NAPUTAK

ZA ORGANIZACIJU,

UPRAVLJANJE I PROVEDBU ZRAKOPLOVNE PRIREDBE

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# UVOD

Ovaj naputak izrađen je sa svrhom da pomogne organizatoru zrakoplovne priredbe u organizaciji zrakoplovne priredbe, kao i upravljanju te provedbom iste na siguran način.

This guidance material is established with purpose to help Organizer in organization, management and execution of Flying Display.

Načelo primjene odredbi Pravilnika o zrakoplovnim priredbama temelji se na proporcionalnosti, obzirom na rizike koji proizlaze iz kompleksnosti i drugih relevantnih elemenata zrakoplovne priredbe.

Principle of application of Ordinance on Flying Displays is based on proportionality, taking into account Flying Display complexity and associated risks and other relevant elements

Najvažnije je zaštiti gledatelje, stoga je odgovornost sudionika i organizatora da zrakoplovnoj priredbi pristupe se na najvišem mogućem nivo stručnosti i s najvišim mogućim standardima.

Protecting the public is of paramount importance and as such any Participant and Organizer of a Flying Display is responsible for carrying out their tasks with the utmost professionalism and to the highest standards.

Provođenje zrakoplovne priredbe mora se pomno planirati, kako na tlu, tako i u zraku. Zrakoplovna priredba se mora provoditi na siguran način, pri čemu se posebna pozornost mora obratiti na razmatranje rizika koji se odnose na treće osobe, gledatelje kao i sudionike.

Flying Displays must be carefully planned both on the ground and in the air and nothing is to be conducted without careful thought towards ensuring that the risks to the general public, spectators and flying and non-flying participants have been considered and the activity is as safe as reasonably possible.

Improvizirane, neplanirane ili neuvježbane planirane aktivnosti nisu dozvoljene.

The impromptu, ad hoc, unrehearsed or unplanned must never be attempted.

Za događaje kao što su aeropiknici, natjecanja, kao i prelete nad sprovodima odobrenje za zrakoplovne priredbe nije potrebno, uz uvjet da takav događaj ne spada pod definiciju zrakoplovne priredbe Zakona o zračnom prometu i da se takve aktivnosti provode u skladu sa SERA-om, Pravilnikom letenja i drugim primjenjivim pravilima.

Flying Display approval are not required for flying events such as fly-ins (e.g. aeropicnic), competitions, funerals fly-pasts etc. provided none of the provided none of the Air Traffic Act Flying Display qualifying conditions are met and all flying activity is in accordance with the SERA, Rules of the air and other applicable rules.

Međutim, preporučuje se da se takvi događaji odobre kao zrakoplovna priredba, u svrhu ostvarivanja viših sigurnosnih standarda.

However, it is strongly advised to consider such events as Flying Display, due to higher safety standards.

Uz Pravilnik o zrakoplovnim priredbama, preporučuje se

In addition to the Ordinance on Flying Displays, recommended further reading includes:

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# Application and due dates

# PODNOŠENJE ZAHTJEVA I ROKOVI

Iako rok za podnošenje zahtjeva za odobrenje zrakoplovne priredbe nije propisan, organizator u obzir mora uzeti vrijeme potrebno za evaluaciju Plana zrakoplovne priredbe, kao i vrijeme potrebno za ostale radnje potrebne za odobrenje.

Although due date for Flying Display approval application is not prescribed, Organizer should take into account time required for evaluation of Flying Display Plan, as well as the time required for additional actions neccesary for approval.

Od iznimne važnosti je da se zahtjevom i Planom zrakoplovne priredbe identificiraju posebna odobrenja neophodna za provedbu zrakoplovne priredbe, obzirom da je za posebna odobrenja potrebno utrošiti dodatno vrijeme i resurse.

Posebna odobrenja sastavni su dio odobrenja zrakoplovne priredbe.

Identification of special approvals related to Flying Display, as part of application, is of outmost importance, as special approvals can consume more time and resources.

Special approvals form a part of Flying Display approval.

Zakon o općem upravnom postupku definira rok od 30 dana za rješavanje upravnog predmeta, uz uvjet da je zahtjev uredno podnesen.

General Administrative Procedure Act prescribes 30 days to solve administrative case, provided application was submitted correctly.

Dosadašnjim iskustvom utvrđeno je da se za zrakoplovne priredbe podnošenje zahtjeva može očekivati nekoliko dana prije provođenja same zrakoplovne priredbe, posebno za one na kojima se izvode samo padobranski skokovi. Međutim, organizator u obzir mora uzeti da se vrijeme evaluacije i odobrenja produžuje s povećanjem kompleksnosti i rizičnosti same zrakoplovne priredbe.

Experience to date identified that application submission can be expected even just few days prior to Flying Display, especially for the ones with planned skydiving activities only. However, organizer must take into account that time for evaluation is extended with more complex or higher risk Flying Display.

Također, u obzir se mora uzeti i vrijeme potrebno HKZP-u za obradu rezervacije zračnog prostora.

In addition, organizer must take into account time for Crocontrol airspace reservation process, as well.

# Categorization of a Flying Display

KATEGORIZACIJA ZRAKOPLOVNE PRIREDBE

Kategorizacija zrakoplovne priredbe može poslužiti za bolju razradu Plana zrakoplovne priredbe.

Categorization of a Flying Display can be used to produce preferable Flying Display Plan.

Tablica za kategorizaciju zrakoplovne priredbe.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **BROJ PLANIRANIH AKTIVNOSTI\*** | **NEKOMPLEKSNA** | | **KOMPLEKSNA** | |
| **NISKOENERGETSKA** | **VISOKOENERGETSKA** | **NISKOENERGETSKA** | **VISOKOENERGETSKA** |
| **1-2** | **NISKOG RIZIKA** | **NISKOG RIZIKA** | **NISKOG RIZIKA** | **NISKOG RIZIKA** |
| **3-4** | **NISKOG RIZIKA** | **SREDNJEG RIZIKA** | **NISKOG RIZIKA** | **SREDNJEG RIZIKA** |
| **5-9** | **NISKOG RIZIKA** | **SREDNJEG RIZIKA** | **SREDNJEG RIZIKA** | **SREDNJEG RIZIKA** |
| **10-15** | **SREDNJEG RIZIKA** | **SREDNJEG RIZIKA** | **SREDNJEG RIZIKA** | **VISOKOG RIZIKA** |
| **15+** | **VISOKOG RIZIKA** | **VISOKOG RIZIKA** | **VISOKOG RIZIKA** | **VISOKOG RIZIKA** |

**\*pri čemu se pod jednu planiranu aktivnost smatra pojedinačan nastup sudionika ili nastup sudionika u letenje u formacijama ili nalet do 5 padobranaca**

The following table should be used to categorise the Flying Display.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NUMBER OF**  **PLANNED ACTIVITIES\*** | **NONCOMPLEX** | | **COMPLEX** | |
| **LOW ENERGY** | **HIGH ENERGY** | **NISKOENERGETSKA** | **VISOKOENERGETSKA** |
| **1-2** | **LOW RISK** | **LOW RISK** | **LOW RISK** | **LOW RISK** |
| **3-4** | **LOW RISK** | **MID RISK** | **LOW RISK** | **MID RISK** |
| **5-9** | **LOW RISK** | **MID RISK** | **MID RISK** | **MID RISK** |
| **10-15** | **MID RISK** | **MID RISK** | **MID RISK** | **HIGH RISK** |
| **15+** | **HIGH RISK** | **HIGH RISK** | **HIGH RISK** | **HIGH RISK** |

**\*whereat one planned activity is considered as individual participant act or formation flight several participants or jump up to 5 skydivers**

Zrakoplova priredba smatra se visokoenergetska ako se planiraju aktivnosti sa zrakoplovima >1200 MTOM ili na brzinama većim od 150 kts.

Sve druge zrakoplovne priredbe smatraju se niskorizičnima.

Flying Displays shall be considered as High Energy if they contain aircraft >1200kg maximum take-off mass or a display at >150KIAS.

All other displays should be Low Energy.

Dodatno, prilikom kategorizacije zrakoplovne priredbe po pitanju kompleksnosti, organizator u obzir mora uzeti sljedeće:

a) zračni prostor – kompleksnost zračnog prostora koji se nalazi oko zrakoplovne priredbe, blizina kontroliranog zračnog prostora ili zone sa specifičnim ograničenjima, koji mogu imati utjecaj na provođenje zrakoplovne priredbe,

b) reljefne karakteristike – utjecaj reljefnih karakteristika na provođenje zrakoplovne priredbe, s posebnim osvrtom na gledalište,

c) objekti ili područja od posebnog značaja – blizina, napučenost i veličina, blizina škola, bolnica, naseljenih područja, industrijskih područja, prometnica, električnih vodova, ekološki osjetljivih područja,

d) područja od posebnog značaja – vjerojatnost i mogućnost kontrole područja koja nisu gledališta, a na kojima bi se mogle okupljati osobe, kao i bilo koja druga područja u blizini na kojima bi bio moguć utjecaj na javnost,

e) vrijeme trajanja zrakoplovne priredbe – vrijeme za dekonfliktne situacije, prim. 3 planirane aktivnosti tijekom 1 sata je manje kompleksno od 3 planirane aktivnosti tijekom 15 minuta,

f) sudionici u grupnom nastupu – broje sudionika, vrste zrakoplova ili padobrana,

g) vrsta događaja – zrakoplovna priredba kao primarni događaj ili kao dio drugog događaja koji nosi primat.

Organiser should consider the following when making a judgement on whether an event is High or Low complexity:

a) Airspace - Consider the complexity of the airspace surrounding the display venue, including proximity to controlled airspace or areas with specific limitations that might affect the type of aircraft displaying.

b) Geography - Consider the difficulty of the terrain in addition to crowd and event layout.

c) Built Up Areas - Consider the proximity, density and size of adjacent built up and Congested Areas.

d) Secondary Spectators / other members of the public - Consider the likelihood and controllability of spectators gathering outside the designated crowd area and any effect the display might have on members of the public in the vicinity. Consider the proximity of major roads, railway lines and local infrastructure and how busy they are

e) Display Length - Consider the effect of the Flying Display window on deconfliction issues, e.g. 3 items over 1 hour is less complex than 3 items over 15 minutes.

f) Display Team Size - Consider the number and type of aircraft in a display team with respect to the size and nature of the display venue.

g) Event Type - Consider the type of event and how flying activity is integrated; is the Flying Display the focus of the event or just an additional attraction?

# Planned activities

# PLANIRANE AKTIVNOSTI

Planirane aktivnosti potrebno je prilagoditi obzirom na reljefne i druge značajne prepreke.

Planned activities must specifically tailored to geographic features and other significant obstacles.

Nadalje, sve planirane aktivnosti na zrakoplovnoj priredbi potrebno je prilagoditi ograničenjima koja proizlaze iz blizine objekata ili područja od posebnog značaja.

Furthermore, all planned activities must be specifically tailores to all limitations related to build-up areas and secondary spectators/other members of the public.

Odabir zrakoplova i padobrana, iskustvo sudionika, karakteristike mjesta održavanja i prostor za izvođenje planiranih aktivnosti ne smiju negativno utjecati na sigurnost izvođenja planiranih aktivnosti.

Aircraft and parachute selection, participant’s experience, site characteristics and Flying Display area must not have negative influence on safety of Flying Display execution.

# FLYING DISPLAY PLAN AND ITS EXECUTION

# PLAN ZRAKOPLOVNE PRIREDBE I NJEGOVA PROVEDBA

Obzirom na odgovornost, od iznimne važnosti je da se što bolje razradi Plan zrakoplovne priredbe kako bi ciljani standard sigurnosti organizacije, provedbe i upravljanja zrakoplovnom priredbom bio što jasniji, a time i postupci kojima se taj standard osigurava.

Regarding responsibility, of outmost importance is thoroughly elaborated Flying Display Plan with clear safety standard regarding Flying Display organization, management and execution, which can assure procedures to achieve targeted standard.

Nadalje, jednako je važno da se pravovremeno prepozna trend opadanja standarda sigurnosti tijekom provedbe zrakoplovne priredbe te da se osiguraju postupci da ne standard padne ispod ciljane razine.

Moreover, it is equally important to identify decaying trend of safety standard during Flying Display execution to ensure actions which will assure that standard does not drop under targeted level.

Plan zrakoplovne priredbe potrebno je prilagoditi obzirom na kompleksnost i rizike zrakoplovne priredbe.

Flying Display Plan must be specifically tailored according to the Flying Display complexity and associated risks.

U postupku odobrenja zrakoplovne priredbe mogu se zatražiti dokazi o udovoljavanju odredbama propisa ili stavkama Plana zrakoplovne priredbe.

The call for evidence of compliance with regulatory requirements and Flying Display Plan can be expected as part of approval process.

Dobra organizacijska struktura osnovni je uvjet za upravljanje zrakoplovnom priredbom na siguran način, koja se osigurava osobljem s odgovarajućim iskustvom i stručnosti.

Robust organizational structure is paramount for safe management of Flying Display, ensured by competent and experienced staff.

Dosadašnjim iskustvom utvrđeno je da se aktivnosti planiraju najčešće na jedan od sljedećih načina:

1. temeljem pilota, padobranaca, zrakoplova i padobrana koji su na raspolaganju (najčešći slučaj organizacije manjih zrakoplovnih u Republici Hrvatskoj),

2. temeljem karakteristika mjesta održavanja (prim. organizacija zrakoplovne priredbe Adria Air Race održana na Jarunu 2012. i tradicionalni Susreti za Rudija u Stubici), i

3. temeljem prethodno određenih planiranih aktivnosti definiraju se ostali organizacijski elementi zrakoplovne priredbe (prim. organizacija zrakoplovne priredbe Red Bull Air Race).

Experience to date identified that activities are mostly planned as followed:

1. based on pilots, skydivers, aircraft and parachutes at disposal,

2. based on geographic features and other significant obstacles, and

3. reversed, based on prior defined Planned activities all other organizational aspects are defined (e.g. competitions).

Odgovarajuću razinu iskustva sudionika za izvođenje planiranih aktivnosti može se definirati općim kvalifikacijama (vrsta dozvole, nalet, broj skokova i sl.), što je posebno pogodno za provođenje natjecanja, a može se navesti sudionike imenom i prezimenom te njihove osobne kvalifikacije.

Relevant level of participant’s experience can be defined by general qualifications (e.g. type of license, number of flight hours, number of jumps), especially convenient for organization of competitions, but also participant’s name and personal qualifications can be specified.

Posebnu pozornost potrebno je obratiti na uvjete za sudionike koji izvode izvanaerodromsko slijetanje i uzlijetanje i izvanaerodromske skokove (uvjeti propisani Naredbom o zrakoplovnoj sigurnosti Izvanaerodromsko slijetanje i uzlijetanje zrakoplova na kopnenim i vodenim površinama, Pravilnikom o izvanaerodromskom slijetanju i uzlijetanju helikoptera, Pravilnikom o padobranstvu i dr.).

Caution is advised when off-field landings and take offs are planned, due to additional requirements for participants (requirements laid in Air safety order on Take-off and Landing on Natural Land and Water Operating sites, Ordinance on helicopter Take-off and Landing on Natural Operating sites).

Zrakoplovi i padobrani za izvođenje planiranih aktivnosti mogu se definirati prema općim karakteristikama (tipovi zrakoplova, kategorija zrakoplova, namjena padobrana i sl.), što je posebno pogodno za provođenje natjecanja, a mogu se navesti registracijske oznake i tip zrakoplova.

Aircraft and parachutes can be defined by general qualifications (aircraft type, aircraft category, parachute intended use), especially convenient for organization of competitions, but also for known individual aircraft registration and type can be specified.

Kako bi se osigurao ciljani standard sigurnosti organizacije, provedbe i upravljanja zrakoplovnom priredbom, u periodu nakon prihvaćanja Plana zrakoplovne priredbe i provedbe zrakoplovne priredbe potrebno je:

* provjeriti relevantnu dokumentaciju sudionika,
* provjeriti relevantnu dokumentaciju zrakoplova, i
* provjeriti relevantnu dokumentaciju padobrana.

To assure targeted safety standard of Flying Display organization, management and execution, after acceptance of Flying Display Plan Organizer must:

* check all relevant documentation of participants,
* check all relevant documentation of aircraft, and
* check all relevant documentation of parachutes.

Prilikom provjere dokumentacije sudionika, zrakoplova i padobrana posebnu pozornost potrebno je obratiti:

* na dokumentaciju koja se izdaje u skladu s nacionalnim propisima jer su moguća određena odstupanja (prim. svjedodžbu o zdravstvenoj sposobnosti može mijenjati neki drugi dokument),
* da nacionalni propisi pojedinih država, pa tako i u Republici Hrvatskoj, dopuštaju da zrakoplov registriran u toj državi leti pilot s dozvolom izdanom u skladu s PART-FCL ili dozvolom izdanom u skladu s nacionalnim propisima druge države,
* da inozemni sudionici potkrijepe svoju dokumentaciju uporištem u nacionalnim propisima (dosadašnje iskustvo pokazalo je da se nacionalnim propisima mogu značajno promijeniti uvjeti, a da organizator i sudionici toga nisu svjesni),
* da se svake godine moraju provjeriti gore navedeni uvjeti jer se u praksi pokazalo da se nacionalni propisi mogu izmijeniti tijekom godine, i
* da sudionici koji upravljaju državnim zrakoplovima i padobranci koji obavljaju skokove u službi policije ili vojske moraju posjedovati odobrenje u skladu sa Zakonom o zračnom prometu i Pravilnikom o vojnom letenju.

When checking participant, aircraft and parachute documentation, special attention is required for:

* documentation issued in accordance with national laws and regulations, due to certain discrepancies and deviations (e.g. medical certificate can be superseded by another document),
* some national laws and regulations, as in Croatia, allow to fly

Očekivani broj gledatelja igra značajnu ulogu u planiranju.

Iako se uvažava da ekonomski utjecaj uslijed procjene uvećanog očekivanog broja gledatelja može biti negativan (veći troškovi), u obzir je potrebno uzeti negativan utjecaj na sigurnost kao posljedicu procjene umanjenog očekivanog broja gledatelja.

Drastična posljedica procjene umanjenog očekivanog broja gledatelja može biti prekid provedbe zrakoplovne priredbe zbog toga što uspostavljena organizacijska struktura neće biti u mogućnosti održati ciljani standard sigurnosti.

# NACRT ZRAKOPLOVNE PRIREDBE

Nacrt prostora zrakoplovne priredbe može se izvesti na jednoj ili više skica.

Nacrt prostora zrakoplovne priredbe može se smatrati prihvatljivim ako iz njega proizlaze jasne i nedvosmislene relevantne informacije sudionicima, službama za slučaj nevolje i drugim osobama i službama relevantnim za organizaciju i provedbu zrakoplovne priredbe.

Kada na zrakoplovnoj priredbi nastupa više vrsta zrakoplova, za čije su performanse propisane različite minimalne udaljenosti od linija gledališta, na Nacrtu prostora zrakoplovne priredbe može se navesti više linija zrakoplovne priredbe.

# VAŽNO – O0VO MORAŠ NEGDJE UGLAVITI

Potrebno je da opisi koordinacija u Planu zrakoplovne priredbe budu jednoznačni s jasno definiranom strukturom i odgovornostima.

Koordinaciju svih aktivnosti na zrakoplovnoj priredbi maloga rizika i koja nije kompleksna može provoditi jedna osoba.

Za kompleksne zrakoplovne priredbe i visokog rizika mogu se razraditi koordinacije po određenim segmentima.

Koordinacija s pružateljem usluga u zračnoj plovidbi i drugim korisnicima prostora na kojem se održava zrakoplovna priredba ovisi o kompleksnosti i rizicima zrakoplovne priredbe (prim. zahtjevna koordinacija jednostavne zrakoplovne priredbe Air Cargo Challenge na aerodromu Lučko za vrijeme otvorenosti aerodroma).

Obzirom na različite načine odobrenja korištenja zračnog prostora, Planom zrakoplovne priredbe dovoljno je opisati način korištenja zračnog prostora, postupak nadležne kontrole leta ili eventualnog odobrenja potrebnog za njegovo korištenje, a može se referirati na odobrenje za korištenje zračnog prostora.

Plan za slučaj opasnosti potrebno je prilagoditi kompleksnosti i rizicima zrakoplovne priredbe.

Očekivani broj gledatelja igra značajnu ulogu pri izradi Plana za slučaj opasnosti.

Plan za slučaj opasnosti može se potkrijepiti procjenom rizika, poglavito ako se predlaže manje restriktivan Plan za slučaj opasnosti.

Uvjeti, organizacija i način obavljanja djelatnosti hitne medicine propisani su Pravilnikom o uvjetima, organizaciji i načinu obavljanja hitne medicine, te je za svako javno okupljanje potrebna nazočnost najmanje jedne osobe koja ima položen tečaj prve pomoći.

Iako su propisane minimalne udaljenosti od linija gledališta, potrebno ih je prilagoditi svakoj zrakoplovnoj priredbi.

Odstupanja ispod minimalnih propisanih udaljenosti od linija gledališta potrebno je potkrijepiti procjenom rizika, odnosno potrebno je utvrditi mjere ublažavanja rizika.

Iako je propisana minimalna visina za izvođenje planiranih aktivnosti, potrebno ju je prilagoditi svakoj zrakoplovnoj priredbi.

Odstupanja ispod minimalne propisane visine (osim iznimno navedenih točkama a) i b), stavka 2. članka 11. Pravilnika o zrakoplovnim priredbama) potrebno je potkrijepiti procjenom rizika, odnosno potrebno je utvrditi mjere ublažavanja rizika.

# Site assessment

Where the Flying Display is held at a aerodrome, aerodrome operators must be involved at all stages of preparation for the Flying Display.

In assessing any proposed site, the following aspects should be taken into consideration:

a) The suitability of surfaces used by aircraft for take-off, landing and taxiing,

b) The take-off and landing distances available and required,

c) Obstructions in the vicinity with regard to the aircraft types which are expected to take part,

d) The proximity of Congested Areas,

e) The proximity of any sensitive or restricted areas,

f) The presence of livestock or wildlife conservation areas,

g) The proximity of controlled airspace, aerodromes, heliports, helipads, Registered areas for Landing and Take-off, ballooning sites, parachuting, hang gliding, gliding, ridge soaring, paragliding sites, danger areas, firing ranges, model aircraft flying sites etc., and

h) The availability of clear entry and exit routes for on and / or off-site emergency service vehicles appropriate to the scale of the event.

In assessing the suitability of a possible display site, consideration should be given to the aircraft types intended to participate with specific regard to the ground area and vertical space likely to be required.

# Display area

It is important that the Display Area intended to be used is considered and decided on early in the planning stage.

The Display Area should be suitable for all wind conditions in which the participating aircraft are likely to display.

Organizer should endeavor, through mitigating actions and other arrangements, to produce a Display Area unhindered by ’avoids’ so that participants are free to focus on producing a smooth, flowing, safe display rather than being concerned about maneuvering to avoid hazards.

Once the Display Area has been promulgated, participants should review any aspects of their display that might not fit within the available Display Area and adjust accordingly. Where these changes constitute a variation to their 'practiced display', they should ensure they have adequate opportunity to practice any modifications before the display.

Participants who are required to substantially alter or restrict their display must not be pressured into participating an unpracticed display.

A Display Area restricted in size by its surroundings may ultimately dictate the suitability and practicality of the Display Items or can even raise the question as to whether or not any form of Flying Display is suitable at the proposed site.

# Spectator enclosures and car parks

Sites for Spectator enclosures and Car Parks require careful selection. Any area to which spectators have access must never be located closer than the appropriate Separation Distance to the planned Display Area or lie underneath it.

Normally Spectator enclosures and Car Parks will be confined to one side of the site thus allowing aircraft maximum freedom of movement on the other side.

If no practical alternative exists, Spectators’ vehicles and visiting aircraft may be parked under the Display Area provided the Organizer does not permit access to these areas by the public for the duration of the Flying Display.

Spectator enclosures and Car Parks must be sited away from taxiways and runways and so arranged that no part of a taxiing aircraft passes within 10 metres of the enclosure or Car Park. The distance will need to be increased significantly if Spectators are positioned behind or close to areas where aircraft are using significant amounts of power, such as ground running of engines (particularly in the case of high powered aircraft and large helicopters) and turning.

# Secondary spectator considerations

It is important to consider at the planning stage the likelihood and management of areas of potential secondary spectator build up, along with actions that can be put in place to help prevent such gatherings.

# Parking and ground manoeuvring of aircraft

Aircraft taking part in the Flying Display should be segregated from both visiting and static aircraft parks. Aircraft may be moved from these locations if they are required to take part in the Flying Display, however, aircraft in static parks should not start engines or APUs in these areas as they could present a hazard to the public.

Appropriate security should be in place to guard against interference with aircraft. Participants should be advised to ensure that aircraft starting systems are isolated and access points locked if possible. Fire extinguishers should be readily available and aircraft should be parked so that fire vehicles can achieve easy access and move freely amongst them.

Parking areas must be out of bounds to Spectators when aircraft engines are running or aircraft are taxiing.

Where possible, taxiing parallel to the Crowd Line, shutting down and towing or pushing into place should be considered during the planning of marshalling activities. Consideration must also be given to any planned arrivals of aircraft without brakes or possessing poor turning capability.

Helicopters should, if capable, only be permitted to ground-taxi. If unable to ground-taxi, they should only be permitted to hover-taxi in ground effect.

Effective barriers and marshalling arrangements are required to keep Spectators clear of aircraft maneuvering areas at all times. Pilots and passengers of visiting aircraft must remain behind the Crowd Line during the period of the display.

In the interests of safety, smoking must not be permitted in Aircraft Parking Areas or Static Aircraft Parks.

# Separation Distances

Aircraft are not permitted to display above any point on the surface closer to any area occupied by spectators or their vehicles than that specified in the following table as appropriate to the display speed of the aircraft.

For aircraft flying in formation, the distances are applicable to the aircraft performing nearest to the Crowd Line.

The speed ranges given above are the speed of the aircraft at any particular time during the display. A participant may vary the Separation Distances if the speed of the aircraft varies during the display.

Manoeuvres such as touch-and-goes and simulated go-arounds, or those which include a change of aircraft configuration, are to be flown in accordance with the minimum lateral separation table above.

# Display Line or axis

Displaying aircraft perform relative to a Display Line which must be clearly identified. Where the Display Line is not clearly delineated by a paved runway or other obvious line feature it should be marked with dayglo pyramids or panels, whitewashed lines or by some other suitable method.

Marking of more than one Display Line is at the discretion of the FDD. Ideally, two clearly defined lines, covering the Separation Distances most likely to be used by participants during the Flying Display should be presented,

allowing participants to interpolate for intermediate distances.

Organizer may find it helpful to identify and mark a number of specific points (e.g. the display datum, if one is required) to help participants position for the benefit of the spectators. The location and rationale for the marked points should be included in all pilot briefing material.

At sea-front displays it is essential that the Display Line is marked with hi-visibility buoys or marker floats. Additionally, unless a suitable feature cannot be clearly designated for the purpose, a distinctive buoy or group

of buoys should be used to mark display datum, if a datum is required.

# Holding areas

During the planning stage, consideration should be given for the need to locate, identify and appropriately position aircraft holding areas. Holding areas should be away from controlled airspace, ideally positioned so as to avoid unnecessary over-flight of built up or local sensitive areas.

Details of holding areas must be included in the display pilot’s written brief and covered in verbal briefings.

# Minimum heights

Organizer should consider imposing minimum height restrictions and avoids over sensitive local areas and Congested Areas.

Details of any restrictions imposed must be clearly promulgated in the display pilot’s written brief.

Organizer must ensure that participants are advised of the minimum heights applicable at the Flying Display in writing, supported by verbal or telephone briefings.

Acceptable minimum heights will depend on the particular site, the participants experience and competence on type, the task, and the prevailing weather.

# Display area restrictions

Outside of the Display Area, aerobatic flight may be performed in accordance with SERA, to allow aircraft positioning / repositioning between maneuvers. Any known secondary spectator crowds must be treated as congested areas.

Owners / occupiers of buildings located beneath a Display Area may be contacted and, if any building can be guaranteed to be unoccupied for the duration of the Flying Display no restriction would be necessary.

# Use and allocation of radio frequencies

Most Flying Displays will require the use of some level of radio communications.

Organizer should endeavor to allocate a quiet frequency for use during the Flying Display with another frequency being available for administrative requirements and communication with non-display aircraft.

# Commentator and public address systems

A public address system covering the Spectator enclosures is essential. Such a system, when installed, must be audible throughout the whole area to which Spectators have access.

A robust means of communication between the Flying Display coordinators and the commentator must be in place in order to communicate any programme changes, important messages or rapidly broadcast any emergency information to the public. Ideally the commentator and the Flying Display coordinators will be collocated.

If an emergency arises, the commentator will be essential in crowd control. Organizer must ensure that the commentator is in possession of a pre-scripted emergency message covering major emergencies

# Military participation

Military participants are responsible to the Organizer for the safe conduct of the aircraft they are operating whilst performing at a Flying Display.

Military participants are approved and authorised by the MOD and are responsible for complying with any military specific limitations or regulations.

# Weather minima

Weather conditions must be assesed and minimum must be determined for briefing.

Organizer and participants should also be aware of a condition known as the ‘goldfish bowl effect’ at over-water display sites. Where visibility is reduced, an impression can be created such that the sea and sky appear to merge. The subsequent loss of a good visual reference can make positioning difficult and compromise safety.

# Drones and balloons

Gas-filled toy balloons when released are a potential hazard to aircraft and the sale of such is not to be permitted in public enclosures.

The use of drones (UAS) by the general public at Flying Displays poses a possible risk to aircraft and must not be permitted. Consideration must be given to raising public awareness of their legal responsibility and the importance of compliance. Possible measures include signage, information on tickets or posters, social media and advice from the commentator. Members of the event staff and attending emergency service officers should be briefed to intervene as appropriate if drone operation is suspected or observed.

NAVEDI DA SVATKO MOŽE PREKINUTI – KAO NA RADIOONICI

# Airspace considerations

A NOTAM acts as a warning to other airspace users that an activity is taking place at a specified location for a specified time and may by itself be sufficient for small events.

Organizer should consider whether this is sufficient to cover all planned activity.

**UBACI AMC PORTAL**

# Emergency Services

The Organizer and aerodrome operator should ensure communication about any degradation in available emergency service cover. Flying may need to be restricted as a result of any such loss of cover.

# Latent hazards

All operators of aircraft used for flying displays are required to identify, and where practicable replace or remove any materials that might be hazardous to first responders and other personnel in the event of an accident.

Organizer is required to check this information and to ensure that it includes contact details for individuals or organizations who are available on the day of the event and capable of offering advice on the safe handling of such material. Organizer must further ensure the means of communicating this information to the Emergency Services, should an accident or incident occur.

Military participants can advise on the specific hazardous materials in relation to their aircraft.

„NCO.SPEC.PAR.120 Prijevoz i otpuštanje opasnog tereta

Neovisno o točki NCO.SPEC.160, padobranci mogu, uz nošenje dimnih uređaja, izaći iz zrakoplova radi padobranske predstave nad gusto naseljenim područjima gradova i naselja ili iznad skupine ljudi na otvorenom ako su ti uređaji proizvedeni za tu svrhu.”

# Liaison with the Local Authority and Emergency Services

Liaison with the Local Authority, Police, Harbormaster Office and Emergency at the start of the planning stage for a Flying Display is absolutely vital. Local Authorities and Emergency Services have considerable expertise in planning for large public events and can assist Organizer in the planning process**.**

Specific local circumstances, availability of on-site services, type and numbers of displaying aircraft and the anticipated crowd size will all influence the level of emergency cover required.

The Emergency Response Plan and associated Risk Assessment ought be of used by the Local Authority and Emergency Services to determine their capability to respond to an incident.

# Local Authorities

Local Authorities have control of the various public services which an Organizer may wish to use. In addition, they need to be aware of the aerial activity which is to take place in order to anticipate any queries or complaints

which might arise.

The Event Emergency Response Plan will be expected to comply with the Local Authority’s existing major incident plans.

# The Police

The role of the Police at any public event is:

a) the protection of life and property,

b) the prevention and detection of crime,

c) the prevention of breaches of the peace,

d) to respond in the case of an immediate threat to life and public safety and co-ordinate the response of the Emergency Services.

The Emergency Services should not be expected to fill any gaps in event arrangements due to either inadequacies / omissions in the planning process or shortfalls in provisions to be delivered by any other party involved in the organization, staging or management of the event.

The likelihood of criminal activity (including terrorist attack) or disorder should be incorporated into the event Safety / Emergency Response Plan and Risk Assessment.

Police forces have counter terrorist security advisors who can be consulted as part of the planning process. Early engagement will ensure that Organizer is appropriately briefed about the national threat level and any emerging intelligence or threat relevant to their event.

The Police have no general powers to control or direct traffic at events unless during an emergency situation, therefore, this function should be delegated by the Organizer.

In the event of a fatal accident or death on site, the Police have statutory duties which include securing and preserving evidence at the scene (including testimonies in the form of written statements and recovery of any video / photographic evidence).

# Fire and Rescue Services

Adequate facilities must be available on site to respond to any fire or rescue emergency. Aerodromes might have dedicated trained staff available, however, the degree to which these may need to be supplemented should be identified through the Emergency Response Plan and associated Risk Assessment.

Organizer should ensure that the Fire Service for the area is notified of an event, even if there appears to be adequate on site resources.

If flying is to be conducted over water then the appropriate Emergency Services, namely, the Harbormasters Office should be informed.

# Appointment of officials

The Organizer must appoint experienced staff to supervise the parking of aircraft and cars, to operate any public address system and to control messengers and other staff. Sufficient marshals must be available to control members of the public, to ensure that on and off site emergency vehicle access is kept clear, to be available in the case of emergency and to prevent public access beyond the Crowd Line.

Only suitably trained personnel and experienced in flight line ground handling of aircraft shall be used in the

aircraft movement area.

For Car Parking, the services of one of the organizations that specialize in the arrangement and management of Car Parks might be worth considering.

All officials must be thoroughly briefed in the duties expected of them and provided with some means of identification, such as waistcoats or arm-bands.

# Local landowners

The CCAA strongly recommend that Organizer engage and work with local landowners early on in the initial planning stage of any event in an attempt to accommodate and resolve any potential issues or concerns held.

Early engagement, good communication and patient diplomatic liaison often pays dividends in helping to build good relationships preventing the escalation of any potentially harmful and unnecessary conflict.

# Medical

Medical provision is essential for any event. Notification of an event should be directed to the local Medical Service.

A suitable facility in an accessible location should be made available and equipped as a first-aid and casualty reception center.

Croatian Mountain Rescue Service (HGSS) can usually provide first aid teams, especially when dealing with hard terrain.

These facilities should be suitably marked and located within the Spectator area, but with access to the Display Area.

# The Emergency Response Plan

Suitable and sufficient Emergency Response Plan and associated Risk Assessment must be produced and circulated to all contractors and Emergency Services working at the event location or in the adjacent affected areas.

The Emergency Response Plan and associated Risk Assessment must contain specific mitigation for dealing with any aviation related hazardous materials which could become an issue following an incident.

The size and extent of the Emergency Response Plan will vary depending on the size and complexity of the event

For example, at a single item Flying Display it may suffice to have a list of contact telephone numbers for the local Emergency Services. At major Flying Displays, a comprehensive written plan will be required specifying the responsibilities of all parties in the event of an incident arising.

The Organizer must remember that an Emergency Response Plan will require strategies for crowd management and welfare, transport management, fire, first aid, major incident and contingency planning. If the worst does happen, a well-planned event will have a more effective response.

The Emergency Response Plan must include information about how to communicate information on any potential latent hazards that exist within attending aircraft to Emergency Services in the event of an incident.

The size and location of an event can have bearing when deciding who to notify and liaise with within the Local Authorities and Emergency Services.

Organizer should maintain a record of their engagement with the Local Authority and Emergency Services as appropriate.

# KOORDINACIJSKI SASTANCI

Dobro razrađen Plan zrakoplovne priredbe i Plan za slučaj opasnosti mogu poslužiti kao osnova za dobre koordinacijske sastanke.

**MOŽDA JOŠ MALO BOLJE RAZRADI**

# Insurance

# OSIGURANJE OD POSLJEDICA NEŽELJENOG DOGAĐAJA

Obzirom na odgovornosti koje proizlaze iz organizacije i provedbe zrakoplovne priredbe, od iznimne važnosti je na različite načine osigurati se od posljedica neželjenog događaja.

Za zrakoplove koji podliježu obaveznom osiguranju potrebno je provjeriti valjanost ugovora (police osiguranja) te da li pokrivaju sudionika i nastupe na zrakoplovnim priredbama.

Although there is no requirement within Croatian civil aviation legislation for third party insurance cover of Flying Displays, Organizer is strongly advised to give this particular aspect due consideration. Insurance cover is normally conditional on compliance with legal requirements, and violation of the law or the conditions of a approval or exemption may render insurance invalid.

The Organizer is strongly advised to seek professional guidance on liability aspects and to obtain advice from a reputable insurance broker with aviation experience as to the appropriate level of third party liability coverage that should be affected.

# IZVRŠNA PRIPREMA / Briefing

Dobro razrađen Plan zrakoplovne priredbe može poslužiti kao osnova za dobru izvršnu pripremu i koordinacijske sastanke.

Izvršna priprema i koordinacijski sastanci mogu se provesti u pisanom ili usmenom obliku.

Izvršnu pripremu u pisanom obliku najbolje je dostaviti putem elektroničke pošte s potvrdom primitka, kako bi se osiguralo da je sudionik zaprimio izvršnu pripremu.

Regardless of the size of the Flying Display, the importance of a thorough, formal verbal briefing cannot be over-emphasized. No participant is to take part in a Flying Display unless they have received a briefing in any given form.

A comprehensive display pilot’s written brief covering the arrangements for the flying programme should be circulated in advance to all participating in Flying Display, Air Traffic Service provider and those in charge of particular aspects of the display, such as safety services.

Organizer is responsible for ensuring that, in advance of the Flying Display, all participants are sent a written briefing. It is important to distribute this information as early as possible to allow participants to plan and is particularly important for fast jets which might be a little less flexible in their timings. The quality of the mapping / imagery provided is also vital to aid participants in planning their displays.

Organizer should keep a record of those participants who have attended the formal brief as well as a record of the completion of any phone briefs.

The content of the briefing will vary depending on the complexity of the Flying Display but the following items should, where appropriate, be included:

a) Place, date, time (UTC or local time) and duration of the Flying Display,

b) Name and contact details for the FDD and other key personnel, including those for use on the day of the display,

c) A copy of any related CCAA approvals and exemptions issued,

d) Flying programme,

e) Map of the display location showing the site layout and local area,

f) Details of how Display Lines will be marked at the site and how they will be recognized on the day by the participant,

g) Details of the display datum, whether an easily identifiable feature, a Lat / Long or a grid reference,

h) Air Traffic Services information including:

i) Type of air traffic service available to participants – A/G, AFIS or ATC,

ii) Arrival and departure procedures (including taxi instructions),

iii) Radio frequencies and, if required, transponder codes,

iv) Procedures during the Flying Display,

v) Radio failure procedures,

vi) Holding areas and altitudes,

vii) Adjacent air traffic conflictions,

viii) Local flying restrictions,

ix) Local diversion airfields,

h) Details of any NOTAM or RA(T) which might have been established for the event, including lateral and vertical extent and times of activation,

i) Any deviations from Flying Display limits set out in CAP 403,

j) A requirement that only known, practiced and evaluated maneuvers, including bad weather ‘flat–display’, are to be flown,

k) A requirement that aircraft commanders ensure that the positioning of their aircraft at all times is such that, in the event of an engine or airframe failure causing a forced landing or uncontrolled ground impact, no part of the aircraft will infringe the crowd area,

l) Procedures to be followed when the Flying Display includes items such as ballooning, parachuting, parascending, paragliding, hang gliding, banner towing and foot launched aircraft,

m) Procedures for cancellation or variation of the flying programme,

n) Details of aircraft parking and refueling arrangements,

o) Arrangements for any Pleasure Flights and visiting aircraft, and

p) References to Emergency Service cover and any specific procedures.

The use of clearly marked satellite images and / or overhead photographs often provide a very powerful, clear pictorial image for participants to familiarize with during display preparation and planning. If using such images, for standardization, the following colors are suggested:

**UBACI TABLICU S BOJAMA+ one dvije slike (primjeri)**

It is recommended that where possible the display pilot’s written brief is produced in a bound A5 format. In addition, it is recommended that one of the cover pages consists of a crib sheet with an acetate overlay to facilitate participant’s noting significant information as suggested in the following illustration:

**UBACI TABLICU – naslovnica s upisivanjem podataka**

Organiser is responsible for ensuring that all participants operating from the Flying Display site receive a thorough verbal briefing before the Flying Display on each day of the event.

B5 Flying Display Briefing Checklist (and Telephone Brief if required)

**UBACI checklistu**

Participants not operating from the Flying Display site, and those unable to attend the formal brief, must contact the organiser by telephone as close to their slot time as possible to obtain a full formal verbal briefing.

A crib sheet identical to both Organizer and participant, issued by the Organizer as part of the comprehensive display pilot’s written brief, should be used.

At Flying Displays at non–airfield sites, or for Participants who are flying into a display from a different location, a briefing may be conducted by telephone.

The briefing conducted should be from an identical crib sheet (written specifically for the telephone briefing) to the one issued to the participant as part of the briefing material, containing all the relevant safety items for that participant.

# Arrivals and Departures from Flying Displays

All Flying Display arrivals and departures must be in accordance with the aerodrome procedures and relevant regulation.

Unbriefed and unexpected maneuvers are equally, if not more, dangerous during arrivals and departures to and from a Flying Display as those carried out during a display.

Organizer should ensure that static display aircraft operators are briefed to comply with normal arrival and departure procedures to avoid any nonstandard arrivals or departures.

It is suggested that to avoid confusion, the standard arrival and departure procedures for the airfield in question are detailed in the Display Pilot’s written brief and emphasized during verbal briefings.

# PRACTICE

Display practises at the event location, on the day of a Flying Display, can only be carried out prior to the arrival of any spectators on site and in accordance with Flying Display Plan.

# Impromptu displays at Flying Displays

Organizer must ensure that participants do not carry out any form of impromptu display such as on arrival or departure.

# Standard Warning and STOP calls

Organizer can assist the participant in assessing height and distance by using the warning calls detailed below.

For example, if the Organizer considers a participant has flown a pass below minimum height, a ‘Too Low’ call could help to ensure that subsequent passes are flown at the correct height and thus prevent repeated breaches or unsafe situations developing.

However, if the Organizer perceives a consistent breach of minima has occurred, have concerns that a limit is being exceeded, or have safety concerns that require a cessation of a display, they must make a ‘STOP’ call to halt the display.

The following Standard Calls and responses shall be used:

**UBACI TABLICU**

A ‘Too Low’ call shall be made at an appropriate time if the Organizer assess that an aircraft has descended below the minimum height in place for the Flying Display.

A ‘Too Close’ call shall be made at an appropriate time if the Organizer assess that an aircraft has breached the minimum lateral separation distance appropriate to that display item.

A STOP call shall be made when it is necessary to stop a Display for reasin of safety concern related to a participant’s fitness or competence, or other reason (e.g. intruder aircraft, birds, etc). When a STOP call is made, the participant is required to stop their display and not recommence it.

However, A STOP call can also be used by a participant to notify intention to halt a display if deemed necessary for any reason. At the discretion of both the Organizer and the participant, the display may be resumed if safe to do so.

A fully briefed procedure is to be established and in place to communicate a STOP call to any participating non-radio aircraft. Similar methods of communication must be considered to cater for a radio failure during a Display Routine. If an Aldis lamp signal is to be used for such a purpose, for standardization, it is recommended that a ‘steady white’ signal be used.

Organizer should consider the safest and most appropriate time to make a Warning or STOP call and to not jeopardize safety by causing an unnecessary distraction for the participant at a critical point during their display.

For Warning calls only, where the Organizer considers, for flight safety reasons, there is no ‘appropriate time’ during the participant’s display, they shall verbally debrief the participant once on the ground.

In the case of an obvious aircraft malfunction resulting in loss of control or other emergency, whether or not a PAN or MAYDAY has been transmitted, discretion and judgement may dictate that a display related safety call be an unwarranted distraction and wholly inappropriate.

Following a STOP call the Organizer is required to report the incident to the CCAA as soon as is reasonably practical.

The following information should be included in any such call to the dedicated ‘STOP call’:

a) Event name and location,

b) Organizer’s responsible person and contact number,

c) Time of STOP call,

d) Item / registration,

e) Name of participant and contact number,

f) Details of debrief if carried out, and

g) A full account of the perceived breach.

# Standard display calls

For clarification and to prevent confusion, it is recommended that the following call and read back is adopted to indicate when an Organizer is content for a display item to begin it’s display.

**UBACI TABLICU**

# Displays by Air Operator’s Certificate (AOC) operators

6.53 Displays by AOC operators i.e. large transport aircraft, will normally be conducted in according to operator’s Operation Manual procedure.

Passengers are not to be carried during a Flying Display by AOC operators. However, additional flight crew or specialist maintenance personnel may be carried provided that a recommendation to that effect is made to the CCAA.

Formation flights by large Commercial Air Transport aircraft will not normally be permitted but specific applications will be considered on their merits.

# Carriage of persons onboard display aircraft

No persons other than minimum crew, as detailed in the aircraft Certificate of Airworthiness or equivalent, are permitted be onboard a civil registered aircraft during a Flying Display unless the prior approval of the CCAA has been obtained.

# Pleasure flights

Pleasure Flights for valuable consideration can only be conducted by companies holding an AOC.

Organizer must coordinate Pleasure Flights and shall ensure that they do not take place during the Flying Display period itself, unless the prior approval has been obtained. At other times care should be taken to ensure integration with other air traffic.

For Pleasure Flights operated from Flying Display sites, passengers must be escorted between the Spectator enclosures and the aircraft, both before and after each flight, and shall remain behind the Crowd Line whilst aircraft are displaying. The escort route must be planned to take them safely clear of other aircraft. All personnel associated with the pleasure flying operation must remain behind the Crowd Line when aircraft are displaying unless the requirement has been appropriately addressed in the Flying Display Plan. Smoking must not be permitted in or near to the Aircraft Parking Area.

If helicopters are used for Pleasure Flights they must be positioned and routed so as to prevent problems with rotor downwash. In all cases, the site used for passenger loading and unloading must be safely clear of the flying area. If the helicopter operating area is not adjacent to the Spectator enclosure, as could be the case at offaerodrome events, those parts of the site at which passengers would be expected to assemble before being escorted to the helicopter should be fenced off securely. Arrangements must also be made to prevent access to the helicopter operating area by third parties.

# Inspection of Flying Displays by the CCAA

The CCAA is required to inspect and monitor safety standards at a number of events annually. A notification will normally be given to the Organizer in adequate time stating that a formal inspection of the event will take place. However, the CCAA reserves the right to inspect any Flying Display without notice.

CCAA inspection staff will endeavor to conduct their duties with minimal impact to the running of the Flying Display.

# PROCJENA RIZIKA

Risk Assessment

7.15 Risk assessment is an essential element of the production of any safety

plan. Whilst the FDD is responsible for the content of the Flying Display

specific content of an event Risk Assessment, it is the EO who is

responsible for the event Risk Assessment as a whole. The procedure

detailed at Appendix A ought to suit most Flying Display

needs.

## ŠTO JE PROCJENA RIZIKA

Procjena rizika je identifikacija opasnosti i pripadajućih rizika, evaluacija i klasifikacija tih rizika te utvrđivanje postojećih i dodatnih mjera za ublažavanje istih kako bi se sveli na prihvatljivu razinu,

## ZAŠTO SE PROVODI PROCJENA RIZIKA

Temeljem procjene rizika, kroz situacije koje mogu prouzročiti neželjene posljedice, utvrđuje se da li su postojeće mjere ublažavanja rizika dovoljne ili je potrebno definirati dodatne mjere ublažavanja rizika, u svrhu zaštite osoba i imovine te kako bi se dokazalo da su poduzete sve potrebne mjere za sigurno provođenje zrakoplovne priredbe.

## KAKO SE PROVODI PROCJENA RIZIKA

Procjena rizika provodi se kroz pet koraka:

1. identifikacija opasnih situacija (hazard),

2. utvrđivanje i opis rizika,

3. klasifikacija rizika,

4. utvrđivanje postojećih mjera ublažavanja rizika, i

5. utvrđivanje dodatnih mjera ublažavanja rizika.

*NAPOMENA: Potrebno je obratiti pozornost na razliku pojmova „opasna situacija“ i „rizik“:*

*• „Opasna situacija“ - situacija s potencijalno štetnim posljedicama, i*

*• „Rizik“ - štetna posljedica, s klasifikacijom ozbiljnosti i vjerojatnosti da ona dogodi;*

Procjena rizika dokumentira se u pisanom obliku, preporučeno u tabelarnom prikazu. Primjer dokumentiranja procjene rizika vidi se u tablici 5.



## POSTUPAK PROVOĐENJA PROCJENE RIZIKA

**1. Identifikacija opasnih situacija**

Prvo je potrebno identificirati opasne situacije koje proizlaze iz zatraženih odstupanja.

**2. Utvrđivanje i opis rizika**

Nakon identifikacije opasnih situacija potrebno je utvrditi na koga ili što opasna situacija može imati utjecaj, iz čega proizlazi opis najgore moguće posljedice (opis rizika)**.**

**3. Klasifikacija rizika**

Nakon identifikacije opasnih situacija i pripadajućih rizika, potrebno je klasificirati rizik.

Klasifikacija ozbiljnosti rizika određuje se u skladu s tablicom 1.

Klasifikacija vjerojatnosti da se rizik dogodi određuje se u skladu s tablicom 2.

Jednadžba za izračun klasifikacije rizika:

**KLASIFIKACIJA RIZIKA = OZBILJNOST RIZIKA x VJEROJATNOST DA SE RIZIK DOGODI**

Klasifikacija rizika određuje se u skladu s tablicom 3.

Prihvatljivost rizika određuje se u skladu s tablicom 4.

Ako po provedenoj klasifikaciji rizik nije prihvatljiv, rizik se može ublažiti u svrhu zaštite osoba i imovine, (op.a. vidi točku 5. Utvrđivanje mjera ublažavanja rizika).

**4. Utvrđivanje postojećih mjera ublažavanja rizika**

Nakon identifikacije opasne situacije, opisa i klasifikacije rizika, potrebno je utvrditi postojeće mjere ublažavanja rizika.

**5. Utvrđivanje dodatnih mjera ublažavanja rizika**

Ako se utvrdilo da se rizik mora ublažiti, potrebno je definirati dodatne mjere ublažavanja rizika u svrhu smanjivanja vrijednosti klasifikacije rizika na prihvatljivu razinu.

Jednadžba za izračun klasifikacije rizika nakon poduzimanja mjera ublažavanja rizika:

**KLASIFIKACIJA RIZIKA = (OZBILJNOST RIZIKA - FAKTOR SMANJENJA NAKON DODATNIH MJERA UBLAŽAVANJA) x (VJEROJATNOST DA SE RIZIK DOGODI - FAKTOR SMANJENJA NAKON DODATNIH MJERA UBLAŽAVANJA)**

Tablica 1. Klasifikacija ozbiljnosti rizika

|  |  |  |
| --- | --- | --- |
| **OZBILJNOST**  **(SEVERITY)** | **VRIJEDNOST**  **(VALUE)** | **OPIS**  **(DESCRIPTION)** |
| KATASTROFALNA (CATASTROPHIC) | **5** | Nesreća sa smrtnim posljedicama i uništenjem zrakoplova i/ili imovine |
| VRLO OZBILJNA (HAZARDOUS) | **4** | Nesreća s ozbiljnim ozljedama i velikom štetom na zrakoplovu i/ili imovini |
| OZBILJNA (MAJOR) | **3** | Nezgoda s ozljedama i/ili štetom na zrakoplovu i/ili imovini |
| MALOG ZNAČAJA (MINOR) | **2** | Nezgoda s manjim ozljedama i/ili manjom štetom na zrakoplovu i/ili imovini |
| BEZNAČAJNA (NEGLIGIBLE) | **1** | Nezgoda bez ozljeda i/ili štete na zrakoplovu i/ili imovini |

Tablica 2. Klasifikacija vjerojatnosti da se rizik dogodi

|  |  |  |
| --- | --- | --- |
| **VJEROJATNOST**  **(LIKELIHOOD)** | **VRIJEDNOST**  **(VALUE)** | **OPIS**  **(DESCRIPTION)** |
| IZUZETNO VELIKA VJEROJATNOST  (HIGHLY LIKELY) | **5** | Moguće je da se dogodi više puta na više ZP tijekom sezone |
| VELIKA VJEROJATNOST  (LIKELY) | **4** | Moguće je da se u manjem broju dogodi na više ZP tijekom sezone |
| SREDNJA VJEROJATNOST  (PROPABLE) | **3** | Moguće je da se dogodi na jednoj ZP tijekom sezone |
| MALA VJEROJATNOST  (REMOTE) | **2** | Ne očekuje se da će se dogoditi, vjerojatnost da se dogodi na nekoj ZP može se mjeriti u godinama |
| GOTOVO NEVJEROJATNO  (IMPROPABLE) | **1** | Vjerojatnost da se dogodi na nekoj ZP može se mjeriti u desetljećima |

Tablica 3. Klasifikacija rizika

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | KATASTROFALNA (CATASTROPHIC) | VRLO OZBILJNA (HAZARDOUS) | OZBILJNA (MAJOR) | MALOG ZNAČAJA (MINOR) | BEZNAČAJNA  (NEGLIGIBLE) |
| IZUZETNO VELIKA VJEROJATNOST  (HIGHLY LIKELY) | **25** | **20** | **15** | **10** | **5** |
| VELIKA VJEROJATNOST  (LIKELY) | **20** | **16** | **12** | **8** | **4** |
| SREDNJA VJEROJATNOST  (PROPABLE) | **15** | **12** | **9** | **6** | **3** |
| MALA VJEROJATNOST  (REMOTE) | **10** | **8** | **6** | **4** | **2** |
| BEZNAČAJNA  (IMPROPABLE) | **5** | **4** | **3** | **2** | **1** |

Tablica 4. Prihvatljivost rizika

|  |  |  |
| --- | --- | --- |
| **KLASIFIKACIJA RIZIKA**  **(RISK ASSESSMENT)** | **VRIJEDNOST**  **(VALUE)** | **NAPOMENA**  **(NOTE)** |
| VISOKI RIZIK  (HIGH RISK) | **15 +** | Neprihvatljiv rizik, potrebne mjere ublažavanja rizika |
| SREDNJE VISOKI RIZIK  (CAUTION) | **7-14** |
| NISKI RIZIK  (ACCEPTABLE) | **1-6** | Prihvatljiv rizik |

Tablica 5. Primjer tablice procjene rizika

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| OPASNA SITUACIJA | OPIS RIZIKA | OZBILJNOST | VJEROJATNOST | KLASIFIKACIJA RIZIKA | POSTOJEĆE ILI DODATNE MJERE UBLAŽAVANJA | FAKTOR SMANJENJA NAKON MJERA UBLAŽAVANJA | KLASIFIKACIJA RIZIKA  NAKON PODUZIMANJA MJERA UBLAŽAVANJA RIZIKA | REFERNCA PLANA ZRAKOPLOVNE PRIREDBE |
| *Navesti događaj koji dovodi do nesigurnog stanja* | *Navesti krajnju moguću posljedicu (uzeti u obzir najtežu prepoznatu posljedicu* | *Navesti vrijednost ozbiljnosti rizika* | *Navesti vrijednost vjerojatnosti da se rizik dogodi* | *KLASIFIKACIJA RIZIKA = OZBILJNOST RIZIKA x VJEROJATNOST DA SE RIZIK DOGODI* | *Navesti postojeće ili dodatne mjere ublažavanja rizika* | *Navesti vrijednost*  *faktora smanjenja nakon mjera ublažavanja* | *KLASIFIKACIJA RIZIKA NAKON PODUZIMANJA MJERA UBLAŽAVANJA RIZIKA = (OZBILJNOST RIZIKA- FAKTOR SMANJENJA NAKON DODATNIH MJERA UBLAŽAVANJA) x (VJEROJATNOST DA SE RIZIK DOGODI - FAKTOR SMANJENJA NAKON MJERA UBLAŽAVANJA)* | *Navesti referencu na poglavlje plana zrakoplovne priredbe* |