPO in Europe is mainly offered by small operators with limited management resources. Their capacity to adapt to significant changes such as these is limited (Hale, Borys, & Adams, 2011, 2015). A transformation this large was also new for the inspectorate. NAA inspectors faced many situations where these operators needed direct help on how to comply. The role of an inspector in these situations was different compared to the primary auditor and inspector role of the past.

Some helicopter operators also operated both CAT and SPO. A similar transition from national rules to common European rules had taken place in CAT operations in 2014 (EASA, 2019). The magnitude of change in CAT in 2014 had mainly depended on the number of JARs implemented in each country. The content of the new European CAT rules was highly influenced by JARs, despite some new demands regarding the organisation's management system, for example.

The increased number of rules was cumbersome not only for the small organisations, but also for the NAA inspectors. Multiple new rules had to be implemented in these organisations, and the NAA inspector also had to verify the small organisations' compliance with these. The other determinant was the distance between the NAA inspector and the EU legislature, which detached the inspectors from the content and intent of the rules. The dynamic of the regulatory system changed from what it had been during the time of national rulemaking. According to Hale & Borys (2013), knowledge about the purpose and intent behind a rule is essential. Without this knowledge, it is difficult to explain the rule to an organisation willing to implement it.

Another difficulty also became visible. The requirements of the rules were not proportionate to the size of the small organisation. Larger operations manuals and process descriptions were only needed to indicate the implementation of these rules. Issues of regulatory burden and the bureaucratisation of safety emerged.

2.4 Regulatory burden

Hale, Borys and Adams (2011, 2015), and Hale and Borys (2013) discuss some of the factors that lay behind the regulatory burden. Albeit the focus of these three papers is on occupational safety and health regulations, the writers believe that the main concepts presented can also be applied to other spheres in safety regulation. These articles traced the forces behind the growth of regulatory detail and the burden of compliance. The writers sought options to reduce this burden without a decline in the level of safety (Hale et al., 2015).

Hale et al. (2011, 2015) classify rules to goals, risk management process rules and detailed action rules. This classification system is used when discussing how concrete and measurable the rule is from the resulting point of view, and how much freedom a rule-follower has when complying with it. In their papers, they use the word 'rule' in the broadest sense, from a workplace rule to a nationwide rule. Regulations are subsets of rules.

In this classification (Hale et al., 2011, 2015), goals are outcome-based rules specifying only concrete outcomes, not how to achieve them. Risk management process rules describe how to

arrive at the required behaviour, but do not describe the behaviour itself (Hale et al., 2015, p. 114). As well as goals, these rules need a translation process from rule to specific behaviour; a regulated need to think about what the rule means in practice and how to comply with it (Hale et al., 2015, p. 115). Action rules specify in great detail the behaviour that satisfies the intent and spirit of the rule. In the case of action rules, without the translation process, compliance is easier to measure.

According to Hale et al. (2011), “The more that regulations are phrased as action rules, the more rules there must be to cover a given breadth of activities or risks” (p. 14). This also leads to an increase of exceptions to which the rules cannot apply. This problem with exceptions is not so much the case with goals, outcomes or risk management processes, but these kinds of rules provide less certainty concerning what to do or what not to do. The latter type of rules, on the other hand, also require more time and competency from an organisation to translate the rule into a specific behaviour. The greater the concern to create a level playing field among the stakeholders, the greater the pressure to specify rules for easy monitoring and enforcement. The use of concrete goals and action rules reduces the need for negotiations with stakeholders. (Hale et al., 2011, 2015)

Hale et al. (2011, 2015) point out that if the regulation is vague and overly broad, small organisations may delay their compliance until the regulator provides firmer definitions in the form of action rules. On the other hand, excessive, complex sets of regulations leave an organisation wondering which rules apply to them. Moreover, if the organisations believe that the rule is changing, they are less likely to comply with the existing one. A regulator can make a choice between flexibility and uncertainty when forming regulations. Flexible rules are vague without defining specific outcomes. However, detailed rules can be challenging to use and may increase uncertainty among users.

Hale et al. (2011, 2015) emphasise that small operators usually find rules related to the risk management process challenging to understand and implement. Although they are more flexible, they require more time and resources to understand and interpret them. The safety regulator’s answer to this problem is usually to write the rules as action rules. Action rules, on the other hand, are more copious and complex to navigate. A compromise between flexibility and specificity is always needed in the regulation of small organisations.

However, centrally formulated regulations are often written with a view to complex and formal procedures of large companies. These regulations are not ideal for implementation in small companies and organisations (Hale et al. 2011, 2015). This phenomenon is also visible in aviation in, for example, the implementation and use of the Safety Management System (SMS), which is an example of a regulatory requirement that is hard to implement in small organisations (De Wolf, 2021).

The other problem with centrally formulated regulations is how they can reflect the diversity of situations in a diverse spectrum of small organisations (Hale et al., 2011; Dekker, 2014). This diversity emphasises the regulator’s manner of enforcing the rules. The number of regulations may be less important than the process for translating these regulations into practice (Hale et al., 2011, p. 10).

2.5 Bureaucratisation of safety

The history of aviation is an excellent example of the lifecycle of a socio-technical system described by Amalberti (2013). In each cycle, the system goes through three different phases (Figure 1).

After a heroic period of innovative design and less focus on safety, follows a period of hope and rapid progress. Amalberti (2013) calls this period, which extends over several decades, the 'quality period' (p. 6). It is divided into two phases. In the first phase, safety evolves rapidly in parallel with technical improvements. In the second phase, procedures and protocols increase because of increased quality functions to satisfy customers. Regulatory constraints increase alongside this evolution. The level of safety is higher, but the legal environment is still manageable.

The final period is the 'safety period'. During this period, the number of regulations increases rapidly, and they are responsive to events (Amalberti, 2013, p.8). This period is a time of increasing management burden. Safety divisions replace quality divisions, or new ones are created alongside the current ones. The system only intensifies the use of resources to control itself. The use of tools and methods that have so far been effective also increases; for example, protocols and regulations.

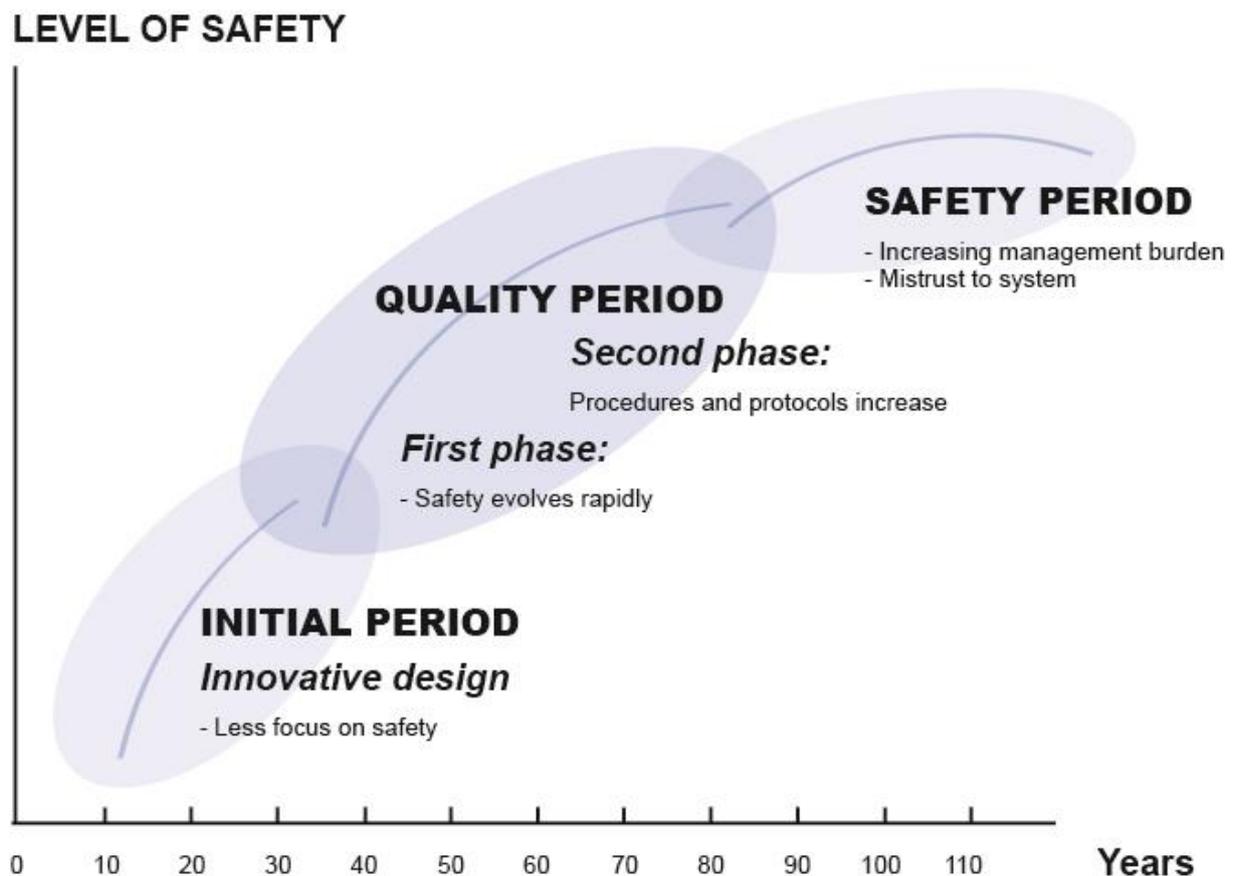


Figure 1: Lifecycle of a socio-technical system, based on Amalberti (2013)

Amalberti (2001) already highlighted the increasing rate of production of regulations during the time of JAA. He claims in his paper that because nobody knew the actual linkage between regulations and the safety level in an ultra-safe system, the regulatory system in aviation at the time was purely additive. Now, twenty years later, the number of rules and regulations has increased even further in the domain of aviation in Europe.

Amalberti (2013) describes two paradoxes that ultimately cause the death of the system. First, efforts to promote safety have never been this extensive, and accidents this few. At the same time, the worst safety problems from the image and the enterprise perspective occur. Second, an attitude of mistrust exists in society, which affects transparent information systems and, in turn, hampers improvements to safe practice. In Amalberti's (2013) description, the cycle ends, and the death of the system is inevitable (p. 11). At the same time, visible investments are made to a new, alternative cycle, which is in its initial stages.

Whereas Amalberti (2013) highlights the question of increased regulation and its effects on the system and the level of safety, Dekker (2014) goes further, writing that "A most obvious reason for the bureaucratisation of safety is its regulation" (Dekker, 2014, p. 353). According to Dekker (2014), more regulations mean more to account for. He claims that this increased demand for compliance and increased complexity means increased responsibility for organisations. With this responsibility, the regulator also demands increased data collection, analysis and track-keeping from organisations. This increased compliance work and internal safety bureaucracy takes up resources from day-to-day work to ensure safety, which in turn affects the level of safety in organisations.

Dekker (2017) also points out that the solution to this is not self-regulation, i.e. an organisation taking responsibility for interpreting the regulation and creating a functioning system for itself. He claims that in these cases, to assure the authority, an organisation needs to show it a system and processes, rather than actual safe operations. So, in fact, this self-regulation creates more bureaucracy, again to the detriment of the level of safety.

2.6 The NAA inspector and the flip side of regulation

In aviation, discussion on safety very quickly starts to revolve around regulations and their implementation. The focus of discussions on safety is compliance, and the idea of what it means and leads to, i.e., the consequences. In the current European aviation system, the position of the NAA is twofold. The NAA has to be compliant with the EASA according to authority requirements (e.g. EASA 2019). The EASA verifies this compliance through standardisation inspections. At the same time, the NAA monitors and audits the national organisations that should be operating in accordance with the EASA rules (e.g. EASA 2019). This latter work is, in practice, carried out by NAA inspectors to transmit and clarify the intent of the EASA regulations to national organisations. This twofold position raises the question of organisational governance and compliance with the EASA from the NAA inspector's perspective.

From the NAA inspector's perspective, the EASA is a regulator, and acts accordingly. An inspector delivers the regulatory message from the EASA to the national aviation organisations. But, when the inspector communicates with an aviation organisation, their role easily fades in the eyes of the organisation. The inspector is seen as a direct representative of the EASA, and not an EASA-regulated NAA representative. This fading makes the position of the NAA

inspector interesting; at the same time, both the inspector and the organisation may question the reasoning behind specific rules, i.e. discuss the EASA's capability to do its job.

In this discussion about regulation and compliance, the focus is often on the regulator's performance in interactions with regulated organisations. This law-first approach considers these organisations a single entity. Consequently, it is uncommon to pay attention to the internal co-ordination in an organisation to produce, ignore or resist compliance with regulations (Baldwin, Cave, & Lodge, 2010). Gray and Silbey (2014) examined how organisational actors experienced regulations and the regulator, by going inside the organisation. They found variations both across organisations and within single organisations. Although their data were from outside the aviation field, and the object of my study is the NAA inspector, positioned between the EASA and a small organisation, it gives an interesting perspective to the research question.

Gray and Silbey (2014) illustrated the flip side of regulation "by exploring how the regulated, organisational actors subject to legal regulation understand, interpret, and construct legal regulation and regulators" (p. 136). They identified three distinct accounts of the ways in how the regulator is interpreted within organisational actors: as a threat, an ally, and an obstacle. The regulator is a threat to organisational performance if the regulator attempted to enforce the law regardless of the efforts or intentions of the organisational actor (p. 136). This construction of the regulator as a threat is related to individual and organisational efforts to appear compliant. This despite the real aim behind the regulation. For example, appearing safe vs being safe.

The regulator works as an ally when seeking to achieve the public interests behind regulation by collaborating with organisational actors. Here, the regulator is willing to work with the organisation through continuing relationships to produce compliance. The organization considers the regulator a resource. When it is experienced as an ally, the regulator's expertise and knowledge are also acknowledged. (Gray & Silbey, 2014)

According to Gray and Silbey (2014), organisation members regard the regulator as an obstacle to compliance when the regulator is believed to lack expert knowledge or to have insufficient resources or status to engage organisational actors. The regulator may have designed compliance requirements that are inadequately connected to the underlying regulatory goals. Or, the regulator may be unable to provide an organisation with meaningful guidance for meeting regulatory goals (p. 125).

Gray and Silbey (2014) observed variations in how actors inside organisations talked about, anticipated and responded to regulations and the regulator. As the inspector is also an actor in this European regulatory system; it is reasonable to assume that similar variations may appear among inspectors. Regulations and the regulator are experienced in different ways, depending on the specific situation and the inspector.

2.7 Towards research

The bureaucratisation of safety and the regulatory burden are usually examined from the perspective of the organisation (Amalberti, 2013; Dekker, 2014; Hale, Borys, & Adams, 2011, 2015; Hale & Borys, 2013). People inside organisations (Gray & Silbey, 2014), and how they position themselves with respect to the regulator, are less often in the centre. It also seems that

the position of the NAA inspector in the bureaucratized world of aviation safety has seldom been discussed.

Moreover, the aviation system and the NAA inspectors in this study are living in Amalberti's (2013) 'safety period'. The regulatory system has produced more rules than ever, but the safety level has remained steady (EASA, 2018). With these rules, there is an increased compliance demand for organisations (Dekker, 2014). NAA inspectors have to verify this compliance in their daily work. The need to translate regulations into practice (Hale et al., 2011) is greater than ever.

What do NAA inspectors think about all this? How do they see their work for a safer system, and how do they see the EASA from this position? Borrowing Gray and Silbey's (2014) wording, I ask:

Is EASA as a regulator an ally, threat or obstacle to a NAA inspector?

3 METHODS

3.1 Epistemology, theoretical perspective, methodology, and methods

The aim of this study was to achieve a meaningful understanding of NAA inspectors' experiences of working within an EASA regulatory framework. This interpretivist approach acknowledges that human needs and behaviour change over time. These needs and behaviour also depend on context and the actual environment. (Heracleous, 2004)

This qualitative study did not test a hypothesis. By using interviews, it respected the meaning of the interviewees' experiences. From this viewpoint, the study was inspired by phenomenological methodology (Eberle, 2014). Gathering the lived experiences of the NAA inspectors can also be seen as a collaborative effort between myself and the interviewees.

I chose a semi-structured interview (Cooke, 1994; Bizantz, Roth, & Watts-Englert, 2015; Shadbolt & Smart, 2015) as the method for collecting the required data. These interviews consist of key questions that define the areas to be explored, but also allow the discussion to diverge in order to pursue an idea or answer in more detail (Gill, Stewart, Treasure, & Chadwick, 2008). Compared to, for example, structured interviews (Cooke, 1994), this flexibility allows the discovery of matters that have not been considered important in the original planning of the study.

3.2 Participants

In order to reach NAA inspectors with experience of working with small helicopter SPO operators, I collected an initial contact list of 21 NAA inspectors from 17 different countries. From the beginning, I expected the desire to participate to vary greatly among those I contacted. However, the invitation email included a request to forward the invitation inside the addressee's organisation, if needed. As expected, the COVID-19 pandemic affected the number responses to the invitations and the NAA inspectors' ability to participate.

Using an active and selective recruitment process, I interviewed ten NAA inspectors from eight European countries. Eight of these inspectors were from EASA Member States and two were from the EASA's Pan-European Partners (PANEP), with which the EASA co-operates on the implementation of EU aviation safety rules.

In the first stage of the study, I selected three NAA inspectors from two EASA Member States, on the basis of their professional history in NAAs. All the participants had a comprehensive, professional history from the time of national regulations and working in JAA teams, through the transition, to the present arrangements with the EASA. Two of these interviewees had also worked as a group member in either an EASA rulemaking task group or an EASA standardisation inspection team. Appendix C presents the experience of the participants.

In the second stage, I selected seven NAA inspectors from six countries. Here, the main goal of selection was to obtain interviewees from different sized NAAs, from different countries around Europe, with diverse professional levels of experience as NAA inspectors. Two of these participants were selected from the EASA PANEP countries to broaden the view of implementation and standardisation under the EASA umbrella. One of these seven interviewees

had worked in an EASA rulemaking task group. Appendix C also lists the experience of these participants.

3.3 Data collection

The interviews were held into two stages. The first stage involved semi-structured interviews. One aim of this first stage was to collect more knowledge about the evolution of the regulatory and work environment from the NAA inspector's perspective. The second stage also involved semi-structured interviews. All the interviews were conducted between 13th August and 24th October 2020.

At the beginning of all the interviews, I elicited background information about the interviewees. This included praxis in years in their respective NAAs as well as total experience in aviation. We also briefly discussed past and current professional history. Four initial and four possible continuation questions were planned as the core of the interview in the first stage. Based on the first stage interviews, four initial and two possible continuation questions were formulated for the stage two interviews. These questions are shown in Appendix D.

The invitations were sent in cycles to guarantee a quick response from the researcher when needed, and to enable interviewees from as many different countries around Europe as possible, taking into account the study schedule. This approach also allowed, if required, substitution for inspectors who did not reply to the invitation.

The COVID-19 situation prevented travelling during the time that these interviews had been planned to take place. Of the ten interviews, one was conducted in person with the informant, and one was a three-stage series of emails due to the interviewee's communication access problems. The other eight were conducted via video calls, with or without images, depending on the quality of the connection. In the case of technical issues in one interview, a telephone with a speaker was used instead. All ten interviews were audio recorded. The duration of the interviews varied from 40 to 60 minutes, depending on the depth of the interviewee's answers.

The interviews were transcribed verbatim and sent to the interviewees for comments and clarifications. All comments and clarifications were taken into account. All the opinions expressed during the interviews were treated equally, and all the interviewees' experiences were assumed to be true. The data collected from both stages were used for coding.

3.4 Coding

The data were ordered using the coding frame of the grounded theory approach (Charmaz & Bryant, 2008). In this study, the coding started during the manual transcription of the audio recordings (Ryan & Bernard, 2003), and continued in the initial review of the transcripts. Open coding (Benaquisto, 2008) was used in the initial phase to find themes using marginal notes and a word processing program.

In the second phase, all the data segments from the initial phase were manually sorted, and I compared these themes to each other to consider the relationships between them. I constructed Excel sheets by theme, and marked the relationships between the themes to this Excel.

Finally, in the third phase, I used selective coding to define the original themes in the final form of eight subsidiary themes under two core themes (Saldana, 2009). These are presented in the next section, Results.

During the original coding process, and especially when arranging the results, it became evident that a higher-order analysis was needed. According to Dekker and Nyce (2004): “However, interviewing informants without doing higher-order analytical work does not result in good qualitative research. Qualitative inquiry has to unpack informant meanings and categories, otherwise it hardly provides designers with helpful input for the creation of future work” (p. 1630). Informants’ statements are thus a starting point; they are not conclusions.

A higher-order analysis is needed to obtain meaningful results for future work. (Dekker & Nyce, 2004). I conducted this higher-order analysis by returning to the initial transcripts and using the same coding frame of the grounded theory approach (Charmaz & Bryant, 2008) as that described above. These results are also presented in the next chapter.

3.5 Study limitations

3.5.1 Lack of familiarity with research process

This was the first time that I conducted qualitative research in this kind of environment. My past bachelor’s degree work had been in the technical territory of marine engineering and had not involved any qualitative research practice. Lack of familiarity with the research process was accepted in my MSc studies. However, this meant a great deal of reading about how to conduct qualitative research before starting the research process. My learning about qualitative research and reading continued as I conducted my research under supervision.

3.5.2 Bias and objectivity of interviewees and researchers

Everyone, including the interviewees and myself as the researcher, have their own biases, experiences and thoughts. This phenomenon was accepted from the start. Discussions during semi-structured interviews are not objective, and form unprocessed data for further analysis.

Nevertheless, I used some strategies to minimise the effects of this lack of objectivity. First, I selected the interviewees from as many different NAAs and as many different experience levels in the NAAs as possible. Second, I only provided the background information on the interview, and offered no detailed preliminary information about the topics or questions of the semi-structured interview. According to Ryen (2004), this is one way to collect the initial thoughts of the interviewees.

My possible bias from being a researcher and practitioner was acknowledged before and during the study. To minimise its impacts, discussions were held with the supervisor and other researchers from the aviation field during the study. However, my field-specific knowledge offered a deeper insight into the subject, which provided meaning in the higher-order analysis.

3.5.3 Specifying the study

The study was limited to NAA inspectors working with small helicopter organisations in SPO in Europe under EASA rules. In this study, a small organisation means a commercial helicopter operator with a fleet size of under five helicopters. SPO means all other work except the delivery of passengers, freight or mail, which in turn is called CAT.

Some of the responses of the NAA inspectors in the interviews, especially those concerning the management system, showed that some of these inspectors also worked with small CAT operators, others even with larger CAT and SPO operators. In these cases, these small companies which were discussed during the interviews conducted both CAT and SPO operations.

This situation was already predictable when the study was being planned. Most NAA inspectors working with helicopter operators have this job description. I used two strategies to control this situation. First, when necessary, I adapted the question to suit the small SPO operator or I asked a specific additional question during the interviews.

Second, in the question on difficulties in the implementation of rules and regulations, I deliberately chose the area of the management system to minimise the impact on the study. Small CAT operators had faced a similar shift from national rules to common European rules three years before the SPO operators. A management system was a new demand in the regulations for CAT and SPO operators. Management systems are regulated in a similar way, with the same rules, in the case of these small organisations, regardless of the type of their operations.

3.6 Ethical considerations

According to Lund University research ethics ("Lund University," n.d.), a master degree project is not generally considered research in a legal sense. Moreover, none of the questions based on the Ethical Review Act of Sweden and listed on the information page provided an affirmative answer as to whether my study required an ethical review. According to the Ethical Review Act of Sweden itself, no ethical review was needed.

The above conclusion does not mean that I ignored ethical considerations. Ethical principles such as confidentiality and responsibility were respected, as were the fundamental principles of good research practice: reliability, honesty, respect, and accountability (All European Academies [ALLEA], 2017). The origin of the data, and the names, organisations and nationalities of the interviewees are confidential. Any information enabling the identification of interviewees was removed from the documents produced after the interview transcriptions.

The study information sheet (Appendix A) was produced and forwarded with the email invitation (example in Appendix B) to the interviewees. The invitation email and the information sheet contained details of the study, confidentially and the option to withdraw at any time during the process. Confirmation that the information sheet had been received and the content understood was elicited during the interviews.

This study can also be seen as practitioner research because of my position as an NAA inspector in an EASA Member State. There was a risk that the duality of my role and possibly conflicting

position may raise questions among the participants (Toy-Cronin, 2018), but this issue was dealt with by explaining my intention in the study information sheet and during the interviews.

4 RESULTS

This chapter describes the results of the analysis based on the collected data. Originally, in the first-order analysis, two core themes (Saldana, 2009) emerged. The results are described per subsidiary theme under these two core themes.

Using these first-order analysis results and the interviewees' original statements as a starting point initiated a higher-order analysis. The results of this higher-order analysis (Dekker & Nyce, 2004) made the inspectors' work and their position inside the regulatory system more visible. It appeared that the way in which the system imagined and described the inspectors' work did not match the inspectors' work in practice. These results are presented after the first-order analysis results in Section 4.3 under three themes.

The first core theme of the first-order analysis centres on the EASA regulations and how they affect inspectors' daily work. In regulated fields such as aviation, rules and regulations are part of the inspector's everyday work. They can be useful, or they can cause problems. These problems may also be indirect. The problems that small organisations face when implementing rules eventually also become problems for the inspector. This core theme also covers the operators' need for help. It is apparent from these results that the inspectorate's help is needed to keep these organisations compliant and safe. Section 4.1 presents four subsidiary themes under this core theme.

The second core theme that originally emerged is the distance between the inspectors and the EASA. The distance between the inspector's daily world and the EASA in Cologne is considered long, not only geographically but also temporally. With this distance in mind, a different way of perceiving the situation emerged. In addition, the inspectors expressed distrust of the EASA world and dissatisfaction with the current situation. Section 4.2 presents four subsidiary themes under this core theme.

4.1 Rules and regulations in the inspector's daily work

Four subsidiary themes regarding daily work emerged when coding the interview data:

- 1) Common European regulations are not questioned *per se*.
- 2) Problems with rules and regulations in daily work.
- 3) Questions of compliance versus safety.
- 4) The operators need for help is seen as inevitable.

Quotations from the interviews are used as examples of the inspectors' experiences. I assigned random identification codes to the inspectors during data collection. This code is used in the text, together with line numbering, to connect the inspectors' quotations to the original data.

4.1.1 Common European regulations are not questioned *per se*

The existence of the common European regulations was not questioned *per se*. All ten inspectors interviewed reported positive outputs of the current regulatory situation. Every inspector mentioned cross-border operations as an example of improvement. However, the

regulatory system was not considered fit for purpose because of different interpretations by different NAAs.

“I consider it a big step to enforce better common ground for all the authorities. I deal with the SPOs. We have cross-border authorisations, and that's the first good feeling how other inspectors and other authorities deal with a same subject.” (Insp_06; 98)

Other issues about the different rules that were mentioned were the uniformity of the operations manuals, the idea of a structured management system, and the philosophy and actual demand for the risk assessments of different kinds of work. Risk assessment was acknowledged as a practical tool, although its use varied from one small operator to another. All the interviewees mentioned rules as a tool in some part of the interview.

All the inspectors interviewed also acknowledged the rules as a regulatory system's attempt at fair treatment of the operators. They used words such as transparent, fair, common ground, or straightforward. The most experienced NAA inspectors compared the current situation to the time when rules and rulemaking were the responsibility of national regulators, i.e. pre-EASA. For example, all three inspectors who had over twenty years of experience as NAA inspectors first commented on this when discussing the benefits of the common European rules. These inspectors raised the small number and low quality of the national regulations in the past.

“We didn't have any national rules for helicopters, or just a few. We had implemented the ICAO Annex in helicopter OPS only in few issues.” (Insp_02; 297)

Some form of discretionary space entered into these discussions during the interviews. No formal rules existed inside this discretionary space, but decisions still needed to be made. Two visible perspectives emerged from the inspectors' answers. On the one hand, they considered it positive that the discretionary space inside the NAA had decreased. They believed this to be the result of the current EASA regulations. The decisions concerning operators inside the NAA were more in line with each other. On the other hand, they also acknowledged the need for certain freedom at the inspector level. The current rules did not provide all the answers to the questions that the inspectors face in their daily work. Still, decisions had to be made.

4.1.2 Problems with rules and regulations in daily work

The interviewees agreed that the EASA rules and regulations created problems for inspectors in their everyday work with small organisations. The different problems they mentioned are described below.

The number of rules and the difficulty of navigating inside the regulations and the sets of rules were mentioned in the interviews. All ten inspectors talked about either the total amount of published rules or the SPO operator's difficulty finding appropriate rules that were applicable to them. Both these issues were expressed as problems for small organisations as well as personal problems for some of the inspectors.

“Small operator with single-engine helicopter doing VFR, little bit of CAT and mostly SPO, or aerial work, as they called it. If they have to read through all these 1764 pages, which it is now, to find what is applicable to them. It is quite difficult for smaller operators.” (Insp_03; 377)

The example above is from the regulation for Air Operations (EASA, 2019). The EASA regulations are constructed so that the user needs to have comprehensive knowledge regarding which rules apply to them and their operations. Nine of the participants claimed that the most often used tool produced by the EASA, the series of Easy Access Rules (e.g. EASA, 2019), was part of this problem. In these series, all the rules and guidance material of the regulation in question is collected in the same PDF file. The PDF search function is difficult to use if the user does not have this comprehensive knowledge.

In conjunction with the above, seven inspectors raised a problem that they saw as being parallel to this. Small organisations ask what the idea behind the rule is, and what the actual measures to be compliant with it are. This was seen as an even greater problem than the above-mentioned number of rules or navigating inside the regulation. All seven recognised that they did not always have an easy answer to give the operator.

“So, getting your head around the complicated part of a safety management system. At least to my experience is that people have difficulties to actually understanding what is required of me as an operator. I mean... requirements for risk registers, for hazard logs, for SPIs and... and all kind of stuff, is quite often not understood... to... into details.” (Insp_04; 225)

The smaller the country and the NAA, the more visible were the above-mentioned problems.

“Yes, if we are going to follow all ops regulations. We have a lot of problem to check all these things only for the side of inspectors. And when we go from side of inspector to organisation to check what they need in this side. And, all day comply with all these things. You see that they are in complete mess to get everything, what changes, what is now, what was before etc, etc, etc.” Insp_08; 217)

The opportunity to discuss these problems with fellow inspectors within their own NAA was mentioned in most of the comment on these problems. These discussions inside the NAA were seen as a resource and added value when an organisation asked difficult questions about the regulation.

During the interviews, eight of the ten interviewees raised the resource problems that small operators face. The regulatory environment was seen as difficult to handle in small organisations. These problems manifest as an increased workload for the inspectors in their interactions with organisations. Four of these inspectors were more analytical in their answers, describing two overlapping issues.

First, in small organisations, individuals who have responsible and accountable roles, i.e., post holders, carry out and fulfil the functions of several posts at once. They may hold several posts or have a post holder position in addition to their daily work as a pilot. It is not economically possible for small operators to hire people for every separate post. This situation makes it difficult to handle all the required tasks satisfactorily.

“When it comes to smaller operators with a limited amount of finances, maybe one person is maintaining several positions within the same company. I think the bureaucracy and the amount of regulations for smaller operators can be troublesome. Because they normally... if they have to have several hats in your own company to be

able to make it financially viable. Then, I think all the regulations from EASA can be a little bit heavy.” (Insp_04; 179)

Second, it is difficult to find competent people to fill these post holder positions. This is because the regulatory environment and the EASA rules have become more demanding and complex. The increased number of rules requires broader knowledge and expertise from the post holders. All this amounts to problems for small organisations and this particular aviation sector itself. These problems are mirrored in the inspectors’ daily work with organisations. More compliance and safety issues come to the fore when the lack of expertise and knowledge affects these organisations’ management activities.

“It’s super hard for an operator to find and to provide the CAA (NAA) with the competencies of the persons they want to propose as a nominated person. Now we are trying to get enough personnel to look out those changes, right after they are declared, because it’s been proven difficult for those companies to provide the right post holders, to provide the right competencies in their company to have a working management system.” (Insp_05; 270)

Some of the problems arising from the EASA regulations are NAA based. Five inspectors mentioned this phenomenon in their interview. The NAA may interpret or apply an EASA rule in a way that causes problems and difficulties in the inspectors’ daily work.

“And, if you look at the management system, I mean you have the choice of having a complex or a non-complex management system. At the beginning, we meant to introduce the EASA regulations in our country, we told operators, hey listen, just go for complex. Because if you read AMC, it says: if you operate in mountainous areas and couple more factors, then you are complex anyway. Today, six years EASA, the experience that we have, audits, inspections etc, it showed that was overkill. Total overkill.” (Insp_09; 247)

The interpretation of the definitions of a complex and a non-complex management system in the regulation has leeway. The definitions can be interpreted in many different ways. This means different decisions in different NAAs, and in some cases, differences between inspectors within the same NAA, depending on the interpretation.

4.1.3 Questions of compliance versus safety

Compliance with the rules as a prerequisite for safe operations was also questioned during the interviews. Although there was consensus among all the interviewees that the actual EASA-directed regulatory system had some benefits, from the inspectors’ perspective, this did not make the system safer in the way they believed it should. According to the interviewed inspectors, this was especially the case with small operators. The above-mentioned problems created by the EASA regulations reinforced this thinking, which was also visible in the inspectors’ answers.

“But to really answer your question, what is our safety benefit. If we say our safety benefit is that we do audits, and inspections, and certifications, authorisations of operators, I think I would lie.” (Insp_09; 156)

The view of all the inspectors interviewed was very much from the practical, safety perspective, and not from the overall reliance on classic compliance, which sees that the operator fulfilling the regulatory demand, i.e. complying fully to the letter of the law, is a guarantee of safety. Inspectors see compliance as more of a suitable tool when needed. The safety benefit of the work of the inspectors is achieved through ways of working other than the purely traditional ways of working of the NAAs.

“I mean the personal experience... all the inspectors, they have their personal experience. They are still, as I said, still in the active flight duty. And, they see exactly, what are the hassles, what are the safety... areas of safety improvements of an operator. They can adapt that, and if they do oversight, they can keep an eye on these points of other operators.” (Insp_09; 151)

“We do this at the best of our knowledge and understanding, and we listen to operators and look at it from that perspective. And nobody thinks some EASA other than the rule itself, that this is what is required. But, the interpretation is entirely... I would say it’s not even the CAA’s, it’s the interpreting inspectors point of view.” (Insp_03; 215)

The answers emphasised the personal operational experience of each inspector as, for example, a pilot in this type of air operations. The situation varies in different NAAs. Most of the interviewed inspectors were not currently performing active flight duties. However, the practical view of the operators’ problems was the same, regardless of the interviewed inspector’s current experience level.

Six inspectors also mentioned recognising a form of ‘cosmetic compliance’, meaning, for example, that operations manuals (OM) and standard operating procedures (SOP) are written because they are a regulatory requirement, but that very little attention is paid to the content from the safety perspective. The resulting compliant text in the manual has very little to do with the safety of daily operations.

“But yes, they have a manual, very nice manual. Well approved, with all the chapters there, saying exactly as the copy of neighbour, or someone else. So, because if one was approved, this one is approved too. At the end, what you do with safety increasing... nothing. In practice nothing.” (Insp_06; 198)

Six out of ten inspectors even saw the regulations behind the administrative burden as a threat to safety. The inspectors saw how small organisations had difficulties implementing rules in their daily operations. This attempt to be compliant with everything demanded by the regulatory system leads to a situation in which the focus of the organisation and its people is on the wrong place and the wrong things. Which in effect means that it was no longer on the safety of daily operations.

“And, I think for small operators, it’s not... those things (new amendments to the regulation) are not really improvements for safety. Those things are as another administrative burden on top of the management, and on top of the crew. They are already having a very high workload, a very high load on top of their job as a pilot, or as a crewmember. Sometimes those extra regulations from EASA, can make small operators less safe. Because, they are not focusing anymore on the job as a pilot, or the safety aspects that are arising in flight. But, more on the procedures, added on top.” (Insp_05; 184)

4.1.4 The operators need for help is seen as inevitable

The interview answers of all ten inspectors emphasised the importance of a ‘good’ connection with the operators and individual operators need for help. These two aspects were linked together in the answers. It is easier to help when the connection with the operator is good.

This ‘good’ connection was described as the quality of communication between an operator and an inspector, that is, direct contacts between the inspector and the organisation’s post holders with open, low threshold, communication. The interviewees also mentioned mutual trust. At best, during this communication, the person in the operator can ask all the questions they have in mind, and an inspector can also give informal answers. However, according to the interviewees, this was not always the case.

“We speak to them directly. We have a direct communication with either the NPs or the AM. And... they can contact us directly with any thoughts and ideas and if they have any worries. We will... we are very open to discussion, we are very open to approach things in a progressive and pragmatic way. But... it’s... it’s a... I see this, it’s a joint venture between us as inspectors at CAA (NAA) and the operators.” (Insp_04; 146)

“If I’m going to an operator, I try to be as friendly as possible, I try to keep it on a friendly basis. And, I see that if they have troubles, they come to me, they know that if they have an issue and I will try to help them with an issue.” (Insp_05; 343)

The inspectors’ role in this process of helping was expressed in many different terms, all referring to the same thing. The aim is to help the organisations be compliant and safe. Here again, traditional compliance was not seen as the only answer. Depending on the inspector, expressions such as guiding, translating, teaching, educating, consulting, and assisting were used.

“In my opinion I shouldn’t only check compliance to current regulations but also assisting in finding organisations weak points in management system, procedures etc., the way to improve something in company.” (Insp_10; 19)

“But, actually to try to explain it properly to people and make them realise that this might actually be important. And see them doing it, and find a tool which is simple but seems to help them and then makes a difference in your way of thinking.” (Insp_03; 171)

The help provided made the inspectors feel independent. The priority was that the solution to the problem in hand was workable and safe, and not the exact wording of the rule. This pragmatic approach was also seen as a prospective way in which to enforce the idea behind the regulations, which are difficult for the organisation to understand.

“And that’s, that is (inspectors’ point of view) what kind of floats... floats to the top when they go around and visit operators. They ask you questions. It’s often that, that is the first instinct when you tell them what you think is the best way to do it. Instead of perhaps looking into the regulation and trying to interpret that, and try to figure out if this is, you know something that should be the same in Finland.” (Insp_03; 222)

“And, they (EASA and regulations) are also an obstacle. Because, if there’s something you have to help the operator to get over, you have to guide them between the obstacles which the regulations sometimes provide... You are doing your best to bring the regulations in a workable way, in a workable manner.” (Insp_05; 440)

4.2 Distance between inspectors and the EASA

The distance between the inspectors and the EASA arose in many ways in the interview discussions. Four subsidiary themes emerged regarding this issue:

1. EASA’s focus versus inspectors’ knowledge.
2. Slow and complex regulatory system.
3. Number of publications.
4. Unhelpfulness of the EASA.

4.2.1 EASA’s focus versus inspectors’ knowledge

All the interviewees highlighted their knowledge of the current daily situation in the field. The inspectors sensed that their connection with small organisations created knowledge of the situation, which was representative of real life as experienced by the operators, i.e., the type of operation; the environment in which the operators work, including the capabilities of the operators; and the safety level of operations. At the same time, they felt that the EASA did not have this kind of knowledge. They also expressed that the EASA did not collect the knowledge that the inspectorate had to update its picture of the situation in real life. According to the inspectors, this emerged in the discussions between the EASA and NAAs, and in how regulations were developed.

“But it is this, you know, from an inspector point of view, there is... it’s really not very much improvement and the thing is that you don’t have a voice anymore. That is, of course, it’s a... nobody cares what inspector in each country think, so saying, so it just drowns in the chorus of... yeah, the sea of opinions. And its... and I think it’s a laid-back approach almost from EASA.” (Insp_01; 353)

The difference between the perspectives of the inspectors and the potential view of the EASA was apparent in the answers. From the inspector’s perspective, the EASA emphasised procedures and organisational structures that did not guarantee safety among small operators. The inspectors felt that the focus should be more on the daily work of these small organisations. These procedures and organisational structures, as such, did not guarantee the safety of daily operations.

“It’s what people have in their heads, that is also the point, important, when you are out visiting the operators. That’s what you use to observe and to interpret what’s actually happening out there, and that is how safety is produced. Not in procedures.” (Insp_03; 236)

“They have a management system that was documented, but is not working. It is not directed to the job, it is not directed to the complexity and particularities of the operator. All management systems that are documented is just to show the authority.” (Insp_06; 134)

Seven of the interviewed inspectors had experience of EASA standardisation audits. They felt that this focus of the EASA was also visible in these audits. Compliance was the primary essence, and procedures were the priority for the EASA. On the other hand, these inspectors did not mean that compliance should not be verified in those issues, which are directly connected to operations. Four of these inspectors had quite radical opinions about this co-operation between their NAA and the EASA from the safety viewpoint.

”They (EASA standardisation) were focusing on things that had nothing to do with safety. And, that’s for me... I know they have to be compliant, I know everything has to be done, I know every audit has to be performed. I think sometimes they are focusing on the wrong things, because in purely operational viewpoint it wasn’t what it should be.” (Insp_05; 192)

“We are at the moment in the position, that processes and all this... that we can show the EASA that there are processes, is much more important than what we are actually doing.” (Insp_01; 138)

4.2.2 Slow and complex regulatory system

Five of the inspectors interviewed mentioned some specific problem in their local environment and their local operations. A factor common to all of these was the way in which all these problems were seen as a threat to safety at some level. Another common factor was that changing the situation through regulatory means – either by a rulemaking proposal to the EASA or by national rule interpretations – had not been successful. Inspectors used these as examples when discussing the inoperativeness of the system.

“It’s also difficult for, I think it’s difficult for... since it’s such a big machine, it can be difficult for small countries, for instance, to raise issues that we find being an issue in our particular part of the world. Since it’s not a general issue. That is something EASA might not take up into consideration right now.” (Insp_04; 334)

“And, we see this (cost-share) as a safety issue, because it is completely uncontrolled. We cannot do anything about it. We try, but it’s very difficult to, to kind of going one direction. Because EASA has kind of put their stamp upon it, saying, well cost sharing is way forward... But it actually creates a lot of safety issues. At least from our perspective. What we can see, that if it’s not very feasible flying commercially with all the regulations, and with all the requirements. We just call it cost share and we fly completely differently, because there, you know we can just alleviate all the commercial requirements. We just fly privately instead. Even though it’s the same operator and it’s the same person flying, and everything. And we have tried to raise that topic couple of times. But no, that’s the way forward, that’s a... that’s the buzzword of 2020, and that can be little bit frustrating.” (Insp_04; 348)

“And we got feedback from this oversight authority (EASA) saying that you cannot add these safety requirements. It was regarding very cold water. That you should wear... you cannot fly business without a survival suit, and when the water temperature is zero. You cannot last very long. So, we added something there, also in the mountains and things. So, they said you cannot do this because EASA has already regulated this. So, even if you think it’s safe, and you have accident reports and recommendations which

indicates that it should be done, you cannot do it for formal reasons. So, it's like you are handicapped. Very frustrated, I would say.” (Insp_03; 314)

Four of the inspectors interviewed mentioned the slowness of the regulatory process. They highlighted that when a proposal for a rule or to change a rule enter the rulemaking system, it take years for a new or amended rule to emerge.

“That has become a very long way from something happening up in north of Europe and down to Cologne and changing a regulation. One thing is the distance and the difference in mind. But, also the time it may take. You know, five-ten years, or something, to make it from... if ever... So, the distance in various aspects of business is very long from real life to... And then, coming back as a change in something that can actually make a difference for... in respect of safety, been oversight, regulation oversight or whatever. That's become very long.” (Insp_03; 304)

The smaller the country, the more challenging these inspectors experienced this ‘big machine’, i.e. the EASA. The inspectors claimed that it is impossible to change anything after the EASA had completed an issue's regulatory process.

4.2.3 Number of publications

The number of different publications was seen as a problem for the relationship between the EASA and the NAA inspectors. The various rulemaking tasks produced thousands of pages of material during the different stages of the rulemaking process. In addition, multiple other documents are published in the form of, for example, bulletins, guidelines, questionnaires, and promotion material. Seven interviewees claimed this to be a direct problem. From the inspector's perspective, the situation seemed almost out of control.

“So we are bombarded with emails (with PDF files) from... but there is awful lot of information from EASA coming out. And, and I must say that it's difficult for us as inspectors to get... to get the right information and the proper information for our operations. We quite often get things that we are asked to comment on. And, they are PDF files with 250 or 300 pages. And, we simply do not have enough hours per day, and enough manpower to be able to sit and read through and comment on everything to little detail. So, there is an awful lot of products, and an awful lot of material being produced by EASA. Which, I believe, is not been properly read because there is just too many... just too much information, I think.” (Insp_04; 299)

The answers that were given saw the number of publications as only an EASA-generated problem. The NAA's role in this was not considered an issue. On the contrary, the inspectors described this volume of EASA-generated documentation as also a problem from the NAA's perspective. From the inspectors' point of view, the reality was that the volume of published material could not be read or handled. The inspectors interviewed also saw it as a problem, even a danger, that the important, useful part of the meaningful, salient information was hidden in this flow and volume of information.

The safety promotion material published by the EASA was used as an example and a discussion opener. One of the inspectors interviewed did not know such material existed. Nine inspectors recognised this material and had read it at some point. Only one had used it with an operator.

Nine out of ten of the interviewees had not seen it in use in any small organisations. It seemed to the inspectors that the operators only dealt with mandatory material.

The inspectors' general message was that although good material is being produced, no one is reading it in the field. The overall high frequency of these published documents was mentioned as a problem.

“I think it's not negative that it comes from... that EASA publishes this material (safety promotion). The question is, you know, the frequency. I mean, if you have every second-week documents from EASA. One is Covid-19, how to handle this, and the next one is... I am talking now as a regulator, or as an authority. The next one is how should we oversight a management system. And then again, there is a leaflet there.” (Insp_09: 356)

4.2.4 Unhelpfulness of the EASA

As discussed earlier, the interviewed inspectors raised different problems concerning EASA regulations. Answers and solutions to the problems that were raised were requested from the EASA itself. Parallel to this, the inspectors mentioned the support that the EASA gave the NAAs and the inspectors. Six of the interviewed inspectors claimed that they had received no support or help that could be considered beneficial. One inspector described the help that had been given in unofficial discussions after the EASA standardisation inspection.

“I have never noticed any help from EASA's direction. Not even, if we have been asking it, or then the answer is so vague that there is no use with it. For me support and EASA do not fit to the same sentence.” (Insp_01; 268)

The requested form of help that arose in the discussions mirrored the questions that were visible in the inspectors' working relationship with small organisations. For example, explaining the aim of a specific rule and how to implement it so that it had an impact on safety without burdening the operators. As an example of this, the rules concerning the management system were discussed in the interviews:

“...but it's unclear what we have been able to figure out of EASA's view on this. We have been talking to standardisation team, that has been visiting us and we have them here, ask them to come here once and talking to us about how they see risk management and safety management, and compliance monitoring from that matter in the context of the management system.” (Insp_03; 190)

Four inspectors mentioned the need for direct support from the EASA in their daily work, i.e. confirmation that the inspectors' daily work with organisations was being conducted in the way intended by the EASA. This latter issue was visible in small countries in which only one or a few inspectors in the NAA worked with small SPO operators. These inspectors also expressed the need for common training and discussions over national borders on these daily issues.

“Okay. I just... I expect from EASA inspector coming to a small country, to check the positions in CAA (NAA). And see how these inspectors can do their job, you know. If you are flight ops inspector, I really want to see that somebody from outside check how we do. And, is it... everything in compliance with regulations. In other side, if something is not good, try to help this inspector to go in the level they can do their jobs, you know.” (Insp_07; 268)

Six of the seven inspectors who had experience of EASA standardisation audits in their own NAA talked about the role of standardisation in this requested help. The impression was that the standardisation inspections only verified the systems and processes of the NAA when the need was somewhere else. In addition, they raised the feedback given during the standardisation inspections carried out by the EASA in the NAAs. They saw no problems with the findings *per se*, but at the same time felt that directions and help to resolve the problem behind the finding should be given. A shift from compliance-oriented EASA inspections towards mentoring and guiding was desired.

4.3 Results of higher-order analysis

As previously mentioned in Section 3.5, in the first-order analysis it became apparent that the data collected could provide even more information. A higher-order analysis (Dekker & Nyce, 2004) was thus conducted in order to dig deeper and interpret the interviewees' statements and meanings. Three themes were discernible:

1. The system's idea of the inspectors' work does not match the actual inspectors' work in practice.
2. Inspectors compensate for bureaucracy.
3. Inspectors have to balance the system and small operators.

4.3.1 The system's idea of inspectors' work does not match inspectors' work in practice

It was evident from the inspectors' interview answers that their actual work is not always what the regulatory system believes it to be. The basis for the inspectors' work is described in the EASA authority requirements: in this case, the authority requirements for air operations (EASA, 2019).

This description shows that the NAA has an administration and management system that guarantees the implementation and enforcement of the EC regulation and its implementing rules. This work is carried out through certification, approval and authorisation processes, as well as through verification processes, namely audits and inspections. Compliance with the implementing rules is at the centre of these processes. The inspector's daily work involves verifying compliance as part of these processes. (EASA, 2019)

The inspectors' answers showed clear doubt that this verification work always supported the work to ensure safety, although it did support the regulatory system. Relations between the inspectors and operators based on only audits and findings would not work either, for two obvious reasons. First, small organisations constantly lack understanding of the reasoning for and purpose behind rules and regulations and how to comply with all of them. Second, according to the interviews, in their daily work, the inspectors see that the perfectly compliant manuals and descriptions of the work in these small organisations do not work in practice.

All the inspectors interviewed claimed that informal work was conducted parallel to formal work. The perspective of the inspectors interviewed was that help, in different forms, was needed to translate and clarify the intention behind the rules and how to achieve meaningful

ways to implement them. This informal work creates better results than formal, prescribed work, especially when the connection with organisations is good. Moreover, the informal way of working was mentioned more often than the formal way during the interviews when the inspectors discussed their contribution to safety. They considered that this informal work provided more benefit for work to ensure safety.

4.3.2 Inspectors compensate for bureaucracy

The interviews revealed that bureaucracy and its consequences inside the system were perceived negatively, often as red tape or as limiting the freedom to use good, safe practices. The inspectors talked about ‘bureaucracy’ in many different ways and even used the term themselves, often in a negative sense. In their answers, they mentioned the negative effects of such a large number of rules and regulations, and of having too many procedures to follow. The management burden these caused for small operators was also described. This was compounded by the slowness of the rulemaking process: the EASA’s role in the system was seen as a problematic ‘bureaucratic’ feature.

These particular problems, which some of the inspectors called bureaucracy, were seen as system based. In some of the answers, these bureaucratic problems were also described as a direct threat to safety. In these instances, the interviewees saw that the regulatory or management burden in small organisations shifted the focus away from the safety of daily operations. Alternatively, the inspectors claimed that the EASA’s governance made it impossible to resolve local safety issues.

All the inspectors saw that they had a role to play in trying to solve these system-created problems. The inspectors saw informal work in practice as a solution to these bureaucracy-created problems. This informal work and the inspectors’ knowledge was seen to compensate for the problems mentioned above. Again, the informal work of the inspectors was considered important work that supported safety.

4.3.3 Inspectors have to balance the system and small operators

In general, all the inspectors interviewed valued compliance with rules and regulations up to a certain point. With this thinking, they served the regulatory system as planned and described in the authority requirements (e.g. EASA, 2019), which are inherently compliance based and in keeping with the regulatory philosophy. At the same time, work with small organisations has shown the inspectors that this approach alone does not guarantee the safety of daily operations in these sectors of aviation. Moreover, these rules and regulations can even hamper safety. It was visible in their answers that the interviewed NAA inspectors no longer saw pure compliance with rules and regulations as a guarantee of safety. The reason for this will be pursued further in the Discussion section.

The interviewees described different ways of helping these small organisations. According to the inspectors, this help is essential to make these small organisations compliant and safe. At the same time, when providing help, the inspectors work in an unofficial way, not in the way assumed or expected by the system. Their interview answers showed that the inspector’s role inside the system was different in these situations. The inspectors did not only verify compliance; they tried to support the operator and improve their performance. This meant that when balancing the system and the small operators, the inspectors actually took more space from the regulator, i.e. the EASA.

The sense of distance from the EASA and the feeling that the EASA did not help was visible in the inspectors' answers. In addition, when helping these small organisations, the interviewed inspectors felt independence. They hinted that the distance from the EASA made this balancing more acceptable in their minds. From the inspectors' perspective, they had the primary knowledge to solve the problems and keep these organisations safe.

4.4 Summary

This chapter described the results of the analysis of the collected data. Originally, in the first-order analysis, eight subsidiary themes under two core themes (Saldana, 2009) emerged. I used quotations from the interviews as examples of the inspectors' experiences. Using these first-order analysis results and the interviewees' original statements as a starting point initiated a higher-order analysis (Dekker & Nyce, 2004). The results of this higher-order analysis made the inspectors' work and position inside the regulatory system more visible. The results of the first- and higher-order analyses, and their meaning, are discussed in the next chapter.

5 DISCUSSION

This study began with a question and by borrowing Gray and Silbey's (2014) wording:

Is EASA as a regulator an ally, threat or obstacle to a NAA inspector?

This question highlights how the inspectors see their work for a safer system and how they see the EASA from their position. Based on the findings described in the results section, it is also possible to ask:

Is it the inspectors who make the system work?

In this discussion, to answer these questions, I elaborate on the inspectors' position and work within the structures and processes of the regulatory system. I examine the problems in the system and the inspectors' role when these perceived problems arise. Using Gray and Silbey's (2014) work, this discussion examines what is behind the way in which the inspectors see the regulator and regulations in this particular system. This discussion also touches on the regulatory system as a bureaucracy and the inspectors being inside this bureaucratic machinery.

5.1 Regulatory system

The current regulatory system within the EU involves a hierarchy, which flows from the European Commission, through the EASA, to the NAA, and then to the national operators in different European countries. It is a complex, complicated system. The administrative workload in this system is huge (Simoncini, 2015). The system is created mainly to serve the industry of European civil air transport, aircraft manufacturers and airlines (Pierre & Peters, 2009). It also serves millions of passengers, who are the customers of the aviation business – especially as European citizens through the political ideals of the single market (Simoncini, 2015). Without positive safety figures, this business would suffer greatly. Negative publicity after an accident has immediate financial effects on the airlines and aircraft manufacturers.

As a part of this complicated system, thousands of pages of rules and regulations have been written to administer, manage and control it. Amalberti's (2013) visualisation of the socio-technical system and its lifecycle particularly resonates in the case of the European aviation system. We live in the 'safety period'. The number of rules and regulations is greater than ever. The system's resources are increasingly used to control it, and there is a never-ending increase in the tools and methods in use. (Amalberti, 2013) This visualisation is a perfect match to the situation described by the inspectors interviewed. They expressed concern in the interviews about this development.

The results of this study show that such problems have indeed arisen and that the NAA inspectors of this system have evidence of them. To them, it is visible in the system, understandably, bearing in mind the millions of airline passengers that most of the rules (e.g. EASA, 2019) are written, with the particular view to the large companies' complex and formal procedures. According to Hale et al. (2011, 2015), these rules are not ideal for implementing in small companies and organisations. Has this regulatory system failed in some way? The rules for large organisations are either copied or only slightly modified for small organisations. These small organisations lack the knowledge and resources to create control mechanisms, tools and

methods, in the spirit of Amalberti's 'safety period' (Amalberti, 2013). When these small organisations are unable to comply with and handle the demands of the regulatory system, i.e. the rules and regulations, it is the inspectors who first encounter problems in their interactions with these small organisations.

Moreover, regulations are a mix of detailed action rules and risk management process rules (Hale et al., 2011, 2015). The EASA, responsible for co-ordinating the rulemaking process, has failed to balance the pros and cons, what each type of rule involves, and the proportionate nature of the rulemaking programme. Once again, this is especially true in the case of small organisations. Based on the results of this research, it can also be argued that the translation of these rules into practice has been unsuccessful (Hale et al., 2011, 2015). At the other end of the system, the small organisations and the NAA inspectors are discussing the reasoning and questioning the purpose of some of the rules. These results show that help for understanding this is sought from the EASA, the next level in the hierarchy of this regulatory system. This study showed that this help had not been provided. Thus, these issues of small organisations still remain unresolved. And it is the inspectors who must resolve them.

The findings of this study concerning the administrative burden of the small helicopter operators are supported by the EASA's evaluation report (EASA, 2020b). This study was conducted, and the evaluation report written, by consultants; and the report was published after the study interviews. The evaluation report shows an estimated 1300-hour annual administrative burden, including safety and compliance management, for the small helicopter SPO operator (p. 63). This is a significant burden, bearing in mind that the operator may have only one or two employees.

Moreover, the results of the evaluation report indicate that it is possible to perform regulatory requirements in a less burdensome way without compromising the safety performance of operations (EASA, 2020b, p. 63). The question that remains is: how does the regulatory system react to these findings and what actual measures will be introduced to change the situation? At the same time, it can be argued that the voice of the inspectors, who have been aware of the situation in both the field and among small operators for years, is somehow attenuated by the regulatory system.

The current regulatory system is visibly slow. The EASA takes several years to enforce or change a rule. The average duration, from the terms of reference (ToR) for a rulemaking task to a decision or opinion for the EC, is around three years. In the case of an opinion, it takes at least an additional one-and-a-half years before it is adopted by the EC and is in force (EASA, 2021b). This creates a regulatory lag in the system, and means a delay between the first appearance of an activity that needs to be regulated and the final use of effective countermeasures by a government agency, in this case, the EC and the EASA. This regulatory lag often results from legal delay, which illustrates how administrative agencies are slow to respond to required regulations in real time.

Every regulatory system has a regulatory lag. Aviation, in all of its forms, has a very dynamic nature, and everything happens in a dynamic environment. All this means that legislation can never represent current needs. For example, new means of using helicopters are constantly invented and tested for different types of work. These types of work were not even imagined when the rules and regulations were written. The inspectors encounter these new ways to use helicopters when operators approach them with questions and applications. This gap is something they have to face and deal with.

Regulation is always lagging, which automatically means a gap for the users of the rules. The inspectors cannot wait for a new or amended rule when new issues arise with organisations, and this causes complicated situations. Safe operations are still demanded, but answers are not necessarily found in the existing regulations. Inevitably, this regulatory system has a certain amount of discretionary space. Formal rules do not work inside this space, but decisions need to be made. The inspectors and their informal way of working are essential for solutions and answers to fill this gap.

5.2 Compliance is not the same as safe

All of the features, deficiencies, limitations, and weaknesses of the regulatory system mentioned above are interpreted as compliance not always being the same as safe. Some rules are unsuitable. Sometimes, rules or other official countermeasures to safety problems do not exist due to regulatory lag. This means competing views of safety for the inspectors to navigate. Compliance with rules and regulations alone does not solve safety problems (Amalberti, 2013; Smith, 2018). The inspectors know that a perfectly compliant manual or procedure description has nothing to do with safe daily operations, which in this case means daily operations conducted without accidents or incidents. Compliance with rules and merely verifying this compliance is not enough.

For the inspectors, this means not only more complicated and ambiguous situations in daily interactions with operators, but also a more complicated moral question. Decisions that are not based on the rules, or that require broad interpretation of the rules, move the inspectors' work into the discretionary space, which was not originally planned as being their function in the regulatory system. Usually, these situations are also outside the scope of the inspectors' official training provided within the NAAs. This is because it is difficult for people higher up in the NAA hierarchy to admit to the EASA that rules are not always followed because they are unsuitable. This behaviour of these more highly placed people resembles the phenomenon of 'Potemkin villages' (Gray, 2006; Gray & Silbey, 2014), in the sense of appearing to be compliant, and acting in a way that illustrates competency to an outsider, in this case, the EASA. But at the same time, this causes the inspectors to become frustrated with the EASA and its rules, which they see as not working. From the inspectors' perspective, a goal conflict is visible.

The results of this study show that the inspectors solve these problems in a pragmatic way. They provide help or assistance in the form of informal work, mainly trying to develop solutions that are acceptable from the safety viewpoint, and which in most cases, are interpreted as being near enough to the original wording of the rule. In this work, they use their professional knowledge. Interestingly, and as clearly shown in the results, this informal work in the discretionary space actually helps these small organisations and leads to even better results than those resulting from formal work. This reinforces the inspectors' perspective that they have the primary, necessary knowledge to contribute to solving the problems and keeping these small organisations safe.

As the inspectors actually proportionately tailor solutions for the operators, they simultaneously make small-scale policy decisions at their hierarchical level, regardless of the co-operation from the operators' side. The inspectors' judgement of the situation is based on their professional knowledge and what they see and have seen in the operator's past. Here again, the independence of the inspectors is evident. In these cases, it is the inspectors who are ultimately able to interpret

the regulation if no direct answer is found in the rule itself. These policy decisions are contingent on the capability and competence of the operator. The more capable the operator is of managing its operations, the less the inspectors' propositions are needed.

It remains unclear how well the people higher up in the NAA hierarchy understand the inspectors' situation. Visible pressure from the EASA comes in the form of standardisation. In the NAAs, internal processes and procedures are more important than the actual daily work of the inspectors. It is also unclear how well the EASA understands this situation. Communication from the EASA down to the inspectors goes through the same people higher up in the NAA hierarchy, who in most cases are far removed from daily work situations.

5.3 Inspectors' work and the flip side of regulation

From the regulatory system's perspective, referring here to authority requirements (e.g. EASA, 2019), the inspectors' role is to perform and manage certification, approval and authorisation processes. Together with verification processes such as audits and inspections, these processes are meant to ensure compliance with rules and regulations. As a result, compliance is considered a safeguard of operations. This aspect of the inspector's job description becomes problematic if the rules and regulations seem incompatible with small operators' everyday operations. This leads to a situation in which the work as imagined and work as prescribed by the regulatory system is not the same as the inspectors' work as done (Shorrocks, 2016; Moppet & Shorrocks, 2018). This situation was clearly visible in the results of this research.

To understand the inspectors' actual work, it is vital to understand how these inspectors see the regulator, in this case, the EASA, from their position. In their paper, Gray and Silbey (2014) examined different actors inside organisations. They also observed variations in how these actors talked about, anticipated and responded to regulations and regulators. I claim that their conclusions and findings are also salient in this research context. The results of this study show that inspectors need to interpret regulator, regulation and compliance in their daily work in a similar way. Based on the study findings, the inspector can see the EASA, in its role as a regulator, as an ally, a threat or an obstacle. In this way, with reference to the research question, my findings mirror the work and findings of Gray and Silbey (2014).

The results of this study also show discernible variations in how the inspectors experienced and interpreted the regulations and the regulator, the EASA, in their daily work with small organisations. They saw the EASA as an ally when an EASA rule was helpful in their work, especially from the safety perspective. In these cases, the rule and compliance with the rule were seen as a tool to achieve a goal, in this case, safe operations. It is easy for the inspector to use the rules as a basis for discussions with organisations if, for example, there is a need to change a procedure. Here, the role and function of the EASA is seen as useful, and the wording and intention of the rule is helpful and acceptable to the inspector. A similar approach is visible when EASA-produced material other than regulations is discussed. Safety promotion material was seen as broadly acceptable by the inspectors interviewed, although its use was considered minimal in the interviews.

On the other hand, these study findings reinforce the view that the inspectors also see the EASA as a threat. As a regulator, the EASA and its regulations were sometimes considered a direct threat to small organisations' safety and, in this respect, an indirect threat to inspectors and their work. Behind this standpoint is the reality that inspectors face in their daily work with

organisations. According to the results, in interactions with small organisations, inspectors see how organisations try to implement rules that are not applicable to their size, environment or operations. This regulatory burden shifts the focus away from actual safe operations. Moreover, the more these small organisations need to show the authority a system and processes to provide assurance of ‘being safe through compliance’, the less resources they have for essential, safe operations (Dekker, 2017). Here the regulatory system’s inability to scale the rules to suit small operators directly impacts and influences the inspectors in their daily work, through limitations and institutional unwieldiness.

As a regulator, the EASA was also seen as an obstacle among the inspectors. I explore the factors found in the study in the discussion in the following section. According to Gray and Silbey (2014), one reason for seeing the regulator as an obstacle is that the regulator is believed to lack expert knowledge regarding actual daily work processes; or alternatively, that the regulator is believed to have insufficient resources or status for engaging organisational actors (p. 125). Both of these factors were discernible in the inspectors’ interviews. The perceived lack of expertise within EASA and its working groups was mentioned multiple times. The inspectors questioned the regulator’s competence in the field of helicopter operations, particularly in the case of small operators. They described this by using either their interactions with EASA officials or their experiences of trying to understand the rulemaking task material produced. Here, the inspectors perceived a shortcoming in the regulatory system and, either knowingly or instinctively, stepped in to make the system work.

This questioning of the regulator’s competence is also a sign of how inspectors position themselves in this regulatory system. The inspectors’ direct contact with small operators gives them immediate information on how rules are applied and their potential impacts on safety, whether the implementation of a rule has been effective, or whether problems are visible. They also see the effect these rules have on operations from a safety perspective. The results show that the inspectors use this knowledge in their everyday work with these small organisations. Knowing the deficiencies in the rules, they are in a position to make choices about the importance of the rule or how to enforce the rule’s implementation in a way that it yields meaningful results in the small organisation. Here, the informal work they do, using their gathered knowledge, is seen as more relevant than staying within the formal processes of the regulatory system. This informal work is clearly a counterpoint to the EASA and its processes, but is also another example of how the inspectors adapt to make the system work.

At the same time, the above juxtaposes the inspectors more to the end-users, the small organisations. The EASA is seen as distant and far removed from daily work. Its commitment to the SPO of small helicopter operators is easier to question because of the distance the inspectors feel. From the regulatory system’s perspective, the negative effect of this phenomenon is that messages from the EASA are easier to bypass. If not on purpose, then unintentionally.

Gray and Silbey (2014) also showed a situation in which the regulator may have designed compliance requirements that were inadequately connected to the underlying regulatory goals (p. 125). The inspectorate’s explicit goal is safe operations – daily operations without accidents and incidents. On the other hand, in this study, it was evident that compliance with current rules did not always accomplish this goal from the inspectors’ perspective. This reinforced the limitations in the belief that compliant equals safe. In these cases, the regulator and regulations were seen as obstacles to reaching the goal of safe operations.

Moreover, the regulator may not provide meaningful guidance and engagement that orients organisations' work toward meeting regulatory goals (Gray and Silbey, 2014, p. 125). In this study, the need for guidance and engagement from the EASA was mentioned during the interviews. Clarifying the regulatory goals behind the rules to the inspectorate was seen as critical. The implementation of the management system was mentioned as a good example. Without requested guidance or clarification, the inspectors made more independent, varied decisions about the right way to implement a rule. Variations may exist not only inside an NAA, but also between different NAAs. Here, the NAA plays a role in standardising the inspectors' practices within the NAA. The EASA's role is to oversee the NAAs' ways of harmonising these interpretations.

Based on the answers of the inspectors interviewed, it seems that neither level, the NAA nor the EASA, has been very successful in the standardisation process. The interviewees claimed that guidance for interpreting the rule was lacking. In addition, the co-operation between the NAAs to clarify and meet these regulatory goals was mentioned. When the EASA did not provide guidance, or the answers and interpretations required from the EASA were not forthcoming, or if the answers were vague, the existing contacts between the individual inspectors in different NAAs were used. In these specific cases, the simple question was: 'How do you understand this and how does it work in your country?'. According to the inspectors, this co-operation provides better results than contacts with the EASA. It is worth remembering that usually, the inspector in question needs this answer, and that contact with another NAA inspector is not the first attempt to reach a solution.

This co-operation may reduce the number of different interpretations between the NAAs, at the same time achieving one of the single European market goals, in this case informally, but still making the system work. However, from the regulatory system's perspective, this work is unofficial. The question is, does it go unrecognised by the EASA, and is it even tolerated? This question remains unanswered, despite this study.

Through this way of co-operating, the inspectors actually broadened their view over the national border, although they were still at the same hierarchical level in the regulatory system. The inspectors talked to other inspectors to find solutions to the problem. The view of the EASA as an obstacle was shared among all of those interviewed. From the perspective of the regulatory system as a whole, there are disadvantages to this. The intended regulatory goal of a rule at the time it was written, may disappear.

Gray and Silbey (2014) also discussed why regulations and regulators are seen as an obstacle and not a threat. All the factors discussed above can also be seen as threats in some other environments. One appropriate consideration in the context of this study is the expertise and independence possessed by actors; in this case, the inspectors. This factor was visible in the results. The inspectorate felt that their expertise and competence in their field was strong. The interviewees also expressed independence in their work with small operators.

From the daily work perspective, these features, expertise and independence, are essential for the inspectors to deal with the questions and problems that arise in their interactions with small operators. The results show that the above-mentioned deficiencies exist in the regulatory system. The results also show that these small operators lack the knowledge and resources to tackle these deficiencies. With their ability to independently make decisions, the inspectors also mitigate the effects of these regulatory system deficiencies by using informal ways of working.

5.4 Inspectors in the regulatory system, bureaucrats inside bureaucracy?

As noted in Chapter 4, the inspectors described the problems in their daily work in various ways. Many of these problems were seen as system based, i.e. within and as a result of the current regulatory system and its processes, the bureaucratic machinery of regulation and rulemaking. The inspectors used the word ‘bureaucracy’ in a relatively broad, consistently negative sense, which is how I frame it in this discussion. The interviewees mentioned, for example:

- The management burden of small operators.
- The high number of rules and regulations.
- The EASA’s way of handling local problems.
- The rulemaking process as a whole.
- The administrative burden of the NAAs.

All these came under the umbrella of bureaucracy. In the interviews, the word bureaucracy referred to red tape and other perceived negative impacts of administration. The inspectors seemed to have difficulties to adapt into their own regulatory system. This phenomenon is worth examining in more detail.

In this discussion on bureaucracy, Max Weber (Weber, 1921/1978) mentioned an interesting aspect: inspectors actually work *in* a bureaucracy *for* a bureaucracy. Most of the characteristics of Weber’s bureaucracies are visible in both the EASA and NAA organisations. For example, both NAAs and the EASA are still very hierarchical. The distance through the whole regulatory system, from the EC to a small SPO organisation, is long. This inevitably affects the flow of information through the system. In addition, formal lines of authority inside and between the organisations, one of Weber’s (1921/1978) bureaucracy’s characteristics, have the same effect. Moreover, as Weber (1921/1978) described, all decisions and powers should be specified and restricted by regulations, and there is always a fixed area of activity. This fits both the NAAs’ and the EASA’s decisions and powers.

Furthermore, albeit that a hundred years have passed since Weber’s thinking, his definition of a bureaucratic official – a bureaucrat (Weber, 1921/1978) – suits the role of these inspectors quite well. According to Weber (1921/1978), technical qualifications should be the basis for an inspector’s appointment. NAA inspectors usually have a professional background in aviation. This is already written into the requirements of an inspector in the regulations (e.g. EASA, 2019). Administrative skills are trained after nomination, usually in-house at the NAAs. Bureaucratic processes and the content of regulations are central in this training. The aim is to create a bureaucrat with the professional knowledge of an aviator.

According to Weber (1921/1978), bureaucrats should exercise their authority in accordance with impersonal rules. As Weber’s bureaucrats, the inspectors should be using rules, regulations and formal authority as bureaucratic control to guide performance. Rules and regulations are at the centre of this Weberian world of praxis. In the case of the inspectors, performance can be read as safety, i.e. operations without incidents or accidents. All the decisions made to reach this goal should be based on existing rules and regulations. From this standpoint, as described above, the inspectors, as bureaucrats, blame bureaucracy for the current situation of the regulatory system.

One aspect of this, which this study shows, is that the transition from national rules and regulations to common European rules created problems for small organisations, and this trickled down to the inspectors' everyday work. Indeed, it can be argued that it created a bureaucratic dilemma. Working with small operators has made it evident to the inspectors that the regulatory system has deficiencies and creates a burden for these organisations. Bureaucracy has adverse effects (Dekker, 2014, 2017; Smith, 2018), for example, a large number of rules and too many new procedures to follow. These rules and regulations are the inspectors' tools, and are not always a solution to safety problems. It seems that a situation in which almost everything is regulated and compliant is not ideal. Red tape has become increasingly visible in inspectors' work to keep these organisations compliant and safe.

At the same time, the slow rulemaking process in the EASA bureaucracy and its regulatory lag is evident. Changing rules and regulations was considered slow and complicated. In addition, local safety issues were seen as difficult to handle because of the nature of the EASA's governance. The interviewees used these as examples of increased bureaucracy during the interviews. From the inspectors' perspective, this bureaucracy is problematic. They feel frustrated and seek informal ways to handle these problems in their daily work.

In the case of small helicopter SPO organisations, bureaucracy, this regulatory system, does not work properly. The belief that underpins the agencies' view that following only the bureaucracy's rules and regulations, does not ensure safe operations in small organisations, as envisaged. Sometimes on the contrary, they worsen the situation. The inspectors recognise this because they are positioned the closest to these operators. Something more is needed than what is provided by the bureaucratic, regulatory system, despite it having been established to provide just this. The result is a predicament, a trade-off for the inspectors in the undertaking of their bureaucratic functions and the need to use an informal way of working which, arguably, fills the existing gap.

This study shows that in practice, due to bureaucracy, the inspectors' work involves more than the regulatory system and its processes expect (e.g. EASA, 2019). The inspectors have to use more of their collected knowledge and experience to solve problems and answer the questions of small organisations. They cannot find all the answers in the bureaucracy. In fact, they need to independently carry out informal work to compensate for bureaucracy.

According to Weber (Weber, 1921/1978), one of the main requirements of a bureaucrat is having to sacrifice personal judgement if it runs counter to their official duties. The results show, as discussed above, that this is not always the case for the inspectors. Official duties in the system-created processes (e.g. EASA, 2019) do not always help them achieve the goal of safe operations. The inspectors have to abandon their official duties, and carry out the informal work described above.

In practice, this informal work is not planned for in the regulatory system and its processes, in the bureaucracy. This study shows that the inspectors use their personal judgement, although this sometimes contradicts their official duties. Using Weber's (1921/1978) terminology, bureaucrats actually occasionally have to work outside the bureaucratic system to make it work. However, the relevant question is, can we realistically call an inspector a bureaucrat if they abandon one of the main requirements of a bureaucrat?

This situation can also be seen as one of the competing discourses between the inspectors and the EASA. One explanation for the situation is the distance between these two. The further from

these small SPO operators a bureaucrat is in the bureaucracy, the less they know about the daily work of the operators. Different cultures add extra dimensions to this. Not only the cultures in the different NAAs in Europe, but also the cultures of bureaucrats with different backgrounds and nationalities. The latter can be found in the EASA's working groups in particular.

The position of the NAA in this discussion seems to be dependent on the NAA in question. Either there is a willingness to understand and support the inspectors' informal work, or there is a need to impress the EASA by creating 'Potemkin villages' (Gray, 2006; Gray & Silbey, 2014). The latter usually means that the inspectors are actually quite alone in their position, when the other levels in the NAA hierarchy try to give the impression that the system and the bureaucracy is functioning as it is meant to be.

5.5 Is it inspectors who make the system work?

As this study shows, inspectors' work as imagined and work as described do not match the inspectors work as done (Shorrock, 2016; Moppet & Shorrock, 2018). Ultimately, the inspectors' work has evolved into a fusion of formal work that follows the processes and procedures planned and prescribed in the provisions of the regulatory system (e.g. EASA, 2019). Informal work, which has essentially evolved from necessity because the regulatory system has failed to answer the questions related to the interpretation and application of rules and regulations that arise and lead directly to difficulties in small organisations. A gap has been created, which the inspector has to fill. Succeeding in this informal work requires expertise and a certain amount of independence, in addition to the confidence to work and act in concert with inspectors in their informal, but assumed, role.

It is reasonable to ask why it makes sense for the inspectors to take on this role. The world of small helicopter operations is dynamic. As is the work of the inspectors. Most of the information given to, as well as received from, these small organisations goes through the inspectors. This position gives the inspectors broader knowledge about the world and the operations of the small operators. This is the knowledge they use in their daily work, in which the inspectors have to be adaptable and creative.

This reality and way of working highlight the issue of expertise and the notions of rule-based safety and managed-based safety (Morel, Amalberti, & Chauvin, 2008; Amalberti, 2021). Here, rule-based safety is the expected outcome of the total procedural system, under all conditions. Managed-based safety, in turn, is the result of sensible actions taken by the operators, who cannot follow the procedures because there are no suitable ones for the situation in hand. The expertise of these operators is essential for adapting to the situation in hand. However, it is impossible for the system to have a purely ruled-based structure. Rules cannot tell the operators how they should be used wisely, nor how to consider all the possible cases in the system. The experts are essential. (Amalberti, 2021)

As Paries (2021a, 2021b) points out, the terms 'rule-based' and 'managed-based' are problematic, and in the context of this study also, they do not sufficiently clarify the situation of the inspectors. Paries (2021a) uses the term 'interpreting' the rules; i.e. professional capability, expertise, to interpret the rules in depth, from an insightful perspective by using an understanding of the fundamentals and a richer operational mental model. He introduces the more suitable terms 'proactive' and 'adaptive safety' (Paries, 2021b), meaning two complimentary mechanisms to achieve the goal, i.e. safety. In the case of the inspectors, the

EASA rules and regulations represent the proactive part in the form of collected history. However, the daily work of the inspectors involves much more than this. There is a continuing need to adapt, and this is what the inspectors are doing.

Inspectors have been, and still are, believers in the system of rules and regulations, despite some reservations – they are ultimately realists. This has provided the basis for building safety in the aviation field. This situation has not totally changed; however the basis should be such that it can be built upon. The inspectors have found themselves in a situation in which classic compliance, fulfilling the regulatory demand, i.e. complying fully to the letter of the law, does not always work in terms of safety in the daily operations of small helicopter operators. Something else is also needed.

I claim that the expertise and independence of the inspectors serve the goals of safety and safe operations in this particular context, i.e., the world of small helicopter operators. The results of this study reveal the deficiencies, limitations, weaknesses, and ambiguities in the regulatory system. They highlight how these negative aspects place the NAA inspectors in between the EASA as a regulator and the small organisations. Today, the inspector is required to translate the meaning of the rule to an organisation and even select and prioritise essential practices from the safety aspect. The inspector guides the small organisation through the regulatory landscape of the EASA. All this means that the inspector's role and work guarantee that, despite the deficiencies in the system, this regulatory system works.

6 CONCLUSIONS

This study was about people, about NAA inspectors trying to survive in their complicated world. These inspectors are at the frontline, where small organisations have to deal with EASA-produced regulations and the inspectors try to guide them to be compliant and safe. The results showed discernible variations in how the inspectors experience and interpret the regulator in their daily work with small helicopter SPO operators.

The inspectors saw the EASA as an ally when the EASA rule was helpful in their work, especially from the safety perspective. In these cases, the rule and compliance with it were considered a tool to achieve a goal – safety. The EASA and its regulations were also sometimes seen as a direct threat to the small organisations' safety and, in this respect, an indirect threat to the inspectors and their work. Behind this standpoint is the reality that inspectors face in their daily work with organisations. According to the results, in interactions with small organisations, inspectors see how organisations try to implement rules that are not applicable to their size, environment or operations. This regulatory burden shifts the focus away from actual safe operations. The most visible role of the EASA as a regulator, from the inspectors' point of view, was that of an obstacle. This was mainly because the inspectors felt that the EASA lacks knowledge regarding the small organisations' operations. Moreover, they felt that the EASA has designed rules and compliance requirements that do not accomplish the goal of safety. They also felt that the EASA did not provide the guidance and engagement required to meet this goal.

The results also show that, in practice, the inspectors' work is not always the same as the regulatory system imagines and describes it to be. Help in different forms is needed to keep these small organisations compliant and safe. In providing this help, informal work can create better results than formal work, especially when the connection with an organisation is good. This kind of work also provides more benefits for working for safer operations. Furthermore, through this informal work, when balancing the system and small operators, inspectors also compensate for the adverse effects created by bureaucracy.

In this study, the inspectors expressed independence in their work with small organisations. At the same time, the results also revealed compliance-based thinking. This independence and informal work does not mean that rules and regulations are abandoned. The inspector is required to transmit the meaning of the rule to an organisation and even select and prioritise practices that are essential from the safety aspect. The inspector guides the small organisation, with the help they give, through the regulatory landscape of the EASA. It is the inspectors who compensate for the deficiencies, limitations, weaknesses, and ambiguities in the regulatory system. The inspectors make it work. At the same time, we can ask whether some part of the regulatory system should be changed if the inspectors have to carry out this amount of informal work to make the system work?

The scope of this study was limited. Future research has various interesting possibilities:

- Regarding small organisations, how does the micro-level, i.e. the operators' vision of safety, differ from the meso- and macro-levels, i.e. vision of the EASA, EU and ICAO?
- Is the EC's and EASA's method of regulating almost everything the right path towards safer operations? Current statistics do not support this in helicopter operations in Europe.
- Is there a better match between the inspectors' work as imagined and described by the system and the inspectors' work in practice in other branches of aviation?

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APPENDIX A: Study information sheet

Research information for participants

I have been studying in the Lund University's Human Factors and Systems Safety MSc program over one and a half year. Now, I am finalizing my studies with the research for my thesis at the supervision of Doctor Anthony Smoker.

The NAA (NCA) inspector is at the frontline concerning small aviation organizations when dealing with EASA produced regulations and trying to guide these organizations to be compliant and safe. In this complicated world of an inspector, in this current regulatory environment of ours, I am forming my thesis on the question:

Is EASA as a regulator an ally, threat or obstacle to a poor NAA inspector?

This phenomenological inspired study is about people. It aims to respect the meaning of experiences of the interviewees when gathering these lived experiences from the inspectors. I see these inspectors as a part of a very complicated socio-technical system that aims towards safe operations.

My professional background is in aviation as a helicopter pilot and aviation authority inspector. I have been flying helicopters for thirty years, from where 23 years as a captain and training captain in helicopter emergency medical services. Parallel to flying, I have been working as a part-time Senior Inspector in Finnish aviation authority for 14 years. I am still active in both of my jobs.

Your participation in my thesis work would be an essential contribution. As said, an NAA inspector is at the centre of this study. Your opinion counts. You may also refuse to participate and may withdraw from the research at any time. The data collecting happens with video-call interviews. During an approximately one- hour interview, we shortly review your background, which after I am asking some open questions concerning your experience as an inspector and how you feel about your position between organizations and EASA.

Confidentiality

The interviews will be recorded, and the tapes will be transcribed. The transcript will be sent to you for verification before being further used in the study. Identities of all participants will remain anonymous and will be kept confidential from all others than the interviewer. All material will be treated with confidentiality and protected from disclosure. No names of interviewees, organizations or nations will be mentioned in the thesis.

Contact information

Please do not hesitate to contact me in case of further questions or my supervisor.

Petteri Peltola
petu.peltola@gmail.com
petteri.peltola@traficom.fi
tel: +358 400 784 635

Anthony Smoker
anthony.smoker@tfhs.lu.se

APPENDIX B: Example of invitation email to interviewees

Dear Sir.

I had your name and contact details from my colleague at CAA Finland, Helicopter Expert Group representative Petri Mikkonen. I need your help to finalize my MSc studies in Lund University, Human Factors and Systems Safety program.

Part of my studies, I am at the moment conducting research for my thesis. My main interest is an NAA (NCA) inspector, who is at the frontline concerning small aviation organizations when dealing with EASA produced regulations and trying to guide these organizations to be compliant and safe.

For the research, I would like to interview an inspector from your organization. The inspector should be from helicopter OPS, and also worked in NAA with small (less than five helicopter) SPO organizations. The video interview will take maximum one hour, and the whole interview material is only for my personal use for the research. No names nor nationalities will be mentioned in the thesis. Attached is a short research information for the participant.

We will schedule the interview as soon as you confirm your participation. If you are not the right person, can you please suggest an inspector from your organization which fulfils these requirements mentioned above. Your help would be very valuable, opinions of the NAA inspectors count.

Best regards

Petteri Peltola
petteri.peltola@traficom.fi
petu.peltola@gmail.com
Tel: + 358 400 784 635

APPENDIX C: Experience of the participants

First stage	Years in NAA	Years in aviation
NAA Inspector ¹	20	31
NAA Inspector ^{1, 2}	29	45
NAA Inspector ^{1, 2}	22	45

Second stage	Years in NAA	Years in aviation
NAA Inspector	4	13
NAA Inspector	3	6
NAA Inspector	3	37
NAA Inspector	11	23
NAA Inspector	11	23
NAA Inspector ²	12	25
NAA Inspector	3	16

Random identification codes were given to inspectors during the data gathering. This code is used in the text of this thesis in order to connect the quotations of the inspectors to the data.

¹ NAA Inspector with experience as JAA Sub Sectorial Team member.

² NAA Inspector with experience from EASA rulemaking task group or from EASA standardization inspection team.

To the years in aviation is taken into account all experience inside the domain of aviation, including, for example, experience as a pilot, experience in military or state aviation, experience as a post holder, studies in aviation, and experience as an NAA inspector.

APPENDIX D: Questions of the semi-structured interviews

Background information collected during the interview from all of the participants:

- Name
- Country
- Years in aviation
- Years in authority
- Relevant working history (organizations, JAA, EASA)

Questions for the semi-structured interview, first stage:

How do you feel about being an inspector nowadays?

How do you see your contribution to safety in your work with organizations?

How would you describe EASA's contribution comparing to this? (Continuation)

How do you as an inspector see yourself between organizations and EASA?

*Do you feel that a way EASA has grown has changed your role as an inspector?
(Continuation)*

*Is it easier or more difficult to work in today's position comparing the old?
(Continuation)*

What is your opinion about this evolution from national regulatory world to EASA one?

How do you see pros and cons? (Continuation)

Questions for the semi-structured interview, second stage:

How do you see your contribution to safety in your work with organizations?

How would you describe EASA's contribution comparing to this? (Continuation)

How did you succeed in the implementation of ORO.GEN.200 (Management system) with small SPO operators?

How do you as an inspector see yourself between organizations and EASA in this implementation process? (Continuation)

What is your opinion about the ESPN-R deliverables?

In general, what EASA represents for you?