



**Application to  
South Dakota Department of Transportation (SDDOT)  
and the South Dakota Railroad Board  
for approval of SDDOT submission of a  
2022 Consolidated Rail Infrastructure and Safety Improvements (CRISI)  
Competitive Grant Project**

September 21, 2022

Introduction

Rapid City, Pierre & Eastern Railroad (RCP&E) requests approval of the South Dakota Railroad Board for SDDOT submission of a CRISI competitive grant request to assist in the construction of a new locomotive shop in Huron. Total project cost is \$23,250,000, funded with a requested CRISI grant and RCP&E match of \$11,650,000 each. The proposed new shop would replace the Huron roundhouse built in 1905 that is no longer fit for purpose.

RCP&E, a Class II “regional” freight railroad, provides safe and competitive access to the national rail freight network along a broad corridor across South Dakota, from Rapid City, the second largest city in the state, east to Tracy, Minnesota. RCP&E trackage rights further east into Mankato, Minnesota, along with other established interchanges, facilitate direct and competitive access to three Class I railroads.



Following the RCP&E start-up on June 1, 2014, there has been significant growth in its traffic base across South Dakota. Examples range from the \$90 million expansion of GCC Cement in Rapid City, the construction of a new ethanol plant in Onida by Ringneck Energy and the

start-up of a state-of-the-art dairy cow feed supplement plant in Aurora by Novita Nutrition. The support of both new and expanded operations along with increased traffic from existing customers has been very positive news for the entire state.

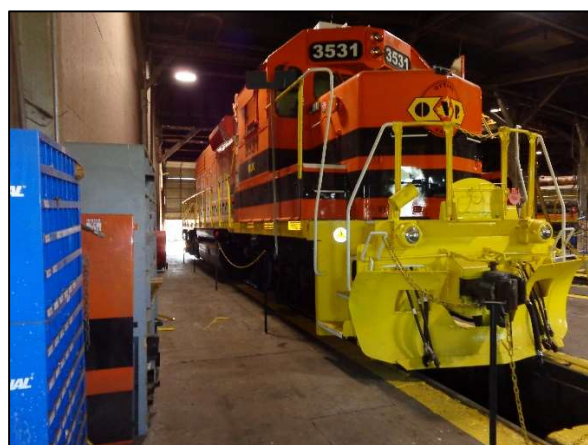
Increases in current and projected RCP&E traffic highlight the need for both an improved road locomotive fleet for the railroad and a new locomotive shop to maintain and rebuild locomotives in Huron, South Dakota. The planned newer locomotives for the railroad are physically unable to fit into the current locomotive roundhouse in Huron, and due to the obsolete capabilities of the roundhouse, a competitive federal CRISI grant is proposed to facilitate construction of a modern locomotive shop.



Photo taken of the C&NW Huron SD roundhouse shortly after it was built in 1905. It contained 40 inside tracks or “stalls”.

Project objectives are:

1. Create a modern, efficient and safe locomotive shop to support current and future demands of RCP&E traffic.
2. Facilitate upgrading and resizing of the RCP&E locomotive fleet in order to meet current and future demands while reducing fuel consumption and emissions. This will be realized through the replacement of 1970 vintage technology SD40-2 locomotives with 1990 era C40-8 and C44-9 locomotives.
3. Continue focus on Huron for future regional locomotive rebuild programs.
4. Over the course of two years, terminate use of current roundhouse and turntable, mothballing those facilities.



Photos showing deficiencies in current roundhouse: On left, note very limited vertical clearance between top of locomotives and wood roof rafters. Also note portable small crane, required due to lack of adequate overhead bridge cranes. On right, note very limited side clearance between locomotive and wall, and lack of work platforms at the level of the locomotive side walkways.

## The project meets the State Rail Plan goals

In addition to being included in the current draft “Proposed Freight Rail Improvements and Investments” section of the 2022 State Rail Plan under development, there are numerous ways the proposed new locomotive shop directly complements the new state rail plan goals:

- *Improve Transportation Safety and Security for all Modes of Transportation:* The new shop will be configured and equipped to safely accommodate the work required to maintain modern six axle diesel-electric freight locomotives, as opposed to work now often done in a suboptimal manner in the 1905 roundhouse. A new shop will allow repairs to the RCP&E locomotive fleet to be done in a more expedient manner in a better working environment, improving the flexibility of RCP&E operations and resiliency of the railroad to react to unplanned events.
- *Preserve and Maintain the Transportation System:* The current 1905 roundhouse has reached the point of requiring replacement. It was originally built by the Chicago & Northwestern Railroad to support inspections and running repairs of steam locomotives between their trips; it was never intended to be used as a locomotive “backshop” for heavier repairs and rebuildings. It simply does not support the basic functionality required to efficiently serve as the primary shop for a fleet of modern diesel-electric locomotives.  
The current roundhouse is unable to accommodate overhead cranes in the building to remove major locomotive components and lacks a drop table to quickly remove a truck assembly from a locomotive. A new shop will address these deficiencies.
- *Improve Mobility, Reliability and Accessibility:* The efficiencies and speed of making repairs in a new locomotive shop will have a direct impact on the ability of RCP&E to serve its customers in a better fashion. Facilitation of a newer fleet of improved six-axle locomotives on the railroad will certainly improve reliability of train operations.
- *Preserve South Dakota’s Quality of Life:* An investment to build a new locomotive shop will directly support the 24 RCP&E employees now working at the current roundhouse, and will reinforce the commitment of the railroad to its presence in Huron and South Dakota.
- *Support Economic Growth and Development:* Improving the locomotive shop and subsequently the RCP&E locomotive fleet will be another investment made in the railroad since its formation in 2014 to support economical and efficient service to existing customers and increase its ability to attract new customers requiring rail freight services. RCP&E clearly demonstrates its ability to attract new economic activities along its line and this new shop will support those efforts.
- *Promote Environmental Stewardship:* A new shop will allow improvement of the efficiency and environmental footprint of RCP&E operations by directly supporting the upgrading of the RCP&E locomotive fleet. These benefits will cascade to allow the railroad to better serve its current and future customers, helping them to better compete in their own marketplaces while at the same time reducing total locomotive emissions. Additionally, the current roundhouse is becoming very costly to maintain and is not energy efficient.
- *Promote Innovative Transportation Technologies:* By facilitating a more modern RCP&E locomotive fleet, a new shop will allow for the introduction of more advanced operating practices. An example of this would be utilization of “distributed power” in RCP&E main line trains, especially loaded west bound trains on the PRC Subdivision crossing over the Wall grade. Distributed power technology allows for the inclusion



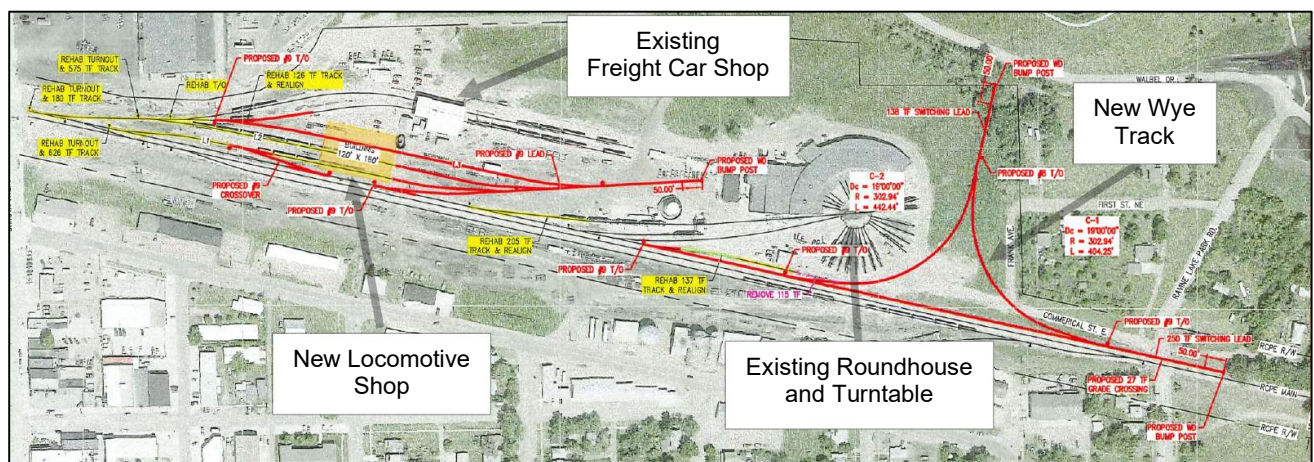
of unmanned locomotive helpers in the middle or rear of a train, commanded through radio transmission by the locomotive engineer in the lead locomotive. This type of operation will allow for more uniform and economical operations of larger trains.

The stated goals in the current 2017 South Dakota State Rail Plan (Support economic growth and development; Ensure connectivity for critical industries; Maintain state railroad assets in a state of good repair, Reduce highway impacts, and Improve railroad safety, security, and resiliency) are very similar to the listed goals in the 2022 draft Plan.

## Project Summary

- **Project Scope:** To build and place into service a new three track locomotive shop, including:
  - Turn-key construction of a 120 x 180 foot steel structure, including three enclosed tracks, with all required supporting facilities within the building including three overhead bridge cranes of 4, 10 and 30 ton capacity, multiple height working platforms next to and under the tracks, fall protection, pallet rack storage structures, heating and lighting, and office and welfare rooms
  - Installation of a locomotive truck drop table in the new shop building
  - Trackwork to provide full access to all three tracks and construction of a wye track to facilitate turning of locomotives without using the roundhouse turntable
  - Relocation and reconstruction of the current car shop stores yard
- **Project Location:** Project is entirely in Huron, South Dakota, fully contained within the RCP&E yard property. Generally, the new locomotive shop will be west of the current roundhouse and southwest of the existing freight car shop.

Track layout for new locomotive shop (in pale yellow box) and turning wye:



- Project Cost:

Major Project Line Items	Qty	Units	Estimated 2025 Cost
Turn key design & build structure			\$ 14,022,737
Locomotive truck drop table installed	1.00	EA	\$ 817,690
GE Tooling Provision	2.00	EA	\$ 216,320
Track Work: #8 Turnout	1.00	EA	\$ 108,160
Track Work: #9 Turnout	15.00	EA	\$ 1,946,880
Track Work: WD Bump Post	4.00	EA	\$ 43,264
Track Work: Install Ballasted Track	5259.00	TF	\$ 1,137,627
Project Management & Engineering			\$ 540,800
Repositioning Car Shop Stores			\$ 540,800
20 Percent Contingency			\$ 3,874,856
Project Total			\$ 23,249,133
CRISI Federal Grant Request			\$ 11,624,567

Scope of work was carefully prepared by RCP&E managers with direct support of Genesee & Wyoming (G&W) Western Region and corporate personnel. G&W corporate staff prepared the formal building and track layout. Costing based on very recent quotations by contractors and suppliers and adjusted for a 4 percent per annum inflationary rate.

- Project Schedule

It is expected that if the grant request is successful, it will be awarded in 2023 and necessary grant agreement and pre-construction work will be completed in 2024. This will allow for the shop to be constructed in 2025 and enter into service that year, closely corresponding to the upgrading of the RCP&E locomotive fleet.

#### Proposed Project Funding

Total Project Costing	\$23,250,000
CRISI Grant Funds	\$11,650,000
RCP&E Matching Funds	up to 50 percent \$11,650,000

If a state matching contribution is available, it will improve the competitive stance of the grant application.

## Project Readiness

Project is fully designed, and specifications are completed and reviewed. RCP&E is ready to begin the project immediately after award of grant and execution of grant agreements. Timely completion is key for implementation of RCP&E locomotive upgrade plan.

## Environmental Readiness

Initial environment evaluation based on the National Environmental Protection Act (NEPA) and related laws suggests there should be no issues holding up completion of this project. The entire project will be contained on RCP&E industrial property in its Huron yard, and does not encroach upon wetlands or navigable waterways. There are no known environmental issues that would delay the project.

RCP&E management team will support rapid movement of the awarded grant into formal FRA – SDDOT and SDDOT – RCP&E grant agreements as quickly as possible.

## Overall Project Benefits

### *Public Benefits*

- Another major long term fixed investment by RCP&E in rail freight transportation in the State of South Dakota
- Maintains locomotive repair work in Huron, South Dakota and directly supports 20 highly skilled employees and 4 line managers in Huron
- Important shop improvements will help keep future locomotive rebuild programs for G&W Western Region focused on Huron.
- Key first step in improving RCP&E locomotive fleet, shifting it from 1970 to 1990 technology, leading to:
  - Higher locomotive reliability
  - Significant reduction in air pollutants through better locomotive efficiencies associated with the newer C44-9 and C40-8 locomotives
  - Enhanced locomotive technology in the newer locomotives, providing operating improvements such as Distributed Power

These improvements will become public benefits by supporting not only the local economy in Huron, but also the state economy by RCP&E providing better services to all of its South Dakota customers. Major improvements to RCP&E infrastructure assist in the locating of new customers/employers along its lines.

### *Benefit and Cost*

While a Benefit Cost Analysis has not yet been prepared, data available suggests a positive result, especially factoring into the analysis the upgrading of the RCP&E locomotive fleet.

## Responsible Party and Funding for Developing the 2022 Competitive CRISI Application

RCP&E will have full responsibility for the timely and complete creation of a grant application, to be provided to South Dakota Department of Transportation with adequate time for submission by the December 1, 2022 deadline. The railroad will be closely supported by Genesee & Wyoming Railroad Services, Inc. and will work in close consultation with South Dakota Department of Transportation.

RCP&E will retain a qualified consultant to assist with preparation of the grant application, specifically for creation of the Benefit / Cost Analysis. Consultant and all other costs associated with the preparation of the grant application will be paid entirely by RCP&E.

## Conclusion

Securing a federal CRISI grant is the key first step in upgrading the RCP&E locomotive fleet. This project should make a solid, competitive CRISI application and if awarded will provide a notable improvement to the freight railroad infrastructure in South Dakota and on RCP&E.

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