

ISC 2026 – Case File

Subject: Riabenko Nika
Prepared by: Arvydas Mockus, Central Controller
Date: 19.02.2026

1. Executive Summary

This case concerns the performance of Riabenko Nika in ISC 2026, identified during post-event verification as statistically anomalous.

The player’s performance exceeded her current rating by approximately 1035 rating points. Performance 2734, Rating 1699. The calculated Z-score was 5.09, placing the result among statistical anomalies.

Initially, the result was temporarily withheld pending clarification.

Subsequently, objections were raised by the Local Controller and the player regarding the non-inclusion of the result. After reviewing these objections, and in the absence of confirmed evidence of a rule violation under current ISC regulations, the result was reinstated and included in the published preliminary standings.

Given the combination of statistical anomaly and contextual factors, the case is now formally referred to the Appeals Commission for examination and determination.

2. Chronology of Events

Date	Event
25.01.2026	ISC 2026 held
25.01.2026 21:15	Results submitted by Local Controller
28.01.2026	Statistical analysis conducted
28.01.2026	Z-score identified as anomalous
28.01.2026	Result temporarily not accepted
28.01.2026-16.02.2026	Communication with Local Controller
11.02.2026	Protest submitted by Local Controller
12.02.2026-16.02.2026	Consultation with Ukrainian Delegate
13.02.2026-18.02.2026	Communication with Player
18.02.2026	Result included in preliminary publication
19.02.2026	Case referred to Committee

3. Statistical Analysis

3.1 Dataset

- Total number of participants (N): 163
- Mean performance difference ($\mu\Delta$): 7.17
- Standard deviation ($\sigma\Delta$): 202.17

3.2 Z-score Calculation

$$Z = (\Delta - \mu\Delta) / \sigma\Delta$$

Where:

- Δ = the difference between the player's performance rating and their rating
- $\mu\Delta$ = mean performance difference of all players
- $\sigma\Delta$ = standard deviation

Calculated Z-score: $(1035-7.17)/202.17 \approx 5.08$

3.3 Historical Context

In ISC historical records:

- Number of cases exceeding $Z > 3.5$: 4
- Number exceeding $Z > 5$: 1

This places the present case among statistically anomalies

The player is relatively young, and the trajectory of her development is not fully established. For this reason, the Z-score value should be interpreted with caution.

The player has not competed outside Ukraine.

- On the one hand, this means she may not have had enough opportunities to increase her rating through international events.

- This raises an additional question: whether her recent results (2025–2026) reflect her true playing strength, or whether they may have been influenced by specific local conditions that might not exist in other countries. At present, it is unclear whether such results could be reproduced under different supervision conditions outside her home territory.

To better evaluate the statistical significance of the result, an alternative scenario was tested.

If the player's effective playing strength were assumed to correspond to a rating of 2123 (which was her performance rating at the 39th Ukrainian Championship, 30 March 2025), the recalculated Z-score for ISC 2026 would be:

$Z \approx 3.12$

A Z-score of 3.12 is considered very high but not statistically extreme within ISC historical context.

Z= (Player's Difference-μΔ) /σΔ							
Difference			Z-Score	μΔ	σΔ	Probability	Number of Trials
603	Rudenko, Taras	UKR	3,13045	4,50	191,1157	0,087268%	1 146
466	Michielsen, Joost	NED	2,41382		0	0,789315%	127
312	Baier, Roland		1,60902			5,380616%	19
316	Solovchuk, Oleksiy		1,63131			5,141262%	19
240	Gorski, Piotr		1,23464			10,848267%	9
602	Riabenko, Nika	UKR	3,12883			0,087752%	1 140
162	Comay, Ofer		0,87722			20,546170%	5
451	Maeder, Thomas	SUI	2,33711			0,971670%	103
161	Serafimovic, Ilija		0,81709			20,693861%	5
106	Hodge, David		0,52868			29,851445%	3
172	Marciniszyn, Jakub		0,87616			19,047050%	5
433	Sumiya, Chinguun	MGL	2,24361			1,242882%	80
-161	Murdzia, Piotr		-0,86744			80,714947%	1
312	Nasyrov, Anton		1,60912			5,379472%	19
91	Costachi, Mihnea		0,45009			32,632393%	3
272	Kolcak, Marek		1,40061			8,066528%	12
104	Caillaud, Michel		0,51863			30,200882%	3

Z-score if Rating Nika Riabenko=2123

Additional performance data from 2025 shows:

- 39th Ukrainian Championship (30.03.2025): performance 2123
- 7th Ukrainian Solving Cup (03.08.2025): performance 2292 after two rounds (tournament not completed)
- ISC 2026: performance 2734

By contrast, during the period 2018–2024, the player’s results were relatively stable in the 1550–1700 range, with no clear upward progression trend.

Thus, the data presents two competing interpretations:

1. A sudden and significant performance breakthrough beginning in 2025, potentially indicating rapid improvement;
2. A statistical anomaly that may have been influenced by local conditions (family relationship, seating position, supervision). Because the player competes only in Ukraine, we cannot know whether the same result would be achieved elsewhere.

At present, the available data does not conclusively support either interpretation.

Tournaments					
#	End Date	Name	Rank	Perf. Rat.	+/-
14	03.08.2025	7th Ukrainian Solving Cup 2025	8	1797	14
13	30.03.2025	39th Ukrainian Championship 2025	4	2123	32
12	19.01.2025	21st International Solving Contest 2025 Cat 2	5	1906	34
11	07.07.2024	6th Ukrainian Cup 2024	12	1569	-4
10	05.05.2024	38th Ukrainian Championship 2024	4	-	-
9	21.01.2024	20th International Solving Contest 2024 Cat 2	59	1709	6
8	09.07.2023	5th Ukrainian Cup 2023	5	1776	15
7	30.04.2023	37th Ukrainian Championship 2023	16	1601 h	-

6	28.03.2023	Open Championship of Poltava 2023	1	-	-
5	30.10.2022	4th Ukrainian Cup 2022	16	1540 h	-
4	02.10.2022	36th Ukrainian Championship 2022	7	-	-
3	23.01.2022	18th International Solving Contest 2022 Cat 3	6	-	-
2	28.03.2021	35th Ukrainian Championship 2021	9	-	-
1	28.01.2018	14th International Solving Contest 2018 Cat 3	52	-	-

4. Contextual Factors Examined

4.1 Family Relationship

It was noted that the Local Controller's assistant at the venue was Yuriy Riabenko, who is the father and coach of the player, Nika Riabenko.

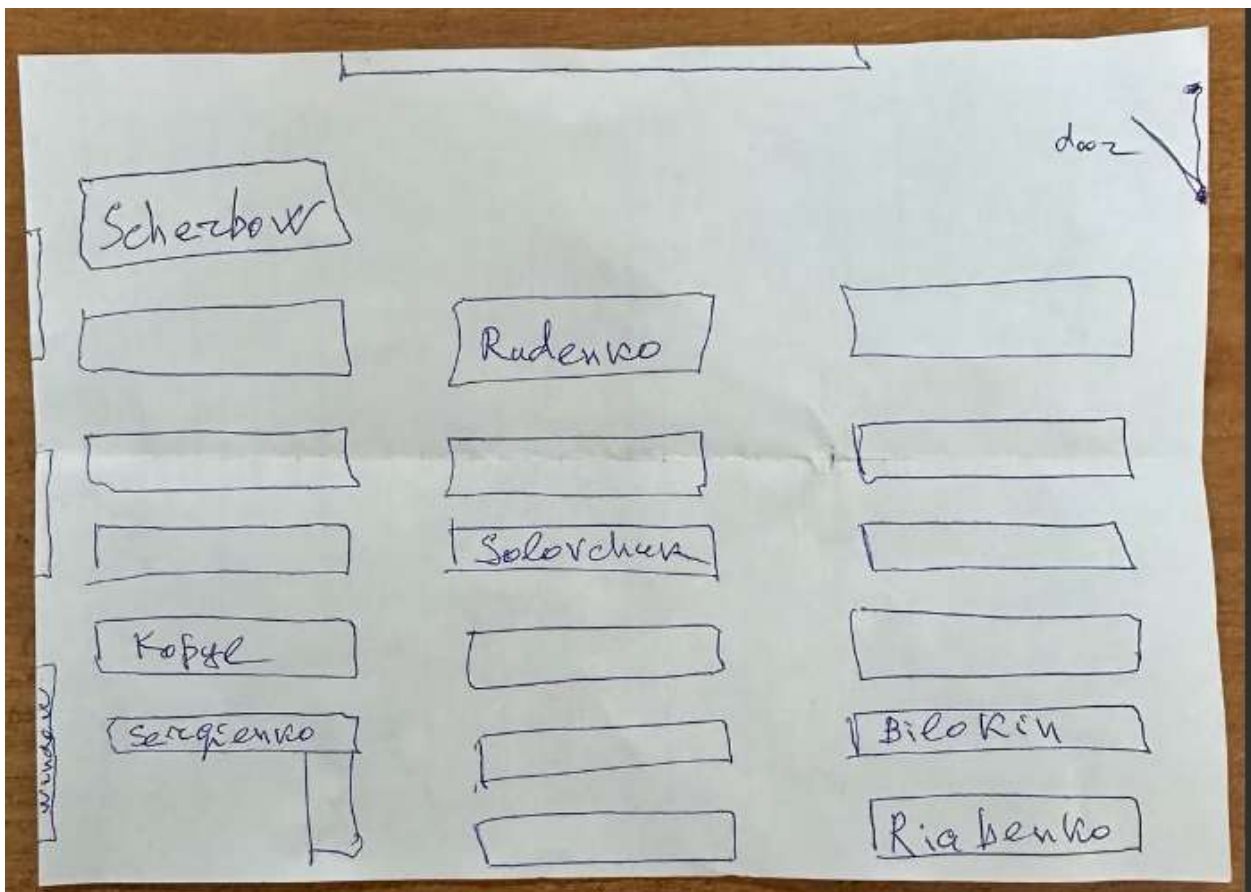
The Local Controller stated that the competition materials were not shown or disclosed to Yuriy Riabenko prior to the start of the event.

Assessment:

- No direct evidence of prior access to the problems was identified.
 - No objective correlation was established between the structure of the official answer sheets and any materials allegedly accessible before the event.
 - The family relationship constitutes a potential conflict-of-interest risk factor; however, under current ISC regulations, it does not in itself represent a rule violation.
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4.2 Supervision Conditions

- **Reported information:**
- The Local Controller did not provide any photographic documentation of the venue.
- Information regarding the seating arrangement was obtained from Valeriy Kopyl and indirectly referenced through Yuri Bilokin.
- According to these descriptions, the player was seated at a distance from the main supervisory position, with other participants positioned between her and the supervising official.
- It was further indicated that similar seating arrangements were used in previous events held in Poltava (39th Ukrainian Championship, 30.03.2025; 7th Ukrainian Solving Cup, 03.08.2025).
- A seating scheme is attached for reference.



Analytical observation (based on available layout information):

- Based on the reconstructed seating layout, continuous and unobstructed visibility of the player cannot be independently confirmed.
- The absence of photographic documentation limits objective verification of supervision conditions.

Counter-statement:

- The Local Controller stated that he maintained full visual supervision of the participant throughout the solving session.

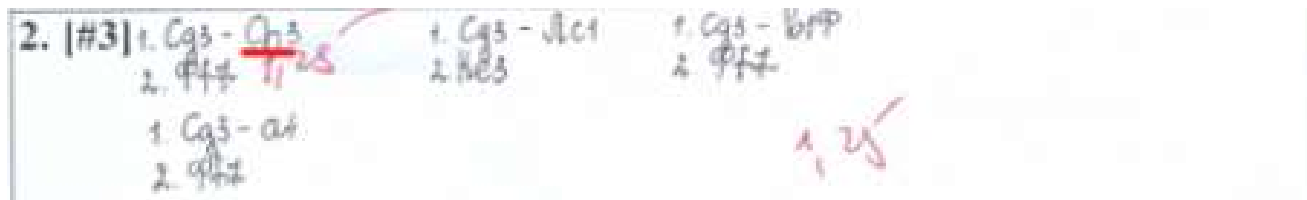
Assessment:

- Due to the seating position and limited independent visibility, the supervision conditions may not have fully excluded the theoretical possibility of unauthorized assistance.
- However, no evidence of phone use or external assistance was documented.

4.3 Structure of Written Solutions

Observations:

- Certain solution structures resemble engine-style variation listing.
- Threat identification in some cases was incomplete.



In Problem No. 2, Lichess engine output begins with: 1.Bg3 Bxh3 ...

Instead of writing the standard threat indication (“~”), the solution sheet records the move Bxh3 directly, consistent with the engine’s first listed variation (see **Diagram 1**).



After 1.Rxh3, the engine displays five defensive moves. Among these, the essential move 1...Kc4 — which clarifies why 1.Bg3 is the correct key — is not recorded in the written solution.

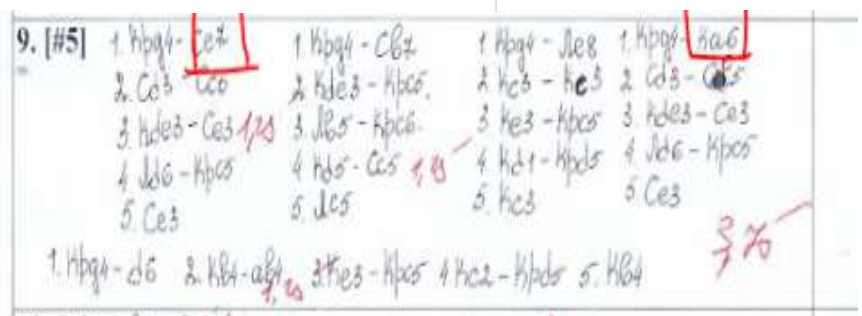
Conversely, the moves 1...a4 and 1...b1=Q are listed, although they do not alter the original threat (see **Diagram 2**). These moves correspond to engine-listed defensive options but do not constitute critical defences requiring inclusion in a complete thematic solution.

By default, the engine displays a limited number of top-ranked variations. In the default display, the moves 1...a4 and 1...b1=Q appear among the first listed lines (see **Diagram 3**). The overlap between the engine’s displayed lines and the recorded defences is notable.



1. ♖g4! ~ 2. ♕d3 ♜xc5 3. ♜de3+ ♜xe3 4. ♜d6+ [1.25]
 1...d6 2. ♜b4+ a×b4 3. ♜e3+ ♜×c5/ ♜d4 4. ♜c2+ [1.25]
 1... ♜c6 2. ♜×c3+ ♜×c3 3. ♜e3+ ♜×c5/ ♜d4 4. ♜d1+ [1.25]
 1... ♜b7 2. ♜de3+ ♜×c5 3. ♜b5+ ♜c6 4. ♜d5 [1.25]

1.c6? ~ 2. ♜xc3+ ♜xc3 3. ♜e3+ ♜~ 4. ♜d1+ ♜d5 5. ♜xc3#
 1... ♜b4 2. ♜xb4+ ab 3. ♜e3+ ♜~ 4. ♜c2+ ♜d5 5. ♜xb4#
 1... ♜c5!



In the difficult Problem No. 9, the notation used by the player was difficult to interpret. The defensive moves were listed without an explicitly stated underlying threat and did not clearly reflect a structured threat–defence analysis.

The position contains twelve plausible defensive moves for Black. If the position was evaluated as a near-zugzwang, a systematic verification of all relevant defensive possibilities would normally be expected. However, the written solution addresses only five defences.

When analysing the position with an engine, four of the five defensive moves recorded in the player’s solution appear among the engine’s top five mating continuations ranked by evaluation. One variation does not correspond exactly; nevertheless, the degree of overlap is notable.

The notation format does not follow the traditional human-solving structure of clearly identifying the threat and systematically addressing all relevant defences. Instead, the solution is presented as a selective listing of defensive moves and mating continuations, a structure that resembles engine-style variation output.

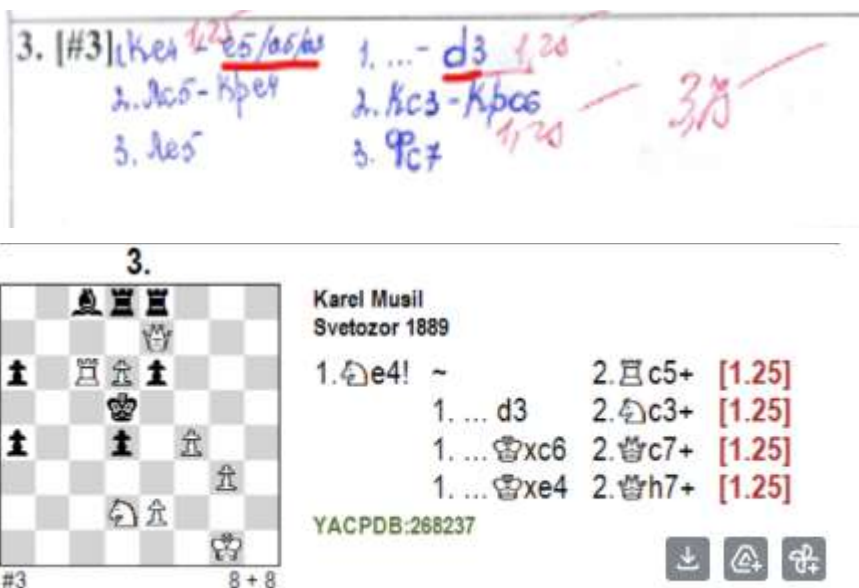
At the same time, it must be noted that a similar notation pattern has been consistently observed in the player’s submissions since ISC 2024. The persistence of this format across multiple events reduces the likelihood of isolated real-time engine consultation in the present case.

Therefore, while the structural similarity to engine-generated lines may raise suspicion, it may also reflect an individual and unconventional solving style.

The available evidence does not allow for a definitive conclusion in either direction.

A similar structural pattern was observed in ISC 2025 solutions.

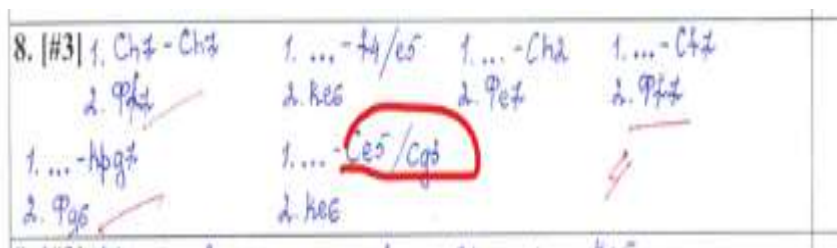
In problem Nr.3 involving threats, the threats themselves were not explicitly written. Instead, only specific moves were listed — typically the ones indicated by an engine. Not all relevant variations leading to the threat were recorded, but only selected moves corresponding to engine output



In Problem No. 8, the solution appears to be structured according to engine lines rather than through a logically developed analytical explanation.

The moves **Be5** and **Bg3** are mentioned together with the threat **Nxe6**, but there is no explanation why **Bf4** is not possible or why the threat would not work in that case.

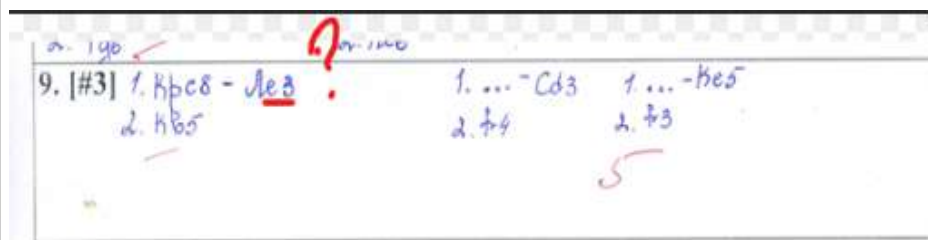
The variations are presented selectively and do not form a consistent logical sequence. Instead, they closely correspond to the specific lines displayed by the software (see attached screenshot), rather than to a complete human-style reasoning process.



In Problem No. 9, the threat is not stated at all. Instead of writing the solution in the normal form — for example, **1.Kc8 ~ 2.Sxb5+** — she immediately writes a specific Black move after the key: **1.Kc8 Be3 2.Sxb5+**.

This corresponds exactly to the first defensive move shown by the engine, rather than presenting the threat in the usual human analytical structure.

The notation therefore does not follow a natural solving logic, but rather resembles a direct transcription of engine output.



Assessment:

- The notation style observed in the present case is consistent with the player's solution sheets in all ISC events since 2024.
- The structural similarity between the recorded solutions and typical engine-generated variation display is noticeable.

At the same time:

- The consistency of this notation pattern across multiple events may indicate an individual solving style rather than an isolated irregularity.
- According to the Local Controller (Kopyl), mobile phones were collected prior to the start of the competition, which reduces the likelihood of direct real-time engine consultation.

Therefore, the observed similarities create a technical concern but do not independently establish external assistance. The available elements point in different directions and lead to competing interpretations.

On the one hand, the structural overlap with engine-style variation display may raise suspicion.

On the other hand, the long-term consistency of the notation pattern and the reported supervision measures complicate a definitive conclusion.

As a result, the evidentiary picture remains internally contradictory and does not allow for a clear determination without further evaluation.

5. Player's Explanation

My question:

In Problem No. 2, please explain how you determined that 1.Bg3 is the correct move. In the given position, the bishop has several possible retreat squares. What specific reasoning led you to select Bg3 rather than another square?

Furthermore, the defence 1...Kc4, which makes the logic of 1.Bg3 understandable, is not recorded in your solution. Could you clarify how you evaluated this defence during your analysis?

Additionally, regarding Problem No. 9, please describe the methodological approach you used when listing the defences. From the written solution, it is not clear from which identified threat the defensive moves were derived.

2. [#3]	1. Cg3 - Qh3 2. Qf4 1, 25	1. Cg3 - Jc1 2. h63	1. Cg3 - b7p 2. Qf4
	1. Cg3 - a4 2. Qf4		1, 25

Johan Scheel

6th HM De Maasbode, 1918

#37+8

Solution

1. ♗g3! ~ 2. ♖f7+ [1.25]
- 1... ♜d1 2. ♜×e3+ [1.25]
- 1... ♜×g3 2. ♜h5+ [1.25]
- 1... ♜c4 2. ♜e5+ [1.25]



#5

Solution

1. ♖g4! ~ 2. ♕d3 ♕xc5 3. ♖de3+ ♕xe3 4. ♜d6+ [1.25]

1... d6 2. ♖b4+ a×b4 3. ♖e3+ ♜×c5/ ♜d4 4. ♖c2+ [1.25]

1... ♕c6 2. ♖×c3+ ♖×c3 3. ♖e3+ ♜×c5/ ♜d4 4. ♖d1+ [1.25]

1... ♕b7 2. ♖de3+ ♜×c5 3. ♜b5+ ♜c6 4. ♖d5 [1.25]

1. c6? ~ 2. ♖xc3+ ♖xc3 3. ♖e3+ ♜~ 4. ♖d1+ ♜d5 5. ♖xc3#

1... ♕b4 2. ♖xb4+ ab 3. ♖e3+ ♜~ 4. ♖c2+ ♜d5 5. ♖xb4#

1... ♕c5!

9. [#5]

1. ♖g4! - Ce7
2. Ce3 - Cc6
3. ♕de3 - Ce3 1/2
4. ♕d6 - ♖pc5
5. Ce3

1. ♖g4! - Cb7
2. ♕de3 - ♖pc5
3. ♕b5 - ♖pc6
4. ♕d5 - Ce5 1/2
5. ♕c5

1. ♖g4! - ♕e8
2. ♖c3 - ♖e3
3. ♖e3 - ♖pc5
4. ♖d1 - ♖pc5
5. ♖c3

1. ♖g4! - ♕a6
2. Ce3 - Ce5
3. ♕de3 - Ce3
4. ♕d6 - ♖pc5
5. Ce3

1. ♖g4! - c6 2. ♖b4 - ab4 3. ♖e3 - ♖pc5 4. ♖c2 - ♖pc5 5. ♖b4

3/6

The player provided written clarification addressing specific problems

Greetings!!

Thank you for the attention given. I want to note that I really like solving compositions and I train in this every day, because I have the goal to achieve, before finishing school, the norm of Candidate Master of Sport. It is unclear to me why doubts appeared regarding these problems, I have big experience in solving and for several years in a row I receive the title of Champion of Ukraine in solving chess compositions among women.

In problem number 2 I saw Qf7 and Nd4 mate, but I did not like the king's move to the square c6 with the subsequent capture on c7.

On Ce5, according to my view of the variation, the king escaped to e4. On the move Cf4, after gxh, again the king escaped to e4 after Qe7.

And on the move Ch2, after g3, the king again when checked on f7 escaped to e4, therefore logically I chose the move Cg3 after checking the variations. The move of the king retreating to c4 I did not consider at all because I was going to check on f7. Due to lack of time I did not write out all the variations.

In problem number 9 I understood that the black pieces are practically in zugzwang, therefore to strengthen the position of the white pieces was logical, and the other options were either with check or completely unsuccessful. The defensive moves I selected in the order of the black pieces, because there are not many of them and in the answers I indicated those moves which I considered the strongest.

Рябенко Н.

Analysis of the Player's Written Explanation

The player provided written clarification regarding her solving process in Problems No. 2 and No. 9.

Problem No. 2

In her explanation, the player describes why she rejected the candidate moves 1.Be5 and 1.Bf4 and ultimately selected 1.Bg3.

However, after each of the moves 1.Be5, 1.Bf4 and 1.Bg3, the same immediate threat arises:
2.Qf7+ Ke4 3.Nc5#.

However:

- The defensive move 1...Kc4, which is critical to understanding the logic of 1.Bg3, was not recorded in the written solution.
- The explanation does not clearly identify a structured threat–defence logic.
- The reasoning appears selective rather than systematically developed from a threat.

Problem No. 9

The player explains that she identified a near-zugzwang situation and listed defensive moves in the order of black pieces, selecting those she considered strongest.

However:

- If the position was evaluated as a near-zugzwang, a systematic verification of all plausible black moves would typically be expected.
- The written solution does not list all relevant defensive possibilities, but rather includes selected individual moves.
- The presentation reflects a selective listing approach rather than a fully structured threat–defence framework.

At the same time, it should be noted that a similar solution-recording pattern has been observed in the player's submissions in previous ISC editions (since 2024). The tendency to record selected defensive moves without fully structured enumeration appears consistent across events.

This stylistic consistency may indicate an individual solving method, although it does not fully clarify the analytical structure underlying the present solution.

At present, the written clarification does not conclusively establish procedural irregularity. However, it does not fully resolve the analytical concerns raised during review.

6. Communication Conducted

Clarifications were obtained from:

- Hryhorii Sherbov (Local Controller)
- Nika Riabenko (Player)
- Valeriy Kopyl (Ukrainian Delegate)

No party confirmed the existence of a rule violation.

No direct evidence of misconduct was provided through these communications.

7. Arguments Supporting Acceptance of the Result

- No confirmed rule violation has been established.
 - No material evidence of external assistance has been documented.
 - Current ISC regulations do not define statistical thresholds (e.g., Z-score) as automatic grounds for invalidation.
 - The player's 2025 results show a noticeable upward trend compared to 2018–2024
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8. Arguments Supporting Exclusion of the Result

- Z-score exceeds 5 (statistically extreme).
 - Combination of contextual risk factors.
 - Supervision weaknesses documented.
 - Notation irregularities.
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9. Central Controller Position

The result was initially withheld pending clarification.

After review and in the absence of direct evidence of a rule violation under the current ISC regulations, the result was included in the preliminary standings.

Given the complexity of the case and the absence of explicit regulatory guidance regarding statistical anomalies, the matter is hereby referred to the Appeals Commission appointed by the Solving Committee for formal examination and determination.

10. Questions for the Appeals Commission

The Appeals Commission is respectfully requested to determine the status of Nika Riabenko's result and to issue a formal decision on one of the following options:

1. Nika Riabenko's result is accepted as valid and remains in the official ISC 2026 results;

2. Nika Riabenko's result is not accepted and is removed from the official ISC 2026 results;
 3. Nika Riabenko's result is not accepted as official and is recorded as unofficial.
 - 4.
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11. Supporting Materials

The following materials are attached to this case file:

- Statistical calculations (Excel dataset)
 - Z-score model documentation
 - Copies of written correspondence with Hryhorii Sherbov (Local Controller), Nika Riabenko, and Valeriy Kopyl (Ukrainian delegate)
 - Copies of Nika Riabenko's solution sheets
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Arvydas Mockus
Central Controller
ISC 2026