

# Escalation Consultants

## Analysis of Freight Rail Rates for Chemical Shippers

### Introduction

Chemical shippers rely on the nation's freight railroads to move many of their products. These chemicals ultimately help produce a wide range of goods, including building materials, pharmaceuticals, safe drinking water, automobile components, and electronics.

Chemical shippers have experienced significant increases in rail rates in recent years. Data from Class I railroads show that revenue per carload for chemicals increased over 25% in 4 years, and that chemical shippers pay higher rates than other key commodity groups (Exhibit 1).

Escalation Consultants was retained by the American Chemistry Council to assess revenue-to-variable-cost ratios (RVCs)<sup>1</sup> for chemical traffic, and to quantify the economic cost to the chemical industry from rail rates that exceed the Surface Transportation Board (STB) jurisdictional threshold. The RVC is an important indicator for examining freight rail rates because traffic with rates greater than 180% RVC are subject to potential STB review for being unreasonably high.

### Methodology

Escalation Consultants examined the STB's 2010 Public Use Waybill Sample, a sample of carload waybills for all U.S. rail traffic submitted by rail carriers, to calculate railroad revenues and variable costs for chemical traffic. For each group of related chemical commodities, Escalation Consultants calculated the average rate for all movements with less than a 180% RVC and the average rate for all movements with

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<sup>1</sup> RVC = Rate ÷ Railroad's variable cost for movement (example: \$2,000 rate ÷ \$1,000 variable cost = 200% RVC).

an RVC above 180%. The difference between these averages was then multiplied by the number of carloads for each commodity group with rates above a 180% RVC to calculate the total premium charged to chemical shippers. Escalation Consultants then broke out the carloads and the premium charged to chemical shippers by RVC ranges (180-240%, 241-300%, and above 300%). Exhibit 11 further details the methodology used in this analysis. To provide a baseline for comparison, chemical data from the 2005 waybill was also analyzed.

### **Summary of Findings**

- In 2010, three-quarters of all chemical traffic that originated or terminated in the U.S. moved under rates which had RVC's greater than 180%.
- As a result, the premium charged to chemical shippers for rates which had an RVC above 180% totaled more than \$3.9 billion.
- Many chemical carloads moved at RVC ratios far above 180%, with more than half of all chemical traffic having rates above a 240% RVC and more than one-third above a 300% RVC.
- The chemical commodity most impacted is plastic resin. In 2010, plastic shippers alone paid more than a \$1 billion premium on rail rates with more than a 180% RVC.
- Shipments that originated in Canada were more likely to move under rates that had less than a 180% RVC than those that originated in the U.S. (40 percent in Canada vs. 23 percent in the U.S.), creating a competitive disadvantage for U.S. chemical producers.
- Between 2005 and 2010, chemical traffic moving under rates with more than a 180% RVC climbed from 60 percent to 75 percent.
- As a result, the premium charged to chemical shippers for rates above a 180% RVC rose dramatically, from \$2.2 billion in 2005 to \$3.9 billion in 2010 (an increase of more than 78 percent).