



Transportation efficiencies in a post-COVID environment

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Hittman Transportation Services



Handles all aspects of shipment, including obtaining required local and federal licenses and permits, loading and bracing shipments, conducting vehicle radiation surveys

- Over 35 years of safe nuclear transportation
- Transports 300 radioactive shipments per month over the road
- Excellent safety record - maintains satisfactory highway safety rating (highest rating issued by the DOT)
- Largest fleet of shipping casks available to the nuclear industry
- Comprehensive fleet of IP1 and IP2 ISO containers and tankers
- 322 railcars include flatcars, gondolas, containers, and intermodals



**HITTMAN IS THE US INDUSTRY
LEADER IN RADIOACTIVE
WASTE TRANSPORTATION**



EnergySolutions Shipping Casks



- 86 Casks in fleet.
- Easy to use/proven experience.
- EnergySolutions owns 90% of casks currently in use.
- Logged more than 70 million safe driving miles without a loss or spill of radioactive materials.
- 2 new 8-120A & 2 new 14-215 casks in 2013.
- 4 new 8-120B casks added in 2014 (total of 8).
- 4 new 3-60B added in 2018.



MHF Services Equipment and Containers



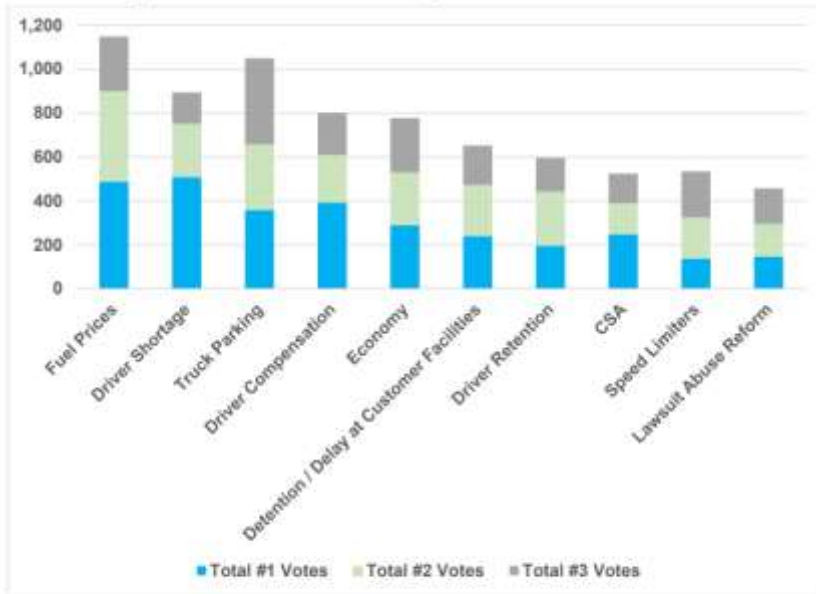
- Integrated packaging, transportation and logistics provider for environmentally sensitive materials
- Multimodal transportation, specialized packaging, rail equipment and transportation logistics
- National network of transload facilities
- 20-year history of providing asset-based, rail-centric logistics
- 1,000+ Rail Cars
- 2,000+ Containers
- 600+ Rail Car Lids
- 100+ Chassis trailers
- One of the highest- volume LLW container manufacturers in the US
- Multiple standard and custom options available
- Metal and flexible packages can be integrated for compliant solutions to complex waste containment challenges



Only MHF provides a full line of proven, field-tested metal and flexible packaging for the nuclear industry



Industry-wide Challenges - Trucking



*The bars reflect total points from first, second and third place rankings. Issues that generate more second and third place rankings may appear to have a higher ranking than preceding issues.

- American Trucking Research Institute October 2022 Survey
- Over 4,200 industry stakeholders
- The respondents represented professional truck drivers (47.2%), motor carrier executives and personnel (38.8%), and other industry stakeholders (14%),

Industry-wide Challenges – Rail Logistics



- Sourcing equipment has been greatly impeded in the rail industry with used car supply at lowest levels in decades
 - Equipment scrapped during the economic downturn led to this condition
- Sourcing new rail equipment requires advanced planning
 - 12 to 18 months in advance of delivery in some cases
- Cost of equipment leases and purchases increased as high as 25%-50% in the last 2 years
 - Suppliers include escalators for materials cost and increases are passed along to the consumer
- Staffing shortages led to service quality and safety concerns.
- Early pandemic resulted maritime industry most significantly impacted leading to a container shortage with imbalanced between NA and Asia most notable

COVID timeline



H&S of drivers

- Minimize potential for exposure
- Monitor health status
- Contact tracing
- Varying access requirements across our customer base

2020

Supply Chain disruptions and high demand for highway transportation

- Supply Chain delays delivery of new trucks and creates shortages and long lead times for critical parts
- Fuel prices approach \$6/gallon
- Spot rates
- Parts shortages and cost increases

2022

2021

Vaccinations become available
Cross-border vaccination challenges

Strategies to improve efficiency



- Plan the projects
 - Scarce resources make scheduling and schedule adherence critical
 - Maximize the load and route
 - Improve equipment turn-around-times
- Expand the universe
 - Trucking industry seeking regulatory and strategic changes to increase the driver population
- Respect the workforce perspective
 - Predictable and regular time at home
- Maintain the equipment
 - Understand the utilization
 - Perform predictive and preventative maintenance




ENERGYSOLUTIONS