Federal Wage System Job Grading Standard For Locomotive Engineering, 5737

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WORK COVERED

This standard is used to grade the nonsupervisory work of operating all types of locomotives and trains to transport supplies, equipment, conveyances, and personnel. This work requires skill in operating locomotives under various conditions, and knowledge of the layout of a track system and the safety, signaling, and track use requirements or restrictions in various areas of operation.

WORK NOT COVERED

- Operation of rail motor cars and rail maintenance mobile equipment.

- Operation of locomotive cranes, used as cranes. (See Crane Operating 5725)
  Note: When locomotive cranes are used as substitutes for locomotives, operation which involves primarily transporting supplies, equipment, train cars, etc., may be graded against the Locomotive Engineer standard.

TITLES

Jobs covered by this standard are to be titled *Locomotive Engineer*.

GRADE LEVELS

This standard describes one grade level: grade 9. It does not describe all possible grade levels for this occupation. If jobs differ substantially from the skill, knowledge, and other work requirements at the grade level described in this standard, they may be graded above or below the level described based on the application of sound job-grading methods.

HELPER AND INTERMEDIATE JOBS

Helper and Intermediate Locomotive Engineer jobs are covered by the Office of Personnel Management Job Grading Standards for Trades Helper Jobs and Intermediate Jobs. Grade 9 in this standard is to be used as the Ajourney level@ in applying the Intermediate Job Grading Table.

LOCOMOTIVE ENGINEER, GRADE 9

Duties: Grade 9 locomotive engineers operate one or more types of locomotives to pull a wide variety of types, sizes, weights, and numbers of cars and cargo under various weather, visibility, and track conditions. The work includes short runs; setting out and picking up railcars; coupling and uncoupling operations involved in making up and breaking up trains; and similar operations.

Skill and Knowledge: Grade 9 locomotive engineers apply skill in operating locomotives to pull varying numbers of attached cars, mixed types and sizes of train cars, heavy loads, and cargo which is sometimes fragile, hazardous, or not fully secured. They use extensive knowledge of locomotive operation, including track use, signaling, and safety rules and procedures. Grade 9 locomotive engineers are familiar with a track system which typically has features and characteristics such as some of the following: Moderate grades; numerous turnouts, ramps, switches; narrow building clearances; improperly elevated track; poorly maintained track; busy or congested work areas; ungated intersections; or other comparable characteristics.

These train, track, and cargo features require considerable skill in controlling speed and early anticipation of braking and accelerating requirements. They require skill and caution in negotiating curves, bad track, or dips (to avoid derailing), and "feel" for long trains, for example, to detect derailing of a car which is out of sight. They occasionally require additional abilities, such as ability to provide pusher or double header service by operating with two locomotives in tandem or using a "slave" engine to move heavy loads, or ability to use a locomotive to help rerail train cars.

Grade 9 locomotive engineers are skilled in using the train brake to slow and stop trains by braking all of the train cars as well as the locomotive, under the operating conditions described above. This requires attention, skill, and judgment in watching pressure gauges; controlling and releasing air pressures; allowing for the effects of car lag or slack and jam (particularly on long trains); allowing for the type, weight, and condition of the cargo; allowing for track conditions, etc.

The locomotive engineers are also skilled in using, under a wide range of operating conditions, other controls including throttle; reverse lever; engine brake; oil, air, and electrical system gauges; sander; whistle; and horn; and know their use in an emergency as well as usual operating conditions. They know, give, and respond to a wide variety of signals including hands and arms, lantern, signal lights, whistles, horns, flags, switch positions, and colors in coupling, uncoupling, shoving, short-haul pulling, rerailing, and similar operations.

Grade 9 locomotive engineers sometimes apply skill in operating trains in darkness, fog, rain, snow, high water, or similar operating conditions. They know and follow special precautions and operating requirements necessary during bad weather or poor visibility. They must be constantly alert, watchful, and careful under difficult operating conditions and stress producing situations.

Grade 9 locomotive engineers may also operate vehicles, such as locomotive cranes, using them to pull, push, or transport train cars or personnel, or perform other work similar to that for which a

locomotive typically is used. If required, the locomotive engineers may operate on non-Government tracks to pick up and deliver cars or cargo; in this situation they apply a knowledge of additional State or Federal rules of operation, track use, and safety procedures.

The locomotive engineers are skilled in checking out equipment before operation and performing required operator's maintenance. For example, they check brakes, warning devices, reversing lever, sander, and air, oil, electrical, and temperature gauges for proper operation. They may grease items, add fuel, check and add oil, clean equipment, replace air hoses, and look for fuel, air, and water leaks.

Responsibility: Grade 9 locomotive engineers follow specific oral instructions concerning the destination, purpose of trip, and work to be done. They continuously follow all safety and operating requirements and procedures in operating the locomotive to prevent injury or damage to passengers, crew, equipment, cargo, track, and other vehicles, or pedestrians. The locomotive engineer insures that the track is clear and moves the train only upon proper signals. They maintain continuous alertness for dangers, obstructions, signals, hot bearings, engine overload, proper brake system pressure, and watches the railway area as far as he can see in order to properly adjust speed and brakes, and avoid collision and derailment. The locomotive engineers listen and watch for indications of, and signals from, other railway locomotives, vehicles, personnel, and equipment. They keep in constant touch with the conductor and their crew.

The locomotive engineers at this level perform work operations under demanding conditions. For example, the responsibility to maintain constant alertness, maximum vision, contact with the conductor and crew, avoid engine overload, prevent damage to train and cargo, and prevent injury and accidents, is difficult to fulfill because numerous heavy cars may be attached, cargo may require careful handling, track may need maintenance, or weather and visibility may be poor.

Physical Effort: The locomotive engineers must be able to climb up and down steep steps or ladders to board and leave the train. They continuously manipulate hand-operated controls while stretching, turning, and shifting position for best visibility. The locomotive engineers are also subject to physical strain from swaying motions and jarring movements, particularly when coupling cars and running on rough track.

Working Conditions: The locomotive engineers work in a cab which is often hot or cold. They are sometimes exposed to bad weather, particularly when operating with an open cab window. They are exposed to unpleasant fuel exhaust fumes and to jarring, jolting, and swaying movements. The locomotive engineers are continuously exposed to loud noise from engine operation, train whistle, and horn. They are exposed to possible injuries from accidents.