



Railroad Retirement Board

2020 Sustainability Report and Implementation Plan

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EXECUTIVE SUMMARY

The mission of the Railroad Retirement Board (RRB) is to accurately and efficiently administer retirement and unemployment-sickness benefits to railroad employees and their families throughout the United States of America. Approximately 890 employees work for the RRB, including approximately 502 at the RRB headquarters located in the William O. Lipinski Federal Building on North Rush Street in Chicago, Illinois, is the only facility over which the RRB has operational control. Remaining employees, approximately 388, work in the agency's 55 field offices or telecommute.

As the primary tenant, the RRB operates and maintains the thirteen-story, 365,000-square-foot historic building constructed in 1922 through a delegation of authority agreement with the General Services Administration (GSA). Under this agreement, established on April 1, 1986, many projects over \$50,000 in value and any capital improvements for the headquarters building are generally funded and approved by GSA; however, certain projects including major energy improvement efforts have recently been funded directly by RRB. RRB has a history of actively and successfully pursuing projects that reduce energy and water consumption in its headquarters building. RRB also pursues mission-related projects that enhance the agency's overall sustainability.

In line with Federally provided guidance, the RRB has elected to prepare this brief executive summary outlining the agency's strategy for overall efficiency improvements in accordance with Executive Order 13834. This summary is intended to provide an overview of selected areas referenced from the Executive Order which pertain to the operations of the RRB and will exclude areas which do not apply due to the scope of RRB operations or which otherwise do not apply.

FACILITY MANAGEMENT

As the RRB energy performance is based solely on the headquarters building, local year-over-year weather fluctuations, pandemic induced telework spikes and correlating in person employee and visitor attendance reductions, and maintenance related complications can significantly affect the RRB's annual performance toward the RRB energy reductions reported in a single year. Milder temperatures result in greater progress towards energy intensity goals, such as in FY 2012 as well as FY 2015, while temperature extremes result in reduced progress, even year-over-year increases in some categories, such as in fiscal years 2011, 2013 and 2014. These temperature induced impacts can make actual progress in efficiency gains from heating and cooling difficult to identify with 25% increases in heating utility use year over year not uncommon.

Impacts of the nationwide COVID-19 Federal Public Health Emergency issued on March 13, 2020 and State of Illinois 'stay-at-home' order issued on March 20th have additionally manifested themselves by great increases in the rates of telework and reductions to in person staff. Immediately available data is limited as at the time of the preparation of this report the full scope of the impacts are yet to be known but initially observed reductions in water consumption of 70% and electrical consumption by more than 20% have been identified further complicating future identification of year over year impacts to sustainability efforts.

Based upon past retrofits of existing lighting and plumbing fixtures to high efficiency units throughout the building, modernization efforts of late have centered on the headquarters building's heating, ventilating, and air conditioning and ancillary support systems including the boiler and chiller systems as well as building automation related to their operation. Based upon seasonal consumption trends, these systems have been historically seen as the largest source of energy consumption and greenhouse gas at the Facility.

Recent projects targeting overall facility efficiency improvements and performed in FY 2019 included the following;

- Replacement of aged conventional pneumatic controls to modern direct digital controls to allow for more precise control of HVAC use and in turn reduction in energy consumption and improvement to building comfort.
- Completed upgrades to building automation control systems including new zone controllers and network controllers aimed at reducing unnecessary HVAC run time.
- Completed the construction of the 4th floor supplemental cooling system which is more localized and adaptable to specific location demands.
- Maintained and repaired existing units to optimize resource consumption, these repairs included bathroom fixtures, heating and cooling equipment, lighting equipment, and repairs of the general building envelope.

To date, RRB efforts associated with plumbing, lighting, heating and cooling system, heating and cooling system controls, green electricity procurement, and other efficiency minded retrofits have yielded an overall reduction in Scope 1 (facility natural gas combustion) and Scope 2 (non-renewable electricity purchase) greenhouse gas emissions of 36.3% from FY 2008 through FY 2019 with a year over year change from FY 2018 to FY 2019 identified as a 1.1% increase in Scope 1 and Scope 2 greenhouse gas emissions. Additionally, the Facility has observed a 50.0% reduction in site delivered energy intensity over the same time range with ongoing improvements as evidenced by an 19.6% reduction in on site delivered energy intensity improvement in the past three years since FY 2017.

These improvements in Facility wide GHG emissions come despite an increase in comfort heating natural gas usage in FY 2019 of approximately 8.5% which outpaced seasonal changes in documented Heating-Degree-Days of 2.3%. This loss of efficiency will require additional study in years to come but it is believed that this condition will be improved upon with the addition of increased intelligence and control sensitivity brought on by recent modifications to the HVAC digital controls and network controllers. Study of these weather normalized variations and the impacts of future automation systems will be the focus of RRB in coming months and years as current lighting systems and control retrofits are complete.

FACILITY FOCUS

Additional areas of focus for RRB outside of direct building and utility modifications which are geared towards reductions in energy consumption and environmental stewardship are implemented through all aspects of the Facility.

Solid waste tracking technology was implemented in FY 2018 to note the exact yardage of collected waste and recyclable materials to more clearly identify and target waste streams at RRB for reduction. While only two years of waste diversion data are available it is notable that the recycled waste mass rate from FY 2018 to FY 2019 increased from 40.7% by mass to 53.4%; an increase of 31.2%.

Prior to and throughout the current public health related climate, telecommuting and the use of teleconferencing have and will continue to be promoted by the Facility in an effort to reduce business related travel via air and ground to the extent practicable. Future reporting of progress will require careful analysis of the impacts of unexpected increases to telecommuting and the future expansion of programs encouraging extended telecommuting will be commended upon at that time.

Ongoing training for multiple facets of green procurement was provided to multiple employees at the RRB to ensure that materials, equipment, and ancillary consumables at the headquarters facility meet Federal requirements for Green Purchasing.

AGENCY PRIORITIES

By nature of the Facility operations at RRB headquarters, nearly of all RRB's operationally related greenhouse gas emissions are associated with building operations in the form of steam heating, cooling, domestic hot water usage and lighting. As such, these areas, fixtures and equipment remain the key focus for improvement for the Facility. With recent technological improvements in system control technologies and 'smart' sensors capable of increasing operational flexibility and efficiency it is expected that the past improvements in total greenhouse gas efficiency can continue at RRB in spite of the unique challenges offered by a single facility entity and ongoing climate variation.

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