

STATE OF SOUTH DAKOTA CLASS SPECIFICATION

Class Title: Railway Engineer

Class Code: 40864

A. Purpose:

The Railway Engineer provides assistance to department and state officials in the operation of statewide and state-owned railway systems to achieve efficiency in costs and maximum use of resources, and provide reasonably priced and accessible movement of goods for producers and business owners.

B. Distinguishing Feature:

The Railway Engineer administers the operating contract for state-owned railroads, and is the contact person for private railroads with the Department of Transportation.

C. Functions:

(These are examples only; any one position may not include all of the listed examples nor do the listed examples include all functions which may be found in positions of this class.)

1. Evaluates the viability of a railroad's location by compiling data on potential revenues, investment costs, and operating expenses; and preparing engineering estimates of construction costs to provide supporting information for decision-making.
 - a. Reviews topographical maps, water tables, soil conditions, resources and industries, towns, highways, other railroads, etc.
 - b. Collects information about sources of potential traffic and movement of products.
 - c. Reviews or conducts land surveys.
 - d. Compiles operating costs on maintenance of way expenses such as roadway and track, structures, and miscellaneous expenses.
 - i. Evaluates wetland areas and other environmental issues
 - ii. Evaluates track structure including rails and fastenings, ties, ballast, etc.
 - iii. Evaluates bank restoration, weed control, fence repairs.
2. Calculates the costs of construction and reconstruction of a railway to determine feasibility, constructibility, and adherence to engineering and Federal Railway Authority (FRA) standards.
 - a. Evaluates traffic and revenue potential over the distance of the line.
 - b. Includes effects of distance on construction costs.
 - c. Adds in variable construction costs, e.g., right of way, subgrade costs, passing sidings, bridges, road crossings, signals, etc.
 - d. Speculates on extraordinary costs such as in an urban area where real estate is costly or in mountainous areas where excessive cutting and filling is needed, etc.
 - e. Analyzes track improvements, rehabilitations, and changes for compliance with engineering standards and FRA requirements, e.g., material quantities, construction methods, load factors, and compatibility with existing structures and operational needs.
 - f. Verifies quantity and cost estimates, and audits and processes progressive invoices for payment.
 - g. Performs on-site track inspections to identify and correct track profile and alignment deviations, material deficiencies, and improper construction methods.
3. Performs administrative functions to ensure continuity of railroad operations and contract compliance.

- a. Provides information and makes recommendations regarding policies and projects that impact operation of state-owned and statewide railway systems.
 - b. Makes recommendations on proposed legislation regarding railway systems.
 - c. Analyzes leasing railroad's compliance with terms of the current operating agreement; and negotiates revisions to the operating agreement.
 - d. Applies for and administers contracts with the FRA for funding for track construction projects.
 - e. Serves as a contact for the State Railroad Board regarding operations on the state railway system.
 - f. Negotiates contract terms regarding agreements covering track construction and loans.
 - g. Reviews and analyzes special railway projects and prepares opinions for managers and the State Railroad Board.
 - h. Reviews applications for utility installation and roadway crossings on state-owned railroad property, and negotiates deeds and license agreements.
4. Performs other work as assigned.

D. Reporting Relationships:

Reports to a Program Manager. Does not supervise.

E. Challenges and Problems:

Challenged to compile and evaluate sufficient and correct data to support management decision-making in the development and operation of the state's railway systems. This is challenging because of the number of factors that impact operation of a railway system such as federal and state laws, pressures from communities for more accessible and economical movement of products, extensive costs associated with rehabilitation and maintenance of railways, fluctuation in rates of return, and competition in rate-setting from well-established railroads operating on state lines. Further challenged to maintain a network of contacts among operating railroads and federal offices who are remote from the state, and to select the most appropriate person to contact for assistance in developing strategies and funding recommendations for the state.

Problems include designing acceptable track changes made necessary by new highway and bridge construction and negotiating reimbursement terms for railroads resulting from the construction; and dealing with upset citizens regarding railroad issues.

F. Decision-making Authority:

Decisions include recommending that rail lines be considered for state and federally funded projects; recommendations on use of grant funds; recommendations on line acquisition; whether the railroad leasing state-owned lines has met compliance standards of the current operating agreement; recommendations for project location and scope of work; resolutions to track ownership issues, security requirements, and maintenance responsibilities for projects constructed on state-owned track or constructed with state funds; necessary changes in designs and cost estimates; approval of construction plans; acceptability of work on contracted projects; approval of allowable project costs; recommendations for resolution of issues with, or use of, railroad rights of way; and recommendations for new and revised legislation effecting railroads.

Decisions referred include final approval of railroad construction projects and funding, policies and procedures, legislation, agreements with railroad authorities operating on state track, allocation of funds, acquisition of rail lines, and special projects.

G. Contact with Others:

Daily contact with railroad officials to resolve contract issues and exchange information on construction projects; with cities' public works officials regarding projects that impact them; and with railroad shippers regarding industrial development and operational issues; weekly contact with department engineers regarding construction projects; with county officials about railroad issues; with railroad authority officials regarding administrative issues and construction projects; and with FRA officials regarding project funding and development issues.

H. Working Conditions:

Works in a typical office environment, and on construction sites.

I. Knowledge, Skills, and Abilities:

Knowledge of:

- transportation engineering principles and practices, and transportation systems;
- track construction and maintenance;
- FRA track standards;
- project management and field production methods;
- railroad maintenance and construction methods;
- railroad operations and procedures;
- contract management.

Ability to:

- interpret and understand track design and plans;
- monitor budgets for railroad projects;
- proactively resolve issues and monitor resources;
- communicate clearly and concisely both orally and in writing;
- establish and maintain effective working relationships with a wide variety of people.