PERSPECTIVES ON MOBILE FUELING: FIRE & ENVIRONMENTAL COMPLIANCE

H3-3/31 Jenevieve Jackson, Taylor Henderson, Robert Marshall, Leanne Meyer, Steven Lichten

March 31, 2022

24th California Unified Program Annual Training Conference
March 22, 23, 24, 29, 30, 31 - 2022

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Announcement - Slido for Q&A & Polls

- Each Live Session will have embedded in the PowerPoint the actual unique QR Code and Slido Meeting Code on this slide for the Moderator to review with the Attendees to connect with Polls (if applicable) and Q&A

Other Important CUPA 2022 Info for You

- Most of last week's Sessions are available as "Watch Now"
- Slido for Polls/Q&A for 90% of Sessions
- Check for Post Zoom meeting follow up link in Q&A
- Zoom meetings – Use Q&A/Stay in meeting for post Session…there will be NO "Are you still watching?" in Zoom
- To earn CEUs, make sure to join the Session within the first 10 minutes for LIVE Sessions, click on "Are you still watching?" popups and attend at least 90% of the Session. Complete Session Evaluations and Conference Survey.


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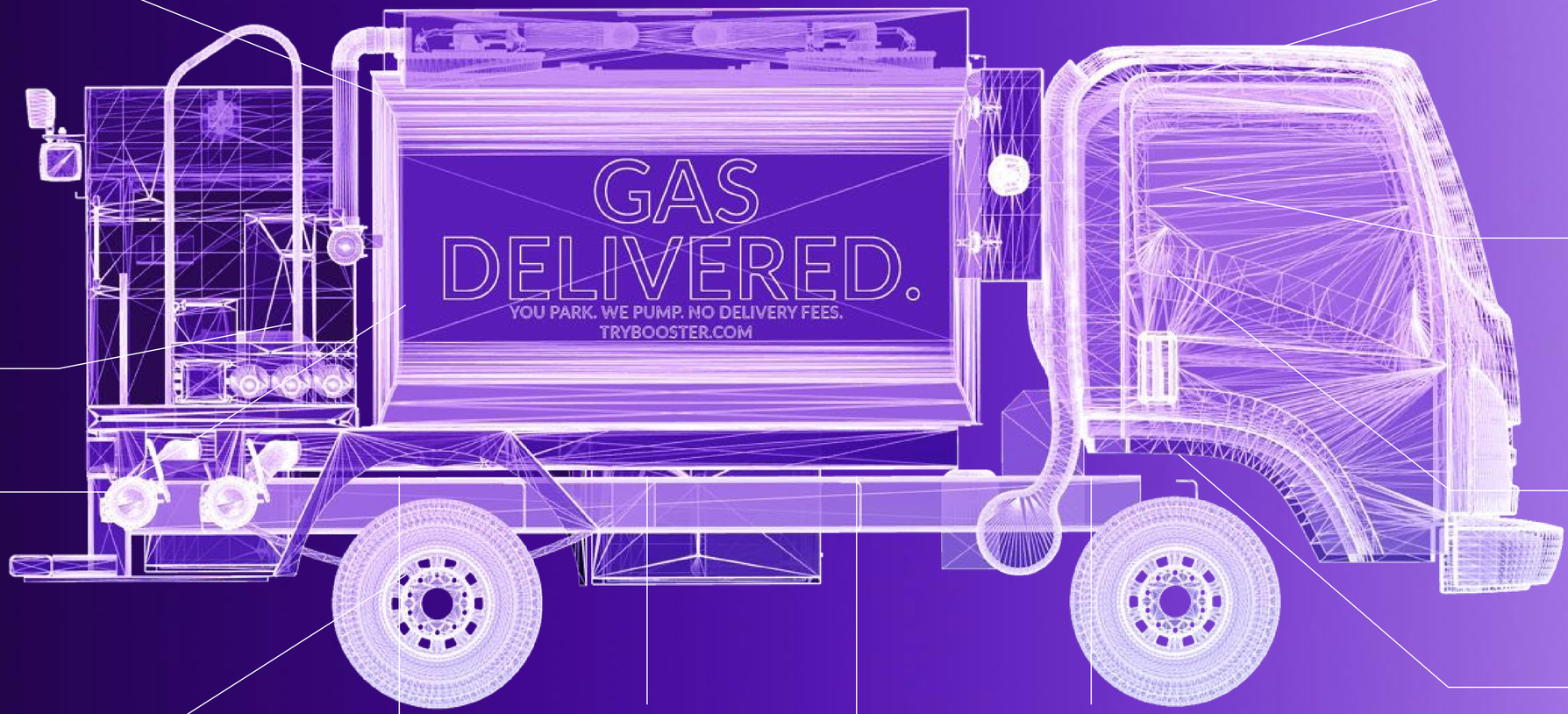
Booster delivers energy as a service, building the energy delivery infrastructure of today, that will also serve as the alternative energy delivery model of the future



Proprietary Gen 9
Patent Pending

Annual multi-level 3rd party inspection

Loads at 600 gal/min. at the terminal

100+ deliveries per load

Overturn spill protection

Fusion welded

Roll & fire resistant

85 pt BIT inspection

Meets federal DOT, Weights & Measures, & Air Resources standards

Turning radius better than a Honda Civic

Cloud connected editable display with dynamic routing

Fits in any standard parking spot

Booster proposes *drastic sustainability improvements* over current fueling operations

Booster helps replace underground storage tanks

557,644

USA confirmed UST leaks as of March 2020. [1]

$130,000

Average cost of remediation.

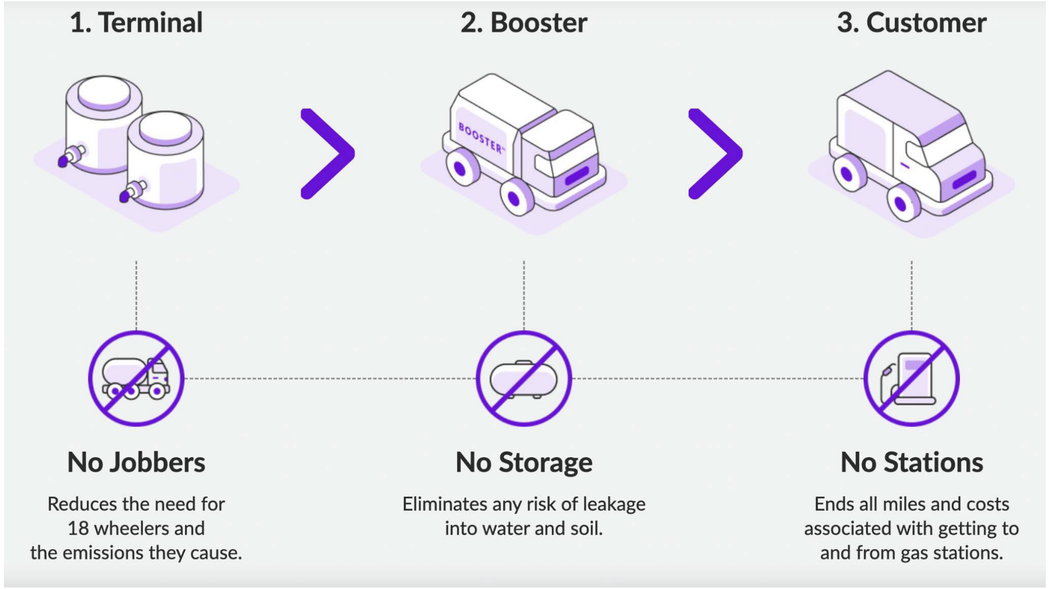
44,000

Approximate number of leaking underground storage tanks discovered in California since 1984. [2]

8,259

underground storage tanks with priority violation in California from January - June 2021

Gas station operations vs Booster



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Booster's on-demand mobile fueling service is better for the environment and human health, and also promotes equity and access along with a net zero carbon future

1. **Reduces CO_2 emissions** through: decreased VMTs, trained Service Professionals as operators; 100% carbon offsets; and improved vehicle efficiency
2. **Improves spillage reduction** by drastically decreasing exposure to VOCs, including from 6+ million gallons of annual spillage at fuel stations, and provides a contactless solution during the COVID-19 pandemic
3. **Tackles problems of equity and access** by offering an alternative to more than 49 million people with disabilities, potentially paving the way for more diversity among drivers
4. **Promotes a net zero carbon future** through its modern, capex-light and modular energy delivery infrastructure, built to support the alternative energies of tomorrow, beginning today with biofuels

Mobile fueling with Booster dramatically reduces CO_2 emissions, vehicle miles traveled, VOCs and spillage, better water treatment practices and the near elimination of exposure to carcinogens while driving efficiency through modern low-footprint operations

Gas Stations	Booster
Fleet drivers can divert an average of 2 miles and 20 minutes per trip to the gas station.[1]	Zero unnecessary miles traveled. Net savings of >1.1 lbs of CO_2 per vehicle-day[2]
Worsen congestion, especially during peak travel	Reduced congestion all around (additional greenhouse gas emissions due to idling etc)
Operations are GHG intense and don't prioritize efficiency or impact	100% carbon offsets, 50% fewer transfers, modern, low-footprint vehicles
Underground storage tanks leak fuel into groundwater	Operations 100% eliminate the need for and use of USTs
40 gallons spilled by customers each year per station	Trained professionals reduce spillage & emissions
0.743 lbs of VOCs / 1,000 gallons dispensed	0.647 lbs VOCs / 1,000 gallons

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Booster tackles emissions and vehicle miles traveled with efficient routing, environmental safety measures and tech that is constantly refreshed to meet energy standards.

If 20,000 delivery vans used Booster for one year:

15.8 MILLION

VMT eliminated

39.5 MILLION

Pounds of CO_2 eliminated

Booster is the fleet sustainability partner for the Energy transition Providing optimization services for fleets to help reduce carbon impact and improve customer experience

Our Solutions	**Booster mobile fueling** Mobile gas fueling and fleet performance optimization services	**Booster renewable diesel** Performs as well as or better than conventional diesel and lowers lifecycle emissions by up to 70%. —unlocking today's supply and next generation fuels	**Booster electric** Mobile and flexible on-site electric vehicle charging capacity
Our impact	Reduce fueling emissions and expenses with optimized fueling logistics by eliminating unproductive labor hours and reducing mileage Decreased late deliveries and improved customer experience	Reduce emissions from ICE fleets with biofuel blends a biofuel logistics solution that reduces VMTs and labor cost Enable piloting and ramp up of new low carbon fuels	Reduce the cost and risk of EV scale up with flexible, mobile charging Increase charging capacity, augmenting for surge demand and optimizing spending OPEX versus CAPEX

Booster makes fuel more equitable

"People with disabilities may find it difficult or impossible to use the controls, hose, or nozzle of a self-serve gas pump. As a result, at stations that offer both self and full service, people with disabilities might have no choice but to purchase the more expensive gas from a full-serve pump. At locations with only self-serve pumps, they might be unable to purchase gas at all."

SOURCE: ADA.gov/gasserve

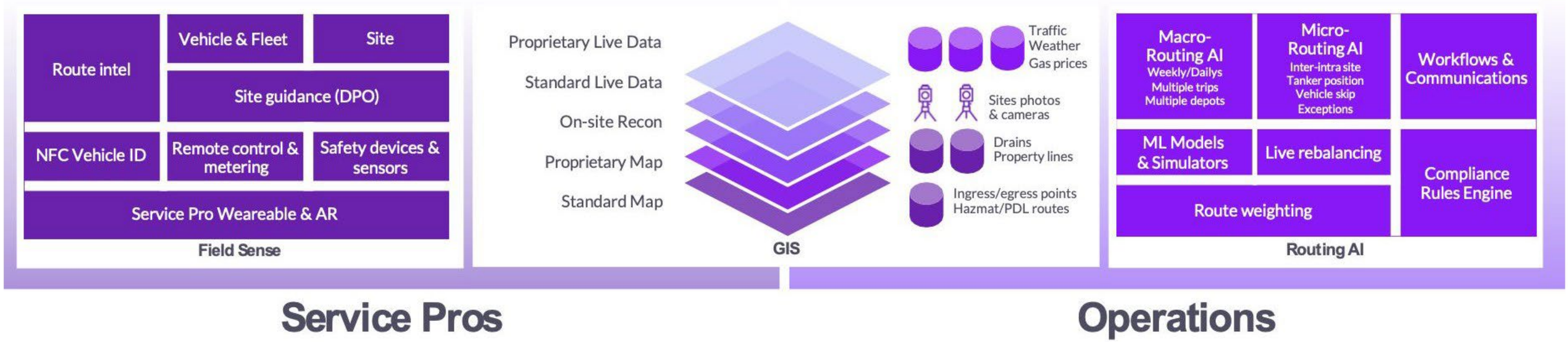
"We are honored to partner with @boosterfuels to help bring mobile fueling services to people with disabilities across the country."

- National Spinal Association

"One of the reasons that New Jersey still has only full service gas stations is due, at least in part, to 'heavy opposition to self-pumping... especially among subgroups such as women and the elderly.'"

SOURCE: Ashley Koning, director of the Eagleton Center for Public Interest Polling at Rutgers University, Daily Princetonian, Feb. 14, 2018

Booster under the hood…



Confidential | Proprietary Information of Booster Fuels, Inc.

Booster's service improves human and community health and puts sustainability at the forefront

- **Approximately 550,000 UST's produce 9,000 new leaks annually**. These kinds of spills are hazardous for the environment and cost taxpayers tens of billions every year.
- On top of that, Johns Hopkins estimates that through drippage alone, customers spill an additional **40 gallons of gasoline each year.** This spillage seeps through concrete and impacts the water supply.
- For every 20,000 delivery vehicles fueled in place, 15.8 million vehicle miles traveled (VMT) and 39.5 million pounds (nearly 20,000 tons) of CO2 are eliminated each year.
- The results are **less exposure, cleaner water, decreased cancer risk, and overall improved human health and well-being**.

California Fire Permits

Burlingame
Foster City
Fremont
Livermore
Menlo Park
Mountain View
Oakland
Oakley
El Seguno
Irvine
Riverside
San Diego
Pleasanton
Redwood City
Richmond
Roseville
Sacramento
West Sacramento
San Francisco
San Jose
San Mateo
San Ramon
Santa Clara
South San Francisco
Sunnyvale

Non-Fire Code Regulatory Considerations

- Applicable to MFOD Base locations (e.g. Booster facilities)
  - SPCC/APSA compliance and plan
  - HMBP/CERS
  - Spill/release reporting
  - AQMD
- Applicable to facilities using MFOD services
  - May be some SPCC impact
  - Spill/release reporting

MFOD Base locations (e.g. Booster facilities)

- SPCC/APSA compliance and plan (in California)
  - Mobile fuelers (tankers, pick-ups with 100-gal. dispensing units) are considered ‘in storage’ at base locations while parked overnight
    - Unless 100% empty
- …if > 1,320-gallons combined capacity: base is regulated & SPCC/APSA apply
  - All typical SPCC/APSA requirements and elements
    - Containment and total capacity/list or # of tankers can be ‘confusing’

MFOD Base location SPCC Clarifications

- Containment required by SPCC rule
  - Mobile fuelers (tankers, pick-ups with 100-gal. dispensing units) are defined as ‘mobile refuelers’ when being ‘stored’
  - Required Containment: <u>General</u> containment
    - Sufficient to keep the **likely** spill volume from typical failure mode from entering navigable waters… not full tank capacity
      - e.g. valve or fitting leak or weep… **likely** under 20 – 30 gals.
    - Can use active or passive measures
      - Spill pads, socks, booms, barriers, facility berms, etc.


For example: Use of a large diameter, properly secured oil/petroleum-only boom/sock barrier along the fence line. Would be sufficient to retain the likely volume from escaping the property.
Per Booster's procedures: Every tanker is inspected post-trip and pre-trip. Extremely likely that any leak or damage would be identified quickly.
…and every tanker and the facility has spill kits.
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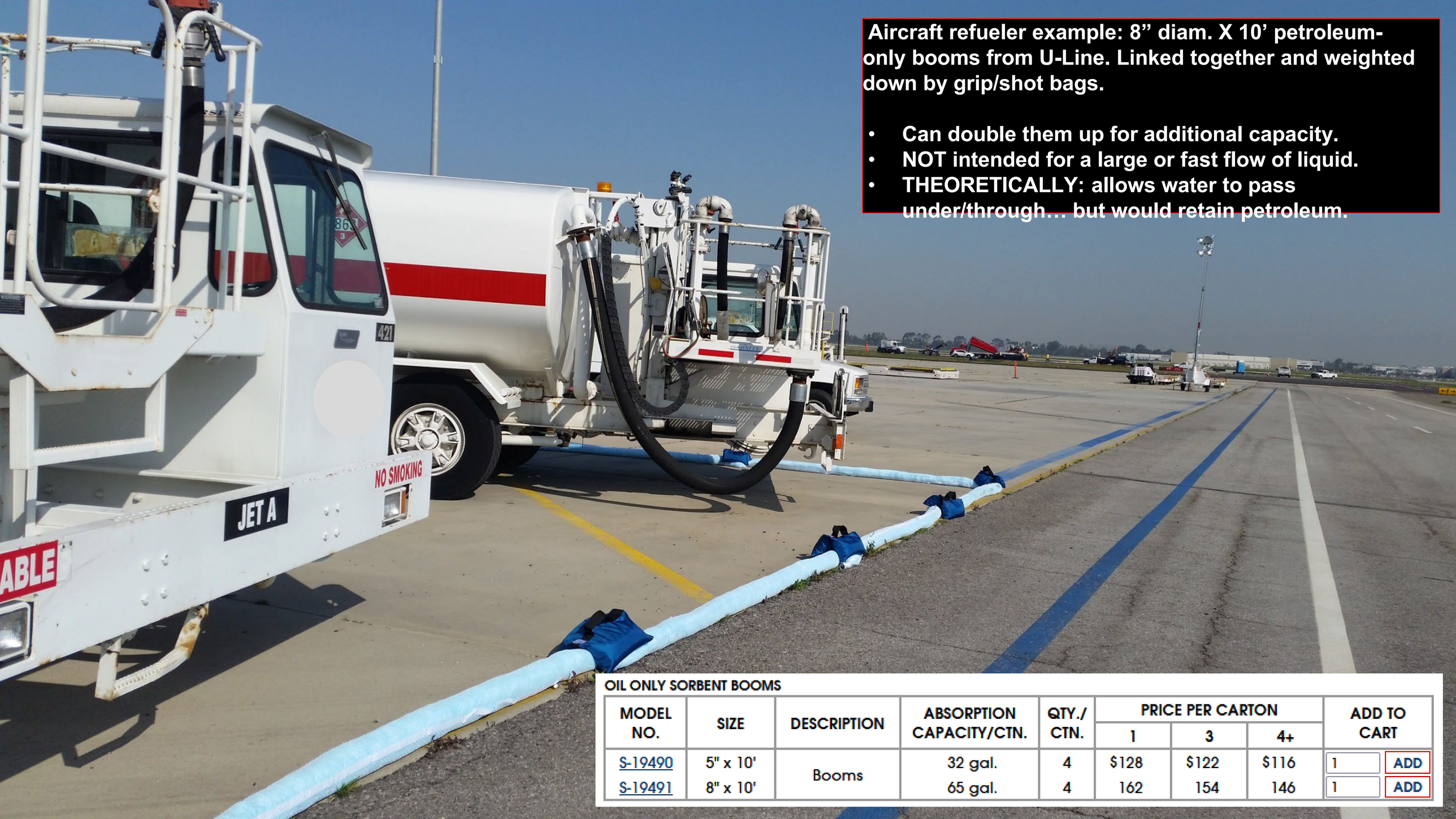

Aircraft refueler example: 8” diam. X 10’ petroleum-only booms from U-Line. Linked together and weighted down by grip/shot bags.

- **Can double them up for additional capacity.**
- **NOT intended for a large or fast flow of liquid.**
- **THEORETICALLY: allows water to pass under/through… but would retain petroleum.**

OIL ONLY SORBENT BOOMS

MODEL NO.	SIZE	DESCRIPTION	ABSORPTION CAPACITY/CTN.	QTY./ CTN.	PRICE PER CARTON			ADD TO CART	
					1	3	4+		
S-19490	5" x 10'	Booms	32 gal.	4	$128	$122	$116	1	ADD
S-19491	8" x 10'		65 gal.	4	162	154	146	1	ADD

NOT optimal!

NOT optimal!

Also: Portable/mobile containers must be positioned or located to prevent a nav. Water discharge.

- Avoid or protect storm drains
- Watch proximity to off-site waters (bays, creeks, etc.)

Storm drain cover pad.
Issues: sealability…
movement/slippage…
inspections.

MFOD Base location SPCC Clarifications

- Facility capacity and tank/container locations
  - Required by the SPCC rule
  - Typically will vary depending on operations:
    - Number/mix of specific tankers not static
    - Specific parking locations of individual tankers not static
  - 40 CFR 112.7(a)(3) allows Plan to identify the ‘storage area’ where mobile or portable containers are located.
  - 112.7(a)(3)(i) allows the provision of an estimate of the potential number of mobile or portable containers, the types of oil, and anticipated storage capacities

e.g. SPCC Plan for a Base Location: number and capacities

- Typical number
- Maximum number

TABLE 5-1 SPCC-Regulated Tanks & Containers

Type	Tank Capacity Per Vehicle or Drum (gal)	Fuel Type Stored	Total Fuel Capacity per Vehicle (gal)	Typical Number of Each Vehicle/ Container	Typical facility Total Storage Capacity (gal)	Maximum Number of Each Vehicle/ Container	Maximum Facility Storage Capacity (gal)
Pickup 2 x 100	2 x 100	Gasoline	200	8	1,600	12	2,400
Pickup 1 x 100	1 x 100	Gasoline	100	1	100	3	300
Mini Tanker 500/700 Split	500 + 700	Gasoline	1,200	8	9,600	15	18,000
Mini Tanker 500/700 Split	500 + 700	Diesel	1,200	2	2,400	4	4,800
XXL Tanker	2,700	Diesel	2,700	5	13,500	6	16,200
XXL Tanker	2,800	Diesel	2,800	1	2,800	2	5,600
Steel Liquid Oil Drums	55	Oil, Used Oil and Waste Gasoline	55	4	220	6	330
Total Typical Facility Capacity					**30,220**		
Total Maximum Facility Storage Capacity (MFOD) Tank Vehicles and Drums							**47,630**

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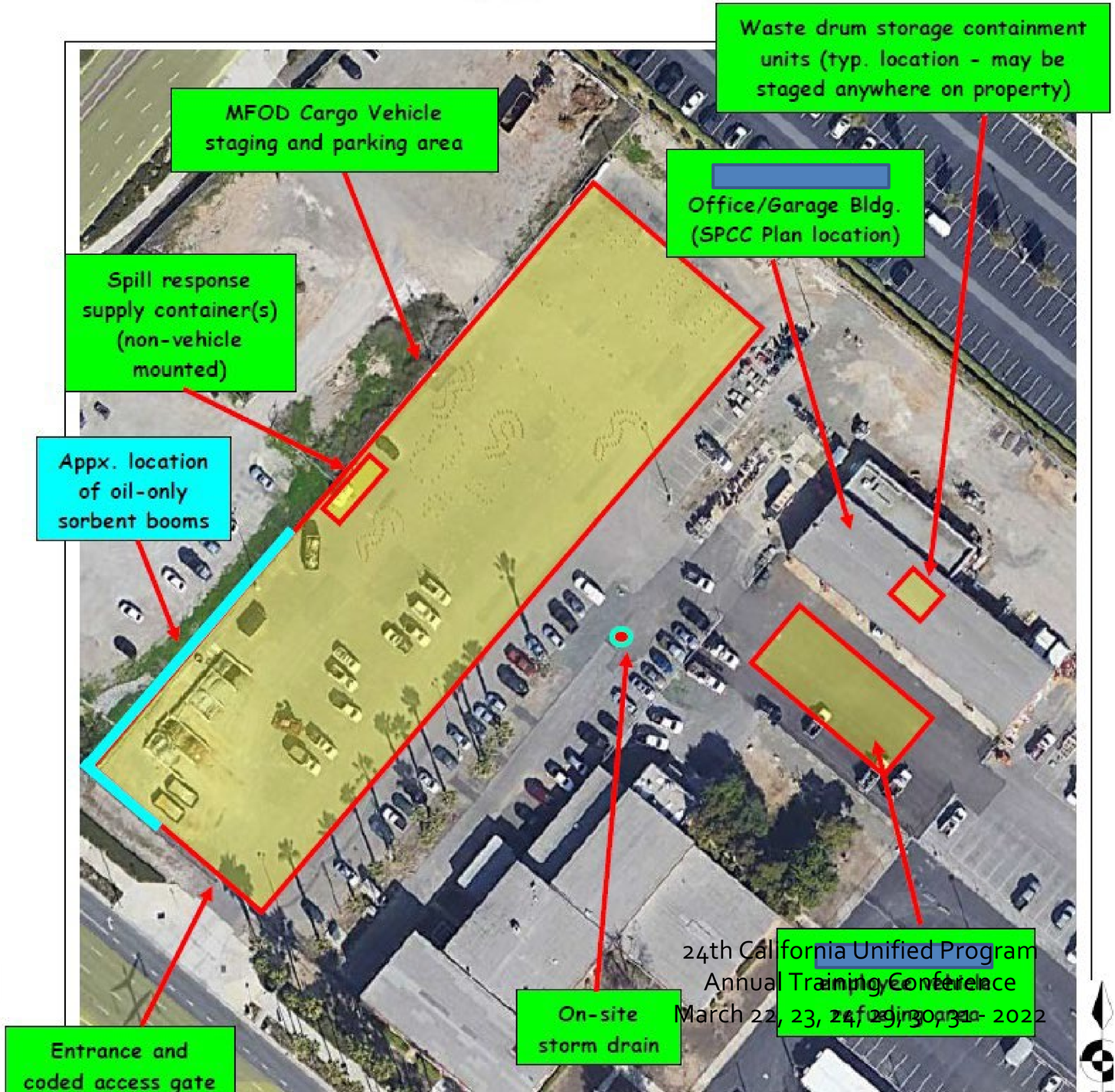
SPCC Facility Diagram

- Tanker (MFOD Cargo Vehicle) staging/parking area
- Employee vehicle refueling area
  - The only loading/unloading/ transfer area at the location



SPCC Inspections and Integrity Testing

- For Booster Fuels tankers:
  - Inspections:
    - Daily pre-trip and post-trip inspections
      - Per CARB and USDOT/FMCSA 40 CFR 396 requirements
    - PM inspections
      - 30d, 90d, 12m, 24m, 60m
    - Per SPCC Plan: also includes check of spill kits and booms.
  - Integrity tests:
    - For on-road specification cargo tankers
      - Per 49 CFR 180.401 - .417

USDOT Inspections and Integrity Testing

- USDOT requirements for on-road cargo tanks
  - Integrity tests:
    - Per US DOT/FMCSA requirements/standards for inspections of specification cargo tanks (49 CFR 107, 171.8, 180.407 et seq. ‘Requirements for test and inspection of specification cargo tanks):
      - External Visual (DOT code ‘V’) inspection to be performed every year
      - Internal Visual (I) inspection to be performed every year;
      - Leakage Test (K) to be performed every 2 years; and
      - Pressure Test (P) to be performed every 2 years.
- 49 CFR 107 Part F details the qualifications of ‘Registered Inspector’ and ‘Design Certifying Engineer’… a third party service

US DOT cargo tank inspection/integrity test markings (typ. on all specification cargo tanks)

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Non-Fire Code Regulatory Considerations

- Applicable to the facilities using MFOD services?
  - Customer facility neither owns nor operates the MFOD tanker
    - They’re not storing it – so no HMBP or SPCC applicability for the tanker
  - Employee vehicles never count for HMPB

MFOD Customer/Client Locations: HMBP

- Do fleet vehicles/mobile equipment count for HMBP?
  - CHSC is silent on that!
  - CUPAs typically not enforcing this aspect
  - AB732 (omnibus bill from CUPAs) should formally exclude these

MFOD Customer/Client Locations: SPCC

- If customer location **not** in the SPCC/ASPA program already… MFOD imparts NO additional requirements or regulation on the facility as it relates to transfer of fuel
- If the location IS ALREADY covered under SPCC/APSA… the fuel transfer activity WOULD be regulated/applicable to the facility's SPCC Plan
  - Oil transfer activities (loading/unloading) from/to non-SPCC- regulated tanks/equipment at SPCC-regulated facilities **IS** a regulated activity

MFOD Customer/Client Locations: SPCC

- Customer should update their SPCC Plan:
  - Identify the areas wherever the MFOD fuel transfer activities take place
  - Identify the general containment measures being used
    - MFOD's use of storm drain covers, MFOD use of spill kits on their vehicles, etc.
- This update could be considered a technical amendment

MFOD Customer/Client Locations: Spill Reporting

- Recall: ANY hazardous materials release or threatened release at a facility must be reported (CHSC 6.95)
  - Except if no threat to H, S, P, or E
  - If there IS a release from MFOD services… very likely would be minor/incidental and not pose a threat
    - And manageable by the trained MFOD employee before any H, S, P or E threat

MFOD Customer/Client Locations: Spill Reporting

- Federal reporting:
  - Any unpermitted, harmful discharge of oil to a navigable water from a facility must be reported
    - Gasoline and diesel are excluded from federal CERCLA definition of hazardous substances but they're still oils and regulated under the Clean Water Act!
      - ~ any amount entering storm drains, creeks, etc.
      - Regardless of who owns/operates the source of that oil.
        - Communication with MFOD driver is critical in the event of a discharge!

That's why proper use of the storm drain cover pad, MFOD procedures and training are so important.

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BREAK TIME!

Fire Code Considerations

- Brief intro and history of code changes
- Involvement with Booster
- Difference between fleet fueling vs mobile fueling
- Main concerns of the code body
  - Protect environment
  - Minimize “conflicts” between the fueler and the general public
  - Minimize ignition risk

Acknowledgement of Safety Record

- We realize that this is a relatively safe operation
- Probably safer than gas stations
  - Trained personnel
  - No records of large-scale problems
  - Most operators are very good at following the code

Types of Mobile Fueling

- Chassis mounted tank less than 1200 gallons
- 60 gallons total in 5 gallon cans
- No trailers

Required Documents

- Safety Plan
- Training Records (Employees)
- Site plan (Where required)

Mobile Fueling Areas

- Nothing underground
- Nothing inside a building
- Not on a Public Road
- Separations
  - Property lines
  - Ignition Sources

Equipment

- Hose Lengths <50’
- Fuel Limit 30 gallons
- Fire Extinguisher
- Spill Kit

Operational Considerations

- Constantly attended
- Brakes set
- Warning lights on
- Can’t obstruct fire lanes

Operational Considerations

- Hose positioned so it can’t be driven over
- Hose on a reel or in compartment
- Drip Control
- Spill Reporting required as per CFC

Any Questions?

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