

Moderate Emergency Exercise

*Environmental Release @ Main Gas Station
Table-Top Drill*


April 3rd, 2019





Objective

- I. Test emergency response preparedness related to an environmental release incident including availability and adequacy of resources required for emergency response.

 - II. Educate personnel on impact of environmental releases both on the environment and service deliveries.
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Format

- Moderate incident – locally impacting – multiple service lines;
- Preparedness, resource mobilization, communications and incident management coordination test;
- *Table-Top Exercise*;
- Please DON'T make phone call escalation to emergency services however you can call within your service to check resources availability;
- This is NOT to test KAUST wide services availability or interruption;
- The exercise will have 3 Injects with 10 mins spent on each one;
- Summary/open 30 minute discussion will be facilitated at the end of the exercise, input will be recorded;
- This exercise MUST only be resourced with those personnel and resources which would normally be available at the time of the exercise – boosting resources for the exercise defeats the testing purposes.

Scenario – Large Diesel Spill – Main Gas Station Inject I

Scenario Event

16:00

Community main gas station diesel oil delivery tanker had an oil spill caused by crack at the valve joint

16:02

- 911 has been notified by the gas station operator
- Leaks source has not been plugged
- Around 5,000 Liters diesel has been released
- There is free flowing diesel on both sides of gas station forecourt

Evaluator Comments

Incident Communication

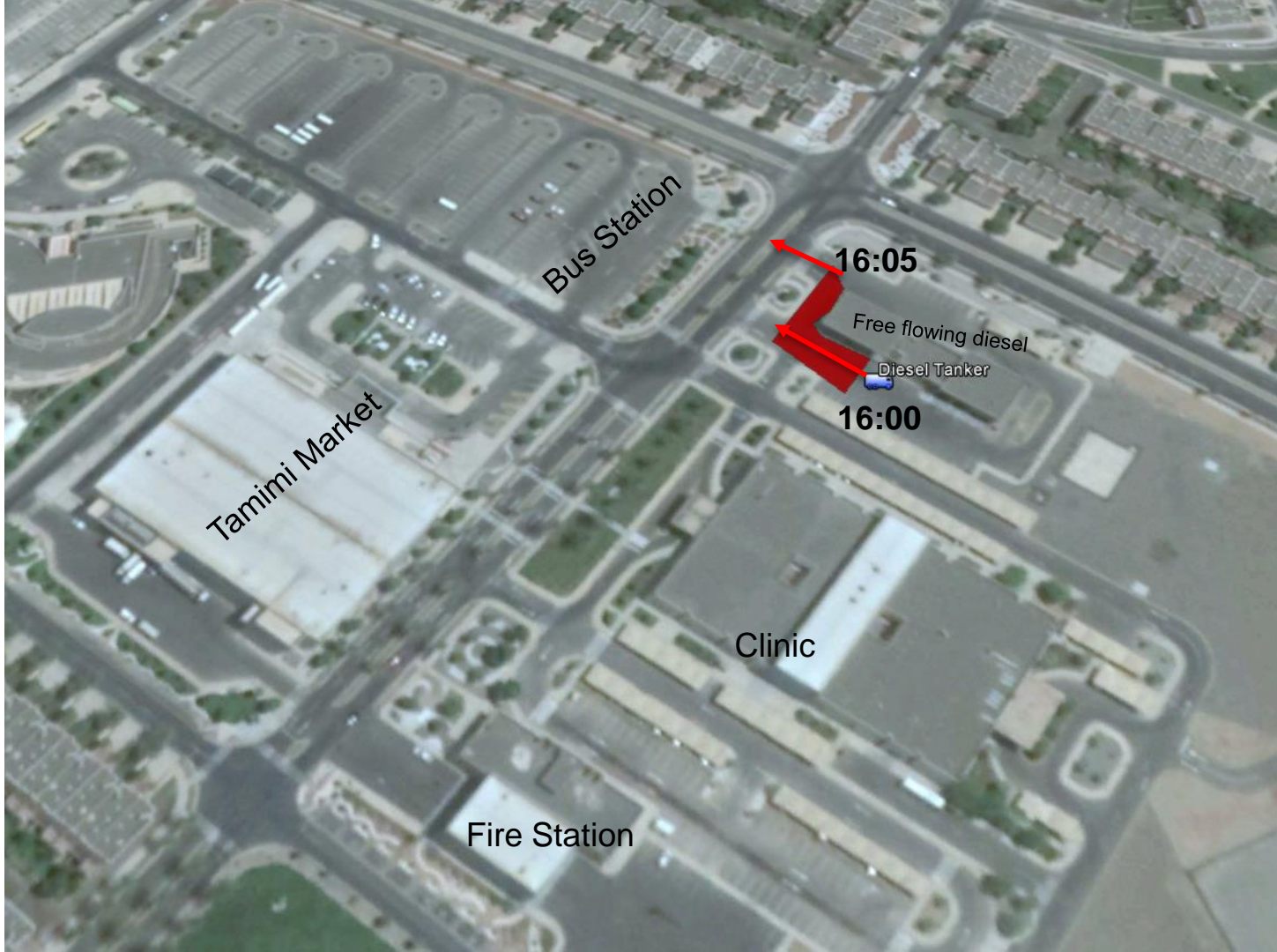
1. In addition to 911 call, gas station operator notified KAUST Transport lead.
2. The incident was also escalated to Community Life management and HSE.

Site Update

1. Diesel spill was too big to contain by the gas station team.
2. All team assembled at safe location (Assembly Point) waiting for the emergency team to arrive.

Recommendation





Bus Station

Tamimi Market

Clinic

Fire Station

16:05

Free flowing diesel

Diesel Tanker

16:00



Scenario – Large Diesel Spill – Main Gas Station Inject II

Scenario Event	Evaluator Comments
<p>16:02</p> <ul style="list-style-type: none">• Emergency team is at the scene• Estimated 15,000 Liters is released and ongoing• The free flowing diesel has reached up to the main streets• Road leading to intersection are blocked off and security team is controlling the traffic• There is strong diesel odor in the area <p>16:30</p> <p>A significant amount of diesel has entered into the storm water drain There has been heavy rains the day before</p>	<p>First Responders</p> <ol style="list-style-type: none">1. As the incident site is next door to fire station, emergency services will arrive to the incident location in no time after being notified.2. Fire chief (incident commander) take the control over the incident and collect information from the gas station staff (spilled material, amount spilled, total volume in truck etc.)3. Quick initial risk assessment - life safety, wind direction, floor gradient etc. by emergency services.4. Set up incident command center upwind location.5. Incident commander calls in management of HSE, FM (maintenance, utilities, waste management), CL at the site.6. 300 m from the incident location needs to be evacuated (noted, but not actioned – environmental focus only). <p>Site Updates</p> <ol style="list-style-type: none">1. Security team takes the lead in closing all the road leading to the intersection.2. Emergency services contains the oil leak from the truck by applying appropriate method, e.g. bandages.3. Simultaneous emergency services initiated the diesel flow containment to avoid further spread and entering road drainages.

Scenario – Large Diesel Spill – Main Gas Station Inject II

Scenario Event

16:02

- Emergency team is at the scene
- Estimated 15,000 Liters is released and ongoing
- The free flowing diesel has reached up to the main streets
- Road leading to intersection are blocked off and security team is controlling the traffic
- There is strong diesel odor in the area

16:30

- A significant amount of diesel has entered into the storm water drain
- There has been heavy rains the day before

Evaluator Comments

4. Smaller storm water drains were blocked but longer trench/drain could not be blocked that quickly.
5. Department representatives summoned by incident commander are on incident site.

Incident Escalation into storm drain

1. Utilities operations manager has been informed about diesel going into the storm water drain and advised to look into options to stop this going to canal.
2. Storm water lift station team has been dispatched.
3. If the lift station pump is turned off the diesel might start building up in network and tank/lift station can overflow

Service/Operation Impacts

1. Maintenance supervisor has shutdown the air conditioning at KAUST health due to diesel fumes/odor in the local air.
2. Waste management has assembled team and on stand by.
3. Waste management does not have sufficient spill clean up supplies (absorbent and clean up tools) for larger spill.

Scenario – Large Diesel Spill – Main Gas Station Inject II

Scenario Event

Evaluator Comments

4. Community life team is working on community announcement covering alternate fueling arrangement and impacted operations (KH, Super market, bus services)

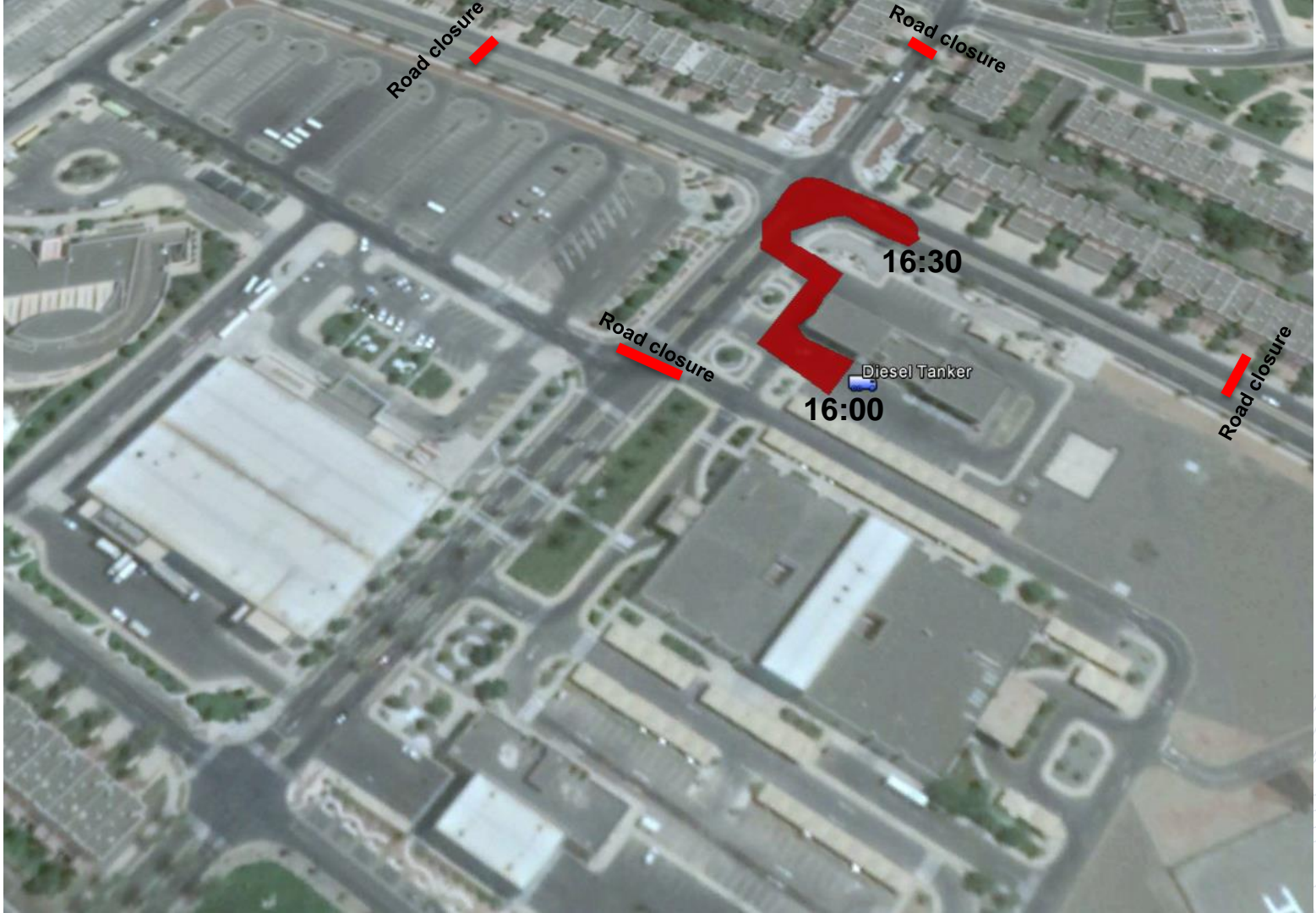
Recommendation

1. Verify if the gas station has a oil interceptor around forecourt
2. Verify the availability of longer (>10m) storm drain block in sufficient quantity
3. Review the possibility of diesel flow diversion to the sewer network and then to emergency pond at the Central Utilities Plant
4. Review Waste Management spill response capabilities, resources, readiness and contractual obligations.

Assignees

1. Transport Services
2. Fire Services
3. Utilities Services
4. Waste Management Services





Road closure

Road closure

16:30

Road closure

Diesel Tanker

16:00

Road closure



Scenario – Large Diesel Spill – Main Gas Station Inject III

Scenario Event

16:30

A significant amount of diesel has entered into the storm water drain

The leaks source has been plugged

16:45-17:30

The cleaning effort has been initiated

17:00

Lift station pump has been shut off

17:15

Scheduled weekly – campus hazardous waste pick up has been interrupted

19:00

An oil sheen is reported in the canal at the discharge point of storm water lift station

19:05

Marine services team has been notified

Evaluator Comments

Situation at Lift Station

1. Utilities lift station team confirmed shutting off the lift station pump and closely watching the water/diesel mixture in the tank. However it is likely that unknown quantity of diesel/water mixture has gone into the canal.

Incident Escalation

2. Community life has advised Coastline to immediately visit the storm water outfall under canal bridge and take precautionary measures of containment.
3. Coastline has confirmed discharge of contaminated water and had deployed the boom and absorbent pads around the effected area.
4. Coastline team will continuously monitor the area.

Service/Operation Impacts

1. Waste management has informed campus and KAUST Clinic about re-scheduling hazardous waste pick up. Lab hazardous waste now will be stored overnight in the lab pack room.
2. Campus will monitor storage area and inform relevant department regarding storage.

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An oil sheen is reported in the canal at the discharge point of storm water lift station

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Evaluator Comments

Site update

3. Diesel spill at incident site is fully contained and waste management has been advised by incident commander to be ready to takeover the site for clean up.

4. Waste Management mobilized cleaning team and equipment on site. Sand has been arranged for absorbing diesel accumulated on floor.

Closure

1. Incident area is declared safe by Incident Commander
2. Waste Management has reported completion of clean up and all the cleanup waste is bagged and containerized for disposal as hazardous waste.

3. Roads has been reopened

4. The gas station will remain closed.

5. Utilities team is preparing plan to clean up storm water drains from residual diesel and removing diesel/water mix from the lift stations.

Scenario – Large Diesel Spill – Main Gas Station Inject III

Scenario Event

Evaluator Comments

6. Booms will remain in place around the canal discharge point until the lift station and networks clean up is completed. Absorbent pads will be removed and replaced regularly.
7. The entire spill site will be monitored for odor and fumes by Transport services for next few days.
8. It was estimated that full cleanup of a large diesel spill might take up to 3 days

Recommendation

1. Review the arrangement for emptying the storm water lift station tank that has been contaminated with diesel and appropriate disposal process
2. Review third party clean up availability and capability
3. Review Coastline spill response capabilities, resources, readiness and contractual obligations.

Assignees

1. Utilities Services
2. HSE
3. Marine Services

