# WORLD CONSTRUCTION CHAMPIONSHIP (WCC)

# EXPERT JURY GUIDELINES

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CONTENTS

## 1. PURPOSE AND SCOPE

1.1 These Guidelines define the procedure of the Expert Jury (the “Jury” or “Expert Jury”) for the nominations of the World Construction Championship (“WCC” or the “Championship”).

The Guidelines describe:

- qualification requirements for the Jury Experts;
- general procedure of the Jury's work;
- authority and responsibilities of the Jury Experts.

1.2 The Guidelines are developed in addition to the WCC Methodology and the WCC General Procedure.

## 2. TERMS AND DEFINITIONS

| **Term** | **Definition** |
|---|---|
| Assignment | Assignment that Contestants complete during the competition to demonstrate their knowledge, abilities, and skills |
| Championship | International construction championship called World Construction Championship (WCC). The event is held in the field of industrial construction |
| Competition Venue | Place where Contestants / team f Contestants perform Assignments of the Championship |
| Contestant/Contestant Team | Specialist/team of specialists participating in the Championship competitions<br>Contestant Categories include Independent Contestants, specialists of Participating Organisations, Student League participants, School League participants |
| Coordinator | Representative of the Participating Organisation, authorized and responsible for organising and holding the Championship. Coordinators accompany their delegations before, during, and after the Championship. |
| Developer Company | A non-competing company, providing methodological support for nominations |
| Independent Contestant | A person participating in the Championship competitions on his/her own behalf without being affiliated to any organisation.<br>Independent Contestants cannot apply for competitions as specialists of Participating Organisations |
| Independent Expert | An expert member of the Jury who has no interest in representing any Contestant and who ensures impartial judging |
| Jury/Expert Jury | A group of experts assessing the Contestants' performance of Assignments in the nominations |
| Methodology | Methodology of the preliminary and final stages of the Championship competitions |
| Nomination | Name of the activity (profession) and/or qualification with respect to which the Championship competitions are held |

| | |
|---|---|
| Official Website | Championship website containing complete, accurate, and up-to-date information about the Championship |
| Organiser | A team of specialists under the direction of the Russian Ministry of Construction and the ROSATOM State Corporation, responsible for organising and holding of the Championship |
| Organising Committee | Federal Organising Committee of the Championship |
| Participating Organisation | A company whose specialists are participating in the Championship competitions / General Partner-Participant |
| School League | A set of activities for schoolchildren in the competition, volunteer and business programmes of the Championship |
| Student League | A combination of student activities in the competitive, volunteer, and business programmes of the Championship |
| Technical Expert | Representative of the Developer Company working at the Final Stage Venue to support the competition process and the work of the Expert Jury |

## 3. WCC JURY QUALIFICATION REQUIREMENTS

3.1 The Jury Expert is a person who has knowledge, professional competence, qualification, and industrial and practical experience in the areas related to one or more Championship nominations. Jury Experts evaluate Contestants' professional knowledge and skills by assessing the results that the Contestants achieve when performing Assignments during competitions.

3.2 The Jury Experts for each nomination must meet qualification requirements set out in Appendix 1 hereto.

## 4. FORMATION OF JURIES

### 4.1 PRELIMINARY STAGE (IF APPLICABLE)

4.1.1 At the preliminary stage of the Championship, the Jury for each nomination is formed in accordance with the requirements of the Methodologies, taking into account the specifics of each nomination. The Jury can consist of:

- Experts from Participating Organisations;
- Independent Experts (representatives of professional communities, associations, government, educational, and other interested organisations).

### 4.2 FINAL STAGE

4.2.1 At the final stage of the Championship, the Jury for each nomination is formed from:

4.2.1.1 experts of the Participating Organisations (Appendix 3) to judge Participating Organisations and Independent Contestants (general scoring); and

4.2.1.2 Independent Experts and experts of the Participating Organisations (Appendix 3) to judge students.

4.2.2 Each Participating Organisation delegates its experts to work as Jury Members. The number of such experts is proportional to the number of Contestants (in individual competitions) and

the number of participating teams (in team competitions).
This is applicable to:
Individual nomination “Lighting Networks and Electrical Equipment Installation”;
Individual nomination “Secondary Switching Electrical Installation”;
Individual nomination “Manual Electric Welder”;
Team nomination “Power Cables and Cable Fittings Electrical Installation”;
Individual nomination “Building Information Modelling”;
Individual nomination “Design of Electrical and Automation Systems”;
Individual nomination “Architectural and Construction Design”;
Individual nomination “Building Systems Design”;
Individual nomination “Best Environmental Specialist”;
Team nomination “Surveying Engineer”;
Team nomination “Construction Project Management”;
Individual nomination “Pricing and Estimating”;
Individual nomination “Construction Control”;
Individual nomination “Health and Safety".

4.2.3 For the Multi-team nomination “Best Construction Site”, each Participating Organisation delegates the following number of experts per site/team applied.

| No. | Profession/Qualification | Number of experts per site/team applied |
|---|---|---|
| 1 | Building Systems Pipeline Installation | 2<br>(1 expert to assess the performance of the Construction Manager;<br>1 expert to assess the performance of the Installers) |
| 2 | Non-Destructive Testing Methods | 1 |
| 3 | General Construction Works | 2<br>(1 expert to assess the performance of the Construction Manager;<br>1 expert to assess the performance of the Reinforcers and the Concrete Workers.) |
| 4 | Welding (Manual Electric Welder) | 1 |
| | **TOTAL** | **6** |

4.2.4 For the team nomination “Pre-commissioning”, each Participating Organisation delegates the following number of experts per team applied.

| No. | Profession/Qualification | Number of experts per site/team applied |
|---|---|---|
| 1 | Pre-commissioning engineer,<br>Electrical equipment commissioning engineer | 1 |
| 2 | Engineer for automated fire alarm systems installation and commissioning,<br>Ventilation and heating systems commissioning engineer | 1 |
| | **TOTAL** | **2** |

4.2.5 For the team nomination “Curtain Wall Façade Systems in Residential Construction”, each Participating Organisation delegates the following number of experts per team applied:

| No. | Profession/Qualification | Number of experts per site/team applied |
|---|---|---|
| 1 | Construction Manager | 1 |
| 2 | Production Engineer | 1 |
| 3 | Curtain Wall Systems Installer | 1 |
| | **TOTAL** | **3** |

4.2.6 The Jury of the multi-team nomination "Best Construction Site" assess the team nomination "Building Systems Pipeline Installation", the individual nomination "Non-Destructive Testing Methods", and the team nomination "General Construction Works". The number of Jury Experts is given in Clause 4.2.3.

4.2.7 Each Participating Organisation delegates two (2) experts to work as Jury Members of the team nomination "I&C Installation": 1 expert to assess the welder, 1 expert to assess the I&C installer.

4.2.8 Each Participating Organisation delegates experts to work as a Jury Member for the team nomination "Building Information Modelling and Design" and the individual nomination "Building Information Modelling". The number of such experts is proportional to the number of Contestants (in the individual competitions) and the number of Contestant teams (in the team competitions). Additionally, the Organiser appoints five (5) Independent Experts to work as Jury Members for each nomination, including:

Representative from the corporate owner of the project, responsible for assessing the technical and organisational aspects of the solutions proposed by the Contestants in terms of the project specifics / Representative from the profile association, responsible for assessing the solutions proposed by the Contestants to create an information model which would meet the needs of the project;

Representatives of the relevant ministries and agencies, including regional bodies, responsible for compliance of the results with current standards and legal regulations;

Representatives of the professional community, including relevant technical committees, associations and other unions, as part of the Expert Jury responsible for compliance of the results with current standards and technical regulations.

4.2.9 The Organiser engages Independent Experts to work as Jury Members of the individual nomination "BIM Specialist".

4.2.10 For the team nomination "Steel and Reinforced Concrete Structures Installation", each Participating Organisation delegates the following number of experts per team applied:

| No. | Profession/Qualification | Number of experts per site/team applied |
|---|---|---|
| 1 | Building Systems Pipeline Installation | 1 |
| 2 | Construction Work Planning | 1 |
| 3 | Steel and Reinforced Concrete Structures Installation | 1 |
| 4 | Production Engineer | 1 |
| 5 | Welding (Manual Electric Welder) | 1 |
| | **TOTAL** | **5** |

4.2.11 To work as a Jury Member in the Student League, the Organiser engages Independent Experts in accordance with Clauses 4.2.2 to 4.2.8 and nominations in accordance with Appendix 3.

4.2.12 The Organiser may engage both Independent Experts and experts of the Participating Organisations to work as Jury Members of the team nomination "Drivers and Road Construction Equipment Operators". As this is a demo nomination, Technical Experts decide on the number of Contestants per team and their qualification requirements no later than 2 months before the final stage.

4.3 The Expert Jury for each nomination consists of Chairperson and Jury Members. The Chairperson is elected from among the experts by open voting of the Jury Experts at the Championship Venue. The expert with the highest number of votes will be elected as the Chairperson.

Election of the Chairperson is formalised by a protocol signed by all Jury Experts. The form of the protocol is presented in Appendix 2 hereof.

4.4 The composition of the Jury for each nomination is determined by drawing lots for all nominations of the Championship in such a way that the Jury experts cannot evaluate the works of the Contestants employed by the companies these experts represent.

However, this condition is not mandatory if the results of the Contestants are anonymised prior to verification.

4.4.1 The Organiser determines the date, place, and format of the draw.

4.4.2 The draw is conducted by the Technical Experts. Following the results of the draw, a draw protocol is prepared and signed.

## 5 REPLACEMENT OF JURY EXPERTS

5.1 At the final stage of the Championship, a Jury Expert may be replaced in case of illness or other unforeseen situation that prevents the Expert from fulfilling his/her judging functions.

5.2 The Jury Expert may be replaced not later than two (2) weeks before the final stage of the Championship.

5.3 Participating Organisations appoint candidates to replace the Jury Expert. The candidate must meet the qualification requirements for the Jury Expert according to Appendix 1. The expert's refusal must be justified with exhaustive arguments.

5.4 The Coordinators of the Participating Organisations replace the Jury Member with an Expert from the list in the WCC ID information and analytical system. The Organiser will be notified of the replacement by e-mail sent to expert@pro-wcc.ru.

## 6 AUTHORITY AND RESPONSIBILITIES OF JURY EXPERTS

6.1 The authority and responsibilities of the Expert Jury are set out in the WCC General Procedure.

6.2 The Jury will be guided by the official documents of the Championship and ensure compliance with the necessary requirements to enable each Contestant/team of Contestants to obtain equal conditions when performing Assignments.

6.3 PRELIMINARY STAGE (IF APPLICABLE)

6.3.1 Before the competition, the Chairperson:

- makes a note of the Contestants and Jury Experts present at the Venue;
- provides a health and safety briefing for the Jury Experts and Contestants;
- (if applicable) formalises the coding of the works by filling in the coding sheet, which is kept by the Chairperson until the end of the competition and is not subject to publicity.

During the competition, the Chairperson:

- presides over the work of the Jury Experts in evaluating the performance of the Assignment by the Contestants;
- participates in the evaluation of the Contestants;
- monitors the observance of the rules and regulations of behaviour at the Venue, as well as the observance of judging ethics on the part of the Jury Experts.

After the competition, the Chairperson:

- collects the evaluation sheets filled in by the Jury Experts, calculates the points for each Contestant/team of Contestants, decodes the works (if applicable), and records the results in the final sheet;
- draws up and organises the signing of the final protocol, which reflects the final points scored by each Contestant/team of Contestants, the winner, and the first and second runner-ups (2nd and 3rd places);
- analyses the results of the Contestant/teams of Contestants who received the same number of final points;
- draws up an acknowledgment sheet, where the Contestants indicate that they carefully read and understood the final protocol.

6.3.2 The Jury Experts assess the performance of Assignment by Contestants/teams of Contestants objectively and impartially, comprehensively and fully, in compliance with the evaluation procedure and criteria.

Before the competition, the Jury Expert:

- is briefed on health and safety and signs off the Safety Briefing Completion Sheet;
- tells the Contestants/teams of Contestants about the Assignment and how it will be assessed; about work regulations, and rules of behaviour at the Venue;
- provides the Contestants with tools to perform the Assignments.

During the competition, the Jury Expert:

- monitors the performance of the Assignment by the Contestants and other experts; reports any cases of violation to the Chairperson;
- addresses current issues with the Contestants and the Chairperson, including collection of comments/suggestions on the content and format of the Assignments, assessment/evaluation strategy, and the principle of organisation and holding of the Championship;
- evaluates the Contestants' performance (if applicable).

After the competition, the Jury Expert:

- verifies the works performed by the Contestant/teams of Contestants, taking into account their distribution by the Chairperson;
- fills in and signs off the evaluation sheet;
- signs the final protocol for the nomination.

6.4 FINAL STAGE

6.4.1 The Chairperson does not have a casting vote. The Chairperson is subject to the same requirements as the Jury Members.

Before the competition, the Chairperson:

– together with the Technical Expert, makes a note of the Contestants and Jury Experts present at the Venue, draws up and signs the relevant sheets.

During the competition, the Chairperson:

– monitors the observance of the rules and regulations of behaviour at the Venue, as well as the observance of judging ethics on the part of the Jury Experts;
– draws up documents at the Technical Experts' requests;
– addresses current issues with Contestants;
– verifies the completion of Assignments by Contestants;
– (if and when applicable) communicates preliminary results to Contestants.

After the competition, the Chairperson:

– collects the evaluation sheets filled in by the Jury Experts; draws up and organises the signing of the final protocol, which reflects the final points scored by each Contestant/team of Contestants, the winner, the first and second runner-ups (2nd and 3rd places);
– analyses the results of the Contestant/teams of Contestants who received the same number of final points (at the request of a Technical Expert);
– approves and hands over to the Organiser all documents drawn up by the Jury Experts during the competitions.

6.4.2 The Jury Experts assess the performance of Assignments by Contestants/teams of Contestants objectively and impartially, comprehensively and fully, in compliance with the Methodologies and evaluation procedure and criteria provided by Technical Experts.

Before the competition, the Jury Expert:

– is briefed on health and safety and signs off the Safety Briefing Completion Sheet;
– together with Technical Experts, tells the Contestants/teams of Contestants about the Assignment and how it will be assessed; about work regulations, and rules of behaviour at the Venue;
– in cooperation with Technical Experts, provides the Contestants with tools to perform the Assignments.

During the competition, the Jury Expert:

– monitors the performance of the Assignment by Contestants and the other Jury Experts; does not leave the Venue when the Contestants perform the Assignment (the Jury Expert may leave the Venue only if allowed by the Technical Expert);
– addresses current issues with Contestants;
– verifies the completion of Assignments by Contestants;
– (if and when applicable) discloses preliminary results to Contestants.

After the competition, the Jury Expert:

– fills in and signs off the final evaluation sheet;
– signs the final protocol for the nomination.

6.4.3 The Jury Experts are responsible for:

– ensuring objective and impartial judging within the limits of their nomination;
– compliance with the Methodologies, the WCC General Procedure, WCC Appeal Board Regulations, and this Guidelines;
– reasoned conclusions that enable to check the reliability of the conclusions made on the basis of objective, regulatory, technical, and practical data;
– (if applicable) communicating to Contestants the preliminary results and the points awarded in accordance with the evaluation criteria.

## 7 SPECIAL CASES AND ASSUMPTIONS

7.1 The Jury may take special decisions in case any disputes or any other situations not covered herein arise during the Championship competitions and assessment of completed Assignments. The decision will be taken by majority vote. For each special decision (group of decisions), a protocol will be drawn up and signed by all Jury Members.

7.2 Violation of the requirements of the WCC General Procedure, the WCC Jury Guidelines, and the Methodologies are not considered special cases and must be resolved in accordance with these documents.

## 8 JURY TOOLKIT

8.1 The Jury will be using equipment, software, materials, tools, and measuring devices identical to those used by the Contestants.

8.2 Technical Experts provides the Jury with the list and forms of evaluation sheets for the final stage. The Jury will be working in the WCC ID information and analytical system, using electronic evaluation sheets.

8.3 The list and forms of evaluation sheets for the preliminary stage are set out in Appendices to the Methodologies (for working nominations).

## 9. JURY SELECTION

9.1 In order to ensure the quality of judging, experts who applied to work as WCC Jury Members must undergo a mandatory assessment of professional and technical knowledge (PTK Test) on the Official Website after registration.

9.2 After successful completion of the PTK Test, experts are included in the pool of the Championship experts and can participate in the key tasks of the Championship preparation and all activities of the expert community at the invitation of the Organiser.

9.3 The selection of Jury Experts for the final stage of the Championship is carried out by the Coordinators (for experts from Participating Organisations) and the Organiser (for independent experts).

## 10. JURY TRAINING (applicable for the final stage)

10.1 The Jury must undergo training to ensure quality judging and consistent interpretation of the evaluation criteria applied to the Final Stage Assignments.

Technical Experts are responsible for the organisational and methodological support of the training.

10.2 The Jury Experts must be trained in person and/or online before the final stage of the Championship. The training schedule will be set by the Organiser.

10.3 The training programme includes at least 2 hours dedicated to the study of the content of the Assignments, criteria for their evaluation (if applicable), familiarisation with the equipment, software products, and regulatory documents which are used by the Contestants and Jury Experts in the course of the competitions.

After the training, the Jury Experts take a certification test on the Official Website.

The Technical Experts ensure the preparation and provision of methodological materials required for the training of the Jury Experts.

Following the results of the training, the Technical Expert provides the Organiser with confirming documents on the official letterhead of the Technical Expert’s company, signed by its CEO/Director. The documents include the list of experts present at the training

events.

## 11. JURY PROCEDURE (applicable to the final stage)

11.1 The first meeting of the Jury will be held two days before the competitions of the Championship final stage. The Organiser determines the time and place of the meeting.

11.2 After arrival at the Final Stage Venue and at the request of Technical Experts, the Jury will inspect and accept the workplaces of the Contestants.

11.3 On the first day of the competition, the Jury arrives at the Venue at the time set by the Organiser.

11.4 During the official time for Contestants to complete the Assignment, the Jury experts are present at the Venue to evaluate the Contestants' performance within the allocated time and in accordance with the nomination timing and the instructions of the Technical Experts.

11.5 Verification of the results of Assignments depends on the nomination and can be carried out by the Jury both on a daily basis during all competition days of the Championship final stage with summarising the preliminary results, and at the end of two competition days without summarising the preliminary results.

11.6 The Jury Experts inform the Contestants about the number of points received for each day of the competition at the beginning of the next day (if preliminary results are summarised for a nomination). The final results of the Championship final stage are communicated to the Contestants after the Jury has agreed the final protocols by posting them on the Official Website.

11.7 The Organiser may change provisions of Clauses 11.1 to 11.6 by notifying the Jury, Technical Experts, and Coordinators (by e-mail, telephone, announcement on the Official Website).

## 12. ON-SITE INTERACTION PROCEDURE

12.1 The Jury interact with the Contestants and other persons at the Venue in accordance with the requirements established by the WCC General Procedure, the Methodologies, and these Guidelines.

# Appendix 1

**WCC Jury Qualification Requirements**

**1. Multi-team nomination "Best Construction Site"**

**1.1 Team nomination "Building Systems Pipeline Installation"**(3 Expert Jury Members):

**1.1.1 Construction Manager Qualification** (1 Jury Member)

| No. | Name | Description |
|---|---|---|
| 1. | Who is going to be assessed | Construction Manager |
| 2. | Qualification Requirements | Diploma of higher professional technical education<br>OR<br>Diploma of higher education (other than a related one) with a diploma of additional professional education (professional retraining programme in the field of activity)<br>OR<br>Diploma of secondary vocational (technical) education. |
| 3. | Work Experience Requirements | Extract from the employment history book / certificate from the HR department confirming at least 3 years' experience of working in construction engineering and technical positions (if the person has a related technical qualification)/at least 5 years' experience (if the person has a related secondary (vocational) qualification or a diploma of non-related higher education with a professional retraining programme in the field of activity). |
| 4. | Professional Competences (professional requirements) | Perform operational inspection of individual construction processes and/or operations.<br>Inspect the location of elements, structures, and parts of the capital construction project (building or structure) and utility systems to make sure it complies with the requirements of technical regulations and design documents.<br>Perform in-process quality control of the completed construction work.<br>Identify causes of deviations of completed construction works from the requirements of technical regulations and design documents.<br>Perform acceptance inspection of completed types and stages of construction works (elements, structures, and parts of a building (structure), building systems pipelines). |
| 5. | Job Responsibilities Requirements | Prepare and issue project reports.<br>Ensure compliance of the completed construction works with the requirements of technical regulations and the terms and conditions of the construction contract.<br>Present the completed construction and as-built technical documentation to acceptance commissions.<br>Perform compliance assessment of production tasks and individual works.<br>Ensure that health and safety briefings are provided as required and that workers comply with health and safety regulations, fire safety and environmental protection requirements while at the construction site.<br>Technologies of various types of construction works. |
| 6. | Knowledge Requirements | Requirements of technical and design documentation for the scope and quality of construction works to be |

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| | | performed with respect to a capital construction project.<br>Requirements of technical and process documentation for the scope and content of operational inspection of construction processes and/or production operations during construction.<br>Technical requirements for acceptance of safety-related concealed works and building structures of a capital construction project.<br>Methods and means of instrumental quality control of completed construction works.<br>Schemes of operational quality control of construction works.<br>Methods and ways of rectifying defects in completed construction works (by using alternative technologies, materials and components).<br>Methods of preparing internal reports on quality control of construction works.<br>Technical requirements for production and acceptance of construction, installation and commissioning works.<br>Methods of construction planning and technology.<br>Construction of hazardous, technically complex, and unique capital construction projects.<br>Health and safety requirements and fire safety requirements for construction work. |
| 7. | Skills Requirements | Monitor compliance with flow charts and regulations.<br>Perform visual and instrumental quality control of the completed construction.<br>Perform visual and instrumental (geodetic) inspection of positions of elements, structures, and parts of the capital construction project (building or structure), utility systems.<br>Carry out comparative analysis to make sure the current quality control data of completed construction comply with the requirements of technical regulations and design documents.<br><br>Identify causes of deviations of completed construction works from the requirements of technical regulations, and design and production documents.<br>Record the results of operational quality control (by maintaining the log of operational quality control and signing concealed work acceptance certificates or preliminary acceptance certificates with respect to critical structures).<br>Work with design documents and cost estimates (read drawings, estimate construction cost and labour resources, and check whether the amount of materials comply with the values on the project cost estimates (or specification).<br><br>Prepare and maintain all necessary documents related to the compliance with health and safety, fire safety, environmental protection, and industrial safety requirements and make sure any and all of such documents are prepared and maintained.<br>Check the completeness and quality of the design documentation.<br>Check the compliance of technical information with the requirements of technical regulations. |

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| | | Accept and check the completeness of parts, components, and units of piping, pipe fittings, and equipment.<br>Check the compliance of marking with detailed design drawings.<br>Monitor performance of thermal equipment installation works.<br>Inspect the condition of the external surfaces of the equipment, pipes, and pipe fittings.<br>Control adherence to thermal equipment installation works technology, the shape of cuts and the condition of the inner surface of the butt edges of pipe joints to be welded.<br><br>Inspect welds by visual inspection, etc. |

**1.1.2 Building Systems Pipeline Installer Qualification** (1 Jury Member)

| No. | Name | Description |
|---|---|---|
| 1. | Who is going to be assessed | Pipeline Installer |
| 2. | Qualification Requirements | Diploma of higher professional technical education<br>OR<br>Diploma of higher education (other than a related one) with a diploma of additional professional education (professional retraining programme in the field of activity)<br>OR<br>Diploma of secondary vocational (technical) education. |
| 3. | Work Experience Requirements | Extract from the employment history book / certificate from the HR department confirming at least 3 years' experience of working in construction engineering and technical positions (if the person has a related technical qualification)/at least 5 years' experience (if the person has a related secondary (vocational) qualification or a diploma of non-related higher education with a professional retraining programme in the field of activity). |
| 4. | Professional Competences (professional requirements) | Perform operational inspection of individual construction processes and/or operations.<br>Inspect the location of elements, structures, and parts of the capital construction project (building or structure) and utility systems to make sure it complies with the requirements of technical regulations and design documents.<br>Perform in-process quality control of the completed construction work.<br>Identify causes of deviations of completed construction works from the requirements of technical regulations and design documents.<br>Perform acceptance inspection of completed types and stages of construction works (elements, structures, and parts of a building (structure) or utility systems). |
| 5. | Job Responsibilities Requirements | Prepare and issue project reports.<br>Ensure compliance of the completed construction works with the requirements of technical regulations and the terms and conditions of the construction contract.<br><br>Perform compliance assessment of production tasks and individual works. |

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| | | Ensure that health and safety briefings are provided as required and that workers comply with health and safety regulations, fire safety and environmental protection requirements while at the construction site.<br><br>Identify non-compliance with work production processes.<br>Technologies of various types of construction works. |
| 6. | Knowledge Requirements | Requirements of technical and design documentation for the scope and quality of construction works to be performed at a capital construction project.<br>Requirements of technical and process documentation for the scope and content of operational inspection of construction processes and/or production operations during construction.<br><br>Technical requirements for acceptance of safety-related concealed works and building structures of a capital construction project.<br>Methods and means of instrumental quality control of completed construction works.<br><br>Schemes of operational quality control of construction works.<br>Methods and ways of rectifying defects in completed construction works (by using alternative technologies, materials and components).<br>Methods of preparing internal reports on quality control of construction works.<br>Technical requirements for production and acceptance of construction, installation, and commissioning works.<br>Methods of construction planning and technology.<br><br>Construction of hazardous, technically complex, and unique capital construction projects.<br>Health and safety requirements and fire safety requirements for construction work. |
| 7. | Skills Requirements | Monitor compliance with flow charts and regulations.<br>Perform visual and instrumental quality control of the completed construction.<br>Perform visual and instrumental (geodetic) inspection of positions of elements, structures, and parts of the capital construction project (building or structure), utility systems.<br>Carry out comparative analysis to make sure the current quality control data of completed construction comply with the requirements of technical regulations and design documents.<br>Identify causes of deviations of completed construction works from the requirements of technical regulations, and design and production documents.<br>Record the results of operational quality control (by maintaining the log of operational quality control and signing concealed work acceptance certificates or preliminary acceptance certificates with respect to critical structures).<br>Work with design documents and cost estimates (read drawings, estimate construction cost and labour resources, and check whether the amount of materials comply with the values on the project cost estimates |

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| | | (or specification).<br>Prepare and maintain all necessary documents related to the compliance with health and safety, fire safety, environmental protection, and industrial safety requirements and make sure any and all of such documents are prepared and maintained.<br>Check the completeness and quality of the design documentation.<br>Check the compliance of technical information with the requirements of technical regulations.<br>Accept and check the completeness of parts, components, and units of piping, pipe fittings, and equipment.<br>Check the compliance of marking with detailed design drawings.<br><br>Monitor performance of thermal equipment installation works.<br>Inspect the condition of the external surfaces of the equipment, pipes, and pipe fittings.<br>Control adherence to thermal equipment installation works technology, the shape of cuts and the condition of the inner surface of the butt edges of pipe joints to be welded.<br>Inspect welds by visual inspection, etc and |

**1.1.3 Manual Electric Welder Qualification** (1 Jury Member)

| No. | Name | Description |
|---|---|---|
| 1. | Who is going to be assessed | Manual Electric Welder |
| 2. | Qualification Requirements | Secondary vocational education in welding, higher professional education in welding equipment and technology or in welding and production processes. |
| 3. | Work Experience Requirements | Extract from the employment history book / certificate from the HR department confirming at least 3 years' experience of working in construction engineering and technical positions (if the person has a related technical qualification)/at least 5 years' experience (if the person has a related secondary (vocational) qualification or a diploma of non-related higher education with a professional retraining programme in the field of activity). |
| 4. | Professional Competences (professional requirements) | Know how to: Inspect preparatory and assembly operations.<br>Inspect main and auxiliary welding materials, edges prepared for welding, geometric dimensions of parts to be welded.<br>Monitor welding sequence, welding operations, welding modes, and welding machine devices.<br>Monitor production and installation of welded structures performed in accordance with production process documentation. |
| 5. | Job Responsibilities Requirements | Supervise preparation of welded structure elements and their assembly for welding.<br>Ensure welded structure elements are prepared and assembled for welding in compliance with the production documents.<br>Ensure welding operations are performed in compliance with welding technique and technology.<br>Perform visual and measuring inspection of completed |

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| | | welded structures and detect welded joints which fail to comply with the requirements of production documents and applicable regulations.<br>Ensure workers comply with health and safety, welfare, industrial, and fire safety requirements while at the welding site. |
| 6. | Knowledge Requirements | Basic types, structural elements and dimensions of welded joints, symbols of welds in drawings.<br>Requirements of industrial and technological documents and regulations on welding.<br>Rules and methods of preparation of surfaces and edges for welding.<br>Tolerances in the preparation and assembly of the welded structures.<br>Welding technique and technology.<br>Types of welding defects, their causes, methods of prevention and ways of elimination.<br>Designation, design and use of control means (measuring tools, equipment, optical means).<br>Quality requirements for welded joints.<br>Types of assembled structures and welds prepared for welding and methods of their inspection.<br>Methods of visual and measuring inspection of welded joints.<br>Standards and rules of fire safety during welding operations.<br>Health and safety requirements for welding operations. |
| 7. | Skills Requirements | Use production documents for assembly and welding.<br>Ensure welded structure elements are prepared and assembled for welding in compliance with the production documents.<br>Identify external defects of welds by visual and measuring inspection, determine geometric dimensions of welded joints and structures using measuring tools.<br>Identify non-compliance with work production processes.<br>Perform quality control of pipeline components and structural elements prepared for welding.<br>Perform quality control of pipeline components and structural elements assembled for welding.<br>Perform quality control of tack welds on pipeline components in accordance with the production and technical documentation.<br><br>Perform quality control of manual argon-arc welding according to the production and technical documentation.<br>Perform quality control of manual arc welding with a coated electrode.<br>Monitor compliance with health and safety requirements when performing work. |

**1.2 Individual nomination "Non-Destructive Testing Methods"** (1 Jury Member)

| No. | Name | Description |
|---|---|---|
| 1. | Who is going to be assessed | NDT specialist |
| 2. | Qualification Requirements | Technical degree (Bachelor's or Master's degree; engineer). Certificate in non-destructive testing methods (NDT), Grade 3 or higher. |

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| 3. | Work Experience Requirements | At least 5 years' experience in engineering (as a foreman, site manager, engineer, process monitoring system specialist, etc.) At least 3 years' experience in construction (as a foreman, site manager, engineer, process monitoring system specialist, etc.) |
| 4. | Professional Competences (professional requirements) | Know how to: Inspect preparatory and assembly operations.<br>Perform visual and measuring inspection of completed welded structures and detect welded joints and structures which fail to comply with the requirements of production documents and applicable regulations.<br><br>Develop flow charts (for visual, measuring and operation inspection).<br><br>Perform operations of visual and measuring inspection.<br>Perform non-destructive tests in accordance with the relevant flow chart. |
| 5. | Job Responsibilities Requirements | Supervise preparation of welded structure elements and their assembly for welding.<br>Ensure welded structure elements are prepared and assembled for welding in compliance with the production documents.<br>Identify types of surface imperfection and types of shape deviations.<br>Measure parameters of surface imperfections and shape deviations.<br>Monitor production and installation of welded structures performed in accordance with production process documentation.<br>Verify the results of operational and acceptance inspection of welded structures.<br>Record the results of visual and measuring inspection.<br>Check the compliance of the acceptance and as-built documents following the results of welding operations. |
| 6. | Knowledge Requirements | Basic types, structural elements and dimensions of welded joints, symbols of welds in drawings.<br>Requirements of industrial and technological documents and regulations on welding and inspection.<br>Rules and methods of preparation of surfaces and edges for welding.<br>Tolerances in the preparation and assembly of the welded structures.<br>Types of assembled structures and welds prepared for welding and methods of their inspection.<br>Types of welding defects and their causes.<br>Designation, design and use of control means (measuring tools, equipment, optical means).<br>Rules for measuring using NTD tools.<br>Quality requirements for welded joints.<br>Methods of visual and measuring inspection of welded joints.<br>Quality indicators of visual and measuring inspection.<br>Requirements for recording inspection results. |
| 7. | Skills Requirements | Use production and process documents for assembly and welding.<br>Ensure welded structure elements are prepared and assembled for welding in compliance with the |

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| | | production documents.<br>Prepare documents (certificates, opinions) on inspection of preparatory and assembly operations.<br>Identify external defects of welds by visual and measuring inspection, determine geometric dimensions of welded joints and structures using measuring tools.<br>Identify non-compliance with work production processes.<br>Identify surface imperfections and shape deviations according to their parameters.<br>Record the results of visual and measuring inspection in accordance with the requirements set out in the technical instruction.<br>Perform incoming inspection of welding materials in accordance with the requirements.<br>Monitor compliance with the production sequence of tack welding and seam welding.<br>Perform quality control of production and process documentation.<br>Monitor preparation of elements of the welded structure and their assembly for welding; perform operational inspection of parts being assembled for welding.<br>Perform operational inspection of welding.<br>Monitor visual and measuring inspection of welded joints of pipelines and structural elements.<br>Check documents describing the results of visual and measuring inspection. |

## 1.3 Team nomination "General Construction Works" (2 Jury Members)

### 1.3.1 Construction Manager Qualification

| No. | Name | Description |
|---|---|---|
| 1. | Who is going to be assessed | Construction Manager; |
| 2. | Qualification Requirements | Higher professional (technical) education and at least 5 years' experience in construction engineering and technical positions. Bachelor's degree (in the field other than a related one) and/or additional professional education (professional retraining programmes in the field of activity). |
| 3. | Work Experience Requirements | At least 3 years' experience in construction. |
| 4. | Professional Competences (professional requirements) | Perform operational inspection of individual construction processes and/or operations.<br><br>Inspect the location of elements, structures, and parts of the capital construction project (building or structure) and utility systems to make sure it complies with the requirements of technical regulations and design documents.<br><br>Perform in-process quality control of the completed construction work.<br>Identify causes of deviations of completed construction works from the requirements of technical regulations and design documents.<br><br>Perform acceptance inspection of completed types and stages of construction works (elements, structures, and parts of a building (structure) or utility systems). |

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| 5. | Job Responsibilities Requirements | Ensure compliance of the completed construction works with the requirements of technical regulations.<br>Present the completed construction and as-built technical documents to acceptance commissions.<br>Perform compliance assessment of production tasks and individual works.<br>Ensure that health and safety briefings are provided as required and that workers comply with health and safety regulations, fire safety and environmental protection requirements while at the construction site.<br>General construction technologies. |
| 6. | Knowledge Requirements | Requirements of technical and design documentation for the scope and quality of construction works to be performed with respect to a capital construction project.<br>Requirements of technical and process documentation for the scope and content of operational inspection of construction processes and/or production operations during construction.<br>Technical requirements for acceptance of safety-related concealed works and building structures of a construction project.<br><br>Methods and means of instrumental quality control of completed construction works.<br><br>Schemes of operational quality control of construction works.<br>Methods and ways of rectifying defects in completed construction works (by using alternative technologies, materials and components).<br>Methods of preparing internal reports on quality control of construction works.<br><br>Technical requirements for production and acceptance of construction, installation, and commissioning works.<br>Methods of construction planning and technology.<br>Construction of hazardous, technically complex, and unique capital construction projects.<br>Health and safety requirements and fire safety requirements for construction work. |
| 7. | Skills Requirements | Monitor compliance with flow charts and regulations.<br>Perform visual and instrumental quality control of the completed construction.<br>Perform visual and instrumental inspection of positions of elements, structures, and parts of the capital construction project (building or structure), utility systems.<br>Carry out comparative analysis to make sure the current quality control data of completed construction comply with the requirements of technical regulations and design documents.<br>Identify causes of deviations of completed construction works from the requirements of technical regulations, and design and production documents.<br>Record the results of operational quality control over general construction work (by maintaining the log of operational quality control and signing concealed work acceptance certificates or preliminary acceptance certificates with respect to critical |

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| | | structures).<br>Record the results of acceptance inspection (by maintaining the construction daily log and signing concealed work acceptance certificates or preliminary acceptance certificates with respect to critical structures).<br>Prepare and maintain all necessary documents related to the compliance with health and safety, fire safety, environmental protection, and industrial safety requirements and make sure any and all of such documents are prepared and maintained.<br>Check the compliance of technical information with the requirements of technical regulations.<br>Accept and inspect works in accordance with applicable regulatory requirements.<br><br>Check the compliance of marking with detailed design drawings.<br><br>Check the compliance with general construction technology; rules for installation of anchor bolts and embedded parts in structures; rules for aligning installed meshes and frames; rules for cutting protruding rebars; rules for marking out and aligning of the location of bars, simple meshes, and flat frameworks in the template or in the conductor against drawings and sketches; methods of joining reinforcing bars; types and classes of rebars.<br>Monitor the condition of reinforcement elements and the quality of reinforcement of structures in accordance with technical, production, design, and detailed design documentation for manufacturing and assembling of reinforcing frames. |

### 1.3.2 Reinforcer/Concrete Worker Qualification

| No. | Name | Description |
|---|---|---|
| 1. | Who is going to be assessed | Reinforcer/Concrete Worker |
| 2. | Qualification Requirements | Diploma of higher professional technical education<br>OR<br>Diploma of higher education (other than a related one) with a diploma of additional professional education (professional retraining programme in the field of activity)<br>OR<br>Diploma of secondary vocational (technical) education. |
| 3. | Work Experience Requirements | Extract from the employment history book / certificate from the HR department confirming at least 3 years' experience of working in the construction industry in engineering and technical positions (if the person has a related technical qualification)/at least 5 years' experience (if the person has a related secondary (vocational) qualification/a diploma of non-related higher education and completed a professional retraining programme in the field of activity). |
| 4. | Professional Competences (professional requirements) | Perform operational inspection of individual construction processes and/or operations.<br><br>Inspect the location of elements, structures, and parts of the capital construction project (building or structure) to make sure it complies with the |

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| | | requirements of technical regulations and design documents.<br>Perform in-process quality control of the completed construction work.<br>Identify causes of deviations of completed construction works from the requirements of technical regulations and design documents.<br>Perform acceptance inspection of completed types and stages of construction works (elements, structures, and parts of a building (structure) or utility systems). |
| 5. | Job Responsibilities Requirements | Ensure compliance of the completed construction works with the requirements of technical regulations.<br>Present the completed construction and as-built technical documents to acceptance commissions.<br>Perform compliance assessment of production tasks and individual works.<br>Ensure that health and safety briefings are provided as required and that workers comply with health and safety regulations, fire safety and environmental protection requirements while at the construction site.<br>General construction technologies. |
| 6. | Knowledge Requirements | Requirements of technical and design documentation for the scope and quality of construction works to be performed with respect to a capital construction project.<br>Requirements of technical and process documentation for the scope and content of operational inspection of construction processes and/or production operations during construction.<br>Technical requirements for acceptance of safety-related concealed works and building structures of a construction project.<br>Methods and means of instrumental quality control of completed construction works.<br><br>Schemes of operational quality control of construction works.<br>Methods and ways of rectifying defects in completed construction works (by using alternative technologies, materials and components).<br>Methods of preparing internal reports on quality control of construction works.<br><br>Technical requirements for production and acceptance of construction, installation, and commissioning works.<br>Methods of construction planning and technology.<br><br>Construction of hazardous, technically complex, and unique capital construction projects.<br>Health and safety requirements and fire safety requirements for construction work. |
| 7. | Skills Requirements | Monitor compliance with flow charts and regulations.<br>Carry out visual and instrumental quality control of the construction works.<br>Perform visual and instrumental inspection of positions of elements, structures, and parts of the capital construction project (building or structure), utility systems.<br>Carry out comparative analysis to make sure the current quality control data of completed construction |

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| | | comply with the requirements of technical regulations and design documents.<br>Identify causes of deviations of completed construction works from the technical requirements and design and production documents.<br>Record the results of operational quality control over general construction work (by maintaining the log of operational quality control and signing concealed work acceptance certificates or preliminary acceptance certificates with respect to critical structures).<br><br>Record the results of acceptance inspection (by maintaining the construction daily log and signing concealed work acceptance certificates or preliminary acceptance certificates with respect to critical structures).<br><br>Check the compliance of technical information with the requirements of technical regulations.<br>Accept and inspect works in accordance with applicable regulatory requirements.<br>Check the compliance of marking with detailed design drawings.<br><br>Check the compliance with production and general construction technology; rules for installation of anchor bolts and embedded parts in structures; rules for aligning installed meshes and frames; rules for cutting protruding rebars; rules for marking out and aligning of the location of bars, simple meshes, and flat frameworks in the template or in the conductor against drawings and sketches; methods of joining reinforcing bars; types and classes of rebars.<br>Monitor the condition of reinforcement elements and the quality of reinforcement of structures in accordance with technical, production, design, and detailed design documentation for manufacturing and assembling of reinforcing frames. |

**2. Team nomination "Construction Project Management"** (1 Jury Member)

| No. | Name | Description |
|---|---|---|
| 1. | Education | Higher professional education.<br>Specialist or Master's degree. |
| 2. | Diplomas and certificates. | Diploma of higher professional education. |
| 3. | Working experience (overall; in construction) | At least 5 years of overall work experience. |
| 4. | Working in projects | Experience in project management.<br>Experience in education and training of specialists and managers in value engineering.<br>Experience in developing assignments.<br>Experience in assessment of professional competences in the field of project management. |

**3. Individual nomination "Building Information Modelling"** (1 Jury Member)

| No. | Name | Description |
|---|---|---|
| 1. | Qualification Criteria Requirements | Functional/duty responsibilities must be relevant to the following positions:<br>− BIM-manager;<br>− project manager; |

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| | | − technical director. |
| 2. | Education | Related higher education based on the Specialist, Bachelor's or Master's degrees; at least five years' experience in construction.<br>Specializations:<br>− design of buildings and structures;<br>− design of engineering systems for industrial and civil buildings;<br>and<br>Higher education (other that a related one) — Specialist and/or Master's degree; additional professional education or vocational retraining programmes in construction planning and/or design of civil buildings and structures.<br><br>Additional vocational education — qualification upgrading programmes in information modelling technology. |

**4. Individual nomination "BIM-specialist"**

| No. | Name | Description |
|---|---|---|
| 1. | Who is going to be assessed | Building information modelling specialists. |
| 2. | Education and Work Experience Requirements | Documents confirming that the person is currently employed as:<br><br>BIM-manager;<br>Project Manager;<br>Head of IT Department;<br>- over five years' experience in information modelling for capital construction projects;<br>- over ten years' employment with authorities and companies engaged in activities related to design (including site surveys), construction, installation, commissioning, operation, and disposal (demolition) of buildings and structures.<br>* Jury Experts from outside Russia should provide similar documents valid in their country. The documents must confirm work experience in positions related to building information modelling for capital construction projects |
| 4. | Professional Competences (professional requirements) | Customising CAD to work with information models in the specific area.<br>Analysing source data, design documents, and detailed design documents.<br>Performing interdisciplinary analysis of design solutions. |
| 5. | Job Responsibilities Requirements | Information management in designing of capital construction projects using one of the CAD systems; working with information requirements for the specific area. |
| 6. | Knowledge Requirements | Means, methods, and ways of information management using CAD.<br>Basics, processes, and sequence of design of capital construction projects using information modelling technologies.<br>Design methods and technical and economic calculations. |
| 7. | Skills Requirements | Develop information models of the capital construction projects in one of the CAD systems. |

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| | | Calculate technical and functional systems of the design in the chosen area.<br>Analyse similar equipment and materials to implement technical solutions.<br>Use national and international regulatory and technical documentation in the given field of design. |
| 8. | Knowledge Requirements for the Championship | Means, methods, and ways of information management using CAD.<br>Basics, processes, and sequence of design of capital construction projects using information modelling technologies.<br>Design methods and technical and economic calculations. |

**Appendix 2**

**Form of Chairperson Election Protocol**

**PROTOCOL NO.**
**on election of the Chairperson for nomination _____**

**Proposal** by *(full name)*, experts on *(specify the nomination)* to elect the following person from among the Jury Experts as the Chairperson:
_____*(full name).*

Resolution:

*1.* To ratify the following candidates for voting on the issue of electing the Chairperson for the *(specify the nomination):*
*1.1.* _____*(full name)*
*1.2.* _____*(full name)*
1.*X.* *(full name).*

*2.* To ratify the results of voting on the candidates for the Chairperson for the *(specify the nomination)*
*2.1.* _____*(full name)*
"for" - people; "against" - people; "abstained" - people;

*2.2.* _____*(full name)*
"for" - people; "against" - people; "abstained" - people;

2.*X.* *(full name).*
"for" - people; "against" - people; "abstained" - people;

*3.* Appoint the following person as Chairperson of the Jury for *(specify the nomination):*
*(full name)*
The results of the voting:"for" - __ people; "against" - __people; "abstained" - __people;

Jury Member _____
*(Signature, name)*
Jury Member _____
*(Signature, name)*
……

Jury Member _____
*(Signature, name)*

## Appendix 3

### Expert Jury Formation

| INDUSTRIAL DESIGN | | | | | |
|---|---|---|---|---|---|
| **Expert Jury** | | **Nominations** | **Contestants** | | |
| **Company experts** | **Independent experts** | | **Companies** | **Independent contestants** | **Students** |
| V | V | Building Information Modelling | V | V | V |
| | V | BIM-Specialist | V | V | V |
| **INDUSTRIAL CONSTRUCTION** | | | | | |
| V | V | Building Systems Pipeline Installation*; General Construction Works*; Non-Destructive Testing Methods*; | V | | V |
| **CONSTRUCTION PROJECT MANAGEMENT** | | | | | |
| V | | Construction Project Management | V | | |

* Part of the multi-team nomination "Best Construction Site"