### Environmental Concerns – Lithium-Ion Battery Responses

DFS Headquarters Lithium Ion Battery Symposium October 13, 2023 Stow, MA



Commonwealth of Massachusetts
Department of Environmental Protection

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### **Environmental Concerns** Li-Ion Battery Response























Other issues – Ferry, Battery storage

## 2/6/23 DFS Advisory – Transport/Disposal information from MassDEP

- Vape Devices, Cell Phones, Tablets Computers;
- Personal Mobility Devices/E-Bikes; and
- Electric Vehicles:
  - Owner of Lithium-ion battery device should hire a hazardous waste (HW) Contractor for transport/disposal of Lithium ion battery container using a hazardous waste manifest.
  - If owner does not have means to hire HW Contractor, MassDEP may hire a HW Contractor for transport/disposal of Lithium ion battery container using a hazardous waste manifest.
  - MassDEP Emergency Response 1-888-304-1133

## List of Hazardous Waste Transporters providing Emergency Response

### • List for each MassDEP Region

### List of licensed Hazardous Waste (HW) Transporters who can provide Emergency Response Services in MassDEP's Western Region (WERO)

This list is provided by MassDEP to assist parties responsible for releases of Oil and/or Hazardous Materials (OHM) which pose an Imminent Hazard or Public Safety Threat, or for other situations that require the immediate relention of an emergency response contractor. Note that contractors listed below in bold are contractors who are contractually pre-qualified to undertake necessary response actions on behaff of the MassDEP if the responsible party is unable or unwilling to do so. There may be other companies that are qualified to complete necessary response personnel cannot recommend or endorse any specific contractor.

Responsible parties have additional options for obtaining other qualified cleanup contractors, subject to approval by MassDEP, who can conduct response actions within required timeframes. Options include, but are not limited to:

- Consult your fuel provider;
- Consult your insurance provide
- Conduct an internet search for Massachusetts "oil spiil" or "environmental" cleanup contractors;
   Massachusetts State-Wide Contract FAC-110: Hazardous/Universal, Medical, Electronic Waste Disnosal and Emergency Response bittes //www.mass.onv/doc/fact 10/download

### MassDEP reserves the right to reject a contractor who in MassDEP's judgment is deemed

	Licensed Hazardous Waste	City, State	Phone	Response
Transporter				Туре
1	Clean Harbors, Inc. *	Norwell, MA	800-645-8265	OHM
2	Cyn Oil Corporation	Stoughton, MA	800-242-5818	OHM
3	Environmental Services, Inc.*	South Windsor, CT	800-486-7745	OHM
4	J.H. Maxymillian, Inc.	Pittsfield, MA	413-499-3050	Oil
	Miller Environmental Group	Springfield, MA	866-989-3559	OHM
6	New England Disposal Technologies *		800-698-1865	OHM
7	NRC East Environmental Services/US Ecology *	Franklin, MA	800-899-4672	OHM
8	Oil Recovery Corporation	W. Springfield, MA	413-737-2949	Oil
9	Trident Environmental Group, LLC	Marlborough, MA	888-590-8841	OHM
10	Western Mass Environmental	W. Springfield, MA	866-662-2622	OHM

BOLD MassDEP Emergency Response Contractor \* MassDEP Emergency Response Contractor able to respond to Lithium Battery events

### List of licensed Hazardous Waste (HW) Transporters who can provide Emergency Response Services in MassDEP's Central Region (CERO)

This list is provided by MassDEP to assist parties responsible for releases of Oil and/or Hazardous Materials (OHM) which pose an Imminent Hazard or Public Safety Tinreat, or for other situations that require the immediate relention of an emergency response contractor. Note that contractors listed below in bold are contractors who are contractually pre-qualified to undertake necessary response actions on behard of the MassDEP if the responsible party is unable or unwilling to do so. There may be other companies that are qualified to complete necessary response actions. MassDEP Personnel cannot recommend or endorse any specific contractor.

Responsible parties have additional options for obtaining other qualified cleanup contractors, subject to approval by MassDEP, who can conduct response actions within required timeframes. Options include, but are not limited to:

- Consult your fuel provider;
- Consult your insurance provider;
- Conduct an internet search for Massachusetts "oil spill" or "environmental" cleanup contractors;
   Massachusetts State-Wide Contract FAC-110: Hazardous/Universal, Medical, Electronic Waste Disposal and Emergency Response https://www.mass.ogv/doc/fac110/download.

MassDEP reserves the right to reject a contractor who in MassDEP's judgment is deemed

	Licensed Hazardous Waste	City, State	Phone	Response	
	Transporter			Туре	
1	All and Inclusive Environmental, Inc.	Charlestown, MA	866-204-0444	OHM	
2	ACV Enviro Corporation	Norfolk, MA	866-777-4557	OHM	
3	Clean Harbors, Inc. *	Norwell, MA	800-645-8265	OHM	
4	Cyn Oil Corporation	Stoughton, MA	800-242-5818	OHM	
5	Environmental Services, Inc. *	South Windsor, CT	800-486-7745	OHM	
6	Frank Corp	New Bedford, MA	508-995-9997	Oil	
7	Global Remediation Services, Inc.	Taunton, MA	508-828-1005	OHM	
8	Mill City Environmental Corp	Lowell, MA	978-654-6741	OHM	
9	Miller Environmental Group	Springfield, MA	866-989-3559	OHM	
10	Moran Environmental Recovery, LLC *	Randolph, MA	888-233-5338	OHM	
11		Sutton, MA	800-698-1865	OHM	
12	NRC East Environmental Services/US Ecology *	Franklin, MA	800-899-4672	OHM	
13	Oil Recovery Corporation	W. Springfield, MA	413-737-2949	Oil	
14	Trident Environmental Group, LLC	Marlborough, MA	888-590-8841	OHM	
15	Triumvirate Environmental, Inc.	Somerville, MA	800-966-9282	OHM	
16	Western Mass Environmental	W. Springfield, MA	866-662-2622	OHM	
17	Western Oil, Inc.	Lincoln, RI	800-240-5540	Oil	

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### List of licensed Hazardous Waste (HW) Transporters who can provide Emergency Response Services in MassDEP's Northeast Region (NERO)

This list is provided by MassDEP to assist parties responsible for releases of Oil and/or Hazardous Materials (OHM) which pose an Imminent Hazard or Public Safety Threat, or for other situations that require the immediate retention of an emergency response contractor. Note that contractors listed below in bold are contractors who are contractually pre-qualified to undertake necessary response actions on behalf of the MassDEP if the responsible parity is unable or unwilling to do so. There may be other companies that are qualified to complete necessary response actions. MassDEP Personnel Cannot recommend or endorse any specific contractor.

Responsible parties have additional options for obtaining other qualified cleanup contractors, subject to approval by MassDEP, who can conduct response actions within required timeframes. Options include, but are not limited to:

- Consult your fuel provider;
- Consult your insurance provide
- Conduct an internet search for Massachusetts 'oil spill' or 'environmental' cleanup contractors;
   Massachusetts State-Wide Contract FAC-110: Hazardous/Universal, Medical, Electronic Waste Disposal and Emergency Response https://www.mass.gov/doc/fac110/download.

MassDEP reserves the right to reject a contractor who in MassDEP's judgment is deemed

	Licensed Hazardous Waste	City, State	Phone	Response
	Transporter			Туре
1	All and Inclusive Environmental, Inc.	Charlestown, MA	866-204-0444	OHM
2	Boston Green Company	Lakeville, MA	888-338-2657	OHM
3	Clean Harbors, Inc. *	Norwell, MA	800-645-8265	OHM
4	Cyn Oil Corporation	Stoughton, MA	800-242-5818	OHM
5	Global Remediation Services, Inc.	Taunton, MA	508-828-1005	OHM
6	Green Site Services Group, Inc.	Bellingham, MA	855-977-2020	OHM
7	Mill City Environmental Corp	Lowell, MA	978-654-6741	OHM
8	Moran Environmental Recovery, LLC *	Randolph, MA	888-233-5338	OHM
9	New England Disposal Technologies *	Sutton, MA	800-698-1865	OHM
10	NRC East Environmental Services/US Ecology *	Salisbury, MA	800-899-4672	OHM
11	Trident Environmental Group, LLC	Marlborough, MA	888-590-8841	OHM
12	Triumvirate Environmental, Inc.	Somerville, MA	800-966-9282	OHM
13	Western Oil, Inc.	Lincoln, RI	800-240-5540	Oil

BOLD MassDEP Emergency Response Contractor \* MassDEP Emergency Response Contractor able to respond to Lithium Battery events

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### List of licensed Hazardous Waste (HW) Transporters who can provide Emergency Response Services in MassDEP's Southeast Region (SERO)

This list is provided by MassDEP to assist parties responsible for releases of Oil and/or Hazardous Materials (OHM) which pose an Imminent Hazard or Public Safety Threat, or for other situations that require the immediate relention of an emergency response contractor. Nole that contractors listed below in bold are contractors who are contractually pre-qualified to undertake necessary response actions on behalf of the MassDEP if the responsible party is unable or unwilling to do so. There may be other companies that are qualified to complete necessary response actions. MassDEP Personnel contractors any specific contractor.

Responsible parties have additional options for obtaining other qualified cleanup contractors, subject to approval by MassDEP, who can conduct response actions within required timeframes. Options include, but are not limited to:

- . Consult your fuel provider,
- 2. Consult your insurance provider
- Conduct an internet search for Massachusetts 'oii spill' or 'environmental' cleanup contractors;
   Massachusetts State-Wide Contract FAC-110: Hazardous/Universal, Medical, Electronic Waste Disposal and Emergency Response https://www.mass.gov/doc/fact10/download.

MassDEP reserves the right to reject a contractor who in MassDEP's judgment is deemed unqualified or will not be able to provide necessary response actions within required timeframe

	Licensed Hazardous Waste	City, State	Phone	Response	
	Transporter			Туре	
1	All and Inclusive Environmental, Inc.	Charlestown, MA	866-204-0444	OHM	
2		Norfolk, MA	866-777-4557	OHM	
3	Clean Harbors, Inc. *	Norwell, MA	800-645-8265	OHM	
4	Cyn Oil Corporation	Stoughton, MA	800-242-5818	OHM	
5	Frank Corp	New Bedford, MA	508-995-9997	Oil	
6	Global Remediation Services, Inc.	Taunton, MA	508-828-1005	OHM	
7	Mill City Environmental Corp	Lowell, MA	978-654-6741	OHM	
8	Miller Environmental Group	Springfield, MA	866-989-3559	OHM	
9	Moran Environmental Recovery, LLC *	Randolph, MA	888-233-5338	OHM	
	New England Disposal Technologies *	Sutton, MA	800-698-1865	OHM	
11	NRC East Environmental Services *	Franklin, MA	800-899-4672	OHM	
12		Marlborough, MA	888-590-8841	OHM	
13	Triumvirate Environmental, Inc.	Somerville, MA	800-966-9282	OHM	
14	US Ecology	Wrentham	800-426-9878	OHM	
15	Western Oil, Inc.	Lincoln, RI	800-240-5540	Oil	

BOLD MassDEP Emergency Response Contractor \* MassDEP Emergency Response Contractor able to respond to Lithium Battery even

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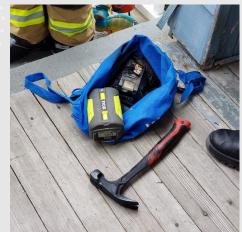
https://www.mass.gov/info-details/lists-of-emergency-responsehazardous-wastetransporters? gl=1\*15c0480\* ga\*MTYyOTQ3MjY2MS4xNjgyOTQ3Mjc4\* ga MCLPEGW7WM\*MTY5Njg3ODQzMS4xMS4wLjE2OTY4Nzg0MzEuMC4wLjA.

• Additional transporters can found at: <u>https://www.mass.gov/doc/massdep-licensed-hazardous-waste-transporter-list-april-2023/download</u>

# Examples MassDEP: Li-Ion Battery Responses

- Most often Tier 1 contacted for phone or field response to assist
- Tesla Car Fire (Norwell) (Field)
- Battery overcharged/fire (Chicopee) (Field)
- E-Motorcycle (Amesbury) (Phone)
- Portable Power Station (Lowell) (Phone)
- House Fire (Brockton) (Phone)











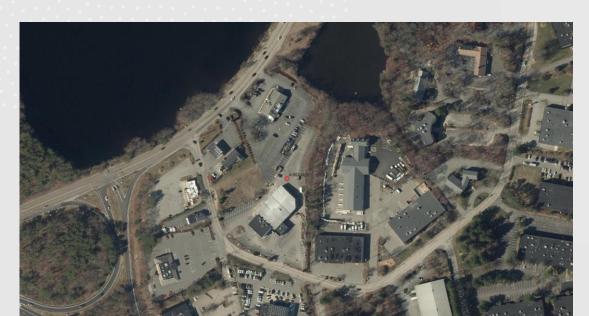
# Field Response – Runoff water

- Tesla Fire Norwell; July 2022
- Dealership Floor drains, tight tank
   and 4 catchbasins
- 500 feet east of Public Drinking Water Reservoir (Accord Pond)
- Estimated 10,000 gals water used initial fire (vehicle was inside building)
- Vehicle relocated to center of parking lot and re-ignited and caused brush fire – estimated 4,000 gals water used





- Dealership hired a Licensed Site Professional to oversee Immediate Response Actions
- o RTN 4-29452
- Sampling of Tight Tank and Catch Basins, soil,
- surface water and groundwater
  - o Co, Li, Ni, Fl
- No impact to environment
- No concern impact to sensitive receptors
- Tesla Specialized technician to dissemble and secure the battery pack
  - Components placed in tubs onsite with 1% saltwater bath
  - Drums of liquid waste and battery components transported as HW for disposal



Sample Date:	Sample Date: 7/29/2022			8/18/2022					
Sample ID:	Tight Tank #1 (dissolved metals reported)	CB-1 (off northeast corner of building)	CB-3 (off northwest corner of building)	CB-1 (off northeast corner of building)	CB-2 (southwest side of building)	CB-3 (off northwest corner of building)	CB-4 (off southeast corner of the building)	CB-5 (south side of building)	CB-6 (northern limits of property)
Metals (mg/L)									
Cobalt	< 0.005								
Lithium	1.45	0.20	0.24	< 0.05	< 0.05	0.06	< 0.05	< 0.05	< 0.05
Nickel	0.023								
General Chemistry (mg/L)									
Fluoride				< 0.3	<0.3	5.0	<0.3	<0.3	<0.3



## Other Issues

### • Disposal – issues all states and Federal Agencies dealing with

- MassDEP Guidance use contractor dispose as HW
- Issues working on at federal level transport, disposal, recycling

### • Ferry/Container Ships

- MassDEP coordinating wit USCG and other agencies/FD/partners
  - Plymouth-Salisbury Area Committee Exercise in Spring 2023
  - Sector Southeastern Massachusetts and RI exercise on 10/10/23
- Battery Storage Facilities
  - Could have Li-Ion, or combination of other chemicals (example Carver Lithium iron phosphate (LFP))





## **CONTACTS:**

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Marrcus Henry, <u>Marrcus.henry@mass.gov</u>; 617-418-0818 HW Disposal questions