

# ACHIEVEMENT PROGRAM MODEL RAILROAD ENGINEER ELECTRICAL STATEMENT OF QUALIFICATIONS FORM JANUARY 2025

page 1 of 2

Member's Name: \_\_\_\_\_ NMRA #: \_\_\_\_\_ Exp: \_\_\_\_\_

Street: \_\_\_\_\_ City: \_\_\_\_\_ State/Prov.: \_\_\_\_\_

ZIP/PC: \_\_\_\_\_ Country: \_\_\_\_\_ NMRA Region: \_\_\_\_\_ Division: \_\_\_\_\_

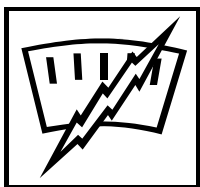
Date Submitted: \_\_\_\_\_ E-Mail: \_\_\_\_\_ Phone: \_\_\_\_\_

## To qualify for this certificate you must:

1. Construct and demonstrate on your own, someone else's layout, or a club layout, the satisfactory operation of an electrical control system on a model railroad capable of simultaneous and independent control of two mainline trains in either direction, and containing at least:
  - ☐ If DC Power – 5 blocks that can be controlled independently
  - ☐ If DCC/TMCC/Other Power – gaps/switches/phase for troubleshooting
  - ☐ One Reverse Loop or Wye or Turntable or Transfer Table
  - ☐ One passing siding
  - ☐ Facilities for storing of at least two unused motive power units.
  - ☐ One yard with a minimum of three tracks and a switching lead independent of the mainline.
  - ☐ One power supply with protective devices (short indicator and/or circuit breaker) to ensure safe operation.
  - ☐ Other \_\_\_\_\_
2. Wire and demonstrate the electrical operation of at least three of the following track items:

|   |   |                              |
|---|---|------------------------------|
| <input type="checkbox"/> Turnout          | <input type="checkbox"/> Single slip switch       | Gauntlet turnout             |
| <input type="checkbox"/> Crossing         | <input type="checkbox"/> Gauge separation turnout | Spring switch                |
| <input type="checkbox"/> Crossover        | <input type="checkbox"/> Double junction turnout  | Operating switch in overhead |
| <input type="checkbox"/> Double crossover | <input type="checkbox"/> Three way turnout        | Other _____                  |
3. Wire and demonstrate the satisfactory electrical operation of at least three of the following features:

|  |  |                                |
|--|--|--------------------------------|
| <input type="checkbox"/> Electrical turnout position | <input type="checkbox"/> Two-way block signaling       | Sound system                   |
| <input type="checkbox"/> Track occupancy             | <input type="checkbox"/> Operating overhead wire       | Signaling system               |
| <input type="checkbox"/> Cab control                 | <input type="checkbox"/> Computer control              | CTC system                     |
| <input type="checkbox"/> Engine terminal             | <input type="checkbox"/> Animated displays             | Onboard video system           |
| <input type="checkbox"/> Two turnout junctions       | <input type="checkbox"/> Layout lighting displays      | Computerized block detection   |
| <input type="checkbox"/> High-frequency lighting     | <input type="checkbox"/> Command Control Receiver      | Computerized operation         |
| <input type="checkbox"/> Electronic throttle         | <input type="checkbox"/> Command Control Throttle Buss | Computer to railroad interface |
| <input type="checkbox"/> Grade crossing              | <input type="checkbox"/> Sound in Locomotive           | Other _____                    |
4. Prepare a schematic drawing of the propulsion circuitry of the model railroad in Section 1 showing the gaps, blocks, feeders, speed and direction control, electrical switches and power supplies.



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page 2 of 2

5. Prepare schematic drawings identifying the wiring and components of the six items in Requirements 2 & 3.

6. Submit a completed Statement of Qualifications (SOQ) which shall include the following:

- ☐ Attachment showing the track plan required in Requirement 1.
- ☐ Description of the track work features, method of construction and identification of commercial components used in 2 & 3.
- ☐ The signed witness certification form showing that each of the above items are operational and meet all applicable NMRA Standards.

| EVALUATOR'S NAME | SIGNATURE | NMRA # |
|------------------|-----------|--------|
|                  |           |        |
|                  |           |        |
|                  |           |        |

## Member Statement and Agreement:

I certify that I have completed all of the requirements for this Certificate of Achievement as listed above and that I will agree to assist other members in this subject whenever possible, whether or not they are participants in the Achievement Program.

☐ Check here if this is the member's first award.

NAME: \_\_\_\_\_ SIGNATURE: \_\_\_\_\_ Date: \_\_\_\_\_

## Division Achievement Program Chair Review (optional): Reviewed for compliance and completeness.

NAME: \_\_\_\_\_ SIGNATURE: \_\_\_\_\_ Date: \_\_\_\_\_

## Certification of Region Achievement Program Chair

As the NMRA Region Achievement Program Chair of the \_\_\_\_\_, I certify that I have examined this SOQ and, having compared it to the stated requirements for this certificate, I am satisfied that the stated requirements have been met.

NAME: \_\_\_\_\_ SIGNATURE: \_\_\_\_\_ Date: \_\_\_\_\_

Region Certificate #: \_\_\_\_\_

## Approval by AP National Executive Assistant Manager

NAME: \_\_\_\_\_ SIGNATURE: \_\_\_\_\_ Date: \_\_\_\_\_