EBC Solid Waste Management Program

Future of Hauling of Solid Waste in New England
Welcome

David Murphy

Chair, EBC Solid Waste Management Committee

Vice President, Tighe & Bond
Program Purpose and What You Will Learn

Christopher Koehler

Program Chair & Moderator

Solid Waste Section Manager
HDR Engineering, Inc.

Environmental Business Council of New England
Energy Environment Economy
Comments and Thoughts: Looking Ahead

Scott Lemay

CEO

United Materials Management, Inc.
Scott Lemay, CEO

- 29 years of waste industry experience
- Founder and CEO of RTI (1987-1992)
  - Built integrated waste management company and developed Fitchburg Transfer station and MRF
  - Merged with United Waste Systems
  - Integrated over 50 acquired companies. Acquired or developed landfills in Fitchburg, Barre, Gardner, Grandby, & Chicopee. Aquired or developed Marlboro, Fitchburg, Leominster & West Springfield Transfer Stations
- Founder and CEO of Waste Control Inc. (1998-1999)
  - Integrated 4 acquisitions and developed Leominster transfer station.
  - Executed stock-swap with Waste Management Inc.
- Founder and CEO of United Site Services, Inc. (1999)
  - Executed private offering and debt facility to fund development and acquisitions
  - Acquired and integrated 36 companies nationwide
  - Executed stock sale to Odyssey (PE Firm) and remained as director and investor.
- Founder and CEO of United Waste Management
  - Integrated 7 companies. Boston, Sandwich & Rochester C&D processing Facilities.
  - Sold to ReEnergy
- Founder and CEO of United Material Management
United Material Management
(Rail Discussion)

- All of our previously owned & existing facilities have used rail as part of an integrated solution.
- Expands disposal options. Rail infrastructure allows access to additional disposal options throughout Eastern U.S.
- Assists with the growing disposal imbalance in MA. Helps control costs.
- Assists with Trucking Shortage.
Boston Facility
(Significant Material Sent by Rail to THP via Brockton Facility)
Boston Processed 1\textsuperscript{st}  
(Used Landfills and Rail via Brocton for Residuals)
Southbridge Processed 1st & Primarily Used the Landfill (Used Rail via Holyoke for Fines)
Holyoke Rail Facility
UMM of Holyoke Processed 1\textsuperscript{st}

(Residuals fed into Rail Cars or were Transported to Landfills)
UMM of Millbury Processes 1st
(Transport to Landfills & use Rail via Taunton Arrangement with NER)
Millbury (Con’t)
Millbury (Con’t)
Taunton
Disposal Imbalance
($2.1m Tons of MA Capacity Elimination between 2014 - 2019)
MA Disposal Crisis
(Can Rail Further Assists with MSW)
Conclusions & Open Issues

- Rail has been an important component for UMM as part of an integrated C&D disposal approach. THP sites & others have been important partners.
- Can rail assist with MSW & growing MA capacity imbalance?
- CSX – MSW Intermodal Cars are approved. However, landfill intermodal infrastructure & equipment access are seriously constrained.
- CSX- Will wrapped bales be approved on Gondolas in some form? C&D lids or other lid types required? Will wrapped bales be sufficient for covering?
- MA DEP - Where can bales be loaded? Clearly at Site Assigned Facilities. Facilities owned & operated by a Rail Company?
- What constitutes shipped in its original container?
- THP, Pan AM, MADEP may assist with some of these questions.
MSW Planning – Implication of Capacity Issues & Rail Haul Facilities

Greg Cooper

Division Director
Business Compliance and Recycling
Bureau of Air and Waste, MassDEP
Tunnel Hill Partners: Current Status and Future of Waste-by-Rail in New England

Mike Kozak
Senior Vice President
Tunnel Hill Partners
Tunnel Hill Partners Highlights

» Largest integrated waste-by-rail service provider in the US
  — Strong network of collections / hauling, transfer, recycling and disposal operations
  — Handles ~4.0 million tons of waste volume annually
  — Large Northeast and New England presence
  — Largest private waste rail car fleet in the country made up of over 1,400 rail cars

» Highly diversified customer base
  — Services commercial, industrial, residential and municipal clients and construction, remediation and dredging projects
  — Permitted waste types include municipal solid waste (MSW), construction / demolition debris (C&D), biosolids, recyclables and organics, contaminated soils, dewatered or stabilized dredge spoils, Primary transfer station and 3rd party rail customers consist of recycling and processing facilities

» Experienced management team with waste industry and rail transportation expertise
  — Over 190 years of combined professional history
Operational Footprint

Tunnel Hill is the leading integrated waste services provider in the Northeast.

Total Service Area
- Material Recovery Facility (Recycling)
- Transfer Station
- Landfill / Beneficial Reuse Facility

Hauling Service Area (City Carting assets)
- Managed Municipal Material Recovery Facility (Recycling)
- Managed Municipal Transfer Station
- Disposal / Recycling Only Municipality Contracts
Current Situation

» Tunnel Hill managed the Transportation and Disposal of over 1 million tons of waste out of CT and MA in the trailing twelve months

– All of this material moved via rail to either our Sunny Farms Landfill or Tunnel Hill Reclamation Landfills

- Total New England Tonnage shipped: 1,012,330 tons (11/1/17-10/31/18)
- 534,286 tons sourced from Massachusetts
- 478,043 tons sourced from Connecticut
- 374,671 tons were from Tunnel Hill facilities
- 637,658 tons were from 3rd Party customers
Current Situation cont.

- The dynamics of the New England market have made the waste-by-rail movement of C & D economically viable.
- C & D is approved by both Class 1 railroads for shipment in open Gondolas.
- No special or additional processing equipment needed at the Transfer Stations.
- C & D has a very favorable tax and fee structure at the landfills.
- Increasing costs and reduced availability of long haul trucking have only strengthened the viability of waste-by-rail for C & D.
- Continued shrinking local landfill capacity will only increase the value proposition of waste-by-rail.
The future of Waste-by-Rail in New England

- The dynamics of the New England market are very close to making MSW a viable waste-by-rail commodity

- Increasing costs and reduced availability of long haul trucking are accelerating the viability of waste-by-rail for MSW

- Shrinking local landfill capacity and static WTE/Burn Plant capabilities will only increase the value proposition of waste-by-rail for MSW

- The time is now for planning as the future will simply demand that a portion of the regions MSW be moved out of the region via rail
The Challenges

- Higher taxes and fees on MSW result in higher costs
- The cap ex requirements for baler and bagger systems capable of producing large enough and dense enough bales result in higher costs
- Specialized handling equipment for loading of bales at both the Transfer Stations and on the rail is another cost center not typically associated with C & D
- A facility capable of shipping just 1,000 tons of MSW per day via rail would require a fleet of 135 rail cars at a new production cost of approx. $110,000 per car or almost $15 Mil
- Baled & Bagged MSW is fully approved by the NS for shipment in open Gondolas and on a limited basis with the CSX
- Lack of clarity in the current regulatory structure, what is required for compliant transloading facilities?
Solid Waste’s Long Haul Transportation Solution: the Railroads

Jeffrey Turner
Senior Director of Sales and Intermodal
Pan Am Railways
Pan Am Railroad Lineage

1981 – Maine Central acquired by Guilford Rail System
1982 – Boston and Maine acquired by Guilford Rail System
1982-2006 – Guilford Rail System operates as New England’s Largest Rail Network
2006 – Guilford Rail System becomes Pan Am Railways
Divisions of Pan Am

- Pan Am Railways
- Pan Am Services
- Pan Am Brands
- Perma Treat
Pan Am’s Class 1 Connections
Pan Am Services 12 8* Pulp & Paper Mills

• Sappi Fine: Somerset & Westbrook
• Verso Androscoggin & Bucksport
• Irving Paper/Lake Utopia
• ND Paper – Rumford
• ND Paper – Old Town in 2019 comeback*
• UMP Madison
• Woodland Pulp
• Lincoln Paper & Tissue
Food, Fuel, and Waste: The Future

1. Food (via intermodal)
2. Fuel
3. Waste / Recycling
Pan Am Current Waste & Recycling Business

- C&D moving from MA and CT to Ohio
- Contaminated Soil from MA, ME, NH to MI, NY, OH and PQ
- Scrap Metals from New England to Midwest Mills
- Tires for Fuel inbound to ND Paper in Rumford, ME
- Scrap Paper inbound to Maine

**MSW – the future of rail for 2019**
- The Landfill Waste in MA/CT Has to Go Somewhere
- Trucking Capacity Can’t Absorb It on Long Hauls
  - Mode: Containerized or Carload?
  - Baled or Covered in railcar, or both?
  - Direct Loading Site or Transload Facility?
THANK YOU
WasteByRail Waste Transportation Services

Steve Poggi

Area Director of Disposal Operations
Waste Management, Inc.
Solid Waste Transportation by Railroad

MSW Transportation Via Intermodal Rail to Waste Management Landfills

THINK GREEN:
Steven Poggi
Area Director of Operations - Disposal
Waste Management of New England/Upper NY

EBC November 2018
WM National Snap Shot

- Largest environmental services provider in US
- Fortune 500 NYSE Listed, 42k Employees
- 35k+ Commercial Customers
- 360 Collection Ops & 20M Customers
- 244 Landfills, 300+ Transfer Stations & 100 MRFs
Landfills shifting toward regional operations

MSW Landfills have been closing nationally
National-Regional Trends

Waste Management, Inc.

- Capacity is being extended at larger regional sites. Expansion plans to keep sites operating, but not necessarily increased disposal capacity.
- Abundant capacity nationally - outside of New England
- Transfer capabilities are being developed to take utilize disposal capacity outside of New England
- Eleven rail projects in MA, RI, and CT are either operating or being permitted to take advantage of disposal capacity outside of NE; Targeting sites in PA, NY, VA, and Ohio
- Rail transfer projects for MSW present logistical challenges
Nationwide Trends

- Waste Management operates a rail-based system at several transfer facilities that safely, efficiently and reliably transport waste to landfills for disposal
- 8 WM landfills nationwide served by rail (1 accepts haz. waste), others being developed
- 7 WM landfills outside of NE-NY are shown below
WM’s New York Operations

Waste Management of New York, LLC (WMNY):

- 1,200 employees in New York state
- 9 collection/hauling companies, 13 transfer stations, and 5 landfills
- Rail transport via intermodal containers for 10 years out of NYC
- Manage 7,000 TPD via rail from City to WM disposal sites
- 2 single-stream recycling facilities, processing over 100,000 tons of recyclable materials annually
- 6 landfill gas to renewable energy facilities, providing more than 25 megawatts of energy per year, enough to power 24,000 homes
- 9 sites certified by the international accreditor, the Wildlife Habitat Council, which preserve over 1,250 acres of open space
Intermodal Rail in Route
New York Rail Operations

Waste Management of New York, LLC (WMNY):

- In response to the City’s initiative to remove trucks off City streets to improve air emissions
- Network of rail transfer stations operated by WM over a 20 year term in the NYC boroughs, including marine transfer stations that barge to rail transfers in NJ
- Currently railing to WM sites in NY and VA
- CSX transfers to disposal sites 6-7 days/week
- Limited truck transfer to closer landfills and waste-to-energy facilities
General Rail Flow Logistics

**Transfer Station**
- Source of materials being managed
- Screening of materials
- Loading intermodal rail containers
- Weighing and staging of containers for transport

**CSX**
- Loaded enclosed containers are transported from transfer station to disposal site by rail

**Landfills**
- Staging Cars/Containers
- Offloading containers
- Tipping Containers/Screening of materials
- Staging of empty containers/cars for return transport

**CSX**
- Empty containers are transported from disposal sites back to transfer stations by Rail
Typical Rail Transfer Station

- Material delivery to transfer station by City and 3rd party haulers
- Screening for unacceptable waste on tip floor
- MSW transferred into containers or directly into cans on rail cars
- Consolidating and loading of material into rail containers for transport
- Once filled, the containers are closed, weighed, and staged for transport
Preparation of Containers at Transfer Station

• **Specially designed containers**
  - Sealed on base and joints of doors to prevent any leakage of liquids or odors
  - Fixed covers used to prevent infiltration of water or release of odors

• **Preparation of containers includes:**
  - Inspection/cleaning of excess waste
  - Covers are placed and locked on containers
  - Exterior of containers cleaned of debris and loaded on rail car flats
Placement of Containers on Train for Delivery

- Enclosed containers are placed on rail cars at transfer station.
- Rail cars are with full containers moved out of rail yard daily for train assembly.
- Fully containerized system - No litter, controlled odors, & no contact with surface water.
Transport via Rail

- Assembled train departs from transfer station to dedicated disposal site
- Rail service provided by CSX
- Unable to differentiate between intermodal waste containers and general intermodal freight
- Disposal sites have dedicated rail spurs designed to accommodate one daily train arrival/departures
- Total volume moved out of rail transfer network is ~7,000 TPD or nearly 100,000 containers/year
High Acres Landfill and Recycling Center

- 1971-begins operation
- Subtitle D double composite non-hazardous facility
- 366 Acres permitted
- 3,500 tons per day- Permitted Capacity
- 35+ Years Site Life
- Organics processing
- Residential Drop Off Facility
- Ecopark Partnership
- Renewable Energy Facility
Construction

Aug 2014

Oct 2014
Moving rail cars
Rail cars are staged daily and moved to unloading area on site

- Designated on-site engine “shuttle” rail cars to unloading track
Unloading Full Containers

- Containers are unloaded from rail cars using a forklift and placed on off-road trucks for transport to working face.
Delivery of Containers to the Working Face

- Containers remain enclosed until tipped at the working face.
- Materials are inspected once again for unacceptable waste.
- Once emptied, the rear door is closed and sealed.
Summary of Long Haul Rail Alternative

Benefits:
- Allows for use of disposal options at greater distances from point of generation
- Reduces number of trucks on the road (a 40 car train will remove 150 transfer trailers from the road & 1 ton via rail burns 1 gallon of fuel/484 miles)
- Generally easier to site rail transfer operations

Challenges:
- Limits disposal options to rail sided disposal sites
- C+D disposal vs. MSW disposal sites
- Capital intensive for dedicated intermodal rail cans/cars
- Logistics require daily attention & coordination with rail service provider
- Rail provider deliver schedules and empty can returns

THINK GREEN®
Moderated Discussion

Moderator: Chris Koehler, HDR Engineering, Inc.

Panelists:
- Mike Kozak, Tunnel Hill Partners
- Scott Lemay, United Material Management Inc.
- Steve Poggi, Waste Management, Inc.
- Jeffrey Turner, Pan Am Railways
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