

**SIGURNOSNA  
INFORMACIJA**

**SAFETY INFORMATION**

**BROJ: 2014/010 Rev.01**

**NUMBER: 2014/010 Rev.01**



CRNA GORA  
AGENCIJA ZA CIVILNO VAZDUHOPLOVSTVO

**Naslov / Title:**

**Implementacija Globalnog plana aktivnosti za smanjenje rizika od izlijetanja sa PSS-a (*Global Action Plan for the Prevention of Runway Excursions*)**

Na osnovu člana 6 stav 1 tačka 10 Zakona o vazдушnom saobraćaju („Službeni list CG“, br. 30/12, 30/17 i 82/20), Agencija za civilno vazduhoplovstvo (u daljem tekstu: ACV) donijela je:

**SIGURNOSNU INFORMACIJU**

**Broj: 2014/010 Rev.01**

**Na inicijativu:**

Agencija za civilno vazduhoplovstvo

**Referentni propisi:**

- Zakon o vazдушnom saobraćaju („Službeni list CG“, br. 30/12, 30/17 i 82/20),
- Tačka 2.1.2 Nacionalnog plana sigurnosti vazdušnog saobraćaja 2020-2024,
- Globalni plan aktivnosti za smanjenje rizika od izlijetanja sa poletno-sletne staze (u nastavku teksta: Globalni plan aktivnosti) ([Global Action Plan for the Prevention of Runway Excursions](#))

**Primjena :**

Ova Sigurnosna informacija odnosi se na sve vazduhoplovne subjekte iz tačke 4.

## **1. Uvod**

Nacionalni program sigurnosti vazdušnog saobraćaja je dokument kojim se utvrđeni regulatorni zahtjevi i aktivnosti koje vazduhoplovni subjekti preduzimaju u cilju održavanja i unapređenja sigurnosti u vazдушnom saobraćaju, a razvijen je u skladu sa standardima Međunarodne organizacije civilnog vazduhoplovstva – ICAO i programom Agencije Evropske unije za sigurnost vazdušnog saobraćaja – EASA.

Implementacija Nacionalnog programa sigurnosti je obavezujuća za sve vazduhoplovne subjekte u predviđenoj mjeri i u skladu sa propisima na koje upućuje. Nacionalnim planom sigurnosti vazdušnog saobraćaja (u daljem tekstu: Plan sigurnosti) utvrđuju se aktivnosti i mjere za implementaciju Nacionalnog programa sigurnosti koji je donijela Vlada Crne Gore na sjednici od 06. avgusta 2020. godine.

Tačkom 2.1.2 Plana sigurnosti definisani su faktori koji doprinose izlijetanju vazduhoplova sa PSS-a i na osnovu toga su određene akcije koje mogu doprinijeti smanjenju rizika od izlijetanja sa PSS-a, sa ciljem poboljšanja sigurnosti. Statistički gledano, izlijetanje vazduhoplova sa PSS je događaj koji se krajnje rijetko dešava na aerodromima u Crnoj Gori. Međutim, kako je veliki broj nesreća i ozbiljnih nezgoda u Evropi, ali i na globalnom nivou, povezan sa izlijetanjem vazduhoplova sa PSS, ova kategorija se prati i analizira unutar Plana sigurnosti.

Prvo izdanje Evropskog akcionog plana za smanjenje rizika od izlijetanja sa PSS-a, iz 2013. godine, definisalo je subjekte i korake koji se preduzimaju u cilju smanjenja rizika od izlijetanja sa PSS-a. Iako analize pokazuju da je prvo izdanje EAPPRE (Evropski akcioni plan) dalo već pozitivan uticaj, na globalnom nivou je identifikovana potreba ulaganja dodatnih napora kako bi se unaprijedila sigurnost u civilnom vazduhoplovstvu, posebno u pogledu sprečavanja izlijetanja sa PSS. Kao ažurirana verzija ovog dokumenta, ali sad na globalnom nivou, izrađen je Globalni plan aktivnosti za smanjenje rizika od izlijetanja sa poletno-sletne staze. Dokument, Globalni plan aktivnosti, predstavlja rezultat analize i rada eksperata iz cijelog svijeta u organizaciji Eurocontrol-a i FSF.



Ovom *Sigurnosnom informacijom* se dodatno pojašnjava vazduhoplovnim subjektima u Crnoj Gori koje se aktivnosti od njih očekuju u okviru implementacije tačke 2.1.2 Plana sigurnosti, a sve u skladu sa smjernicama iz Globalnog plana aktivnosti.

Provjeru stepena usaglašenosti sa propisima, kao i nivoa implementacije propisa unutar Sistema upravljanja sigurnošću kod vazduhoplovnih subjekata vršiče inspektori/nadzornici Agencije za civilno vazduhoplovstvo u okviru aktivnosti nadzora.

## 2. Prikaz stanja

Globalni plan aktivnosti je set mjera za nastavak unapređenja sigurnosti definisanih u dijelu 1. Ideja implementacije Globalnog plana aktivnosti predstavlja nastavak implementacije EAPPRE iz 2013. godine koja je otpočela nakon što je utvrđeno da se najmanje dva izlijetanja sa PSS sedmično dogode na aerodromima širom svijeta, a ukupan broj izvještaja o ugrožavanju sigurnosti zbog izlijetanja sa PSS stagnira već 20 godina, odnosno nema smanjenja broja događaja.

Zbog toga je jedno od područja za koje su Nacionalnim programom predviđena moguća poboljšanja i smanjenje rizika od izlijetanja sa PSS. Za to područje predviđeno je nekoliko aktivnosti, među kojima je i izdavanje ove *Sigurnosne informacije*.

Aktivnosti vezane za smanjenje ovog rizika, između ostalog, zahtijevaju od subjekata iz tačke 4 pripremu plana za implementaciju mjera Globalnog plana aktivnosti, u skladu sa Nacionalnim programom.

## 4. Način implementacije

Aktivnosti su grupisane kao preporuke prema nadležnostima pojedinih subjekata. Svaka preporuka ima svoj redni broj (**REF**), subjekta/e zaduženog za implementaciju (**ACTION**) i preporučeni datum implementacije (**IMPLEMENTATION DATE**).

Dio 2 dokumenta Globalni plan aktivnosti predstavljaju smjernice koje pojašnjavaju na koji način se preporuka najbolje može implementirati (**GUIDANCE AND EXPLANATORY MATERIAL**).

REF	Recommendation	Action by	Implementation Date
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*Slika 1. Primjer mjere za poboljšanje sigurnosti sa rednim brojem (REF), subjektima zaduženim za implementaciju (Action) i preporučenim datumom implementacije (Implementation date).*

U skladu sa Globalnim planom aktivnosti, sledeći subjekti su odgovorni, svako u okviru svojih nadležnosti, za implementaciju pojedinih aktivnosti (prilog 1):

1. Operatori aerodroma koji podliježu sertifikaciji,
2. Pružalac usluga u vazdušnoj plovidbi,
3. Operatori vazduhoplova čija je MTOW jednaka ili veća od 5.700 kg,
4. Lokalni tim za sigurnost PSS (*Local Runway Safety Team*) (u nastavku teksta: LRST),
5. Agencija za civilno vazduhoplovstvo.



Takođe, aktivnosti iz Globalnog plana aktivnosti se odnose i na proizvođače vazduhoplova, kao i međunarodne organizacije (ICAO i dr.). Aktivnosti koje se odnose na navedene subjekte nisu sadržane u SI.

Prikaz svih aktivnosti iz plana dat je u prilogima:

- Prilog 1 – Operator aerodroma koj podliježe sertifikaciji
- Prilog 2 – Pružalac usluga u vazdušnoj plovidbi
- Prilog 3 – Operator vazduhoplova
- Prilog 4 – Vazduhoplovne vlasti i međunarodne organizacije (ICAO i dr.)

Navedeni subjekti u saradnji sa lokalnim tijelom zaduženim za sigurnost PSS (LRST) na aerodromu moraju razviti sopstveni Plan implementacije za smanjenje rizika od izlijetanja sa PSS na konkretnom aerodromu, na način kako smatraju najboljim i primjerenim svojim operacijama (*Self-Appropriate Implementation Plan*), te na način da se u najvećoj mogućoj mjeri implementiraju preporučene aktivnosti Globalnog plana aktivnosti. Plan implementacije treba da obuhvati i predložene aktivnosti za koje subjekt procijeni da mogu imati uticaj na umanjeње ovog rizika. Ukoliko neka aktivnost nije primjenjiva za određenog subjekta, unutar svog plana implementacije treba da obrazloži razlog neprimjenjivosti.

Agencija za civilno vazduhoplovstvo će za ostale subjekte:

1. operatore aerodroma koji nisu sertifikovani,
2. operatore vazduhoplova čija je MTOM manja od 5.700 kg

razviti nacionalni opšti plan za implementaciju odredbi Globalnog plana aktivnosti u cilju pridržavanja smjernica Globalnog plana aktivnosti ili organizovati upoznavanje sa aktivnostima putem održavanja predavanja, radionica i sl.

#### **4. Prihvatanje i praćenje sprovođenja planova implementacije**

U roku od **3 mjeseca od dana stupanja na snagu ove Sigurnosne informacije**, subjekti odgovorni za implementaciju pojedinih aktivnosti obavezni su **planove implementacije** dostaviti Agenciji za civilno vazduhoplovstvo. Agencija za civilno vazduhoplovstvo će pratiti implementaciju planova i aktivnosti koje nadležni subjekti preduzimaju u cilju smanjenja rizika od izlijetanja sa PSS.

#### **5. Dodatne informacije**

Pitanja i dodatna objašnjenja (sa naznakom Sigurnosna Informacija 2014/010) u vezi sa načinom implementacije ove *Sigurnosne informacije* treba dostaviti na e-mail adresu ACV-a: [acv@caa.me](mailto:acv@caa.me).

#### **6. Stupanje na snagu**

Ova *Sigurnosna informacija* stupa na snagu danom donošenja i objavljuje se na internet stranici Agencije.

**Direktor / Director**  
**Dragan Đurović**

**Datum / Date**



**RECOMMENDATIONS TO AERODROME OPERATORS**

<b>REF</b>	<b>Recommendation</b>	<b>Action by</b>	<b>Implementation Date</b>
<b>ADR1</b>	Ensure that runways are constructed, resurfaced and repaired in accordance with the national or regional (e.g. EASA) regulations, so that effective friction levels and drainage are achieved.	Aerodrome Operator	<b>Ongoing</b>
<b>ADR2</b>	An appropriate program should be effectively implemented to ensure the removal of contaminants from the runway surface as rapidly and completely as possible to minimize accumulation and preserve friction characteristics.	Aerodrome Operator	<b>End of 2023</b>
<b>ADR3</b>	If provided, ensure that approach radio navigation aids (e.g. ILS) and visual aids (e.g. AGL, PAPIs and surface markings) are maintained in accordance with ICAO Standards and Recommended Practices. An appropriate method for the inspection and assessment of markings deterioration should be implemented.	Aerodrome Operator	<b>End of 2023</b>
<b>ADR4</b>	Ensure that the runway holding positions are clearly marked, signed and if required, lit. If intersection takeoffs are conducted, install at the relevant runway holding positions signs to indicate the Takeoff Run Available (TORA).	Aerodrome Operator	<b>End of 2023</b>
<b>ADR5</b>	Ensure robust procedures are in place for calculating temporary reduced declared distances e.g. due to work in progress on the runway. When reduced declared distances are in operation, ensure that the temporary markings, lighting and signs accurately portray the reduced distances and that they are well communicated in a timely manner to the state's aeronautical information services for publication and to the relevant ATS units.	Aerodrome Operator	<b>End of 2023</b>
<b>ADR6</b>	Ensure that the procedures to assess runway surface conditions according to ICAO Global Reporting Format include reactive as well as proactive surface assessment to make sure hazardous changes are all identified and communicated in a timely manner.	Aerodrome Operator	<b>End of 2021</b>
<b>ADR7</b>	Ensure robust procedures are in place for communicating information regarding changing surface conditions as frequently as practicable to the appropriate services according to the ICAO Global Reporting Format. Roles, responsibilities of stakeholders and coordination procedures should be formalised.	Aerodrome Operator	<b>End of 2021</b>
<b>ADR8</b>	In accordance with ICAO standards (and regional, e.g. EASA regulations), wind sensors and wind direction indicators (wind socks) should be sited to give the best practicable indication of conditions along the runway and touchdown zones.	Aerodrome Operator	<b>End of 2025</b>
<b>ADR9</b>	Consider equipping for digital transmission of ATIS as appropriate to ensure that ATIS information is updated in a timely manner.	Aerodrome Operator.	<b>End of 2025</b>

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<b>REF</b>	<b>Recommendation</b>	<b>Action by</b>	<b>Implementation Date</b>
<b>ADR10</b>	If installed, RWY centreline lights should also be used together with the runway edge lights whenever runway edge lights are switched on and when the runway is in use.	Aerodrome Operator	<b>End of 2023</b>
<b>ADR11</b>	Ensure appropriate coordination with the meteorological service provider, the ANSP and the aircraft operators to regularly assess the relevancy of weather data, in particular at large aerodromes where there could be spatial differences in weather data.	Aerodrome Operator	<b>End of 2023</b>
<b>ADR12</b>	Ensure runway exits are appropriately named according to a logic of succession of numbers and letters avoiding possible ambiguity.	Aerodrome Operator	<b>End of 2025</b>
<b>ADR13</b>	Runway surroundings should be considered when designing or modifying strips or RESA. It is necessary to consider the local constraints against ICAO provisions and regional (e.g. EASA) regulations so as to ensure relevant mitigation.	Aerodrome Operator	<b>Ongoing</b>
<b>ADR14</b>	Information related to air operations hazard or specificities in the airport vicinity should be identified and addressed to pilots in the Local Runway Safety Team (LRST) and published through an appropriate means.	Aerodrome Operator	<b>End of 2023</b>
<b>ADR15</b>	Runway condition codes assessed should be compared against braking action reports by the pilots to ensure the accuracy of the information provided to the pilots.	Aerodrome Operator	<b>End of 2023</b>
<b>ADR16</b>	Consider using Approach Path Management (APM) in coordination with local ATC and aircraft operators. Associated issues should be addressed by the LRST.	Aerodrome Operator	<b>End of 2023</b>



**RECOMMENDATIONS TO AIR NAVIGATION SERVICE PROVIDERS**

REF	Recommendation	Action by	Implementation Date
<b>ANSP1</b>	ANSPs should ensure the importance of stabilised approach, its elements and compliance with final approach procedures and aircraft energy management are included in initial and refresher training of ATCOs conducted by ANSPs and ATCO Training Organisations, as well as in AFISOs training, as applicable.	Air Navigation Service Provider	<b>End of 2023</b>
<b>ANSP2</b>	With regard to assignment of or change to runway assignment for arriving or departing traffic: ANSP2 a. Whenever the runway change is pre-planned, notify it as early as practicable together with the expected time of the change to flight crews, including by adding relevant information in ATIS, where available. ANSP2 b. As far as practicable, avoid changing the assigned runway to aircraft on approach or taxiing for departure. ANSP2 c. ANSPs should ensure ATCOs are aware that RWY changes create additional workload, increase vulnerability to error and flight crews need time to re-brief and prepare for it. ANSP2 d. ANSPs should ensure that the runway configuration change procedure/process takes account of the above points and of the tailwind information as appropriate. ANSP2 e. When operationally possible, accept the flight crew preference for a runway when requested "due to performance limitations".	Air Navigation Service Provider	<b>End of 2023</b>
<b>ANSP3</b>	ANSPs should: ANSP3 a. Review available data (e.g. occurrence reports, go-around / missed approach data etc.) with the aim of identifying the ANSP-related runway excursion contributing factors and relevant mitigations, for example enhanced airspace design and procedures and ATCO training and procedures. ANSP3 b. Share at network level the identified runway excursion contributing factors and relevant mitigations.	Air Navigation Service Provider	<b>End of 2023</b>
<b>ANSP4</b>	Review processes covering the provision of essential information on aerodrome conditions such as weather, wind and runway surface conditions (e.g. when 'wet' or contaminated) to ensure: ANSP4 a. A consistent, timely and accurate broadcast of aerodrome information. ANSP4 b. The integrity of the essential information supply chain from the originator (e.g. Met Office/Aerodrome Operator) to the user (e.g. flight crews, ATIS, Met Office, aerodrome operator and AIS provider). ANSP4 c. Training on the use of ATIS/D-ATIS is provided to relevant operational staff. ANSP4 d. Compliance with the ICAO Global Reporting Format for runway surface conditions assessment and reporting, including the training of the relevant ANSP personnel.	Air Navigation Service Provider	<b>End of 2021</b>

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REF	Recommendation	Action by	Implementation Date
<b>ANSP5</b>	<p>ANSP5 a. ANSPs should ensure that flight crews are informed of the Takeoff Run Available (TORA) or the Landing Distance Available (LDA) if these differ from the published data using appropriate means. The information should include any alternative runways which may be available.</p> <p>ANSP5 b. ATS providers should collaborate with the aerodrome operators to determine the runway entries from which intersection takeoffs may be performed, and develop coordinated procedures for such operations.</p>	Air Navigation Service Provider	<b>End of 2023</b>
<b>ANSP6</b>	Participate in runway excursion safety information sharing at network level to facilitate, using just culture principles, the free exchange of relevant information on actual and potential safety deficiencies.	Air Navigation Service Provider	<b>End of 2023</b>
<b>ANSP7</b>	If installed, RWY centreline lights should also be used together with the runway edge lights whenever runway edge lights are switched on and when the runway is in use.	Air Navigation Service Provider	<b>End of 2023</b>
<b>ANSP8</b>	Consider equipping for digital transmission of ATIS, as appropriate (e.g. via telephone or other means).	Air Navigation Service Provider	<b>End of 2025</b>



<b>RECOMMENDATIONS TO AIRCRAFT OPERATORS</b>			
<b>REF</b>	<b>Recommendation</b>	<b>Action by</b>	<b>Implementation Date</b>
<b>OPS1</b>	Aircraft operators should participate in safety information sharing networks with all relevant stakeholders. This should facilitate the free exchange of relevant runway safety information including identified risks, safety trends and good practices.	Aircraft Operator	<b>Ongoing</b>
<b>OPS2</b>	Aircraft operators should include and monitor aircraft parameters related to potential runway excursions in their Flight Data Monitoring (FDM) programme.  Whenever standardised FDM markers are provided by the industry, aircraft operators should use them with priority to ensure the effectiveness of risk mitigation and safety assurance associated with runway excursion barriers and to allow comparability on an industry level.	Aircraft Operator	<b>End of 2023</b>
<b>OPS3</b>	Aircraft operators and training providers should include realistic, evidence- and competency-based scenarios into their training programmes requiring threat and error management for runway excursion prevention during both takeoff and landing.  This should include evidence- and competency-based recurrent simulator training programmes which are representative in terms of environmental conditions, including crosswind, landing on contaminated/slippery runways and poor visibility adapted with simulator representativeness.  Representativeness of simulators should be assessed and their limitations communicated (in order to avoid negative training)	Aircraft Operator	<b>End of 2023</b>
<b>OPS4</b>	Aircraft operators should incorporate appropriate technical solutions to reduce runway excursion risks, where available (including Runway Overrun Awareness and Alerting System (ROAAS), and runway veer off awareness and alerting systems, when and if available). If technical solutions are not available, operators should implement appropriate SOPs and TEM strategies which support flight crews in effectively preventing runway excursions.	Aircraft Operator	<b>End of 2027</b>
<b>OPS5</b>	If technically feasible, aircraft operators should equip their aircraft fleet with data-link systems (e.g. ACARS) enabling them to digitally obtain the latest weather information (e.g. D-ATIS or METAR). The use of this technical means has to be supported by adequate SOPs enabling all pilots on the flight deck to familiarise themselves with the latest weather conditions without impeding aircraft and flight path monitoring.	Aircraft Operator	<b>End of 2025</b>
<b>OPS6</b>	Aircraft operators should implement policies for flight crews not to accept ATC procedures and clearances which have the potential to decrease safety margins to an unacceptable level for the flight crew thereby increasing the risk of runway excursions. This includes such procedures and clearances which increase the likelihood of having an unsafe approach path management with consequences for safe landing, e.g. which bear the risk of being unstabilised at the landing gate or high-energy approaches.	Aircraft Operator	<b>End of 2027</b>





REF	Recommendation	Action by	Implementation Date
	<p>These policies should be further supplemented by the implementation of effective SOPs and flight crew training.</p> <p>Flight Crews should be required to report such risks within their operators SMS and the aircraft operator should further report such risks to the ANSPs via established reporting systems. (see OPS1)</p>		
<b>OPS7</b>	<p>Aircraft operators should implement policies for safe descent and approach planning, stabilised approach, safe landing and go-around and should ensure that these are implemented in their training. Aircraft operators should define which elements of these policies have to be included and highlighted during the approach briefings by flight crews.</p>	Aircraft Operator	<b>End of 2023</b>
<b>OPS8</b>	<p>Aircraft operators should implement policies or SOPs for flight crews not to conduct takeoff or approach following any runway change until the appropriate set-up, planning, performance calculations (for multi-pilot operations this includes independent calculations and cross-checks by at least two pilots) and re-briefings are completed. When a takeoff runway change is received whilst taxiing, the above should be performed by flight crew without rushing and when the aircraft is stationary.</p> <p>Runway-excursion related TEM should be addressed in the briefing every time a runway change is expected, probable or actually occurs.</p>	Aircraft Operator	<b>End of 2023</b>
<b>OPS9</b>	<p>Aircraft operators should implement policies or SOPs for flight crews to request a more favourable runway for takeoff or landing for any reason, which may affect the safety of the flight and to advise the safety reasons to ATC.</p>	Aircraft Operator	<b>End of 2023</b>
<b>OPS10</b>	<p>Aircraft operators should implement policies or SOPs requiring flight crews to confirm prior to commencing the takeoff or landing phase that the actual conditions (weather and aircraft configuration) are better or at least correspond to the values used for performance calculations. When conditions are predicted to approach operational limitations, flight crews should be required to identify the limiting parameters and incorporate this into their TEM briefing.</p>	Aircraft Operator	<b>End of 2023</b>
<b>OPS11</b>	<p>Aircraft operators should define company cross- and tailwind limits which are specific to each type of aircraft operated. Moreover, specific guidance on the runway conditions and the gust components should be clarified.</p> <p>Aircraft operators should establish clear policies to allow their flight crews to reduce the established limits whenever deemed necessary for safety reasons in actual flight operation.</p>	Aircraft Operator	<b>End of 2023</b>



REF	Recommendation	Action by	Implementation Date
OPS12	Aircraft operators should publish specific guidance and training for their flight crews on crosswind takeoff and landing techniques, especially in wet, slippery or contaminated runway conditions. This should include the correct touchdown and stopping techniques, which incorporate all available control and deceleration devices as well as TEM topics and methods for effective monitoring and intervention by the PM. Aircraft manufacturers advice should be incorporated, if available.	Aircraft Operator	End of 2023
OPS13	OPS13 a. Aircraft operators should ensure their policies or SOPs require flight crews to perform independent performance calculations. This should also include independent cross-checks of the load and trim sheet and the actual TORA/TODA from the AIS (e.g. if reduced by NOTAM) with TORA/TODA used to calculate the takeoff performance. This independent calculation should also be applied following a runway change. OPS13 b. Aircraft operators should ensure their policies or SOPs include flight crew gross-error checks and crew cross-checks prior to any data input and prior to executing any data input in the FMS.	Aircraft Operator	End of 2023
OPS14	Aircraft operators should publish SOPs and guidance which incorporate runway excursion mitigation associated with rejected takeoff decision making and rejected takeoff manoeuvres. Appropriate training should be provided.	Aircraft Operator	End of 2023
OPS15	Aircraft operators should develop SOPs which include an assessment, possibly prior to the top of descent, of landing performance based upon latest and best-available weather information. This calculation should not be performed using dispatch weather information. Flight crews should be informed of the type of landing distance data available (factored or unfactored) and of which correlating safety factors are used. When possible, the crew should complete descent, approach, landing planning, set-up and briefings prior to the top-of-descent.	Aircraft Operator	End of 2023
OPS16	Aircraft operators should develop a clear go-around policy which should be further supplemented by a set of SOPs and guidance materials to put this policy into action. This go-around policy should enable every flight crew member on the flight deck to call for a go-around at any time unless an emergency situation dictates otherwise. In all cases, the SOPs should require both pilots to have and retain the required visual reference below DA/MDA with a go around call mandatory if either pilot loses it. A go-around should also be mandatory if the approach becomes unstabilised below the specified approach/landing gate. Recurrent simulator training should be provided on the competencies of safe go-around in various stages during the approach and landing, including shortly prior or during touchdown (before activation of thrust reversers).	Aircraft Operator	End of 2023



REF	Recommendation	Action by	Implementation Date
<b>OPS17</b>	Aircraft operators should require the flight crew to carefully evaluate operational safety before selecting/accepting an approach and landing runway including the following: weather conditions (in particular cross and tailwind), runway condition (dry, wet or contaminated/slippery), inoperable equipment and aircraft and flight crew performance in order to reduce runway excursion risks.	Aircraft Operator	<b>End of 2023</b>
<b>OPS18</b>	Aircraft operators should clearly define stabilised approach, landing and go-around polices in their operations manual. These polices have to be aligned with regulations requirements and manufacturers guidance. Supplementing SOPs should include the requirement for completion of the landing checklist and flying with the final approach speed latest at the defined approach/landing gate. These SOPs should include appropriate means for the pilot monitoring (PM) to effectively monitor and, if needed, intervene.  To properly implement the defined policies and SOPs, aircraft operators have to deliver appropriate training.	Aircraft Operator	<b>End of 2023</b>
<b>OPS19</b>	Aircraft operators should publish SOPs and guidance and provide training highlighting the importance of active monitoring and effective intervention by the pilot monitoring (PM) during descent, approach, approach path management and landing. Actions to be taken by the PM and required reactions by the PF should be clearly documented in the official publication (e.g. SOPs or Operations Manual, FCOM, etc). These publications should include guidance how to achieve effective PM performance, independent of rank and experience.	Aircraft Operator	<b>End of 2023</b>
<b>OPS20</b>	Aircraft operators should publish SOPs and guidance for their pilots not to conduct auto-land approach manoeuvres at airports when low visibility procedures (LVP) are not in force, unless: <ul style="list-style-type: none"> <li>• the ILS critical and sensitive areas are protected,</li> <li>• ATC had been informed and reassurance of ILS sensitive area protection had been received</li> </ul> or <ul style="list-style-type: none"> <li>• specific precautions have been taken and risk analysis has been performed. More information is available in the guidance material.</li> </ul> or <ul style="list-style-type: none"> <li>• the aircraft is demonstrated as robust to non-protection of ILS sensitive area.</li> </ul>	Aircraft Operator	<b>End of 2023</b>



REF	Recommendation	Action by	Implementation Date
OPS21	Aircraft operators should clearly define their policy for a safe landing and publish it in their SOPs and Operations Manuals. This policy should clearly define acceptable touchdown limits and prohibit intentional long and short landings, e.g. to minimise runway occupancy or minimise taxi time to the gate. The supplementing SOPs and guidance should include means, methods and responsibilities with regard to how a crew will identify and act on such limits. Appropriate classroom and simulator training should be provided.	Aircraft Operator	<b>End of 2023</b>
OPS22	Aircraft operators should publish SOPs and guidance for landing techniques that are aligned with ICAO Global Reporting Format and manufacturer's guidance for all runway states and environmental conditions. Aircraft operators should require their flight crew to always favour a go-around or diversion rather than to attempt a landing when approaching wet, slippery/contaminated runways without appropriate stopping margin and/or in limiting wind situations. Appropriate training should be provided including training in the ICAO Global Reporting Format.	Aircraft Operator	<b>End of 2021</b>
OPS23	Aircraft operators should publish SOPs for their flight crews when runway conditions are uncertain or actual or anticipated slippery wet, slippery or contaminated, to fully use all deceleration means, including speed brakes, wheel braking and reverse thrust irrespective of noise-related restrictions, until a safe stop is assured, unless this causes controllability issues.	Aircraft Operator	<b>End of 2021</b>
OPS24	Aircraft operators should publish SOPs and guidance and provide training highlighting the importance of active monitoring, including monitoring of the activation of the stopping devices on landing, and effective intervention during landing associated with pilot monitoring duties and performance. Appropriate training should be provided.	Aircraft Operator	<b>End of 2023</b>
OPS25	Aircraft operators should define policies and procedures to address bounced landings. Whenever available, aircraft operators should take into account and include manufacturers' guidance. Moreover, aircraft specific and appropriate training, including simulator training, should be provided for flight crews.	Aircraft Operator	<b>End of 2023</b>
OPS26	Aircraft operators should develop guidance on whether a change of control during landing roll out has to take place and require their flight crews to brief and agree on the planned runway exit, taking into account the friction status of both runway and runway exit, whenever available. When a change of control is necessary during roll-out, this should be performed below taxi speed and when the aircraft trajectory is stable.	Aircraft Operator	<b>End of 2023</b>



REF	Recommendation	Action by	Implementation Date
OPS27	Aircraft operators should implement policy, technical solutions or SOPs which confirm that the aircraft is lining up on the planned runway, its centreline and via the correct intersection.	Aircraft Operator	End of 2023
OPS28	Aircraft operators should publish SOPs and guidance for their flight crew not to accept line-up, backtrack or takeoff clearances until pre-takeoff preparation (including cabin secure), procedures and checklists are completed to the appropriate point which permits the accomplishment of the associated manoeuvre without delay and until they have reported "ready for departure" to ATC. Aircraft operators should publish an explicit SOP for "rolling takeoffs".	Aircraft Operator	End of 2023
OPS29	Aircraft operators should foster a culture that stimulates safe behaviour, which encourages risk-averse decision-making by flight crews.	Aircraft Operator	Ongoing
OPS30	Aircraft operators should, when determining their TEM strategies and SOPs, identify runways with a remaining safety margin of less than 400m/1200ft after application of all required safety factors as safety critical.	Aircraft Operator	End of 2023
OPS31	Aircraft operators should monitor go-around policy compliance through their FDM programmes and establish go-around safety performance indicators (SPIs) for monitoring through their SMS. In addition to monitoring go-arounds, aircraft operators should also monitor discontinued approaches.	Aircraft Operator	End of 2023
OPS32	Aircraft operators should: 1) Define an unstable approach followed by landing as a mandatory reporting event by the flight crew and; 2) Minimise the need to report a go-around due to an unstable approach unless there is another significant event in relation to the go-around, e.g. flap overspeed.	Aircraft Operator	End of 2023
OPS33	Aircraft operators, for aircraft equipped with EFBs and when technically feasible, should systematically compare the EFB takeoff performance loggings with the relative FDM data to identify the takeoff runway excursion risks.	Aircraft Operator	End of 2023
OPS34	Aircraft operators, for aircraft equipped with EFBs and when technically feasible, should visualise on the EFB the FULL RWY with its planned TO RWY holding position to increase the situational awareness of the crew for the intended T/O position.	Aircraft Operator	End of 2023
OPS35	Aircraft operators should consider observational procedures (e.g. Line Operations Safety Audits) to identify runway excursion safety risks precursors and best practices which cannot be captured by the traditional reporting or FDM.	Aircraft Operator	End of 2023



<b>RECOMMENDATIONS TO REGULATORS AND ICAO</b>			
<b>REF</b>	<b>Recommendation</b>	<b>Action by</b>	<b>Implementation Date</b>
<b>REG1</b>	Regulators should ensure that: <ul style="list-style-type: none"> <li>• The national/regional regulations are in line with the relevant ICAO standards and recommended practices; and</li> <li>• All infrastructure, practices and procedures relating to runway operations are designed and remain in compliance with such national/regional regulations.</li> </ul>	Regulators	<b>Ongoing</b>
<b>REG2</b>	Regulators should enhance the focus on the prevention of runway excursions in their oversight activities by taking into account best practices (e.g. GAPPRE), in addition to their national/regional regulatory requirements.	Regulators	<b>Ongoing</b>
<b>REG3</b>	Ensure that the risk of runway excursion is included as part of runway safety in the State Safety Plan and provide safety performance indicators to monitor/demonstrate the effectiveness of any State or industry initiatives.	Regulators	<b>Ongoing</b>
<b>REG4</b>	As part of their oversight activities, Regulators should ensure close cooperation between ground handling service providers, aircraft operators, aerodrome operators and air navigation service providers, with regard to the prevention of runway excursions. This cooperation will be a part of an effective implementation of SMS of the relevant organisations, verified by the respective regulator through regular assessments and safety performance indicator monitoring.	Regulators	<b>Ongoing</b>
<b>REG5</b>	Ensure that any noise mitigation rules required to be implemented by aerodromes should be subject to regular and coordinated hazard identification and risk assessment, to ensure they do not increase the likelihood of runway excursions, in particular in relation to operations on contaminated runways.	Regulators	<b>Ongoing</b>
<b>REG6</b>	Ensure a continued focus on training for pilots, air traffic controllers, AFISOs, and aerodrome personnel, which includes runway excursion prevention. Ensure the continuous review and improvement of the respective training programmes by the regulator and Training Organisations, through the use of performance indicators.	Regulators	<b>End of 2022</b>
<b>REG7</b>	Assess the performance of aircraft operators' processes for: <ul style="list-style-type: none"> <li>• Safety data collection (e.g. flight data monitoring and reporting).</li> <li>• Identification and analysis of precursors and causal factors.</li> </ul> <p>Ensure that aircraft operators are participating in safety data sharing programs, e.g. Data4Safety.</p>	Regulators	<b>End of 2022</b>
<b>REG8</b>	As part of safety promotion, ensure GAPPRE is shared with relevant stakeholders to ensure that the causal and contributory factors of runway excursion continue to be understood, enabling organisations to further enhance effective runway excursion prevention measures.	Regulators	<b>Ongoing</b>



REF	Recommendation	Action by	Implementation Date
REG9	States should assess the performance and success of safety information sharing networks among all users of the aviation system including the extent of free exchange of information on actual and potential safety deficiencies.	Regulators	Ongoing
REG10	States should establish a national runway safety forum/network which includes representatives from aircraft operators, ANSPs, aerodromes and regulators where best practices and learning can be shared. The National forum/network should include key representatives from Local Runway Safety Teams. National best practices should be shared regional/globally through regional/global knowledge platforms.	Regulators	End of 2022
REG11	States should measure the effectiveness of the GAPPRE recommendations, for example by collaboratively developing harmonised performance indicators or success factors.	Regulators	End of 2022
REG12	REG12 a. Regulators and ICAO should consider and adopt regulatory measures for preventing visual confusion during line-up between runway edge and centreline lights leading to misalignment with the runway centreline. This should also take into account the effects of low visibility and runway contamination and the effect of using various light colours and patterns to differentiate the runway centreline and edge lighting systems.  REG12 b. Regulators and ICAO should consider the guidance needs of the individual aircraft, and adopt provisions that disassociate the installation of taxiway centreline lights from the aerodrome traffic density.	ICAO and Regulators	End of 2025
REG13	Except where runway TDZ lights are provided, regulators and ICAO should upgrade to a standard the use of simple TDZ lighting as an aid to enhance landing (touch down point) accuracy.	ICAO and Regulators	End of 2025
REG14	ICAO should investigate improvements in marking and lighting systems that may enhance the simple TDZ lighting system.	ICAO	End of 2025
REG15	ICAO should consider to upgrade to a standard the introduction of runway centreline lights for: <ul style="list-style-type: none"> <li>• CAT I runways;</li> <li>• Runways used for takeoff with RVR of the order of 400m or higher when the runway is used by high-speed aircraft, particularly where the width between the runway lights is greater than 50 m.</li> </ul>	ICAO	End of 2025
REG16	Support the development of approved signal in space SBAS models to allow certification of automatic landing on LPV 200 procedures as part of a broader initiative to promote and encourage the development of LPV 200 IFR procedures on a wider set of runways.	Regulators	

**SIGURNOSNA  
INFORMACIJA**

**SAFETY INFORMATION**

**BROJ: 2014/010 Rev.01**

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REF	Recommendation	Action by	Implementation Date
REG17	Regulators and ICAO should launch initiatives or working groups having the objective to define a rulemaking baseline for video based navigation to supplement (and/or replace) traditional navigation means in the visual segment. Such capacity would allow enhancing availability of advance functions such as automatic landing and veer-off prevention warnings.	ICAO and Regulators	<b>End of 2025</b>