

## AERIAL LIFT BRIDGE SUPERVISOR

**PURPOSE:** Supervise assigned personnel in order to ensure safe passage of ships, pedestrians, and motorists by operating and maintaining the Aerial Lift Bridge, Pedestrian Lift Bridge, foghorn, and related equipment.

### FUNCTIONAL AREAS:

1. Supervise assigned personnel in the operation and maintenance of the lift bridges.
  - \*A. Prioritize, schedule, and assign work.
  - \*B. Effectively recommend the hire, transfer, promotion, and suspension or discharge of subordinate personnel.
  - \*C. Establish work standards, provide feedback and coaching, and conduct employee evaluations.
  - \*D. Discipline assigned personnel as necessary.
  - \*E. Provide for the training of employees in proper and safe work methods and procedures.
  - \*F. Effectively recommend adjustments or other actions in employee grievances.
  - \*G. Delegate authority and responsibilities to others as needed.
  - \*H. Disseminate instructions and information to employees through oral and written instructions.
  - \*I. Supervise the ordering of supplies, materials, and equipment.
  - \*J. Supervise the maintenance of records.
  - \*K. Supervise the operation of the Aerial Lift Bridge and Pedestrian Lift Bridge.
  - \*L. Supervise and perform the testing of equipment.
  - \*M. Supervise essential communications between bridge and vessels.
  - \*N. Supervise and assist with greasing and oiling of bearings, gears, cables, and guides.
  - \*O. Supervise and assist with replacement steel operating cables, electric cables, counterweight guides, roadway gates, walks, and other mechanical devices.
  - \*P. Supervise and assist with adjustments of electrical equipment: batteries, motors, brakes, generators, transformers, relays, regulators, and other electrical devices.
  - \*Q. Supervise cleaning and other custodial activities.
  - \*R. Supervise minor repair work.
2. Operate lift bridges.
  - \*A. Correspond with ships by watching and listening for their audible, visual, or implied signals, and by sending audible, visual, and/or radio signals in response.
  - \*B. Estimate speed and distance of approaching vessel to maintain a safe operating margin.
  - \*C. Operate gates, pedestrian barriers, traffic control signals, and warning devices.
  - \*D. Clear vehicle and/or pedestrian traffic from the spans.
  - \*E. Operate controls to raise and lower the spans, and monitor their correct sequence of operation.
  - \*F. Operate support equipment including radar, marine radios, weather instruments, telephone, intercoms, scanners, closed circuit television, loudspeaker system, intrusion alarms, and malfunction indicators.
3. Perform maintenance work on the Aerial Lift Bridge and Pedestrian Lift Bridge and their operating mechanisms.
  - \*A. Test drive-control computer and back-up computer using CRT terminal; test remote I/O units and programmable controllers.
  - \*B. Troubleshoot computer-controlled AC and DC electric drive systems using test equipment and technical schematics and manuals.

- \*C. Test and maintain diesel and natural gas power plants which supply auxiliary power.
  - \*D. Inspect, adjust, and maintain a variety of electrical systems, equipment, and wiring.
  - \*E. Inspect and adjust a variety of mechanical equipment.
  - \*F. Maintain equipment by greasing and oiling bearings, gears, cables, guides, and chains.
  - \*G. Replace operating cables, electric traveling cables, counterweight guide shoes, roadway gates, sidewalks, and bridge decking.
  - \*H. Maintain traffic lanes so they are clear of obstructions.
  - \*I. Perform painting, cleaning, and maintenance of the control room, machinery rooms, generator room, shops and storage areas.
  - \*J. Inspect and perform minor repairs to weather instruments, communication equipment, radar and antennae.
  - \*K. Inspect and maintain miscellaneous electronic devices such as gas and smoke detectors, closed circuit TV systems, and power supplies.
4. Perform related work as required.
- \*A. Maintain the Duluth ship canal foghorn by inspecting, adjusting, and maintaining air compressors, air receiver and piping, pneumatic controls, electric and electronic controls, diaphone foghorns, and miscellaneous equipment.
  - \*B. Maintain approaches, sidewalks, and decks so that they are free from ice, snow, and other safety hazards.
  - \*C. Record and report weather information, vessel traffic reports, and other information requests to appropriate agencies.
  - \*D. Perform a variety of mechanical and electrical maintenance repair work in another Public Works division during the off season.
  - \*E. Attend specialized training to upgrade knowledge necessary for effective job performance.
  - \*F. Respond to questions from the public concerning the Aerial Lift Bridge and Pedestrian Lift Bridge.
  - \*G. Verify maintenance and repairs performed by contractors.
  - \*H. Prepare time reports for personnel.
  - \*I. Conduct annual inspections on all portions of the Aerial Lift Bridge and Pedestrian Lift Bridge.
  - \*J. Coordinate fracture critical inspections with Minnesota Department of Transportation Bridge Office.

## JOB REQUIREMENTS

1. Education and Experience Requirements
- †A. Two (2) years of specialized electrical training, plus three (3) years of experience working with large electrically operated machinery; or four (4) years of experience working with complex mechanized equipment; or two (2) years of experience working with computer-controlled electrical equipment; or a combination of education, training, and experience in the above areas which is accepted as equivalent.
2. Physical Requirements
- †A. Vision correctable to 20-30.
  - †B. No hearing loss.
  - †C. Manual dexterity.
  - †D. Good depth perception.
  - †E. Ability to scale bridgework.
  - †F. Ability to work at heights.
  - †G. Ability to work in enclosed spaces.
  - †H. Ability to work outside in inclement weather.
  - †I. Ability to frequently pull, climb and balance.

†J. Ability to occasionally lift and carry objects such as grease barrels and welding tanks weighing up to 100 pounds, and to frequently lift and carry objects weighing up to 50 pounds.

3. Knowledge Requirements

- †A. Knowledge of electrical systems, instruments, and equipment and their applications.
- †B. Knowledge of the principles, methods, equipment, and materials used in electrical installations and repairs.
- †C. Knowledge of basic electronics and troubleshooting procedures.
- †D. Knowledge of the basic principles of mechanics.
- †E. Knowledge of the basic principles of welding, metal working, and machine shop practices.
- †F. Knowledge of the basic principles of plumbing, air, and hydraulic systems.
- †G. Knowledge of basic carpentry methods, tools, equipment, and materials.
- †H. Knowledge of the operation, maintenance, and testing of industrial computer systems and programmable controllers.
- †I. Knowledge of safety and fire prevention methods, especially those related to electrical work.
- †J. Knowledge of first aid and CPR procedures.
- K. Knowledge of correct supervisory practices and ability to use them effectively.
- L. Knowledge of applicable labor relations and labor agreements.

4. Skill Requirements

- †A. Skill in working with hand and power tools.
- †B. Skill in effectively communicating and preparing concise written and oral reports.
- †C. Skill in evaluating and analyzing operations and procedures related to Bridge operations.
- †D. Skill in resolving complaints and concerns from the public.
- E. Skill in supervising others in an open and participative work environment.

5. Ability Requirements

- †A. Ability to work shifts.
- †B. Ability to obtain applicable licenses, such as a restricted Radio-Telephone Operator's Permit, if required.
- †C. Ability to read and interpret drawings, blueprints, and schematics.
- †D. Ability to act decisively under stress.
- †E. Ability to maintain accurate and complete records.
- †F. Ability to interpret safety rules and apply them to various hazardous situations.
- †G. Ability to participate in required training to update knowledge and skills.
- †H. Ability to develop and maintain effective working relationships with supervisors, co-workers, outside agencies, and the general public.
- †I. Ability to supervise assigned personnel.
- †J. Ability to attend work on a regular basis.

\* Essential functions of the position

† Job requirements necessary on the first day of employment

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