

**RULES AND REGULATIONS**  
**Of the contest on skills and abilities of tactical UAV teams**  
**«UAV team contest» within the framework of**  
**«International Army Games – 2017» in the Republic of Kazakhstan**

Astana – 2017

## **I. General Provisions**

1. This regulation defines the intention, tasks, managing of the contest on skills and abilities of UAV teams with tactical complexes of unmanned aerial vehicles (hereinafter referred to as UAV) "UAV Team Contest" (hereinafter referred to as Contest).

Rules and Regulations include:

- The aims and tasks of the Contest.
- Managing of the Contest.
- Contest procedures.
- Procedures for stage and final place assignment of the Contest.

### **The aims of the Contest**

- To strengthen international military, and military-technical cooperation among the participant states.
- To determine the skills and abilities of UAV teams in preparation and implementation UAV for Weapons and Military Equipment (hereinafter referred to as WME) purpose.
- To summarize the best experience of training and to implement it into the units' practice.
- To increase the prestige of military service in UAV units.

### **The tasks of the Contest**

- Level assessment of tactical and skill training of UAV teams.
- Operational readiness check of UAV teams to perform combat tasks in difficult conditions of tactical situation.
- Determination of the best UAV team in accordance with the results of the contest.
- Identification of further development and improvement of UAV team combat training.

## **2. Managing of the Contest**

The Contest is held on the territory of the Republic of Kazakhstan at 40<sup>th</sup> Military Base's "Gvardeyskiy" training range (Gvardeyskiy settlement, Korday district, Zhambyl region) from 1<sup>st</sup> to 9<sup>th</sup> of August; 2017.

Kazakhstan Air Force Commander-in-chief conducts the overall management of preparation and accomplishment of the Contest.

Each state represents a team consisting of up to 7 people with its military equipment.

Armament:

- Aircraft type UAV complex (close-range) with optical-electronic payload and electromotor operated by accumulator battery. Operational range is up to 40 km.

- Kalashnikov 5.45 mm AK-74 (AKS-74) assault rifle – 4 pcs. (given by organizers)

Team composition:

- Team manager – 1 person;
- Team manager deputy (referee) – 1 person;
- Interpreter (technician) - 1 person;
- Crew of a close-range UAV - up to 4 people;

Teams arrive 5 days prior to the Contest. During these days: accommodation of team participants; verification of team structure; the team draw; safety briefing; the analysis of flight area and the contest conditions; UAV setting-up procedures in the designated area; medical check-up; performing test flights (on agreement) are conducted.

Contest working languages are Russian and English.

### **The organizers of the Contest are responsible for:**

- Preparing the place of the event, managing technical and logistic supply.
- Managing of reception and departure, accommodation, meals, transfer and medical supply.
- Providing of meteorological data.
- Conducting the Contest.
- Organizing of culture and leisure activities and information support.
- Providing the safety measures during the contest.
- Providing logistic support for participants (on requests), not later than 2 months before the Contest start.
- Providing visualization tools for data received from the UAV.

### **The panel of judges:**

- main referee;
- main referee deputy on practical actions;
- main referee deputy on flight safety;
- main referee deputy on enemy designation;
- main referee deputy on liaison and data output and processing;
- main referee deputy on logistics and field training facilities;
- referee (one from each state-participant);
- arbiters;
- technical staff;
- secretary.

The main referee is appointed by the Minister of Defense of the Republic of Kazakhstan.

The panel of judges is responsible for managing of the Contest in accordance with "the Rules and Regulations", as well as for determination of the results and summing up the Contest results.

The results of drawing and exercises during the stages are reflected in protocols by the panel of judges' secretary, signed by the referees of the participant states and approved by the main referee.

The main referee of the Contest has a right to make a proposal for changing some conditions of “the Rules and Regulations”. The changes are to be reflected in the protocol by the judges’ secretary, agreed and signed by the referees of the participant states and approved by the main referee. The participants have to be informed about the changes.

The arbiters are appointed from the organizers of the Contest and responsible for objective control and safety measures.

### **Rights and duties of the participants of the Contest**

Team manager is responsible for military discipline, obeying adopted “Rules and Regulations” by team members as well as for respecting military uniform and daily routine, following the safety requirements. He is also responsible for technical maintenance, safe-keeping of weapons and other materials.

He must:

- know “the Rules and Regulations” and follow them strictly;
- provide the secretary of the Contest with the necessary documents on time;
- be present at the place of the Contest all the time, leave it only with main referee’s permission;
- inform the team about the panel of judges’ decisions, changes in daily routine or in the program of the Contest;
- inform the panel of judges about the participants who left the Contest in accordance with the medical conclusion or other reasons on time;
- know the team results, summarize daily results and set the tasks for the following days;
- participate in drawing procedures;
- report to the main referee about all malfunctions and accidents in team;
- solve all problems with the main referee;
- after the end of the Contest organize maintenance and turn-in of weapons, equipment and other materials as well as checking of their complete set and serviceability status with drawing up acts.

Team manager has a right to make the claims or protests to panel of judges in written or oral form.

Team manager must not:

- interfere with the work of referees and arbiters;
- make decision about removing the participant from the Contest without panel of judges’ approval;
- assist the participants while they are competing.

Contest participants must:

- know “the Rules and Regulations” and follow them strictly;
- arrive at the Contest on time, having the passport, military ID and medical conclusion about participant’s health condition;
- stay in designated areas, respect the Contest rules and daily routine;

- unquestionably obey the orders of referees and arbiters, strictly follow the safety rules and the rules of using weapons and ammunition;
- report to the team manager about all malfunctions and accidents.

Contest participants have a right to:

- train in designated areas within the time determined by the main referee;
- apply to arbiters only with urgent questions concerning the execution of the exercise, in other cases through the team manager in written or oral form.

### **Consideration of protests**

The protest is lodged by the team manager to the panel of judges only in written form. It should be lodged not later than in an hour after the end of the Contest stage or after informing participants about the results. The protest is made concerning unfair refereeing only against that team, the manager of which is protesting. The protest against the other team is not accepted.

The panel of judges must consider the protest; listen to the arbiter and the conclusion of the technical group. If it is necessary, photo and video materials can be used. The decision is made by the open vote. The decision is considered to be adopted if the majority of participant states referees has voted for it (main referee, main referee deputy on practical actions, arbiters, technical staff and secretary don't have a right to vote). If the votes are equal, the final decision is made by the main referee of the Contest. The applicant is informed about the decision as soon as possible, obligatory before the results' of the Contest affirmation by the main referee.

### **The procedure of the contest.**

The Contest consists of three stages:

**The first stage** - Preparation of the UAV complex and performance of the flight for aerial reconnaissance.

**The second stage** – Performing of the flight for aerial reconnaissance at night, artillery fire adjustment at daytime and firing of small arms.

**The third stage** - "Relay race".

The requirements established by these “Rules and Regulations” are mandatory for all officials appointed for the preparation and conduction of the Contest.

At the end of each day the head of the Contest's stage together with the main referee conduct analysis of the contest, with announcing the preliminary results and planning actions for the next day.

Results of target reconnaissance are determined by visual observation by payloads mounted on UAVs, in exceptional (disputed) case - by watching a video.

In order to prevent the violation of safety requirements during the Contest, the main referee has a right to stop performance of exercise by the participants with simultaneous stop of time keeping in the cases described below:

- in case of appearance of other aircrafts in flying area;
- in case of accidents or emergencies;

in case of fire;  
in case of threat to the life of military and civilian personnel;  
in other cases by the main referee's decision.

Further performance of exercise is resumed after report by the signal of the main referee with resuming time keeping.

In case of UAV malfunction during exercise it is allowed to prepare and re-launch another UAV while time keeping continues.

During the performance of the Contest it is prohibited to:

Allow the UAV teams to take part in stages without medical checkup or interview;

Stay at the launch pad, control station and other elements of the UAV system after time starting (for those team members who are not performing the exercise);

Use additional equipment or accessories not included in the UAV package and not covered by this Regulation.

In case of exercise performance violation, according to the Rules and Regulations, the arbiter must compel the performance appropriately.

In case of malfunction, weapon can be changed with the spare one. It should be changed after the main referee's signal. During the stage performance the UAV crew members exchange is not allowed.

Shooting safety requirements are mandatory to follow for all team members.

In case of violation of safety requirements the UAV team is withdrawn from the exercise and gets the last place.

## **FIRST STAGE**

### **Exercise 1 "Preparation of the UAV complex to fly"**

Conditions: UAV is in the stowed position located on the ground 50 meters from the deployment and launch point. Crew of the UAV is 5 meters from the UAV.

Implementation: On the main referee command crew members carry UAV to deployment and launch point, deploy ground control station (hereinafter referred to as GCS) and prepare the UAV for takeoff. Upon readiness, they independently launch the UAV. Time is measured from the referee signal to the **UAV takeoff.**

Penalties:

In case of disassembling components and parts or poor cables connection if it led to the failure of WME - 1 minute;

In case of failure to flow the wind vector at startup - 1 min.

Teams are evaluated on the total time spent on the exercise.

## **Exercise 2 "Landing of the UAV, preparation of the UAV complex for transportation"**

Conditions: GCS is deployed; the UAV is in the air at the distance of 1 km from the landing point at height of 200 m from the ground.

Implementation: On the main referee command UAV crew performs landing procedures and lands the UAV at the specified landing point with a radius of 30 meters. After the UAV landing, the crew compiles the UAV, GCS, stacks components and parts in the shipping container and carries the UAV complex to the distance of 50 meters. Time is measured from the moment the command is given by the main referee until the transportation of the complex to the finish line is completed.

### Penalties:

- when UAV landing the wind vector was not taken - 5 minutes;
- the UAV landed at the distance of more than 30 meters from the landing point- 3 min (per each 30 meters from touchdown (pennon));
- the UAV complex' components and parts were not fixed or laid on the proper location - 5 min;
- the UAV complex' components and parts were lost or damaged during transportation - 5 min.

If parts and components are left by the UAV crew behind the finish line after time stops, they are considered to be lost. If parts and components are collected by the UAV crew before time stops, they are not considered to be lost.

Teams are evaluated by the total time spent on the exercise.

## **Exercise 3 "En-route flight"**

Conditions: The complex is deployed and UAV is in the air. The flight route is 30 km away from the GCS. The number of landmarks is 4. Landmark—a truck with depicted Latin letter on its top.

Implementation: On the main referee command UAV crew receives a flight task and makes a flight on landmarks, upon reaching the landmark, the operator fixes the video image (not less than from three sides) and continues the flight to the next landmark, after detection and fixation of all landmarks returns to the finish. Time is counted from the flight task is received to the UAV landing.

Teams are evaluated on the total time spent on the exercise.

### Penalties:

- missing landmark (failure to detect landmark, video image fixed less than from three sides) -30 min;
- error in position finding (more than 100 m) – 5 min per each 100 m;
- violation of landmark sequence- 30 min;
- takeoff and land outside of launching area (diameter of a circle is 30m) – 3 min per each 30 m.

## **Exercise 4 «Escorting the marching column»**

Conditions: The length of the route of the column is up to 10 km, the average speed of the column is up to 25 km/h.

### Objects:

1. Subversive group in ambush;
2. Subversive group's vehicle near the ambush area;
3. **Tires obstacle on the route;**
4. Shotup vehicle (obstacle on the route);
5. Wounded man on the route.

Implementation: The UAV complex is deployed and prepared for work. The UAV is in the air above the column. On the main referee command the column starts to move. The UAV crew conducts reconnaissance in front, in back and from both sides of the moving column at a distance of up to 2 km and reports the situation to the senior of the column (referee).

When the object is detected, coordinates and characteristics are reported.

When the column stops to: bypass the shotup vehicle, MEDEVAC, repel the ambush, the UAV is above the column and controls all actions. Time stops until the column starts to move. Time is measured from the moment when the column starts to move to the detection of all objects or reaching the finish line by the head of the column.

### Penalties:

Missing object (failure to detect, wrong position finding more than 50 m of one of the objects) – 10 min.

Exercise 1 and 2 of the first stage can be performed during a single flight.

## **SECOND STAGE**

### **Exercise 1 "Detect and Eliminate"**

Conditions: The UAV complex is deployed and prepared for work.

Target – objects for conditional engagement (characteristics are listed in flight task). Artillery fire simulation -120 mm mortar explosive simulators.

Implementation: On the main referee command the UAV crew receives the flight task with coordinates of the reconnaissance area and characteristics of the search object. Takes off the UAV and performs a search for an object in specified area. When the object is detected, reports the arbiter its coordinates and artillery fire adjustment readiness. Upon readiness, in 3 minutes interval three explosions of explosive simulators are carried out. After each explosion the UAV operator fixes and outputs coordinates of the each explosion.

Time is counted from the UAV takeoff to the landing at designated point.

### Penalties:

Wrong target or explosion position finding – more than 50 m - 2 min, for each following 50m.

Explosion is not fixed - 5 min.

Takeoff and land outside of launching area (diameter of a circle is 30 m) – 3 min per each 30 m.

### **Exercise 2«UAV team qualification firing»**

Only 4 listed UAV crew members are allowed to shoot. Weapon is assigned and aimed before the exercise starts. No test shooting. No crew member substitution during the exercise.

Target: ringed half-silhouette target (target No.4).

The range on target: 100 m.

Number of cartridges: 10 pcs.

Time for shooting: to the last bullet, not more than 10 min.

Position for shooting: prone position with a blocking.

Implementation: On the arbiter command UAV team gets the firing position and reports about readiness for shooting. By the command "Fire" UAV team makes ten qualification shots. The time of shooting starts with the "Fire" signal and stops after the team's report "End of shooting". After the end of shooting the team, under the control of the arbiter, discharges the weapon and renders safe.

The exercise is evaluated by summing the number of gained points. If the participants have the same number of points, the crew spent shortest time has advantage. If a target has more than 10 hits (If one of crew members shoots not his target) best points are subtracted and 10 hits are counted from smallest point.

Safety requirements are delivered at the Safety briefing prior to the Contest starts and reminded by the Head of firing exercise before performing the shooting. Safety requirements must be followed strictly in accordance with small arms gunnery course.

Penalties:

For the violation of safety requirements during "Qualification firing" even by one of the crew members, the crew is withdrawn from the exercise and gets the last place.

### **Exercise 3 "Detect and report"**

Conditions: Performing at night. The UAV complex is deployed and prepared for work. The area of conducting aerial reconnaissance is not more than 25 km from the start point. Area is up to 20 sq.km.

Assigned unit: Up to five military installations.

Tank, IFV in hull-down position, camouflaged truck, artillery-type weapon, and multiple launch rocket system on-site.

Implementation: On the main referee command UAV crew receives the flight task with coordinates of the reconnaissance area and targets description, takes off the UAV to the air and performs a search for objects in designated area. When an object is detected, the operator fixes the video image (not less than from three sides), reports the referee the coordinates and characteristics of the object, and continuing the search for next object. After 5<sup>th</sup> object detecting and reporting of its coordinates and characteristics, reports about task completion. On the main referee command returns UAV to the starting area and lands at designated point.

The time keeping starts with the delivery of the flight task until the UAV lands.

It is permitted to use up to 3 UAV but only one of them in the air.

Penalties:

- Wrong target position finding – more than 50 m - 1 min – for each following 30m.
- Takeoff and land outside of launching area (diameter of a circle is 30 m) – 3 min for each 30 m.
- Missing of an object (failure to detect, wrong identification) – 10 min for each object (out of 5 listed in flight task).
- Teams are evaluated on the total time spent on the exercise.

**THIRD STAGE "Relay race"**

Only top 3 teams participate in the third stage.

Conditions: Three reconnaissance areas (6-10 km<sup>2</sup>) are located 15 - 35 km away from the launch point. Each area has one reconnaissance object. The UAV is in a marching position, located at the distance of 50 meters from the deployment point.

Implementation: On the main referee command the UAV crews carry the UAV to the launch and deployment point; prepare the UAV to fly, upon readiness launch the UAV. After that lead the UAV to the designated area and the object is searched.

Upon detection of an object it has to be fixed not less than 3 times from different sides and its coordinates are determined the UAV returns to the landing point and lands.

Then the crew launches the second UAV and takes it to the next reconnaissance area and continues to search for the next object. Upon finding the object in the second area and fixing it, the team returns and lands the second UAV at the landing point, launches the third UAV and search in the third area, after finding and fixing the third object the UAV returns. The next UAV takeoff is carried out after touching the ground by the previous one

The time keeping starts from the main referee signal to landing the third plane.

After the third UAV landing, the team presents control materials of all detected objects.

In case of violation of the safety measures and the flight level determined by the referee the UAV team is withdrawn from the exercise.

Teams are evaluated on the total time spent on the exercise.

Penalties:

- Missing of an object (failure to detect, wrong identification) – 60 min for each object.

**4. Summing up contest results**

When assessing the Contest and the stages, the places are assigned by summing the positions after all exercises.

In case of equal amount of points for the results of the exercises, the teams are distributed according to the minimum amount of time spent for performing all the exercises.

**The best crew of a short-range UAV** is determined by the 3<sup>rd</sup> stage “Relay race” results.

**The best team** is determined by the smallest amount of seats occupied by the UAV crews in three stages of the Contest.

Additionally, they are assessed and awarded in the nominations "Best operator (pilot)" and "Best technician".

Awardees are presented with cups, medals, diplomas and gifts.

Awarding winners and awardees is conducted at the Contest Closing Ceremony in accordance with the final protocol of Contest’s Stages.

**The commander of the military unit 36814**

**colonel**

**B. Zhurabaev**