



One Provider, Several Plans: The Ground Handling Provider in Nested Aviation Emergency Response Arrangements

Onur Kan Ödeş^{1*}

¹Independent Researcher, Antalya, Türkiye

Corresponding Author: Onur Kan Ödeş

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Independent Researcher, Altıntaş Mahallesi, Aksu, Antalya, Türkiye | Email: onurkan88@hotmail.com | Phone: +90 507 282 02 22.

ABSTRACT

When an aircraft accident or another serious emergency occurs at an airport, an independent ground handling provider may work under several emergency arrangements at once: the aerodrome emergency plan, the emergency response plans of the airlines it serves, its own plan and the emergency provisions of occupational health and safety law. This paper examines how public regulatory and guidance documents position the provider within these nested arrangements. A document analysis of 21 international, European, national and industry sources, recorded with their legal status and access level, was combined with research on interorganisational coordination in emergencies. Each document was coded for nine emergency functions, distinguishing explicit, implicit, not stated and not assessable provisions; only the third category was treated as evidence of absence. The European acceptable means of compliance and guidance material for ground handling organisations, issued in 2025, now address the provider directly: they require corporate and station level emergency response plans, coordination with aerodrome and aircraft operators, support for or substitution of the aircraft operator's plan, contact arrangements, training and testing. Precedence of aerodrome procedures is stated for listed operational aspects. In the documents reviewed in full, no provision was found on how a provider that serves several airlines should allocate staff and equipment committed to more than one plan, and functions such as passenger information, family assistance and dangerous goods information remain assigned to the airline without provisions on their performance through an agent. The paper argues that the main unresolved problem is the multiple commitment of the same resources, and that questions of authority must be separated into procedure, command, employer duty, delegated tasks and resource allocation. Implications for handling agreements, aerodrome plans and multi-airline exercises are discussed.

Keywords: ground handling, emergency response plan, aerodrome emergency plan, interorganisational coordination, resource allocation, safety management system, outsourcing.

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1. INTRODUCTION

An aircraft accident at an airport sets several organisations in motion within minutes. The aerodrome operator activates its emergency plan and coordinates rescue and firefighting, police, medical services and the civil authorities. The airline whose aircraft is involved activates its own emergency response plan, which deals with passengers, crew, families, the investigation and the public. Where ground handling is outsourced, a third organisation is involved whose staff work on the apron and in the terminal, whose equipment is near the aircraft and which, depending on the services contracted, may have checked in the passengers, loaded the baggage and prepared the load documentation.

International standards require each of these organisations to plan for emergencies. Aerodrome operators must establish an aerodrome emergency plan that coordinates the agencies able to assist (International Civil Aviation Organization [ICAO], 1991, 2022). Service providers that operate a safety management system must coordinate their emergency response planning with the plans of the organisations they interface with (ICAO, 2016, 2018). States are recommended to require airlines and airports to have plans for assisting accident victims and their families (ICAO, 2013). Ground handling providers are also employers, and occupational health and safety law requires employers to organise first aid, firefighting and

evacuation (Council of the European Communities, 1989).

An independent provider serving several airlines at one airport may therefore be party to several plans at the same time. Its own plan has to operate within the aerodrome emergency plan, has to support the plans of the airlines it serves and has to meet workplace obligations written for a different purpose. Research on disaster response has shown that difficulties often arise at the boundaries between organisations, where authority, information and resources pass from one party to another (Comfort, 2007; Quarantelli, 1988). Aviation emergency planning has been studied mainly from the perspective of airports and airlines, including airport preparedness (Harriman, Fanjoy & Petrin, 2009), the airline family assistance centre (Brown, Efthymiou & McMullan, 2022) and local family assistance programmes (National Academies of Sciences, Engineering, and Medicine, 2017), while ground handling research has concentrated on safety culture and human factors (Balk & Bossenbroek, 2010; Ek & Akselsson, 2007).

The regulatory position of the provider has recently changed. In the European Union, Commission Delegated Regulation (EU) 2025/20 sets requirements for ground handling organisations, applying from 27 March 2028 (European Commission, 2025), and the European Union Aviation Safety Agency has issued acceptable means of compliance and guidance material that address the provider's emergency response plan directly (European Union Aviation Safety Agency [EASA], 2025a). This paper examines what these and other public documents settle, what they leave to local agreements and plans, and which problems remain unresolved when a provider serves several airlines. Sections 1.1 and 1.2 review the literature on which the analysis draws, and Section 1.3 states the research questions.

1.1. Emergency Plans and Interorganisational Coordination

Emergency plans assign tasks, define authority, establish communication channels and provide a basis for exercises (Perry & Lindell, 2003). Perry and Lindell (2003) argued that the planning process matters more than the written plan, because the relationships and expectations built during planning allow organisations to coordinate when an emergency occurs. Clarke (1999) warned that some plans function mainly as symbols that reassure regulators and the public rather than as workable guides, particularly for events that the organisation has not experienced.

Disaster research has found that coordination problems are more common than shortages of resources. Quarantelli (1988) concluded from many studies that

difficulties typically arise in communication between organisations, in the exercise of authority and in the integration of new tasks. Comfort (2007) identified cognition, communication, coordination and control as linked conditions for effective crisis management, and Kapucu (2006) showed how communication networks between agencies form and change during an emergency. Bigley and Roberts (2001) described the incident command system as a form of high reliability organising that absorbs units from several organisations under one command, and Moynihan (2009) found that such systems work as networks whose coordination depends on trust and prior relationships.

1.2. Ground Handling as an Outsourced Interface

Council Directive 96/67/EC opened the European ground handling market to competition (Council of the European Union, 1996), and a single provider may serve many airlines at one airport. The provider is bound to each airline by a handling agreement, operates under the aerodrome operator's rules and employs its own staff. The new European rules require ground handling organisations to follow aerodrome operator procedures on listed operational aspects and to address interfaces in coordination with the aerodrome operator (European Commission, 2025). Industry guidance exists as well: the IATA Airport Handling Manual contains guidelines for an emergency management system in its chapter AHM 620 (International Air Transport Association [IATA], 2026).

1.3. Research Questions

Three questions guide the analysis. RQ1: Which emergency functions do the documents address for the ground handling provider, and how explicitly? RQ2: Which questions of authority and precedence do the documents settle, and which do they leave to local arrangements? RQ3: Which problems remain unresolved by the documents and plausibly create coordination risk when a provider serves several airlines?

2. MATERIALS AND METHODS

2.1. Design and Sources

The study is a qualitative document analysis (Bowen, 2009) combined with a review of research on interorganisational coordination in emergencies. The sources were selected purposively to cover international standards and guidance issued by ICAO, European Union law and soft law on aerodromes, ground handling and workplace safety, national provisions from Türkiye as the main case and from the United States and Singapore as comparison cases with public texts, and industry and management system standards. Table 1 lists the 21 documents with their level, legal status and access. Council Directive 96/67/EC is cited as background but was not coded, because a market access instrument is not expected to assign emergency functions.

Table 1. Documents analysed

ID	Document	Level and status	Access	Provisions reviewed
D1	ICAO Annex 14, Vol. I (9th ed., 2022), Chapter 9.1	International standard; Binding standard for States	P	Chapter 9.1
D2	ICAO Doc 9137, Part 7 (2nd ed., 1991)	International guidance; Guidance	P	General structure
D3	ICAO Annex 19 (2nd ed., 2016), Appendix 2, element 1.4	International standard; Binding standard for States	P	Appendix 2, element 1.4
D4	ICAO Doc 9859 (4th ed., 2018), ERP section	International guidance; Guidance	P	ERP section
D5	ICAO Annex 18 (4th ed., 2011), 9.6.1	International standard; Binding standard for States	P	9.6.1
D6	ICAO Doc 9998 (2013)	International policy; Policy	F	Whole document
D7	ACRP Research Report 171 (2017)	Research report; Guidance	T	Title and summary
D8	Regulation (EU) No 139/2014, ADR.OPS.B.005	EU regulation; Binding	P	ADR.OPS.B.005
D9	Delegated Regulation (EU) 2025/20	EU regulation; Binding from 27 March 2028	P	GH.OPS.005(e)(13), GH.OPS.005(f), GH.OPS.010(b), ORGH.GEN.110(a)(3)
D10	EASA AMC and GM to Part-ORGH, Issue 1 (7 July 2025), ERP provisions	EU soft law; Acceptable means and guidance	P	AMC1 ORGH.MGM.200(b)(2)(ii)(e); AMC2 and GM2 ORGH.MGM.200(b)(2)(ii); AMC3 ORGH.MGM.200(b)(2)
D11	EASA AMC and GM to Part-GH.OPS, Issue 1 (7 July 2025)	EU soft law; Acceptable means and guidance	F	Whole document searched for emergency provisions
D12	Council Directive 89/391/EEC, Article 8	EU directive; Binding	P	Article 8
D13	DGCA Türkiye, SHT-ADP draft instruction	National draft; Draft, not in force	F	Whole document
D14	Law No. 6331 on Occupational Health and Safety, Article 11	National law; Binding	P	Article 11
D15	Regulation on emergencies at workplaces (2013)	National regulation; Binding	P	Provisions on plans, support staff and drills
D16	14 CFR § 139.325	National regulation (US); Binding	F	Whole section
D17	49 U.S.C. § 41113	National law (US); Binding	F	Whole section
D18	CAAS AC 139-7-3 (Rev 1, 2025)	National guidance (Singapore); Guidance	F	Searched for GH roles
D19	CAAS AC 92-4-2 (Rev 0, 2026)	National guidance (Singapore); Guidance	F	Searched for post accident information
D20	IATA AHM (46th ed., 2026), AHM 620	Industry standard; Voluntary	T	Title only
D21	ISO 45001:2018, Clause 8.2	Management system standard; Voluntary	T	Clause title

Three levels of access are distinguished. For documents marked F, the full text was reviewed. For documents marked P, only the provisions listed in Table 1 were reviewed, because the rest of the document was not freely available or not relevant to emergency planning. For documents marked T, only the title and existence of the relevant chapter or clause could be confirmed; this applies to the IATA Airport Handling Manual, ISO 45001 and the ACRP report. The Turkish instruction on aerodrome emergency plans is a draft published by the authority and is treated as an indication

of regulatory intent (Directorate General of Civil Aviation [DGCA], n.d.).

2.2. Coding

Each document was coded for nine functions derived from the planning literature (Perry & Lindell, 2003) and from the structure of the ICAO documents: activation and notification (F1); command, authority and precedence (F2); initial operational response (F3); information to responders, including information on dangerous goods (F4); passenger and baggage information (F5); family assistance (F6); public and

media communication (F7); recovery and continuity (F8); and testing and exercises (F9). For each function, the position of the ground handling provider was coded in one of four categories. Explicit (E) means that the function or relation is stated for the provider. Implicit (I) means that the provider is covered through a general category such as organisations, tenants, agents or employers. Not stated (N) means that the reviewed text was checked for that function and contains no provision concerning the provider. Could not be assessed (U) means that the reviewed text is insufficient to conclude absence. Only N codes are treated as evidence that a document is silent, and U codes are not treated as evidence of a gap.

The assignment of each function to aerodrome operators and airlines was recorded separately, together with the provision on which each code rests. The complete matrix of 21 documents and nine functions, with provision references, is provided as Supplementary Material S1. Statements about the operational conditions under which a function may concern the provider are not part of the coding; they are reported separately in Section 3.4 and identified as the author's interpretation based on professional experience in quality and safety management in ground handling. The coding was carried out by the author, and no independent second coding was performed.

2.3. Ethics and Use of Generative AI

The study analyses publicly available documents and published research. It involves no human

participants and no personal data, and no confidential organisational documents are reproduced or cited. Generative AI (Anthropic Claude) was used for English language editing. The author checked all sources and all statements about their content and is responsible for the interpretations and conclusions.

3. RESULTS

3.1. What the Documents Address for the Provider

Table 2 summarises the codes by function. Two features stand out. First, the European acceptable means of compliance and guidance material for ground handling organisations are the only documents that treat the provider's emergency response plan as a subject in its own right (EASA, 2025a). They provide that the plan should be appropriate to the organisation's size and complexity, should exist at corporate and station level, should follow the aerodrome operator's plan at the station and support or replace the aircraft operator's plan, should be coordinated with the aircraft operator, the aerodrome operator and other stakeholders, should set out the actions of personnel and clear contact arrangements with the aircraft operator, including outside normal business hours, and should be tested regularly, with personnel trained for their roles. The guidance material adds that a response may be required even where the aircraft operator does not share its plan, that the station plan should include a timeline of actions, that the organisation should take part in exercises as required and that emergencies related to its own services may be handled as part of business continuity planning.

Table 2. Position of the ground handling provider by function (number of documents)

Function	Explicit	Implicit	Not stated	Could not be assessed	Explicit sources
F1 Activation and notification	2	2	4	13	D9, D10
F2 Command, authority and precedence	4	7	2	8	D9, D10, D13, D18
F3 Initial operational response	4	3	3	11	D10, D12, D14, D15
F4 Information to responders (incl. dangerous goods)	0	0	7	14	None
F5 Passenger and baggage information	0	0	7	14	None
F6 Family assistance	0	2	5	14	None
F7 Public and media communication	0	0	6	15	None
F8 Recovery and continuity	0	2	5	14	None
F9 Testing and exercises	2	4	3	12	D10, D15

Second, outside this material the provider appears mainly through general categories. The Singapore guidance lists ground handling service providers among the organisations the aerodrome emergency plan should coordinate (Civil Aviation Authority of Singapore [CAAS], 2025), and the Turkish draft lists ground handling organisations among the parties whose duties the aerodrome plan must define for each type of emergency (DGCA, n.d.). The United States rule requires coordination with the principal tenants of the airport and other persons with responsibilities under the plan (Code of Federal Regulations, 2026). The

guidance to the European operational rules refers to emergencies only in operational contexts, such as supporting evacuation and following procedures for fuel spillage (EASA, 2025b). Workplace safety law addresses the provider as an employer (Council of the European Communities, 1989; Republic of Türkiye, 2012, 2013).

For three functions, no explicit or implicit provision concerning the provider was found in any document. In the documents reviewed in full or in their relevant provisions, passenger and baggage information and information on dangerous goods are assigned to the

aircraft operator (ICAO, 2011, 2013; United States Code, 2026; CAAS, 2026), and public communication rests with the airline or the aerodrome. For family assistance, the provider is covered only implicitly: ICAO refers to third parties such as commercial companies (ICAO, 2013), and the United States law requires airlines to train their employees and agents (United States Code, 2026). The ERP provisions of the European material do not address these functions. Many cells in the matrix could not be assessed, mainly for the ICAO manuals and the industry standards, and the absence of a code in these documents is not interpreted as silence.

3.2. Authority Separated into Five Questions

Questions of authority in a nested emergency are not one question. Table 3 separates five decisions and records what the documents settle for each. The first is which operational procedure applies. For listed operational aspects, including the alerting of emergency services, the European regulation provides that the aerodrome operator's procedures prevail over conflicting procedures of the ground handling organisation and the aircraft operator (European Commission, 2025). This settles precedence for procedures; it does not settle the other four decisions.

Table 3. Five questions of authority in nested emergency arrangements

Decision	What the documents settle	Documents	Remaining question
Which operational procedure applies	Aerodrome procedures prevail over provider and aircraft operator procedures for listed operational aspects	D9	Application to emergency response plans as a whole
Who commands on the scene	Aerodrome plan coordinates agencies; provider follows it at station level	D1, D8, D10	Command relation between airline representatives and provider staff
Which duties the employer retains	Employer organises first aid, firefighting and evacuation for its workers	D12, D14, D15	Relation to instructions from the aerodrome structure
Who performs delegated airline tasks	Provider supports or replaces the aircraft operator plan; obligation under the service contract applies at all times	D10	Content of tasks and conditions, left to the contract
How scarce resources are allocated	Not addressed in the documents reviewed	None	Priorities among aerodrome, airline involved and continuing services

The second is who commands on the scene. The aerodrome plan coordinates the agencies at the aerodrome (ICAO, 2022; European Commission, 2014), and the European guidance requires the provider to follow it at station level (EASA, 2025a). The third is which duties the provider retains as an employer. Workplace safety law keeps the employer responsible for first aid, firefighting and evacuation measures for its workers (Council of the European Communities, 1989; Republic of Türkiye, 2012), and the documents reviewed do not state how these duties relate to instructions given by the aerodrome emergency structure. The fourth is who performs tasks delegated by the airline. The European guidance states that the obligation to follow the aircraft operator's plan under the service contract applies at all times and that the provider may support or replace that plan (EASA, 2025a), which leaves the content of delegation to the contract. The fifth is how scarce staff and equipment are allocated. None of the documents reviewed in full or in their relevant provisions addresses it.

3.3. Several Airlines, the Same Resources

The European guidance speaks of the aircraft operator in the singular, and the other documents address either the aerodrome or a single airline. In the documents reviewed in full or in their relevant provisions, no provision was found on how a provider that serves several airlines should allocate staff and equipment that appear as available resources in more than one plan.

Three demands can coincide. The aerodrome emergency structure may request staff, ground support equipment and logistic support for the general response. The airline whose aircraft is involved may expect the provider to perform the tasks agreed under its plan or to replace that plan where it has no station capacity. Other airlines may continue to operate if the aerodrome remains open, and their agreements continue to apply.

Whether these demands collide depends on the scale of the event and on local arrangements. Where the aerodrome closes, continuing services are suspended and the conflict is reduced to the first two demands. Where operations continue on part of the aerodrome, the same staff and equipment may be claimed by the emergency response and by ongoing services. The planning literature suggests that plans which assume resources will be available as needed are vulnerable precisely where several plans draw on the same resources at the same time (Quarantelli, 1988), and the analysis indicates that the documents leave this allocation to the provider.

3.4. Conditions Under Which Airline Functions Concern the Provider

The coding records which party the documents assign functions to. Whether an airline function concerns the provider depends on the services contracted, and this section reports the author's interpretation of those conditions rather than a result of the coding. Where check in and boarding are performed by the provider on

the airline's departure control system, provider staff may be the first able to produce a list of who boarded and which bags were loaded, although the documents assign the manifest to the airline (ICAO, 2013; United States Code, 2026). Where load control is outsourced, the provider may hold the information on dangerous goods that the operator must provide without delay to emergency services (ICAO, 2011; CAAS, 2026). Where the airline has no staff at the station, family assistance at the airport may initially depend on provider staff acting at the airline's request (Brown et al., 2022). In each case the function remains the airline's, and the conditions of its performance through an agent are left to the handling agreement and the airline's plan.

3.5. Workplace and Aviation Requirements

The provider is subject to two bodies of emergency requirements. Workplace safety law requires employers to organise first aid, firefighting and evacuation, to designate workers for these tasks and, in Türkiye, to prepare emergency plans and hold drills (Council of the European Communities, 1989; Republic of Türkiye, 2012, 2013). Aviation documents require the provider to follow the aerodrome emergency plan and to support the airline's plan (EASA, 2025a; European Commission, 2025). In the documents reviewed in full or in their relevant provisions, no cross reference between the two bodies of requirements was found; the ISO 45001 clause on emergency preparedness (International Organization for Standardization [ISO], 2018) and the IATA chapter could not be assessed for this purpose. The European guidance recommends that the plan cover any type of emergency in which the organisation may be involved (EASA, 2025a), which allows but does not require integration. A fire in a baggage hall illustrates the question: it is a workplace emergency for the employer and may become an aerodrome emergency, so the provider's response teams need to know when to act and when to give way to aerodrome services.

3.6. Testing and Recovery

Testing requirements are well developed for aerodromes, with full scale exercises at intervals not

exceeding two years under ICAO standards (ICAO, 2022), periodic testing under European rules (European Commission, 2014), a full scale exercise every 36 months and an annual review with coordinating parties for the largest United States airports (Code of Federal Regulations, 2026) and, in the Turkish draft, yearly partial and tabletop exercises (DGCA, n.d.). The European guidance requires the provider to test its plan regularly and to take part in exercises as required (EASA, 2025a). None of the documents reviewed specifies exercises in which a provider responds to an emergency while serving several airlines. Recovery is addressed for service providers in general through the transition back to normal operations (ICAO, 2018) and for ground handling organisations through business continuity planning (EASA, 2025a); in the reviewed provisions, no further detail on the provider's recovery was found.

4. DISCUSSION

4.1. What Is Settled, What Is Delegated and What Remains Open

The analysis suggests a more differentiated picture than a general claim that documents ignore the provider. Table 4 groups the issues into three categories. Some are now settled in European soft law and regulation: the existence of a provider plan at corporate and station level, the obligation to follow the aerodrome plan, coordination with aerodrome and aircraft operators, contact arrangements, training, testing and the precedence of aerodrome procedures for listed operational aspects. Some are deliberately left to local arrangements: the content of tasks the provider performs for an airline, the release of passenger, baggage and dangerous goods information through the agent, and support for family assistance. A detail left to the handling agreement is not by itself a regulatory gap, because agreements and station plans are the appropriate instruments for arrangements that differ between airlines and airports.

Table 4. Issues settled, left to local arrangements and unresolved

Category	Issue	Basis
Settled	Provider plan at corporate and station level; following the aerodrome plan; coordination with aerodrome and aircraft operators; contacts; training; regular testing	D10 (AMC2 and GM2 ORGH.MGM.200(b)(2)(ii))
Settled	Precedence of aerodrome procedures for listed operational aspects, including alerting of emergency services	D9 (GH.OPS.005(e)(13) and (f))
Left to local arrangements	Tasks performed for the airline; release of passenger, baggage and dangerous goods information through the agent; support for family assistance	D5, D6, D10, D17
Unresolved	Allocation of staff and equipment committed to the aerodrome plan and to the plans of several airlines	No provision found in documents reviewed
Unresolved	Relation between employer duties under workplace law and instructions from the aerodrome emergency structure	No cross reference found in documents reviewed

The third category consists of problems that local arrangements with one airline cannot resolve,

because they arise from the provider's relations with several parties at once. The central one is the multiple

commitment of the same resources. Each handling agreement and each airline plan may count on the provider's staff and equipment, and the aerodrome plan may do the same. Bilateral agreements cannot set priorities among parties that are not party to them. A second is the relation between employer duties under workplace law and instructions from the aerodrome emergency structure, which neither body of requirements addresses in the documents reviewed.

4.2. Relation to Previous Research

The findings are consistent with research showing that coordination problems arise at organisational boundaries (Comfort, 2007; Quarantelli, 1988). The European material establishes something like the network described by Moynihan (2009), in which the provider's plan is coordinated with those of the aerodrome and the aircraft operator, but the network is defined pairwise, and the case of one provider linked to several aircraft operators at the same time is not addressed. Clarke's (1999) warning applies to provider plans that list every applicable plan without stating priorities: such a plan may satisfy an auditor without telling a station manager what to do when demands collide. Perry and Lindell's (2003) emphasis on the planning process also needs qualification for providers, whose portfolio of airlines changes and whose relationships with each airline are formed through commercial agreements rather than joint planning.

4.3. Propositions for Further Research

Three propositions follow. First, providers whose station plans state priorities among aerodrome requests, the airline involved and continuing services are expected to show fewer resource conflicts in exercises involving more than one airline than providers whose plans do not. Second, handling agreements that specify emergency tasks and the conditions for releasing information through the agent are expected to be associated with faster performance of delegated functions in exercises. Third, the integration of workplace response teams with aerodrome emergency services is expected to depend more on joint exercises than on written procedures. These propositions can be examined through analysis of station plans, handling agreements and exercise reports, and through interviews with station managers and aerodrome emergency coordinators.

4.4. Implications for Practice and Regulation

For providers, the station plan can state an order of priority among aerodrome requests, the airline involved and continuing services, and can identify which staff and equipment are committed to which plan. For airlines and providers, the handling agreement can specify the emergency tasks expected of the provider and the conditions under which passenger, baggage and dangerous goods information is released through the agent. For aerodrome operators, the aerodrome plan can list the functions expected of ground handling providers,

as the Singapore guidance and the Turkish draft already require, and exercises can include scenarios in which a provider serves several airlines. For regulators, guidance on the provider's emergency response plan could address the case of several aircraft operators explicitly.

4.5. Limitations

The study analyses documents and does not observe practice. The selection covers international, European and three national sources and does not represent all national rules. Several documents could be reviewed only in their relevant provisions, and three only by title, so absence was concluded only where the reviewed text was checked for the function. The IATA chapter on emergency management systems, which is directly relevant, could not be assessed in content. The coding was performed by one person, and the conditions reported in Section 3.4 rest on professional experience rather than on the documents. Local agreements and station plans, which are not public, may resolve some of the problems identified.

5. CONCLUSION

This paper examined how public documents position the ground handling provider within nested emergency arrangements. On RQ1, the European acceptable means of compliance and guidance material now address the provider's emergency response plan directly, while other documents cover the provider mainly through general categories, and no document addresses the provider for passenger information, dangerous goods information or public communication. On RQ2, the documents settle the precedence of aerodrome procedures for listed operational aspects and require the provider to follow the aerodrome plan and to support or replace the aircraft operator's plan, while leaving employer duties, delegated tasks and resource allocation unresolved or to local arrangements. On RQ3, the main problem that local bilateral arrangements cannot resolve is the multiple commitment of the same staff and equipment to the plans of the aerodrome and of several airlines. Making that commitment visible in station plans, agreements and exercises would turn a coordination risk into a planning decision.

DECLARATIONS

Funding. This research received no external funding.

Ethics statement. No ethics committee approval was required, because the study analysed publicly available documents and published research and involved no human participants or personal data.

Data availability. All documents analysed are listed in Table 1 and in the references. The complete coding matrix with provision references is provided as Supplementary Material S1.

Use of generative AI. Generative AI (Anthropic Claude) was used for language editing, as described in Section

2.3. The author reviewed and edited all output and takes full responsibility for the content of this article.

Conflict of interest. The author is employed in quality and safety management by a ground handling provider. The organisation had no role in the design of the study, the analysis, the writing of the manuscript or the decision to publish. No confidential documents of the organisation were used. No commercial or financial interest in the findings is declared.

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