**Հավելված 1**

**Technical assignment**

**Installation of a new decorative lighting system on the Yerevan TV tower of H=311m**

**for the needs of "Television and Radio Broadcasting Network of Armenia" CJSC**

1. **Purpose**

"Television and Radio Broadcasting Network of Armenia" CJSC (hereinafter referred to as TRBNA)plans to replace the physically and morally worn-out decorative lighting system of the Yerevan TV Tower of H=311m (hereinafter referred to as the TV tower) by installing a new modern lighting system. The new modern lighting system must completely illuminate the TV tower with different color tones and lighting scenarios, emphasizing its silhouette. A detailed description of the decorative lighting system, its capabilities, and other requirements are presented in this document.

**2. The description of TV tower**

Yerevan TV tower of H=311մ has three has three clearly defined structural sections:

The lower part (up to +130.4m) is a triangular spatial structure with zone fractures at the +39.5m and +70.5m marks. Each edge of the triangular structure is formed by three inclined planes. The side of the base of the TV tower in the lower part is 60m, and in the upper part of the triangular structure (+130.4m mark) it is 10m. The zones and diagonals located at the +39.5m mark of the triangular part of the TV tower are made in the form of regular triangular prisms and flat lattice trusses. The middle section of the TV tower between the +130.4m ... +172.7m marks is a regular hexagonal prism inscribed in a circle with a radius of 5000mm. In the middle of the television tower, there is a 4000mm diameter elevator shaft, which transitions from the +172.7m mark to the tower's extension (antenna pipe), which is a cylindrical structure of variable diameter with conical transitions.In the middle of the television tower, there is a 4000mm diameter elevator shaft, which transitions from the +172.7m mark to the tower's extension (antenna pipe), which is a cylindrical structure of variable diameter with conical transitions.

* + 0,0մ … +210,7m՝ 4000mm diamter
  + +214,2m … +242,6m՝ 3000mm diamter
  + +244,1m … +269,8m՝ 2600mm diamter
  + +272,9m … +286,8m՝ 1720mm diamter
  + +288,8m … +307,7m՝ 720mm diamter

There is a vertical metal staircase along the entire length of the TV tower shaft.

Two technical halls are located on the TV tower.

* Triangular single-story hall in +70m …+75m marks
* Round two-story hall: +130m ... +140m marks

Drawings of the general appearance of the TV tower and platforms are provided in Appendix 1.

3.**Color description of the TV tower**

To ensure visibility of the TV tower during daytime hours, it is marked with alternating horizontal stripes of red and white.

0,0 - +71,0՝ red

+71,0 - +95,0՝ white

+95,0 - +131,0՝ red

+131,0 - +139,8՝ white

+139,8 - +173,0՝ red

+173,0 - +199,0՝ white

+199,0 - +222,0՝ red

+222,0 - +244,4՝ white

+244,4 - +270,1՝ red

+270,1 - +287,0՝ white

+287,0 - +306,3՝ red

When developing technical solutions for a decorative lighting system, it is necessary to take into account the peculiarities of light reflection from red and white colors.

**4.Features of the decorative lighting system**

The decorative lighting system of the Yerevan TV tower must have at least the following capabilities:

* lighting with static colour tones
* lighting with dynamically changing colour tones
* lighting with colour tones of the national flags of different countries, both in horizontal and vertical stripes
* dynamic lighting changing to the beat of the music played at the entrance to the control and monitoring node (for example, the music of the "singing" fountains of the Republic Square, the anthem of RA, etc.)
* instant festive dynamic lighting during important events (for example, New Year, fireworks, sporting events, etc.).
* should contain beam luminaires.

**5.Warranty and post-warranty service**

The decorative lighting system of the Yerevan TV tower must have a minimum 3-year warranty, after which an additional 7 years of post-warranty service will be provided. The terms of warranty and post-warranty service will be set out in a separate contract or agreement.

**6. Training**

In order to operate the decorative lighting system, proper training of specialists of the "Television and Radio Broadcasting Network of Armenia" CJSC should be carried out in the following areas:

* Work with colour scenario programming software - 3 specialists
* Maintenance and operation of floodlights and their control cable tract - 2 specialists
* Skills in working with measuring equipment and tools - 2 specialists

The results of the training should be documented by the relevant certificates and attestations issued.

**7. Procedure for submitting proposals**

Technical and economic proposals for the installation of a decorative lighting system for the Yerevan TV tower must be submitted in Armenian or English and contain the following information:

* General characteristics of the system
* Technical characteristics of the system elements
* Floodlights installed on a three-dimensional model of the TV tower using DiaLUX or other three-dimensional modeling software
* Computer three-dimensional model of at least 3 color scenarios
* Technical characteristics of the system software
* Calculations of the TV tower illumination according to individual sections of the TV tower
* Calculation justifications for the selection of floodlights and control cable types
* The participant must meet the qualification criterion "Compliance of professional activity with the activity envisaged by the contract" set forth in Article 6, Part 3, Point 1 of the RA Law "On Procurement". Moreover, the following are considered similar: installation of external and internal architectural lighting devices in large public and industrial areas during the year of submission of the application and the five years preceding it.

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