



*Mission Permanente
de la République Islamique d'Iran
auprès des Nations Unies
et des autres Organisations Internationales à Genève*

In the Name of God, the Compassionate, the Merciful

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The Permanent Mission of the Islamic Republic of Iran to the United Nations Office and other international organizations in Geneva presents its compliments to the Office of the United Nations High Commissioner for Human Rights and with reference to the latter's Communication No. AL IRN 28/2020 dated 24 December 2020 concerning the tragic incident of Ukraine International Airline Flight PS 752 on 8 January 2020 which occurred under a situation generated as the result of the US act of State terrorism against Iran that led to unlawful and arbitrary assassination of Major General Ghasem Soleimani and 4 other Iranians, would like to state the following.

The Islamic Republic of Iran values dearly its interactions with the UN human rights mechanisms. Iran has always demonstrated its good faith and constructive engagement in response to the communications and queries from the special procedures mandate-holders, despite its occasional reservations over their competence and mandate to entertain certain issues / subject matters.

In the same spirit, the Islamic Republic of Iran took the above-mentioned Communication seriously and studied it carefully. It was our understanding, based on the reflection on the terms of the Code of Conducts for Special Procedures Mandate -Holders of the Human Rights Council (5/2) as well as the past practice, that the Special Rapporteur's mandate, even under a broad interpretation, would hardly allow for perusal into a case that has been scrupulously dealt with by the competent State in strict accordance with its applicable international commitments under the 1944 Chicago Convention on International Civil Aviation and in close cooperation with the concerned States.

The Islamic Republic of Iran had already shared this understanding with the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions, during a virtual conversation held on 2 June 2020 between her and Ambassador Esmail Baghaei Hamaneh, Permanent Representative of the Islamic Republic of Iran to the United Nations and other international organizations in Geneva. Nonetheless, that understanding did not preclude us from entertaining the questions raised in the above Communication. However, the depth and width of the questions and their technical nature required tremendous amount of time as well as extensive inter-agency coordination. It is regrettable that the Special Rapporteur hastened to make a biased judgment about Iran's intention by issuing a Press Release on 23 February 2021 accusing Iran of violation of human rights obligations. The Islamic Republic of Iran categorically rejects those allegations and stresses, in the strongest terms, its commitment to the protection of the right to life.



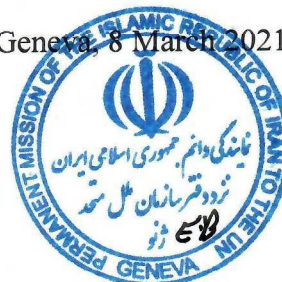
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It should be noted that the Islamic Republic of Iran declared the causes of tragic downing of the Flight PS752 within three days of the incident and has been steadfast in honoring its commitments under the applicable international law, ever since. Iran sent to the International Civil Aviation Organization (ICAO) and concerned states a preliminary incident report on 8 January 2020. The plane's black box was transported to Paris on 17 July 2020 and an international team was tasked with analyzing its data. The group included representatives from Iran, the United States, the United Kingdom, Canada, Sweden and France. Being fully committed to its obligations as the 'State of Occurrence', the Islamic Republic of Iran took all necessary measures in compliance with the terms of the 1944 Chicago Convention on International Civil Aviation, in particular its Annex 13 concerning Aircraft Accident and Incident Investigation, and thorough and transparent investigations were initiated and conducted about the circumstances of the aerial incident. Subsequently Iran provided the relevant States including the State of Registry, the State of the Operator, State of Design, and the State of Manufacture with the outcome of its investigations. The Draft final report has been delivered to the concerned States as well as to the ICAO on 29 December 2020. The final report which also includes the comments of the concerned States will be released very soon.

Having said that and while reiterating its understanding that the aerial incident in question does not fall within the mandate and jurisdiction of the Special Procedures, the Islamic Republic of Iran has decided, by its choice and out of its good faith, to share relevant information concerning the incident with the Special Procedures as attached.

The Permanent Mission of the Islamic Republic of Iran avails itself of this opportunity to renew to the Office of the United Nations High Commissioner for Human Rights the assurances of its highest consideration.

Geneva, 8 March 2021



Office of the United Nations
High Commissioner for Human Rights
Palais des Nations
CH-1211 Geneva 10
Email: registry@ohchr.org

In the Name of God, the Compassionate, the Merciful

Introduction:

On 3 January 2020, the United States of America, in a terrorist, criminal, and, of course, illegal act, assassinated and martyred one of the senior military commanders of the Islamic Republic of Iran, Major General Ghasem Soleimani who had traveled to Baghdad at the official invitation of the Iraqi government to deliver the official message of the Islamic Republic of Iran. General Ghasem Soleimani had played an instrumental role in the fight against ISIS in the region.

Following this illegal action, the Islamic Republic of Iran, within the framework of its inherent right of self-defense, enshrined in Article 51 of the UN Charter, targeted on 8 January 2020, the Ain al-Assad base as one of the centers that played an important role in the assassination of General Soleimani.

Despite the assessment of the General Staff of the Armed Forces and the intelligence services that the possibility of a US counter attack on Iran would be low, precautionary measures were adopted in Iran's airspace such as; restricting incoming and outgoing flights from the west of the country, relocation of air traffic to the center of the country, the issuance of flight permits to some flights and raising the level of alertness of the country on that particular date. Consequently, the country's air defense had taken the necessary measures to control and secure the country's airspace. Meanwhile, there was a time interval of about 4 hours between the time of Iran's operation and the time of the incident and several hundred kilometers between the two locations.

Unfortunately, due to a human error in aligning to the geographical north coupled with failure to follow the existing instructions, in the morning of 8 January 2020, the TOR-M1 combat vehicle, deployed to the southwestern part of Tehran and set at the level of a surveillance operation with no fire clearance (limited fire and not at will), mistakenly identified the PS 752 as a hostile target and struck it.

Following this incident, after conducting relevant investigations and examinations, the Islamic Republic of Iran announced the cause of the incident and took the necessary measures in accordance with its international obligations and domestic laws and regulations. These actions were carried out in various military, technical, criminal and diplomatic-consular areas. The General Staff of the Armed Forces, the Civil Aviation Authority, Tehran Military Prosecutor, and the Ministry of Foreign Affairs have been tasked with pursuing the military dimensions, the technical dimensions, the criminal dimensions and the diplomatic and consular aspects of the incident, respectively. Undoubtedly, all measures have been taken to clarify the causes of the incident and engage properly with concerned States, secure the rights of the families of the victims and conduct judicial investigation, recognizing the exclusive jurisdiction of Iran's domestic courts.

Answer to question 1:

Due to the various dimensions of the incident, the Islamic Republic of Iran has pursued this issue from the very beginning in accordance with international obligations

and its own domestic laws. Thus, the General Staff of the Armed Forces, the Civil Aviation Authority, Tehran Military Prosecutor, and the Ministry of Foreign Affairs have been tasked with pursuing the military dimensions, the technical dimensions, the criminal dimensions and the diplomatic and consular issues of the incident, respectively. Also, due to the complexity, time consuming and multi-dimensional nature of the subject and the specialization of air incidents, comprehensive, accurate and serious research has been conducted to find out the truth taking into account all different situations in the occurrence of incident and within the rules of fair trial, due process and international obligations of the Islamic Republic of Iran, part of which comes as follows:

- Receiving specialized reports from various civil and military authorities;
 - Field research and local examinations of the crash site, location of aircraft parts and storage, location of the missile system and available documents such as tape recorders and radar graphs, Tehran Air Defense Command Centers, air control units (Imam Khomeini Airport watchtower), Mehrabad Approach Control and the country's traffic control center) and how they work;
 - Investigation of witnesses and the informed individuals regarding technical inspection and maintenance, air control team, air defense representatives stationed in flight surveillance units, the passenger who missed the flight, Aseman Airline's pilot in terms of his observations of the incident at the time of his approach to Mehrabad airport, Saman Services Company etc.
 - Collecting data from all cameras overlooking or related to the incident;
 - Making Inquiries to scientific, research and academic centers and announcing the readiness to obtain expert opinions in various fields
 - Investigation of complete and technical coordinates of the incident using SSR radar graph, PSR and defense radars and ATC communication recording (ground control, airport control tower of Imam Khomeini and Mehrabad Approach Control);
 - Necessary measures to preserve the aircraft black boxes (CVR and FDR) until reading;
 - Measures of the country's air defense network, National Aviation Authority and restrictions imposed;
 - The exact number and coordinates of all flights performed on 01.08.2020 until after the incident
 - With regard to the connection between the incident and the Armed Forces, in addition to the investigations of the incident investigation groups of the Civil Aviation Authority, in the implementation of the Armed Forces Rules of Procedure (Article 614 of the Code of Criminal Procedure) a remand order for investigation by 27 military experts was issued in 7 specialized fields. These fields include Command, control and radar, cyber-electronics and electronic warfare, TOR-M1 defense system, flight surveillance, explosives and air and security and incident investigation
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- To identify the shortcomings, gaps and flaws in the coordination and instructions of flight simulation as also avert similar incidents, it was necessary to improve the security of the country. For this purpose, a simulation flight was performed using all components of Flight 752, air defense system including the combat vehicle and flight control units to identify the type, level and extent of probable fault or omission,

identify flaws, enhance processes, procedures and instructions, ensure averting similar incident in the future and improving the security of the country's airspace.

- The results were documented by watching the live images of the systems in the command room by judicial officials and the participation of more than 40 experts and observers:
 1. The crashed aircraft did not deviate significantly from its flight path.
 2. The flight control units of Imam Khomeini Airport, Mehrabad and Traffic Control Center of the country performed their duties in accordance with all international standards.
 3. The operating system (combat vehicle) did not have any technical defects at the time of the incident.
 4. Based on the objective observations and expert examinations, TOR-M1 is not fitted with either thermal cameras or night vision feature, so the TV camera in the system was not able to display objects flying in the dark. As a result, the user was not able to see the crashed plane in the dark. There was no remarkable difference in the combat vehicle display between the signals received from the drone and the crashed and simulated aircraft.
 5. Comparing the performance of the operating system and the control system shows that a deviation of 105 degrees in the operating system caused the target position at the time of the incident to be at an azimuth of 250 degrees from the system, approaching from the southwest and off its flight path, while in the control system, the target is observed on the 145 degree side of the system and in the defined flight path.
- To date, the possibility of collision of harmful rays, including laser and electromagnetic (radioactive) rays, has not been established.
- Laboratory report of explosives and incendiary materials by the Atomic Energy Organization and other responsible authorities show that the explosives found in the parts match the explosives used in Tor missiles.

Answer to question 2:

The Islamic Republic of Iran, in accordance with the general principles of law, including the principle of territorial jurisdiction and the country of occurrence of the incident and international obligations arising from international law, including in the field of international aviation law, and also with regard to accusatory titles, has exclusive jurisdiction of the criminal proceedings in its courts. Despite the above-mentioned issue and the secrecy of proceedings within the framework of the legal and judicial agreement in civil and criminal matters with Ukraine, based on the principle of good faith, several Ukrainian judicial representations have been provided with reasoned and documented answers. Moreover, extensive cooperation at various technical levels was put in place between the officials of the Civil Aviation Authority, in the military field between military experts, in the political and legal field between diplomatic officials and in the judicial field between the judicial officials of the two countries in the form of two rounds of talks in Kiev and Tehran.

It should be noted that, based on the principle of good faith and cooperation, immediately after the incident, the representatives of the concerned countries were allowed to visit the scene of the incident in order to provide relevant services, including consular access.

Answer to question 3:

Following the incident involving a Boeing 737-800, UR-PSR operated by Ukraine International Airlines on January 08, 2020, near Tehran, Iran's Vice Minister of Roads and Urban Development and the president of Civil Aviation Organization designated the investigator-in-charge for this incident. The incident investigation team was formed afterwards.

The investigation was carried out to implement the Civil Aviation Accidents and Incidents Investigation Bylaw, adopted by Iran's Cabinet of Ministers on August 21, 2011.

This investigation was done in compliance with the provisions of Annex 13 to the Chicago Convention, whose Standards and Recommended Practices were applied accordingly.

The investigation was carried out to determine the root causes of the PS752 flight incident on January 08, 2020, so that the similar events in the future could be prevented accordingly .

The provisions of Annex 13 do not approve of conducting of an accident investigation with the aim of apportioning blame or liability and the sole objective of this investigation is the prevention of accidents and incidents.

The following States participated in the investigation by appointing and introducing their accredited representatives:

- Ukraine (as the State of Registry and State of the Operator)
- The U.S. (as the State of Design and State of Manufacture of aircraft)
- France (as the State of Design and Manufacture of the aircraft engine as well as State providing information and assistance for readout of flight recorders)

There were passengers of different nationalities, and some with multiple nationalities registered while purchasing tickets, reception, boarding and crossing the border. Hence, Canada, England, Sweden, Germany and Afghanistan as the States having special interest in the incident by virtue of fatalities to their citizens, were invited to introduce their experts to enjoy their entitlement according to Article 27-5 to Annex 13, all of which did so but Afghanistan .

The Canadian and Ukrainian representatives visited the incident site. One day following the crash, a full delegation from Ukraine was authorized to access the crash site where they collected some evidence .

Given the nature of the incident and need for full coordination of the interested States, the ICAO was also invited to appoint a representative to observe the process and lend their support, where necessary. The ICAO was accordingly kept abreast of the investigation via their representative.

All possible scenarios were considered and the factual information were gathered. Factual information were analyzed to identify the main cause of the incident and the contributing factors. Based on analysis, different recommendations to involved parties were provided with the aim of prevention of similar incident.

According to provisions of ICAO Annex 13, the draft final report was sent to involved states at 29 December 2020 and the investigation team will consider their comment if provided within 60 days from the transmittal date. The comments from 3 states have been received and the investigation team is waiting for the comments of the last state.

The investigation team estimated to release the final report before 20 March 2021.

Answer to Question 4:

Complete and comprehensive investigation is done to identify the whole process of risk assessment, safety measures and barriers, civil-military coordination and the implementation of risk management results and the failures ended to PS752 incident.

These investigations are done by different authorities including military, Civil aviation and judicial and the results of civil aviation investigation will be published for public through final report of incident investigation.

Answer to Question 5:

All defendants, witnesses, informed or otherwise related parties have been questioned at different levels.

According to the results of comprehensive, serious and accurate research that has been carried out, the cause of missile fire and plane crash is human and individual error that took the form of a chain of errors:

1. *First error:* forgetting to re-align the north direction in the operating combat vehicle after the last displacement;
 - Before the incident, the geographical location and side of the operating combat vehicle changed as a result of, with tactical displacement;
 - After the last tactical displacement, the process of re-aligning the north direction of the system was not completed due to human error on the side of the battery commander and his forgetting to follow the required instructions.

- The defense battery had a deviation of 105 degrees due to failure in re-alignment to the true north
 - During the flight of the Ukrainian aircraft, the direction of targets and objects acquired by the combat vehicle was observed by the operator with a deviation of about 105 degrees.
2. *Second error:* capturing of the aircraft by the combat vehicle battery as a hostile target
- At 6:14 a.m. the TOR-M1 combat vehicle detected the signal of an aerial target at 250° azimuth, at an altitude of 600 m and moving at 140m/s (albeit the detected azimuth had a 105° deviation (error) from the true north).
 - This target was the Ukrainian plane that was approaching the combat vehicle from Imam Khomeini Airport, but was wrongly identified as a target approaching Tehran from the southwest.
 - As a matter of fact, the Ukrainian plane was approaching the mentioned combat vehicle at an azimuth of 145 degrees from Imam Khomeini Airport
- How to identify and establish the nature of the target as hostile:
- The combat vehicle operator analyzed the visible information and identifies this target as a hostile target due to its height, azimuth, distance and course of flight (the azimuth perceived by the operator had a significant deviation due to a north re-alignment error).
3. *Third error:* Defective communication and failure to exchange messages
- The operator reported the acquired target details to the relevant coordination center, but this notification was not received due to a communication glitch.
4. *Fourth error:* firing a missile without the necessary coordination
- At the time, all air defense batteries including the missile battery in question had been assigned to the limited fire mode (and NOT fire at will). Any decision to fire had had to be made solely after receiving the clearance from National Air Defense Network.
 - At 06:14:21 A.M, the combat vehicle operator fired a missile at the hostile target it had identified without receiving any response from the Coordination Center.
 - As per prevailing rules and procedures, if a combat vehicle fails to communicate with the Coordination Center to obtain a firing clearance, it is not allowed to fire any missiles.
 - This provision was also envisaged as another precautionary layer that was not observed by the operator
 - The fourth round of events that led to the missile fire was formed at this stage.

This series of events indicates the occurrence of a chain of error induced by human error.

Apart from judicial investigations, field examinations and probes, the opinions of military experts and selected investigators, the findings of the 12 national aviation teams, and the documentation of images, audio and video available at national and military

centers confirm the occurrence of error rings. Also, the results of the reading of the black boxes of the crashed plane, which were carried out in the presence of relevant persons, including the incident investigation body, the relevant judicial authority, ICAO representatives and related countries, are consistent with the judicial findings.

Based on comprehensive studies and researches, the hypothesis of intentional targeting of a passenger plane by the combat vehicle has been ruled out.

Answer to Question 5:

In view of the nature of the incident and shooting of a commercial aircraft by a combat vehicle as well of the classification of information, initially the military officials were conducting a preliminary investigation and probe into the circumstances and cause of the crash, and therefore, due to the classification of the issue, the Civil Aviation Authority had no information about the cause of the incident. Therefore, there was no attempt to conceal the truth. Rather, it was only a preliminary investigation and with respect to the classified cases. After this stage and hours before the announcement of the cause of the incident, the Civil Aviation Authority was notified of the issue by the Armed Forces. It should be noted that the media announcement of the cause of the incident in less than three days, compared to similar cases, was very quick and revealed no attempted secrecy or hidden agenda.

Answer to Question 7:

The State managing the airspace may impose restrictions over its own airspace, which can include the prohibition on entry into certain geographical areas, limitations on some routes, flight altitude and some of the normal procedures.

When Major General Ghasem Soleimani, one of the top commanders of the Armed Forces of the Islamic Republic of Iran, was on an official travel to Iraq, he was targeted at Baghdad airport in a U.S. drone strike, where he and a number of his entourage, including a senior commander of the Iraqi counter terrorism force, lost their lives.

In the morning of Wednesday, Jan. 08, 2020, at 01:30, in response to the U.S. action, the Armed Forces of the Islamic Republic of Iran started a missile attack on the Al Assad base in Iraq, where the U.S. forces were based; the attack was ended in at 01:35 .

Considering the possibility of the conflict escalation through the American counterattack by its military forces in the region, the relevant defensive units, including the air defense sector was placed on a higher level of alertness.

In a situation where the possibility of military movement against Iran and its interests was growing, the players whose activity or readiness was potentially hazardous to civil aviation were taken into account along with their intentions .

The unintentional targeting was classified into two general probabilities:

-Misidentification: When a commercial aircraft could be identified and targeted as a hostile target.

-Accidental strike (Mistargeting): When during a conflict with a hostile target, a commercial aircraft is damaged as a result of military actions related to the conflict with another target.

At the time of the Incident, the three following preventive measures were adopted to ensure the safety of civil flights:

- 1- The evacuation of four parallel routes in the west of the country
- 2- The ban on traffic exchange between Tehran and Baghdad FIR
- 3- Coordination with the air defense sector prior to issuing a startup approval for departure flights.

Investigations showed that the measures adopted had been notified to the civil sector based on the planned schedule and were implemented properly.

The mitigating measures and defense layers in risk management only became inefficient due to the occurrence of an unanticipated error.

Answer to Question 8:

The military units are in contact with one another. Apart from the military communications, the Civil- Military Operational Coordination Center (CMOCC) and air defense coordinators are both in contact with the civilian sector. Such communications are of three types of voice, message data and radar data .

The issued flight permits, which are exchanged on the aeronautical telecommunications network between the air traffic control units, are also provided to the CMOCC through the network.

CMOCC, which is located in the Tehran ACC, has access to information from the surveillance radars of the civilian sector.

The national air defense system is permanently represented at civilian and air traffic control units by a round the clock agent. This coordination has been in place between military and civilian sectors for years. As such, in the event of detection of evidence or proofs indicating actual threats in the surrounding airspace or a in a certain part of the country, the civilian sector is directly served with orders of the military with immediate effect. Due to in-person presence of the military representative in air traffic control units, they give a real-time account of the civilian sector activities to NIDAN. This is a consistent procedure regardless of the alert category (low, medium, high). In order to prevent unforeseen disturbances, the establishment of reserve lines to the battalion

command post as well as following fire control instructions and disconnection instructions are the criteria for the operation of operators of combat vehicles (shooting missiles in particular).

Answer to Question 9:

The flight was initially scheduled for 05:15, and based on the flight coordinator's report form, the reason given for its delay was the aircraft being overweight and the decision not to load the passengers' luggage for reducing the aircraft weight.

Comparing the list of airline reservation system, boarding list of passengers and list of immigration Police in IKA, it can be seen that no passengers got off the plane.

Answer to Question 10:

The details of the battery personnel are not provided on military confidentiality grounds.

TOR-M1 combat vehicle had already been deployed to the area in question. Operators had adequate training on awareness of flight corridors. Likewise, they were alert about their being deployed to the proximity of IKIA. However, the investigations revealed a 105 degree of deviation (error) in the north-finding system of the battery from the true north. Incidentally, the operators of the Tor missile battery were going through their normal shift and had passed the complete training in this field with good grades in the air defense training academy.

Answer to Question 11:

TOR-M1 combat vehicle purchased from Russia had not been equipped with IFF system. The vehicle antenna only served the purpose of creation of balance on the vehicle detection radar antenna.

Answer to Question 12:

Necessary support was provided by surveillance radars and air defense missile system for TOR-M1 batteries to identify and track commercial flights. However, the battery in question fired at the aircraft at its own discretion without coordination with the command post.

Answer to Question 13:

TOR-M1 combat vehicle TV covers a low range to detect close flying objects in daylight. It has no night vision option and can't display targets acquired at nights. As such, the TOR-M1 combat vehicle commander couldn't observe and recognize the target he had engaged.

Answer to Question 14:

As per the available documents, the TOR-M1 combat vehicle had already been deployed to the defined defense position having completed all proper north re-finding, re-alignment and deployment steps. However, on the night of the incident, the vehicle were set at surveillance mode on several occasions and then put in stand-by position. Later, in the last stage and at 04:56 A.M, it changed its location according to the tactics of mobile defense (locally and within a radius of 500 meters of its recorded location) and then was temporary turned off.

- Due to the error committed by the TOR-M1 combat vehicle commander, the vehicle had a 105° deviation (error) from the true north (geographical north) after its last deployment.
- On the night of the incident at 6:07 a.m. the TOR-M1 combat vehicle was set at the surveillance mode. At 6:13 a.m. the TOR-M1 combat vehicle detected the signal of an aerial target at 250° azimuth, at an altitude of 600 m and moving at 140m/s (albeit the detected azimuth had a 105° deviation (error) from the true north)
- The TOR-M1 combat vehicle operator tried ceaselessly to contact the Control Module to confirm the acquired target. However, occurrence of a momentary glitch in the communication system failed the establishment of any communication. In spite of the fact that the TOR-M1 combat vehicle had been assigned a limited fire mode, the operator proceeded- of his own accord, without acquiring the required authorization and at his own risk- to shoot at the captured target. 30 seconds later, the continuity of the azimuth, trajectory, altitude and speed of the target prompted the operator to launch the second missile which ultimately led to the plane crash.
- The available documents suggest that the TOR-M1 combat vehicle initially detected the target at 6:13:00 a.m. at a distance of 18987 meters and an altitude of 600 meters.
- **Tracking** the target was started at 6:13:35 when it was at a distance of 18987.5 meters.
- At 06:14:19 a.m., the first rocket was launched against the target which had been detected at the distance of 13837.5 meters, altitude of 1036 meters and 250° azimuth in relation to the longitudinal axis of the defense battery. The missile exploded at a distance of 11287.5 meters and an altitude of 1302 meters.
- Continuity of the target signal coupled with the consistency of its trajectory, altitude, azimuth and speed led to firing of the second missile 30 seconds later at 06:14:45 a.m., at a distance of 9725 meters and an altitude of 1402 meters. The missile exploded at a distance of 8125 meters and an altitude of 1389 meters.
- Both missiles were fired from the same TOR-M1 combat vehicle
- According to the available information, both missiles were exploded due to activation of their proximity fuses (the first at a distance of -20 to +50 meters of the airplane while the second exploded at a distance of -70 to -140 meters). (It should be noted that the distances have been recorded based on the approximate speed of the missiles and the airplanes as well as TOR-M1 combat vehicle Event Recording System at 0.1 second intervals).

- As already stated, TOR-M1 combat vehicle TV covers a low range (no telescope included) to detect close flying objects in daylight. It has no night vision option and can't display targets acquired at nights. As such, the TOR-M1 combat vehicle commander couldn't observe and recognize the target he had engaged.

Answer to Question 15:

As per the international standard air defense training, short-range and low-altitude combat vehicle systems must be able to respond to large volumes of threats at short notice. Since the TOR M1 combat vehicle (according to the documentation of this combat unit) can only engage two tracked targets at a time, operators try to engage hostile targets at the beginning of the destruction area if they identify the target as real and have the necessary permissions to engage so they can have ample opportunity to counter the next targets. For this reason, once the operator of the said combat vehicle discovered a signal in an unexpected direction (owing to the error occurred in the north finding of the battery), and given that the detected signal closely matched that of a hostile target in terms of speed, direction and the attack height, he engaged the captured signal at the beginning of the destruction zone under the assumption of being at the receiving end of numerous hostile targets.

Answer to Question 16:

The TOR-M1 combat vehicle had already been deployed to the defined defense position having completed all proper north re-finding, re-alignment and deployment steps. However, on the night of the incident, the vehicle was set at surveillance mode on several occasions and then put in stand-by position. Later, in the last stage and at 04:56 A.M, it changed its location according to the tactics of mobile defense (locally and within a radius of 500 meters of its registered location) and then was temporary turned off.

Due to the error committed by the TOR-M1 combat vehicle commander, the vehicle had a 105° deviation (error) from the true north (geographical north) after its last deployment.

It is noteworthy that TOR-M1 combat vehicle is a low-range air defense system and has in-movement north-finding navigation equipment. The initial navigation settings are valid during every movement of the vehicle. But as soon as the combat vehicle navigation settings are switched off, it must be re-aligned after every restart.

Answer to Question 17:

To determine the target, there is a standard procedure in the air defense of the Islamic Republic of Iran that has shown its effectiveness for the security of commercial flights in normal and war conditions during the 8 years of the Iran-Iraq war and the years that followed. However, as provided in the answer to question 14, the operator contacted the relevant command post to confirm the target. However, due to the occurrence of a momentary failure in the communication system, the command post was not contacted.

At this moment, the operator engaged the Ukrainian plane of his own accord and his discretion, contrary to the regulations.

Answer to Question 18:

The proposed method is an internationally recognized method for detecting targets in surveillance and early warning radars. However, TOR-M1 short-range system radar is not of the PPI type and only marks the location of airports or important centers, which was also done. However, the tactical displacement and the 105 degree deviation from the real north prompted the relevant operator to mistakenly identify the approaching course of the Ukrainian aircraft as an unknown offensive target.

Answer to Question 19:

As mentioned in the previous questions, the primary source of the error was a deviation of 105 degrees from the real north. This led the combat vehicle operator to err on the side of how the Ukrainian aircraft was moving (low altitude, high speed with low modifications) and wrongly identify it as an unknown offensive target (possibly a cruise missile). Also, due to the darkness and the low range of the TOR-M1 radio TV, no target was displayed for re-identification.

Answer to Question 20:

Once the operator of the said combat vehicle discovered a signal in an unexpected direction (owing to the error occurred in the north finding of the battery), and given that the detected signal closely matched that of a hostile target in terms of speed, direction and the attack height, he engaged the captured signal under the wrong assumption of being at the receiving end of numerous hostile targets. Then the TOR-M1 combat vehicle operator tried ceaselessly to contact the Control Module to confirm the acquired target. However, occurrence of a momentary glitch in the communication system foiled the establishment of any communication. In spite of the fact that the TOR-M1 combat vehicle had been assigned a limited fire mode, the operator proceeded- of his own accord, without acquiring the required authorization and at his own risk- to shoot at the captured target. 30 seconds later, the continuity of the azimuth, trajectory, altitude and speed of the target prompted the operator to launch the second missile which ultimately led to the plane crash.

The operator himself made a mistake in both identification and conclusion processes. What prevailed in the operator's mind during the decision making was that the hostile target was approaching from a low altitude and a low position from an unexpected side, which made him make an incorrect judgment with consequential failure to uphold other procedures.

Answer to Question 21:

- As per the available documents, the TOR-M1 combat vehicle had already been deployed to the defined defense position having completed all proper north re-

finding, re-alignment and deployment steps. However, on the night of the incident, the vehicle were set at surveillance mode on several occasions and then put in stand-by position. Later, in the last stage and at 04:56 A.M, it changed its location according to the tactics of mobile defense (locally and within a radius of 500 meters of its recorded location) with no new north-finding and re-alignment.

- Owing to of error of the commander of the TOR-M1 combat vehicle, the TOR-M1 combat vehicle deviated 105 degrees from the real north at the last deployment.
- On the night of the incident and at 06:07 A.M, the TOR-M1 combat vehicle was set at the operation mode.
- The Ukrainian aircraft was the first flight to come within the operational range of a TOR-M1 combat vehicle that had been set at the surveillance mode (at 06:07 A.M) but had not undergone proper north re-alignment. Since the operator of the TOR-M1 combat vehicle acquired the signal of a flying object at an unexpected side of the airport exhibiting the speed, altitude and behavior of a hostile target, and due to the momentary problem with the command post, he decided to engage the aircraft at his individual discretion.

Answer to Question 22:

- Due to the occurrence of the incident in the darkness of the night, the residential status of the crash site, the plane striking the ground, the intensity of the explosion at the time of the collision as a result of carriage of a massive amount of aviation fuel and the scattering of aircraft parts and the victims' remains over a large area of gardens and orchards, most of the passengers' possessions and effects had been destroyed. Some possessions and effects, if remained relatively less destroyed, might have been collected by passersby, before the arrival of the law enforcement forces in the area. Any property found has been handed over to the families after identification.
- By the evening of the day of the incident, the leading incident investigator had conducted a complete photography of the site and found all the parts, while explosives and fuel residues were sampled at the site. The main parts of the aircraft such as the engine, wing pieces and black boxes were also collected.
- The loader was solely employed, in complete coordination with the leading investigator, for the protection, maintenance and transferring of aircraft parts and had no compromising effect on the investigation of the incident or the discovery of the real cause. In the evening of the incident, debris were collected and transported to a safe place due to the fact that the area where the incident unfolded was an open place. The pieces were fully sorted in a protected environment and have also been visited by Ukrainian and Canadian delegations. Of course, at the time of the decision, there were considerations that security concerns could also arise.

Answer to Question 23:

All defendants, witnesses, informed or otherwise related parties have been questioned at different levels of armed forces. All were detained with the possibility of

posting bail. Presently, one person is still in custody while others have been released after posting bonds.

In parallel with the judicial proceedings, the General Staff of the Armed Forces investigated the case from a disciplinary point of view, as a result of which 10 commanders and relevant officials have been punished at various levels, from written reprimand and demotion to dismissal for dereliction in performing their supervisory duties. The charges are being investigated and will be announced by the Tehran Military Prosecutor's Office in the future once the indictments have all been issued.

Answer to Question 24:

Several remedial actions are implemented to prevent the similar incidents. One of these measures is to enhance the risk assessment process to identify all hidden threats and taking them into calculations.

Considering the adaption period and enhancing the preventing measures in that period is added to risk management processes.

It is also mandated in Iran to promptly issue NOTAMs regarding any limitation or any change on the provision of services followed by the change in civil-military coordination status in short term, even if the issuance of such NOTAMs appear to have no effect neither the airlines flight operations nor the services provided by the State managing the airspace operationally.

Since these measures are new initiatives resulted from accident investigation, their implementation is recommended to all states while mandated in Iran.

Answer to Question 25:

The incident occurred as a result of firing missiles by a TOR-M1 combat vehicle, which firstly made a mistake in the north geographical alignment and secondly, fired against the previous protocol and commands without coordination with its higher rank. As a matter of fact, the TOR-M1 combat vehicle operator failed to align the correct geographical north and did not follow the instructions and protocol, which led to a tragic incident. Given that the charged individuals are not able per se to compensate the victims for their mistakes, the Government of the Islamic Republic of Iran has announced its readiness to make payments to the victims' families on an ex gratia basis.

Answer to Question 26:

Having examined all aspects of the issue and considering its international obligations as well as the relevant international standards, the Islamic Republic of Iran proceeded to set the figure of one hundred and fifty thousand (150,000) USD for each of the victims. In both rounds of negotiations with the Ukrainian side, the Iranian negotiating

team registered its readiness to determine the amount of payments on an ex gratia basis, which unfortunately was rejected by the Ukrainian side to be addressed at a future date. In addition to payments, some plaintiffs have also requested punishments for the charged individuals. While the criminal investigation is ongoing, in view of the conditions of the families and the declaration of good will of the Islamic Republic of Iran, Iran's Council of Ministers decided to pay this amount in an extraordinary manner to all the families of the victims regardless of their nationality.