

HEMS introduction workshop

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EU-China Aviation Partnership Project

直升机医疗救护专题研讨会

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中欧民航合作项目



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Introduction

介绍

- Structure of EU regulations 欧盟规章的结构
- EU regulations applied to EASA
适用于欧洲航空安全局的欧盟规章
- EU regulations applied to HEMS
适用于直升机紧急医疗服务的欧盟规章
- HEMS: The challenge
直升机紧急医疗服务: 挑战



STRUCTURE OF EU REGULATIONS

欧盟规章的结构



Structure of EU regulations

欧盟规章的结构

BASIC REGULATION

基本规章

IMPLEMENTING RULES

实施细则

CS: Certification Specifications

AMCs: Acceptable Means of Compliance

GM: Guidance Material

CS: 认证规范

AMCs: 适航性验证方法

GM: 指南材料



Basic Regulation

基本规章

- Defines EASA Power
定义欧洲航空安全局的权力
- Defines the scope and applicability of EU regulations
定义欧盟规章的范围和适用性
- Describes High-level safety objectives
描述了高水平的安全性目标



Implementing Rules 实施细则

- Detailed regulations 规章制度
 - To helicopter manufacturers: 748/2012
对直升机制造商: 748/2012
 - To helicopter operators : 965/2012 AIR OPS; 923/2012 Rules of the air
对直升机运营商: 965/2012航空营运; 923/2012 空中条例
 - To helicopter operators' authorities : 965/2012
对直升机运营商当局: 965/2012
 - Also to maintenance, aerodrome operators, Air Traffic Service providers, Third country operators...
以及对维护方、机场运营商、空中交通服务提供商、第三国运营商...



Certification Specs

认证规范

- Certification Specifications are where the standards are defined. Helicopters: CS 27, CS 29.

认证规范中定义了标准. 直升机: CS 27, CS 29.

- They are non-binding: Manufacturers may demonstrate they reach equivalent results in a different way.

它们不具备约束力: 制造商可能会演示其以不同的方式, 他们达到等效的结果。

- This allows flexibility and adaptability to new technology

这准许了对新技术的灵活性和适应性。



AMCs and GMs

适航性验证方法和指南材料

- AMCs and GMs explain in detail the meaning of the rule and how to achieve compliance.

适航性验证方法和指南材料详细解释了条例的意义和怎样实现适航性。

- AMCs are non binding. Operators may define Alternatives Means of Compliance (AltMoC) provided the requirements of the implementing rules are met.

适航性验证方法不具备约束力。运营商可以定义其它可选择的适航性验证方法(AltMoC)，前提是实施细则的要求已满足。

- Operators' AltMoCs need to be assessed by the authority.
运营商的 AltMoCs 需要得到当局评估。



Performance Based Rules

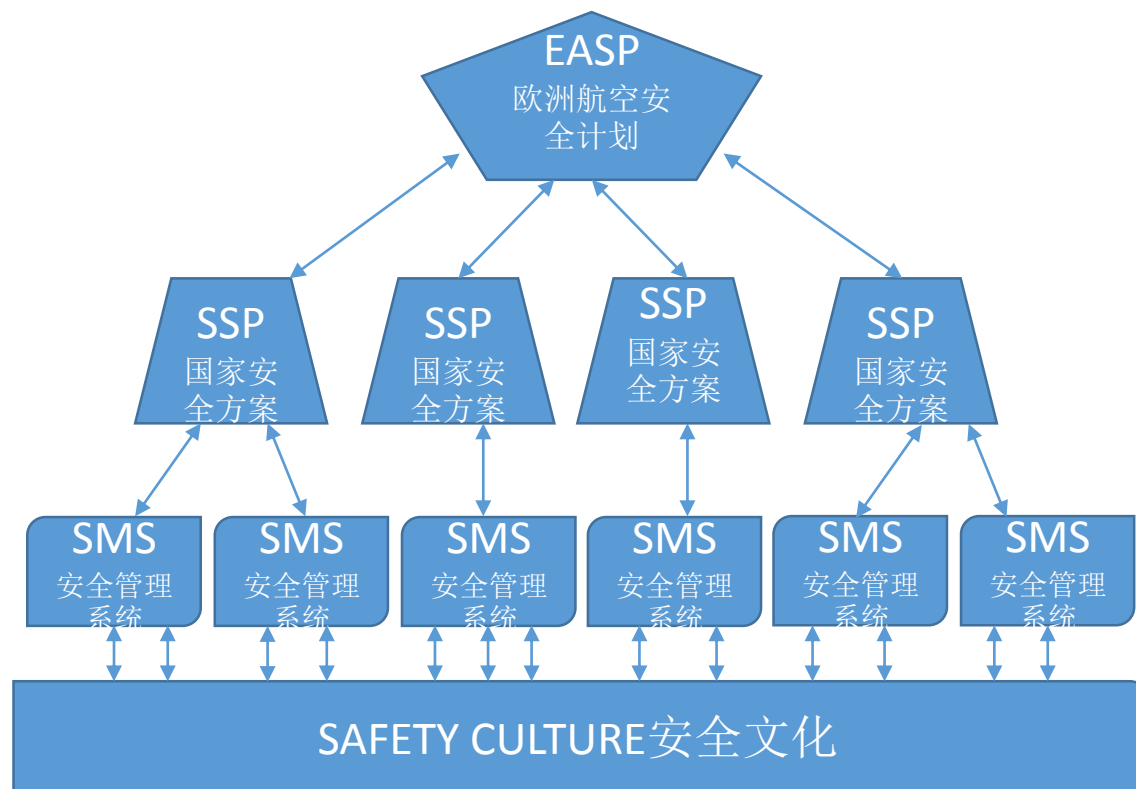
基于绩效的条例

- Rules used to be prescriptive :
以往条例具备规范性:
 - Implementing rule: You shall do this.
实施规则: 贵机构须这样做。
- Rules are more and more performance-based
条例越来越基于绩效
 - Implementing rule: You shall achieve this result
实施规则: 贵机构须达到这样的结果。
 - Non-binding CS or AMC: in order to do so, you should do this.
无约束力的认证规范或者适航性验证方法: 为了这样的目的, 贵机构应当这样做。
- Result: More flexibility, new solutions, new technologies.
结果: 更多灵活性、新解决方案、新技术。



Performance Based Rules 基于绩效的条例

- EASA
欧洲航空安全局
- States
国家
- Operators Manufacturers
运营商 制造商
- Individual people
个人



Basic regulations applied to EASA

适用于欧洲航空安全局的基本规章



Basic regulations applied to EASA 适用于欧洲航空安全局的基本规章

HELICOPTER MANUFACTURING 直升机组制造商

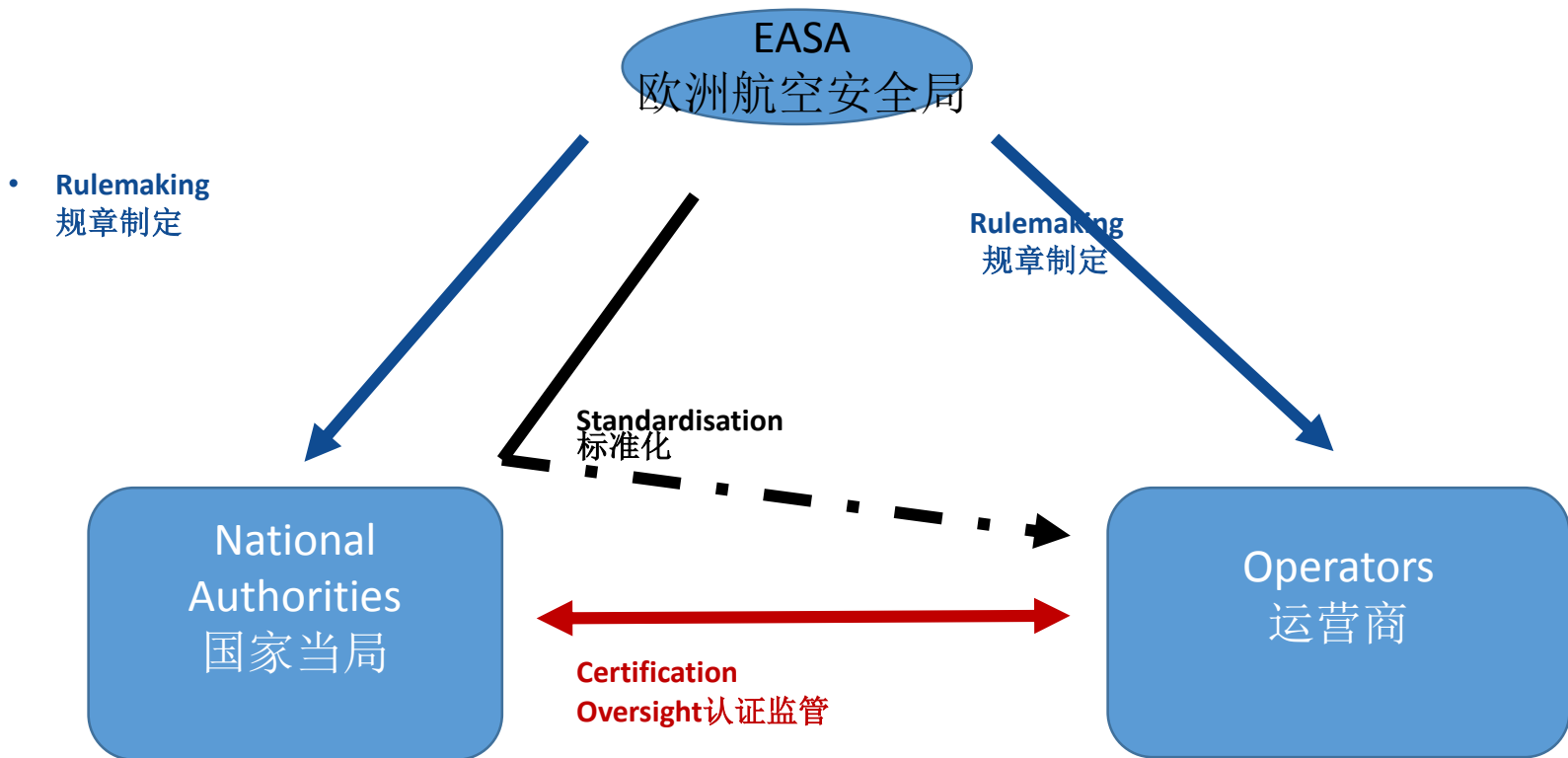
- EASA is the CERTIFICATION AUTHORITY
欧洲航空安全局是认证权威机构
- EASA is directly in charge of issuing :
欧洲航空安全局直接负责颁发:
 - new Type certificates (TC) 新型认证 (TC)
 - Supplemental Type Certificates (STC) 补充形式的认证 (STC)
 - Airworthiness directives (AD) 适航指令 (AD)



Basic regulations applied to EASA 适用于欧洲航空安全局的基本规章

HELICOPTER OPERATIONS

直升机运营商



Basic regulations applied to HEMS

适用于直升机紧急医疗服务的 基本规章



Basic regulations applied to HEMS

适用于直升机紧急医疗服务的基本规章

- EASA rules are applicable to all, except...

欧洲航空安全局条例适用于所有情况，除了...

- Police operations, 警方行动,
- Military operations, 军事行动,
- Customs operations, 海关业务,
- Search and Rescue, 搜索和救援,
- State or similar services, 国家服务或其他类似服务。

- EASA rules include HEMS rules.

欧洲航空安全局条例包括了直升机紧急医疗服务条例。



Basic regulations applied to HEMS

适用于直升机紧急医疗服务的基本规章

Why do some States provide HEMS service ?

为什么一些国家提供直升机紧急医疗服务服务？

- For historical reasons, the State pioneered the service
由于历史原因，这些国家率先推出此项服务
- Because the State can get 90% of the Public Relations benefit while in charge of only 10% of the service
因为这些国家只用负责10%的服务，而可以获得90%的公关效益。



Basic regulations applied to HEMS

适用于直升机紧急医疗服务的基本规章

Why is HEMS operated commercially in most cases?
为什么直升机紧急医疗服务在大多数情况下都是商业化运作？

- To focus State resources on core State activities
集中国家资源用于核心国家活动
- Because commercial operators have the experience
因为商业运营商有充足经验
- To ensure the service remains competitive
为了确保这项服务保持竞争力



Basic regulations applied to HEMS

适用于直升机紧急医疗服务的基本规章

HEMS 直升机紧急医疗服务	Some Member States 一些成员国		Other member states 其他成员国	Most member states 大部分成员国
Interpretation Of the BR 基本规章的解读	Commercial 商业的	State 国家的	State 国家的	Commercial 商业的
HEMS rules 直升机紧急医疗服务 条例	EASA Implementing Rules 欧洲航空安全局 实施细则	National rules – Very close to / referring to EASA IRs 国家规则 – 非常接近或 参照欧洲航空安全局的 实施细则	National rules – inspired by EASA IRs / referring to EASA IRs 国家规则 – 受欧洲航 空安全局实施细则启 发/参照欧洲航空安全 局的实施细则	EASA Implementing Rules 欧洲航空安全局 实施细则

- EASA HEMS rules are widely implemented, often voluntarily by state operators
欧洲航空安全局 直升机紧急医疗服务 条例被广泛采用，经常由国有运营商
自愿执行。



Basic regulations applied to HEMS

适用于直升机紧急医疗服务的基本规章

HEMS 直升机紧急 医疗服务	Commercial operators 商业运营商		State operators (military, police, ministry of health...) 国有运营商 (军方, 警方, 卫生部...)	
Airspace 空域	Military 军用	Civilian 民用	Civilian 民用	Military 军用

- HEMS helicopters fly through all airspace, regardless of the operator.

直升机紧急医疗服务中的直升机可以通行所有空域, 无论通过什么运营商。



HEMS

The challenge

直升机紧急医疗服务 挑战



HEMS : Definition

直升机紧急医疗服务：定义

- HEMS: HELICOPTER EMERGENCY MEDICAL SERVICE
- HEMS: 直升机紧急医疗服务
 - HELICOPTERS 直升机
 - EMERGENCY. 紧急
 - Emergency flights to/ from accident sites are HEMS
飞往或飞离事故现场的紧急航班属于直升机紧急医疗服务
 - Emergency hospital transfers are HEMS
紧急医院转运属于直升机紧急医疗服务
 - Planned hospital transfers are not HEMS and are called Air Ambulance
非紧急的计划类医院转运不属于直升机紧急医疗服务，而称作空中救护飞机。
 - MEDICAL. 医疗
 - Patients, Medical personnel, Medical Supplies, Organs have to be involved in a HEMS mission.
直升机紧急医疗服务的任务须涉及到患者、医护人员、医疗物资和器官



HEMS : The operational challenge

直升机紧急医疗服务：运营挑战

- The HEMS mission cannot be planned
直升机紧急医疗服务的任务无法提前计划
- HEMS may be operated by day or night.
直升机紧急医疗服务可能白天或晚上都需要运营
- HEMS operations have to be integrated with the health system
直升机紧急医疗服务的运营必须并入医疗卫生体系



HEMS : The operational challenge

直升机紧急医疗服务 :运营挑战

- HEMS missions have many uncertainties
直升机紧急医疗服务任务有很多不确定性
 - Weather at destination
任务目的地的天气
 - Obstacle environment at destination
目的地的障碍物环境
 - Time needed at destination
在目的地所需的时间
- HEMS missions are operated under the pressure to save lives.
直升机紧急医疗服务任务是在拯救生命的压力下实施。



HEMS : The operational challenge

直升机紧急医疗服务：运营挑战

THE PILOT IS NOT ALONE 飞行员不是一个人



HEMS : The rulemaking challenge

直升机紧急医疗服务：规章制定的挑战

- Evaluate HEMS related risks and possible mitigations
评估直升机紧急医疗服务相关的风险和可能的缓解措施
- Define a regulatory framework that will enable HEMS missions to be flown safely.
定义一个监管框架，使直升机紧急医疗服务的任务可以安全飞行。
- Adapt regulations with experience.
根据经验来改编规章。



CONCLUSION

结论

HEMS IS

直升机紧急医疗服务是

- **UNLIKE any other Helicopter operation**
不同于其他的直升机运营
- **Flown across military and civilian airspace**
飞行于军用和民用空域
- **Operated commercially in most cases**
在大多数情况下是商业化运营
- **Competitive** 有竞争力的
- **Regulated by EASA** 由欧洲航空安全局管制
- **Safe** 安全的





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Questions ? 问题 ?

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