

# Hollingdean Waste

**Contract:** South Downs Integrated Contract

**Incident Detail:** Date: 25/08/2019  
Time: 22:49  
Location where incident occurred: **Hollingdean Waste Transfer Station**

**Executive Summary [Please note this report is still pending the receipt of the BHCC Investigation Report]**

At approximately 22:16 on Sunday 25th August 2019 a fire ignited within the Waste Transfer Station (WTS) at Hollingdean Integrated Waste Facility. At 22:49 the fire alarm activated and East Sussex Fire & Rescue Service (ESFR) were called to site by the Alarm Receiving Centre, arriving at 23:00. The fire was under control by approximately 02:00 and the Fire Service handed back the site at approximately 09:30.

The fire caused damage to an area of Danpalon wall panelling above the bulky waste bay, and damage to internal wiring which had rendered some systems inoperable such as vehicle access doors, odour control systems and internal lighting.

A statement issued by East Sussex Fire and Rescue (ESFR) suggests that the likely cause was a disposable barbecue igniting the surrounding waste on the tipping floor; the fire then spread to the adjacent bulky waste bay.

**Recommendations from the report:**

- Liaison with the Client to address the issue of disposable barbecues being deposited within street cleansing and other wastes;
- Review of procedure associated with fire watch, waste acceptance, storage, segregation and quarantine;
- Review the fire detection system to establish if further enhancements can be added to bolster the system.
- Review the ability for Newhaven ERF to accept waste on a Sunday to assist with minimizing waste bay heights;
- Review emergency access arrangements, in particular how vehicle access doors can be opened in the event of a fire and also whether ESFR are fully equipped to open the Fire Information Box;
- Review storage of flammable, hazardous and bulky wastes in response to how the current arrangements impeded and presented additional risk to the Fire Service when tackling the fire (e.g. gas bottles);
- Review Facility Emergency Plan to make it clear to emergency services attending an incident that the Transfer Station is a split level site, and provide a means of identifying the tipping wall in the event of emergency services having to enter the building in the dark.

**Scene**

Hollingdean Waste Transfer Station (WTS) accepts domestic, streets / fly tip, bulky, glass and sweepings waste streams. These come primarily from Brighton & Hove City Council's in house collections operation, "Cityclean", with some additional Veolia and third party commercial streams.

The WTS is a split level site. Tipping vehicles enter through one of the upper level doors. Typically vehicles enter to tip as follows:

Door 1: Glass or Sweepings

Door 2: Domestic

Door 3: Streets / Bulky

Door 4: Not used (segregated small WEEE, fridges, TVs, scrap metal and hazardous items)

Doors 5, 6 and 7 give access to the lower levels where waste is loaded for outward transport.

As identified from CCTV, at approximately 22:16 on Sunday 25th August 2019 a fire started on the lower level of the WTS in the area where the streets / bulky waste is tipped. At 22:49 the fire alarm activated and the ADT Alarm Receiving Centre began calling keyholders. East Sussex Fire & Rescue Service were called to site by the Alarm Receiving Centre and arrived at 23:00. The Site Manager arrived at 23:18, see Figure 1, at which point the Fire Service had already gained access to site.



*Figure 1. Scene shortly after arrival on site*

At this point a fire crew had been deployed around the railway side of the WTS to fight the fire through a hole in the melting Danpalon panelling above the bulky waste bay, see Figure 2. An access hole had been cut in door 4 for hoses to be put through to fight the fire from outside the building. However the fridges and WEEE behind door 4 prevented this. A hole was then cut in door 3.



*Figure 2. Water applied through hole in Danpalon panelled section (22:15)*

The Incident Commander had retrieved the Emergency Plan and Site Plan from the site's Fire Information Box. The Site Manager reviewed these documents with the Incident Commander, in particular explaining where the gas bottles and cylinders were stored. Keys to the pedestrian doors and gas cages were taken from the Fire Information Box and given to the Incident Commander. Access was gained using these keys and all gas bottles and cylinders removed from the building and placed in the yard.

The Incident Commander requested details of how to open doors 1-4 to assist in fighting the fire. Details were provided by the Site Manager and a firefighter entered the building attempting to open the doors, however the doors would not open.

Access to the lower level was gained through the pedestrian door adjacent to door 7, which was itself opened as this door was found to still be operational. Fire crews gained access using breathing apparatus and began fighting the fire from within the building.

The fire was brought under control by approximately 02:00. There then followed a long period of keeping the fire under control as crews entered the building on rotation and applied water to the bulky waste pile. This prevented the flames from re-starting but did not put out the deep seated hot spots within the pile even after several hours. The Incident Commander explained that the waste had formed a crust and the water was running off. He said it would be necessary to enter the building with a loading shovel and remove waste for damping down but only once the smoke levels had dropped significantly.

To aid in clearing smoke from the building the Incident Commander requested that one of the upper level vehicle doors be lifted. This was achieved at approximately 02:40 using a Telehandler to force up and then support the door on its boom, where it remained for several hours, see Figure 3.

At approximately 06:00 it was agreed that smoke levels had dropped sufficiently to enable the loading shovels to enter the building via Door 7 and begin removing bulky waste. Following a detailed safety briefing with the mobile plant operators they began removing waste at approximately 07:00 and placing it on the concrete pad outside doors 1-2. As each bucket was deposited, fire fighters applied water to fully extinguish any remaining hot spots. Once all the bulky waste was removed, the domestic waste was turned over and doused within the Transfer Station until that also had no hot spots remaining.



Figure 3. Telehandler used to open door 3 for smoke ventilation

At approximately 09:30 the Fire Service left site. A monitor hose was left inside door 3 to continue dousing the domestic waste.

**CCTV:** *CCTV is available which provides evidence of the vehicle(s) responsible for delivering the ignition source, and limited visibility of the fire igniting and spreading before cameras were destroyed by heat.*

**Witnesses:** No witnesses to the fire starting - site was un-manned.

**Injury:** None

**Equipment:** No equipment was involved.

**Risk Assessment/s:** Fire Risk Assessment & Checklist  
Tipping Hall Risk Assessment

## Event Detail

### Events Leading Up to Ignition and Flames

At the close of business on Friday 23rd August there was one load of domestic waste and two loads of bulky waste stored within the WTS. The WTS and Haulage teams had worked to ensure that minimal waste would be stored in the building over the weekend, particularly with the Bank Holiday approaching.

By close of business on Sunday 25th August immediately before the fire started, there were four loads of domestic waste and three loads of bulky. This represents a typical level of waste at this point in the week. The increase in stored waste occurs because waste cannot be tipped at Newhaven ERF or at landfill sites on Sundays. Newhaven ERF has limited planning permission to accept waste on Sundays but is not operational and the landfill sites are closed.

The lower level area against the tipping wall is cleared by loading shovel as required to maintain sufficient space for further vehicles to tip in the WTS. On the day of the incident, the wall was last cleared at 14:05 by the previous Traffic Controller on shift. Generally the Sunday Traffic Controllers are trained to operate the loading shovel as there are no other trained operators on site. However in exceptional circumstances a non-

plant trained Traffic Controller will be used to cover the shift. In this case the usual, plant-trained Traffic Controller had resigned two days before so there were no plant-trained cover options available.

After 14:05 there were a total of 9 tips through door 3 into the streets/bulky area of the tipping wall. All of these loads fell either partly or completely on top of the preceding loads. This is normal practice and the wall is typically not cleared after each load. At no point was there too much material to prevent the next tip from being made, and at the end of the night there was still some tipping space left on the wall.

Each of these tips has been reviewed on CCTV, see Figure 4. The precise location where each waste pile landed, cross referenced with the later images showing the ignition point, lead to a very high probability that the fire originated in the very last load tipped, at 21:20. The prior load was tipped in a different location, and the loads before were tipped significantly earlier on.



Figure 4. showing before last tip (21:19), after last tip (21:20), point of ignition (22:16)

It is known that this was a street cleansing vehicle which appeared to contain entirely bagged waste, from street bins and/or cleansing activities, see Figure 5. Cityclean have yet to provide further information regarding the specific collection activities of this vehicle. At this point, given the likelihood that this vehicle was collecting from the seafront or busy parks areas of the City after a very hot Sunday prior to a Bank Holiday, it is thought highly likely that the ignition source within the load was a hot disposable barbecue. This issue will be updated in the report on receipt of further information from Cityclean. The investigation by Cityclean is still to be shared with Veolia.

Waste In Editor - East Sussex County Council : BHCC - Cityclean : HTSON12277 -							
Waste In Waste EWC Carrier Breakdown Rejected Load Tipping Area Manager							
Save & Close Undo & Close Use Stored Tare							
Weighing							
Ticket No		Customer Load Ref.		Disposed At			
WBHNW308459				East Sussex Hellingdean TS			
Gross		Date Weighed	Time Weighed	Net Weight		Volume	
3.480		25/08/2019	21:20	0.640			
Tare				Chargeable Wt		Item Quantity	
2.840		25/08/2019	21:23	0.640		W	
Waste and Vehicle							
Waste (Expecting: Streets)		Inspected By		Premises No.		Haz Consignment No	
Roadsweepings		BAYRAM,BEN					
Selected EWC Code for Waste:						Customer Round No	
200303: other municipal wastes [Street-cleaning residues]							
Fleet Reg		Vehicle Reg		Trailer or Container		Driver Name	
		EU19MYC				J Lewis	
Treatment		Non Customer Carrier				Tipping Location	
Physical / Mechanical		Brighton & Hove City Council					
Waste Disposal Authority		Area Of Origin		Code			
		Brighton and Hove					
At Weighing							
Time Entered Site		Time Exited Site					
21:20		21:23					

Figure 5: Weighbridge Ticket of Suspected Source Load

At the point of tipping, no smoke or flame(s) can be seen along the tipping wall. Immediately after the load was tipped, at 21:21, the Traffic Controller turned off the building lights and left the building for the evening no smoke or flames were visible.. From this point on the cameras are operating in darkness, however it can be shown from later footage that smoke and flame would have been visible on three cameras. From the point

of tipping at 21:20 until the first visible hot spot at 22:16 there was no smoke or flame(s) visible on these cameras.

There is a sudden flare up visible on the CCTV at 22:37. This is the point at which a smouldering incident becomes a clear fire. It is not known what caused the flare up but an aerosol or a battery would be reasonable assumptions. This event aided the spread of the flames and may have contributed to the ultimate severity of the fire.

### Alarm Activation

Fire detection within the WTS comprises linear heat cable, also known as heat tape. This runs along the roof spans a long way from the stored waste. When the cable reaches 50 degrees Celsius the alarm is activated. The alarm is connected to the ADT Alarm Receiving Centre.

ADT called the MRF Manager as the first keyholder on the list at 22:49 so the fire alarm activation would have been less than one minute prior. This gives the time between the first visible heat / flame at 22:16 and activation as 33 minutes - by which time it appears that the fire was well established.



*CCTV image taken at 22:48 (alarm activation point)*

The response time of ESFR was approximately 10 minutes from alarm activation. It would have taken 1-2 minutes for all four keyholders to have been called (none answered the first call) before ADT then called ESFR, so actual response time may have been closer to 8 minutes. The Site Manager subsequently returned the call and then attended site as soon as possible.

When ESFR arrived on site they either did not see the Fire Information Box, or did not find the keys within it. They instead cut off the gate latch to gain access. When the MRF Manager arrived on site the Box was open and the Plans had been retrieved, however the keys were still in the pocket on the inside of the door. The keys were given to the Incident Commander to provide access through the pedestrian doors to remove the gas bottles and cylinders.

Access was available through the hole in the melted Danpalon panelling to apply water on to the top of the bulky bay.

ESFR cut a hole in door 4 as that was in closest proximity to the bulky bay for applying water. However they were unable to do this because of the stored materials between the door (which is not used as a door) and the bulky bay. These materials include fridges, WEEE, TVs and scrap metal. They subsequently cut a hole in the door 3 which was sufficient but did not give as good an angle as would have been possible through door 4 had the way been clear.

Early on in the fire fighting response it was requested that one or more of doors 1-4 be opened. The Incident Commander explained that a firefighter had entered and tried the controls but they did not work. The MRF Manager explained that the e-stop button would need pulling out before the doors would operate. The firefighter re-entered but still was unable to operate any door. It is believed that at this point the high level wiring and safety switches on the doors had already been compromised by the hot air rising, possibly exacerbated by the louvres directly above the doors through which that hot air and smoke were exiting.

At 21:57, before the doors were tried, the internal cameras can be seen falling from the walls. Two cameras were later found on the floor, relatively intact, so presumably the fixings or substrate had melted first. However this serves to demonstrate the level of heat in the building at this early stage. It should be noted that whilst doors 1-4 (Crawford type) did not open, doors 5-7 (Hart type) did open. This appears to be because very hot air left the building via the louvres immediately above Doors 1-4. The hot air melted wiring and safety switches rendering the doors inoperable. Doors 5-7 do not have louvres and also their header boxes would have been lower down the heat column, and thus suffered less damage. It cannot be proven as an outcome of the investigation that one type of door is more resilient to fire than the other.

As firefighters were gaining access to the building it became clear that they were unaware that it was a split level site. This meant that they were initially unaware of the hazard presented by the tipping wall height change, and also not immediately clear on how to access the building and fight the fire. The Emergency Plan is a 2D plan and whilst the tipping wall is marked, it is difficult to appreciate the reality when entering an unlit building full of smoke. and the tipping wall hazards to their Site Specific Risk Assessment.

## **Following the event**

After the Fire Service left site at 09:30 on Monday 27th August the loading shovel continued to move the domestic waste around in the WTS and ensure it was fully wetted. Access to the MRF on site for tipping vehicles was maintained throughout Monday. The site team constantly monitored the piles to ensure no hot spots or re-ignition. Arrangements were made by the South Downs Haulage Office for vehicles to collect the affected waste the following day. The Environment Agency made contact with site, having been notified of the fire during the previous night by the Site Manager. The EA were satisfied with the actions that had been taken and that any impact on the environment had been minimised. The Fire Service returned at 16:00 to retrieve the monitor hose and subsequently did not return again to site. The site was secured and all employees left at 16:30.

On Tuesday morning the burnt bulky waste was loaded from the yard into articulated bulkers for transport to landfill, and any residues of waste were cleared from the yard by hand and then by mechanical sweeper.

Contingency arrangements were put in place for Client vehicles to tip at alternative Veolia facilities, namely Hove Transfer Station and Newhaven Energy Recovery Facility. Plans were also being put in place to allow "Twin Pack" glass to be tipped in the MRF whilst the WTS is out of action, which will offer a significant benefit to the Client.

The lower level contained significant amounts of fire water so drains were cleared and waste shovelled to allow the water to drain away. This area was then cleared by loading shovel to allow loading out of domestic waste and glass.

Doors 1-4 were thoroughly checked at ground level and still would not open, although it was noted two doors still had power. Door 3 was lifted using a forklift teletruk to allow access for the Mobile Elevated Work Platform (MEWP) to enter the upper level. The MEWP was used to inspect the condition of the door motors and electrical connections at high level. The Maintenance Engineer / Assistant Manager concluded that some repair work would be required to have at least one door operational. A barrier was erected across the 3m tipping wall exclusion line in anticipation of contractors and visitors attending site over the coming days. Standing water was removed from the upper level. Fallen emergency light fittings including fluo tubes and

batteries were removed and disposed of. Photographs were taken to show the condition of facilities and services.

Contractors were then called to assess and begin effecting repairs to damaged systems. DJW Electrical Contractors attended site, checked all fixed wiring and disconnected any circuits that failed resistance testing, and will follow up with a quote to repair the cabling and lighting. Calor Gas attended site to remove some of the gas bottles that had been removed from the facility by the Fire Service. Avco attended site on Wednesday 28th August to remove damaged Danpalon panels hanging from the building, see Figure 6. They also assessed the damaged rainwater downpipes and concluded that there was significant work required to reinstate them. The damaged Danaplon panels were replaced with temporary panels on Friday 30th August.

Assa Abloy attended site on Wednesday 28th to assess the condition of the doors 1-4. They concluded that significant work was required to reinstate the doors and were not prepared to stay on site and begin this work citing lack of time and skills. They instead offered to quote to complete the repair work in a few weeks' time. Getting the doors back to full operation is key to commencing tipping operations at the site. Following intervention by Veolia's Supply Chain department, Assa Abloy commenced work on repairing the doors on Monday 3rd September. The first door (No. 2) was fully operational on 04/09/19.

Tyco attended site on Thursday 29th August to assess the heat detection cabling in the WTS and restore the fire detection. Further work is required to reinstate all of the linear heat cable, however the panel is in working order.



Odour systems were inoperable but temporarily replaced with mobile units required for the reopening of the Transfer Station. Availability of the mobile units from the supplier APPS was confirmed for week commencing 2nd September 2019. The system has now been fully reinstated.

A temporary CCTV and detection system was delivered to site Thursday 29th August by the supplier Onwatch to provide emergency security coverage. The system has now been fully reinstated.

The Loss Adjuster attended site on Friday 30th August. On the same day a UAV (drone) surveyed the building structure and has produced a dataset which can be used to inform structural assessment (no areas of concern were noted from the survey).

Figure 6. *Damage to Danpalon panels*

**WHY:**

**1. Non identification of the ignition source within the load**

It has been shown that Cityclean have a procedure for handling disposable barbeques placed within dedicated BBQ Bins, however this does not cover the eventuality of a disposable barbeque being placed in a regular streets bin. It is unknown what other procedures or training are provided to collection crews relating to disposable barbeques within streets bins or found loose.

Clearly it is incumbent upon collection crews to inspect the waste they are collecting, where it is practical to do so, and to be vigilant for hazardous materials including hot ashes and barbeques and report any increased risks to the Weighbridge.

**2. Non identification of the ignition source within the tipped waste pile**

There was no loading shovel driver on site from 14:15 to 22:00, which meant 9 streets loads were “stacked” on top of each other without being pushed up into the main pile. This may have presented more combustible material to the fire; equally if the load had been pushed up it could have created an even bigger fire.

If the Traffic Controller had pushed up the load, it may have given off smoke and alerted him to the presence of an ignition source. Equally fires can be caused by pushing up, particularly when batteries are involved. Considering these points, the lack of a loading shovel driver is not considered to be a direct cause of the fire.

There is no physical separation between loads tipped at the end of the day, and the main bulky waste pile. Consideration must be given to whether end-of-day loads and especially streets loads are quarantined somewhere before being pushed up into the main pile.

Waste levels were cleared down as much as possible on the preceding Friday night but always increase over a weekend, particularly on Sundays when no bulky or domestic waste can be tipped at disposal outlets. Having the ability to tip one or both commodities on Sundays would mean less material stored in the WTS on Sunday nights. In the case of Newhaven ERF this would require a review of current operating procedures as the ERF is closed on a Sunday and has restricted inputs on Bank Holidays. There are also limits on the numbers of vehicles that can tip.

### **Recommendations;**

- Liaison with the Client to address the issue of disposable barbecues being deposited within street cleansing and other wastes;
- Review of procedure associated with fire watch, waste acceptance, storage, segregation and quarantine;
- Review the fire detection system to establish if further enhancements can be added to bolster the system;
- Review the ability for Newhaven ERF to accept waste at the weekend and amend planning as necessary.
- Review emergency access arrangements, in particular how vehicle access doors can be opened in the event of a fire and also whether ESFR are fully equipped to open the Fire Information Box;
- Review storage of flammable, hazardous and bulky wastes in response to how the current arrangements impeded and presented additional risk to the Fire Service when tackling the fire;
- Review Facility Emergency Plan to make it clear to emergency services attending an incident that the Transfer Station is a split level site, and provide a means of identifying the tipping wall in the event of emergency services having to enter the building in the dark.