

**REPORT ON FIRE AT
GUERNSEY RECYCLING
BULWER AVENUE
ST SAMPSON
GUERNSEY**

on 3rd AUGUST 2018



**J P Le Page GFireE
Chief Fire Officer
Guernsey Fire & Rescue Service**

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1. INTRODUCTION

The Guernsey Fire & Rescue Service carries out a debrief following response to incidents, in order to identify the learning outcomes from each incident. This practice is proven to bring about improvements that reduce risk and improve operational response arrangements.

On Friday 3rd August 2018 a fire was discovered on premises off Bulwer Avenue, St Sampson, Guernsey, which house the company known as Guernsey Recycling (1996) Limited (Guernsey Recycling). This written report on the multi-agency debrief of that incident has been prepared due to the size of the incident and the public interest in it.

This report provides the reader with an overview of how the fire is believed to have started and how it was subsequently dealt with. It also explores the findings of the subsequent debrief review of the response and the investigation into the cause of the fire. Throughout the report are observations and recommendations for improvements, which should lower the risk and impact of a similar event happening again, whilst also identifying areas for improvement within the response arrangements to such incidents. The main source of reference for the recommendations within this report has been obtained from Waste Industry Safety and Health Forum's (WISH) guidance document entitled "WASTE 28 Reducing Fire Risk at Waste Management Sites, issue 2 – April 2017".

2. OVERVIEW OF PREMISES

The property involved in the fire is a scrap metal recycling centre situated in a yard covering an area of approximately 3770m². The yard has a secure perimeter fence with access via three gates, but is somewhat enclosed by neighbouring sites. To the rear of the yard (facing west) was an old flooded quarry works that contained Guernsey Water's largest fresh water reservoir. Also on this elevation was the cemetery of St Sampson's Parish Church. A high granite wall served as the boundary with premises operated by the Fuel Supply company 'Rubis' to the south. To the east there were several industrial buildings that housed a carpentry and joinery business, along with a crane hire business. Beyond these buildings (further to the east) was a liquid petroleum gas storage and cylinder refilling facility.

The yard contained a stack of two 'Porta Cabin' type buildings used as offices and for staff welfare. Additionally, there was a corrugated steel shed for non-ferrous metals, an open fronted 'ELV' (end of life vehicle) building used for de-polluting vehicles and storing vehicle wheels and tyres, and a steel framed steel clad building housing the diesel powered engine for the 'shredder' and associated workings. Adjacent to this building was an industry standard

diesel tank. A number of shipping containers were also positioned within the yard, which were used for workshops and storage of tools and site equipment.

3. RECEPTION OF MATERIAL BELIEVED RESPONSIBLE FOR FIRE

At 0754hrs on 3rd August 2018, 1,400kg of Waste Electrical and Electronic Equipment (WEEE) was delivered to the premises from the States of Guernsey's civic amenity site at Mont Cuet in the Vale. After being weighed, the WEEE material was tipped onto a flat concrete base at the north end of the yard. This cleared area of the yard acts as a waste reception area/quarantine area, where the waste can be checked before being processed.

It is understood that Guernsey Recycling has a contract with the States of Guernsey to process (amongst other things) WEEE material after it has been collected at the States of Guernsey's civic amenity sites. As there is a well-known fire hazard connected with batteries contained within electronic equipment, there is an obligation within the contract that "batteries will be removed from the waste material by the States of Guernsey prior to delivery of the material to Guernsey Recycling".

Site operatives at Guernsey Recycling were aware that the WEEE material should have already been sufficiently screened for hazardous contents (such as batteries) by the States of Guernsey. When the WEEE was delivered and tipped in the Guernsey Recycling yard, it was also visually checked by a Guernsey Recycling operative for any non-conforming waste and hazardous items under their standard waste acceptance procedures for all sources of material.

Once this acceptance check had been completed, the operatives set about moving the WEEE into a large metal container using a mechanical grab crane in order to process it. It was during this operation that a fire was discovered.

OBSERVATIONS

On page 31 (3.1.1) of the WISH Guidance it states: "One of the most common causes of fires in reception areas is the receipt of 'hot' loads, or loads with hazardous materials in them such as gas cylinders, batteries or containers of flammable liquids, which can subsequently cause a fire. You should ensure you have robust waste acceptance procedures that prevent unauthorised waste being accepted, so far as practical, and for limiting their potential impact so far as prevention is not practical."

A thorough joint Fire Investigation was carried out on the 9th August 2018 by a Fire Investigator employed by the Guernsey Fire & Rescue Service, along with a Fire Investigator employed by Fire Investigations (UK) LLP, who were acting on behalf of the Insurers of the site.

They found clear evidence of Lithium Ion batteries being present within the WEEE material at the Guernsey Recycling yard and (along with other supporting evidence) concluded that the cause of the fire was most likely due to thermal runaway of a Lithium Ion battery within the WEEE material at the Guernsey Recycling premises. During the Fire Investigation, laptop computers (complete with lithium ion batteries) were discovered within the storage containers at both of the States of Guernsey's civic amenity sites. This demonstrated that the process employed by the States of Guernsey for removing batteries from WEEE material was not adequate and led to suspicion that the battery or batteries that were responsible for the fire, may have originated from one of these collection sites. However, it was not actually possible to prove the origin of the battery responsible for the cause of the fire, as Guernsey Recycling also received WEEE material from other sources, which may have already been in the WEEE processing container where the fire was originally discovered.

The discovery of the poor battery separation procedure at the States of Guernsey's sites was made within a week of the fire occurring and immediate steps were taken to bring it to the attention of those responsible for the operation of the sites. As a result, the procedure for the reception of WEEE material from members of the public at the States of Guernsey sites has been changed. Previously, members of the public were instructed (via clear signs at the sites) to remove all batteries before placing WEEE material into the relevant container. As it was clear that the public were not following the instructions and were placing hazardous batteries within the WEEE containers, the operatives at the States of Guernsey sites were instructed to take the items directly from the members of the public and to separate the batteries themselves.

Operatives at Guernsey Recycling were also requested to carry out alternative checks of all WEEE deliveries to 'double-check' that no batteries had been missed by any of Guernsey Recycling's WEEE suppliers.

RECOMMENDATIONS

- 1. Following on from the immediate action that was taken, it is recommended that a full review is undertaken by the States of Guernsey and Guernsey Recycling to ensure that a process is followed by both organisations to ensure that all hazardous material is removed from waste groups before it is subjected to processing activity.**
- 2. It is also recommended that the States of Guernsey and Guernsey Recycling put efforts into raising public awareness of the dangerous outcomes that can occur when hazardous material is disposed of in an inappropriate way.**

4. OUTBREAK OF FIRE & IMMEDIATE ACTIONS

To give the reader a better understanding of how easy it was for this fire to start and then take hold, I will give a little more explanation to how a fire can start with a Lithium Ion Battery.

Lithium reacts vigorously with the water in the air to produce extreme amounts of heat, as well as highly combustible hydrogen gas. A Lithium Ion battery usually contains a metal coil and a flammable Lithium Ion fluid, which are contained within a lightweight casing. The contents of the battery are under pressure, so if an internal partition within the battery fails (and allows the fluid to come into contact with the air contained in a separation void within the battery casing), the heat of the contents exerts pressure on the battery casing, potentially producing an explosion. Alternatively, if the outer casing is punctured and allows the Lithium fluid to come into contact with the surrounding air, there is often enough heat generated to cause adjacent combustible materials to ignite (plastic casing of battery) and accelerate/sustain the chemical reaction to other cells/compartments within the battery. It is therefore possible for a fire and/or explosion to occur with a Lithium Ion battery through extreme shock (which damages internal partitions) or through puncturing the external casing. Once a fire commences within a battery, it is extremely difficult to extinguish through conventional methods, such as cooling with water. Although the water will help to cool down the material to below its ignition temperature, it also assists with the chemical reaction to produce more heat and flammable gas.

During the WEEE relocation process; the mechanical grab was used to move WEEE material to the WEEE container ready to process it. The grab alone weighs 1.4 tonnes, so the force applied by the grab, to the material being moved from the reception/quarantine area and depositing into the WEEE processing container, may have been sufficient to damage a Lithium Ion battery contained within the material. At some point midway through the relocation operation, it was noticed that smoke was emanating from the WEEE processing container. A radio broadcast was put out across the site to raise the alarm and the site's fire procedures were enacted. The crane operator used the grab to try and remove the burning waste from the container and place it in a quarantine area on the ground, in line with recommendations in the WISH Guidance. The idea was to give other staff much easier access to fight the fire on the floor with dry powder fire extinguishers located on the premises. Unfortunately, the fire within the WEEE continued to develop rapidly while the operatives extinguished the fire within the waste on the ground.

It is estimated by Guernsey Recycling staff that they attempted to deal with the fire for approximately 10 minutes, before they realised that it was beyond their capability and they decided to alert the Guernsey Fire & Rescue Service. During that time, they used 17 hand-held

Fire Extinguishers and a large wheeled firefighting extinguisher, which contained the equivalent of an additional 10 dry powder extinguishers.

OBSERVATIONS

On page 12 of the WISH Guidance, it identifies how a suitable assessment of the fire risks should be carried out and appropriate controls and measures should be identified and followed by those operating the site. This is known as a 'Fire Plan'. Given the fact that a fire broke out at the site and staff at the site tried (unsuccessfully) to deal with the fire before calling for assistance from the Fire & Rescue Service, it would appear that the 'Fire Plan' for the site requires review.

On page 13 (1.7.3) of the WISH Guidance, it identifies that the Fire Plan should clearly state the method for the segregation of combustible materials and Appendix 1 of the Guidance clearly identifies how suitable segregation can be achieved. Guernsey Recycling had segregation procedures in place to create a fire break, but these procedures should be reviewed in comparison to this recently revised WISH Guidance.

On page 21 (2.5.2) of the WISH Guidance, it explains how heavy mobile plant may be used in tackling fires. It also details in 2.5.4 how a designated 'quarantine area' should be used to ensure that tackling fires in this way can be effective without further fire spread. It is clear that staff at Guernsey Recycling attempted to tackle the fire using heavy mobile plant before notifying the Guernsey Fire & Rescue Service and employed the technique to good effect once the Guernsey Fire & Rescue Service deemed it safe to allow it to re-commence. However, given that the initial fire got out of control and was able to spread, suggests that the designated quarantine area was not sufficient to contain a fire of this type.

On page 24 (2.8.1) of the WISH Guidance, it states the following: "While fire extinguishers may be useful in tackling small fires, the majority of larger waste fires are likely to be fought with water, in their initial stages at least. If you do not have a sufficient water supply, the outcome of a major fire is likely to be predictable." This incident has clearly demonstrated this point, as the fire was clearly too big to be dealt with by fire extinguishers and the site is not fitted with other facilities for dealing with such a fire. This guidance, and the experience gained from this incident, should influence changes to be made to the Fire Plan procedures for the site and the future behaviours of the staff who operate it. It is therefore positive that (since the fire) Guernsey Recycling has already started working with an industry-leading Fire Consultant, and particularly the main author of the WISH Guidelines, to get the best possible industry-leading advice in improving the Fire Plan for the site.

RECOMMENDATIONS

3. It is recommended that Guernsey Recycling's Fire Plan requires review and amendment. The Guernsey Fire & Rescue Service should be fully consulted in the creation of a new Fire Plan for the site.
4. It is recommended that segregation on the site should be reviewed in comparison to the segregation guidance provided in Appendix 1 of the WISH Guidance.
5. It is recommended that improvements are made to the designated quarantine area at the site, to ensure that fires can be effectively dealt with without fear of fire spread outside of the quarantine area.
6. To ensure that changes to procedures are made in order to lower the risk of a repeat incident of this scale, it is recommended that Guernsey Recycling engage with the Guernsey Fire & Rescue Service to establish a routine training schedule for Guernsey Recycling staff on fire response actions. It is recommended that Guernsey Recycling commit to carrying out an exercise with the Guernsey Fire & Rescue Service on an annual basis in order to monitor the effectiveness of the training given and to maintain safe and effective collaborative firefighting procedures between the staff of both organisations.

5. JOINT EMERGENCY SERVICES CONTROL CENTRE RESPONSE

The Joint Emergency Services Control Centre (JESCC) received the first report of the fire at Guernsey Recycling at 0913hrs on 3rd August 2018. The details passed by the caller was that there was a small fire in the open that was not spreading, but not extinguished, which was involving an electric box. From this information the dispatch system suggested the response should be a single Water Tender Fire Appliance. The JESCC operator passed on the dispatch information to the Fire Station without any delay and the Fire Appliance with a crew of 5 personnel arrived at the incident at 0923hrs. Whilst the Fire Appliance was travelling to the incident, the JESCC operators received a further 15 calls to report the same fire. The information from the callers gave a clear indication that the fire was far bigger than was first reported. As a result, the remaining crew of 4 that were on duty were also dispatched to the scene (in a second Water Tender Fire Appliance) shortly before the first responding crew arrived.

Due to the large amounts of smoke and flames emanating from the incident, members of the public were actively posting pictures and videos on social media sites before the first fire crews arrived. As a result, many interested members of the public attempted to visit the area

to witness the incident for themselves. Also, a number of members of staff employed by agencies that assist the Fire Service started to contact the JESCC to find out official information and to see if their assistance would be needed. This placed an added burden onto the JESCC operators, who were already very busy with trying to receive and record messages from the responding Fire Crews, whilst also contacting other agencies to assist the Fire Service at the Fire.

OBSERVATIONS

High profile and fast developing fires of this nature are incredibly challenging incidents for control teams to deal with, due to the sheer volume of calls and tasks that are required to be carried out during the initial stages of the incident. The JESCC team appeared to deal with the incident well and were instrumental in ensuring a well-coordinated response from many different agencies took place in an effective and timely manner. As incidents of this nature do not happen very regularly, it is important that all JESCC staff are provided opportunities to gain experience in how to deal with such incidents.

The sharing of information and images on Social Media by the public was extremely helpful in getting out accurate information of the severity of the fire in a very quick way. Unfortunately, due to the uncoordinated sharing of the information it created extra work for those tasked with responding to the incident, along with extra demands on JESCC personnel at a time when they themselves were still trying to ascertain information and develop an effective response strategy themselves. As major incidents such as this are not experienced in Guernsey very often, the effects and demands of Social Media and public reporting via mobile devices had not been fully appreciated by the Emergency Responders in Guernsey.

RECOMMENDATION

- 7. To ensure that the good work of the JESCC Team is replicated at any future major fire, it is recommended that this incident (and the challenges that were faced by the JESCC operators that day) should be used to create a realistic training simulation for other JESCC operators to develop their operational experience of dealing with major fires.**

6. FIRE SERVICE RESPONSE

As detailed earlier in this report, the first Fire Appliance arrived on the scene at 0923hrs. From witness statements it is estimated that the fire had been burning for at least 20 minutes before the Fire Service were first in attendance. This would account for why the first team were faced with a fire that was large and out of control. The first message back from the initial Fire Officer in charge stated that he was dealing with a large area of Guernsey Recycling's yard on fire and asked for extra fire crews to assist, as well as recalling off-duty crews back to duty to assist.

It was clear that it was going to require a large number of fire personnel and water to bring the fire under control, but the first concerns of the Officer in Charge correctly focused on the risks that the fire posed to neighbouring sites. The major risks were the adjacent Gas storage and cylinder refilling facility to the east and the petroleum/oil fuel storage facility to the south. If the fire had spread to either of these two facilities it would have been extremely difficult to deal with. The other major concern was the water reservoir to the west, as any debris or contaminated fire-water from the incident could have contaminated the water with long-term effects for the Island to deal with. There was also the possible environmental risk from the smoke plume that was emitting from the site.

It is clear that all of these risks were identified and assessed in the correct order and in an appropriate way. Within 30 minutes of the first arrival of the Fire Service the operators of both the Gas and Fuel storage facilities had been consulted and action had been taken at both sites in order to protect them from the radiated heat and flying brands emanating from the fire. It was quickly established from Guernsey Recycling staff that the site was protected by a water catchment interceptor system. As a result, whilst awaiting the arrival of specialist advisors from Guernsey Water and Environmental Health and Pollution Regulation, the Fire Incident Commander allowed a limited number of water jets to be applied to the fire in order to limit its spread to high value items of equipment and the large diesel tank that fed the main engine room.

Once it had been established that the water run-off from the site would be directed away from the Reservoir, it was agreed by all agency representatives that the correct and most appropriate course of action would be to attempt to extinguish the fire with as much water as possible. To assist with this, the Airport Fire & Rescue Service were requested to assist and sent a crew in a specialist Aircraft Firefighting Appliance, with the ability to deliver 4,500 litres of water per minute onto the fire. Although the initial results were encouraging, it was quickly established that the drainage from the site (although adequately designed to cope with normal applications of Firefighting water) was not able to deal with the excessive amount of water being applied. As a result, slow draining surface water threatened to flood

neighbouring properties to the north. To mitigate this flood risk, the Airport Fire Crew were stood down and returned to the Airport.

A number of unmanned water jets were set into place, which were fed from the St Sampson's Fire Ring Main system. These prevented the fire from spreading to the south, whilst the fire crews set about extinguishing the main pile of burning refuse. With this procedure in place, the Fire Incident Commander declared that the fire was contained at 1118hrs, which was just less than two hours after the first attendance.

The Operations Director of Guernsey Recycling (who remained present with his staff at a safe distance on site when the Guernsey Fire & Rescue Service crews arrived) immediately volunteered to offer any assistance required due to his significant experience in tackling large scrap metal fires in the UK. As a result an amended operational plan was put into place by the Fire Incident Commander at 1330hrs, which utilised very helpful assistance from Guernsey Recycling staff members, who operated the crane grabs to help gain access to the burning material. This plan involved lifting small amounts of burning material from the main fire with a crane grab. Whilst the grab was suspended in the air, one fire crew directed their water jets to the refuse in the grab to extinguish it. The extinguished material was then placed onto a new pile of extinguished material, which was fully doused by another crew. Whilst this activity took place, the Turntable Fire Appliance was used to enable a water jet to be directed onto the fire from above.

Although the risks of fire spread to neighbouring premises had significantly reduced, it had not been eliminated. The wind direction from the north had been favourable up to this point and was sending the smoke out to sea rather than over the land. However, the effects of cooling the fire made the smoke less buoyant and the neighbouring area started to become smoke logged. To ensure that the number of people exposed to the smoke was limited, a joint command decision was taken by the Police and Fire Commanders to close the main road of Bulwer Avenue to all traffic and to evacuate all properties within an area of 200m downwind of the fire. Although it was continually monitored, the wind direction stayed fairly constant throughout the incident, which meant that the initial cordon did not have to be moved or changed once put into place.

Providing adequate numbers of Firefighting personnel to the incident to maintain an effective but safe system of work over a protracted period of time is always a challenge to a small Fire Service such as Guernsey's. It was for this reason that the Fire Incident Commander declared a 'Major Incident' event at 1036hrs. All available off-duty Firefighters were called back to duty in order to attend the incident, or to maintain a crew at the Station to respond to other incidents on the Island. There were no further personnel to call upon to provide relief at the incident during the daytime period once an acceptable number of personnel had been

established at the incident. Consideration was given to evoking off-Island assistance agreements or to shutting the Airport to provide relief crews from the Airport Fire Service. Fortunately this was not required, as the crews at the incident (including staff employed by Guernsey Recycling) worked incredibly effectively with little or no rest breaks over the course of the day and night to enable direct firefighting operations to cease at 2321hrs. The Guernsey Fire & Rescue and Guernsey Recycling Teams deserve praise for their excellent collaboration and hard work, which ultimately resulted in the fire being rapidly extinguished.

The Fire Incident Commander established a Forward Command Post at 1058hrs to the east of the Guernsey Recycling yard, which was used effectively throughout the incident to record all significant information. It also acted as an effective meeting/reporting point for all personnel from both the Fire Service and other responding agencies and business representatives. The Joint Emergency Services Interoperability Programme (JESIP) procedures (a national initiative to ensure all Emergency Responders communicate and work in a coordinated manner at operational incidents) were utilised at this incident, with clear evidence of joint decision making taking place at the Forward Command Post between Fire and Police Commanders.

OBSERVATIONS

On page 22 (2.5.3) of the WISH Guidance, it details how heavy mobile plant (if required to be used in firefighting operations) should be suitably protected to carry out the task of tackling fires in waste materials. In order for the Guernsey Fire & Rescue Service crews to gain effective control of the fire, the Plant Operators employed by Guernsey Recycling played an important part in helping to extinguish the fire. However, the crane grabs used in the procedure may not have the level of protection mentioned in the WISH Guidance to perform this function.

The Guernsey Fire & Rescue and Guernsey Recycling Teams worked incredibly hard in challenging and hot conditions to bring this incident to a satisfactory conclusion, but they should not be required to work for such long shifts at an incident without regular rest, refreshment and meal breaks.

Although the attempt to utilise the Airport Fire Service Appliance during the incident was not successful, the decision to send the crew away from the incident after only spending 30 minutes at the scene was (in retrospect) flawed. Although the use of the Fire Appliance proved to be not needed, the crew could (and should) have been retained at the incident to enable other Firefighters the opportunity to have a break.

RECOMMENDATIONS

8. **Although the plant equipment worked effectively without incident during the Firefighting operations, it is recommended that the machinery be checked to ensure that there is sufficient protection to enable the equipment to be used in such a way without risk to the operator or the equipment itself during any future Firefighting operations.**
9. **A review of the Fire Service's major incident procedures is required, to ensure that effective methods are available to Fire Incident Commanders to provide their crews with regular breaks.**
10. **Joint operational working arrangements have been long established and practised between operational staff members of the Guernsey Fire & Rescue Service and the Airport Fire & Rescue Service to ensure that aviation related incidents can be effectively dealt with. It is recommended that extra operational working arrangements be established and practised to ensure that crews from both Fire Services can also effectively work together at large non-aviation incidents to give extra personnel and provide better opportunities for crew rotation at strenuous incidents.**

7. RESPONSE AND ASSISTANCE FROM OTHERS

Once the 'Major Incident' was declared, the Island's Multi-Agency Emergency Response plan and procedures were invoked. Officers from Guernsey Police quickly established a multi-agency 'Tactical Command Group' at the Island's Police Station. The primary aim of the group was to assist with the coordination and communication to all agencies responding or assisting with the incident. It also served to establish advance planning of the multi-agency response to the incident, should the incident have escalated.

Also, through JESCC, the Fire Service Incident Commander called for assistance from a number of agencies to provide the Fire Service with specialist information on which to create an effective operational attack on the fire.

The Guernsey Police sent responders to the scene to assist with traffic management and the establishment of cordons and they drafted in assistance from Civil Protection Volunteers to manage the cordons once established and the flow of traffic that required diverting away from the area.

At the time of the Incident, a road in the area known as 'Grandes Maisons Road' was actually closed to traffic due to works being carried out along the road. With assistance from the Highways Team, the works in the road were temporarily suspended in order to allow the road to re-open and assist with the traffic diverted away from Bulwer Avenue.

Local businesses in the area were very understanding of the situation and the need for the area to be evacuated. This unfortunately meant that their operations were severely disrupted and (for some) no trading was possible at all during the day. During the initial stages of the incident staff from neighbouring businesses assisted the emergency response effort by assisting with traffic management (until the Police were able to close the road) and liaising with the Fire Service Officers about carrying out tasks on their neighbouring sites that would help to mitigate the risks posed by the fire.

OBSERVATIONS

Overall, it was found that the response and assistance provided by others to the Fire Service during this incident was excellent, with everybody working effectively together with a clearly identified and focused set of outcomes in mind. The pre-planned (and exercised) procedures for the creation of a multi-agency command group were carried out effectively and it was pleasing to see that the JESIP principles were followed during the meetings of this group. A subsequent debrief of responding personnel identified that there was in fact a slight problem with regards to the establishment of the Tactical Coordination Group, which is likely to be repeated at future incidents of this nature. This problem is in connection to the need for specialist information at the location of the incident, which requires for a person to physically visit the scene. With a small jurisdiction such as we have in Guernsey, it is very often the same person that is required to attend the scene and represent their agency on the Tactical Coordination Group. As a result, it was observed that there were some agencies that were not actually represented on the Tactical Coordination Group, as they were already assisting at the incident location. It is admirable that Guernsey strives to follow UK guidance when it comes to Emergency Planning and JESIP operating procedures, but this incident has highlighted that Guernsey has insufficient resources available on the Island to operate in the same way as the UK.

The response from all agencies that were asked to assist at the location of the incident was timely and appropriate. The information sharing was good and the incident appeared to be a good example of multi-agency collaboration, with staff from neighbouring businesses playing an integral part.

RECOMMENDATION

- 11. The Guernsey Local Resilience Forum should consider a review of the local major incident response procedures, with a view to making local variations to national procedures where it is identified that Guernsey does not have sufficient resources to enable national procedures to be effective locally.**

8. COMMUNICATIONS

On the whole the communications from the incident to JESCC and between the Fire Service and the other assisting agencies was found to be appropriate and effective. The Tetra Radio system worked well with no reported issues. It was also noted that the JESCC operators linked together the Police and Fire radio talk groups (radio frequencies), which meant that staff from both agencies were able to hear all messages connected to the incident. This created a clear understanding of the incident and ensured all key information was shared between all groups. This is a very positive key development in joint Emergency Service Scene Management, which has been made possible with the introduction of the JESCC.

Formal media briefings were provided throughout the day in an effort to keep the public updated on developments at the incident. Traditionally, the frequency and content of the media briefings provided from the incident would have been deemed acceptable. However, this incident has clearly identified that there is a much bigger expectation by the public for progress reports and the advent of Social Media has created an expectation that continuous information sharing is required. In order to respond to demands for information and advice to the public on the possible health effects of the smoke emanating from the incident, an early statement was published by the office of Environmental Health and Pollution Regulation, which advised those living nearby to close all windows and to avoid breathing in the smoke. Unfortunately, a subsequent statement was released by 'Guernsey Public Health Services', which stated that the smoke did not contain any chemicals. This factually incorrect and uncoordinated media release created increased public concern and there were calls for more explanation.

Although it was noted earlier in this report that neighbouring businesses collaborated well with the responding agencies, it was also found that (although they were initially briefed well) the responding agencies did not provide regular update briefings, unless the business was directly involved with assisting the Fire Service. Many businesses commented on how their staff were denied access back into the cordon once they had left, even though authorisation had been given by the Fire Service for these personnel to remain at their places of work in order to perform critical business functions.

OBSERVATIONS

There did not appear to be an effective communication strategy in place for this incident that meets the expectations of today's society and utilises the information technology that is available. Although there is evidence that inter-agency meetings were taking place at the incident in line with JESIP guidelines, there is also evidence that the information passed at those meetings was not actually being communicated and shared within the individual agency teams.

Although the States of Guernsey employs a dedicated Communications Team, that team was not represented on the Tactical Coordination Group and did not get directly involved with the management of the incident communications.

RECOMMENDATIONS

- 12. The Public's thirst and demands for information during major incidents will only grow as technology improves. It is therefore recommended that the Guernsey Local Resilience Forum (acting as a coordinating group for local Emergency Responders) should coordinate the creation of an effective major incident communications strategy. This strategy should seek to provide accurate and timely information as early and as regularly as possible when future incidents take place in Guernsey. It is recommended that the States of Guernsey Communications Team should take the lead on the creation of this strategy and should assume responsibility for the delivery of the strategy at all future major incidents on the Island.**
- 13. It is also recommended that the Communications Strategy should be supported with generic pre-scripted statements that could be easily and quickly adapted to suit the circumstances of any incident.**

9. GENERAL CONSIDERATION

Scrap metal processing has been carried out at the site currently operated by Guernsey Recycling for over 20 years and fires have occurred at the site in the past. Although upgrades and improvements have been made at the site over time, this fire was large and presented a risk to neighbouring sites. It is therefore pleasing to note that the Management of Guernsey Recycling have already carried out a number of improvements at the site following the fire and have given a commitment to follow through with all of the recommendations within this report that are within their control. More specifically, they have commissioned an industry

leading Fire Consultant and the author of the WISH Guidance document to ensure that they obtain the best possible site specific advice.

The Waste Management Industry is evolving at a great rate in Guernsey, as the Island implements its new Waste Strategy. New technology that was introduced a few years ago is now starting to appear in the waste stream and the industry is being faced with emerging risks from this new waste that it wasn't previously exposed to. The fire in Guernsey is not unique, but part of a growing trend of fires that are occurring across Europe. Through experience of these fires and through trials that have been carried out, the guidance on how to reduce fire risk at waste management sites was hugely updated in April 2017.

It is clear that the processing of WEEE material is hazardous in comparison to the previous activities of scrap metal processing that was traditionally carried out at the Guernsey Recycling site off of Bulwer Avenue, St Sampson. As this site is nestled amongst a number of sensitive sites in a congested commercial area of the Island, it is vitally important that the risk of a large and developing fire at Guernsey Recycling is removed in order to protect the other businesses in the area. In an attempt to do this Guernsey Recycling is working with industry leading Fire Consultants, the Office of Environmental Health and Pollution Regulation, the Guernsey Fire & Rescue Service and the States of Guernsey.

RECOMMENDATION

- 14. It is recommended that the Office of the Environmental Health and Pollution Regulation works with Guernsey Recycling and their Fire Consultants to review the licence under which Guernsey Recycling operates in the light of this report and makes amendments, within the scope of the law, to ensure that the site is operated without posing unnecessary risk of environmental pollution, having consideration to the surrounding area.**

10. CLOSING STATEMENT

The recommendations contained within this report have already been shared with the site operator and States of Guernsey departments at an operational level. I am pleased to report that Guernsey Recycling have welcomed the opportunity to work with the Guernsey Fire & Rescue Service and work streams are already in place to address all of the recommendations in this report. I am therefore confident that this incident de-brief has been worthwhile and will bring about improved levels of safety in this area and refined emergency scene management for the Island as a whole.

LIST OF RECOMMENDATIONS

1. Following on from the immediate action that was taken, it is recommended that a full review is undertaken by the States of Guernsey and Guernsey Recycling to ensure that a process is followed by both organisations to ensure that all hazardous material is removed from waste groups before it is subjected to processing activity.
2. It is also recommended that the States of Guernsey and Guernsey Recycling put efforts into raising public awareness of the dangerous outcomes that can occur when hazardous material is disposed of in an inappropriate way.
3. It is recommended that Guernsey Recycling's Fire Plan requires review and amendment. The Guernsey Fire & Rescue Service should be fully consulted in the creation of a new Fire Plan for the site.
4. It is recommended that segregation on the site should be reviewed in comparison to the segregation guidance provided in Appendix 1 of the WISH Guidance.
5. It is recommended that improvements are made to the designated quarantine area at the site, to ensure that fires can be effectively dealt with without fear of fire spread outside of the quarantine area.
6. To ensure that changes to procedures are made in order to lower the risk of a repeat incident of this scale, it is recommended that Guernsey Recycling engage with the Guernsey Fire & Rescue Service to establish a routine training schedule for Guernsey Recycling staff on fire response actions. It is recommended that Guernsey Recycling commit to carrying out an exercise with the Guernsey Fire & Rescue Service on an annual basis in order to monitor the effectiveness of the training given and to maintain safe and effective collaborative firefighting procedures between the staff of both organisations.
7. To ensure that the good work of the JESCC Team is replicated at any future major fires, it is recommended that this incident (and the challenges that were faced by the JESCC operators that day) should be used to create a realistic training simulation for other JESCC operators to develop their operational experience of dealing with major fires.
8. Although the plant equipment worked effectively without incident during the Firefighting operations, it is recommended that the machinery be checked to ensure that

there is sufficient protection to enable the equipment to be used in such a way without risk to the operator or the equipment itself during any future Firefighting operations.

9. A review of the Fire Service's major incident procedures is required, to ensure that effective methods are available to Fire Incident Commanders to provide their crews with regular breaks.
10. Joint operational working arrangements have been long established and practised between operational staff members of the Guernsey Fire & Rescue Service and the Airport Fire & Rescue Service to ensure that aviation related incidents can be effectively dealt with. It is recommended that extra operational working arrangements be established and practised to ensure that crews from both Fire Services can also effectively work together at large non-aviation incidents to give extra personnel and provide better opportunities for crew rotation at strenuous incidents.
11. The Guernsey Local Resilience Forum should consider a review of the local major incident response procedures, with a view to making local variations to national procedures where it is identified that Guernsey does not have sufficient resources to enable national procedures to be effective locally.
12. The Public's thirst and demands for information during major incidents will only grow as technology improves. It is therefore recommended that the Guernsey Local Resilience Forum (acting as a coordinating group for local Emergency Responders) should coordinate the creation of an effective major incident communications strategy. This strategy should seek to provide accurate and timely information as early and as regularly as possible when future incidents take place in Guernsey. It is recommended that the States of Guernsey Communications Team should take the lead on the creation of this strategy and should assume responsibility for the delivery of the strategy at all future major incidents on the Island.
13. It is also recommended that the Communications Strategy should be supported with generic pre-scripted statements that could be easily and quickly adapted to suit the circumstances of any incident.
14. It is recommended that the Office of the Environmental Health and Pollution Regulation works with Guernsey Recycling and their Fire Consultants to review the licence under which Guernsey Recycling operates in the light of this report and makes amendments, within the scope of the law, to ensure that the site is operated without posing unnecessary risk of environmental pollution, having consideration to the surrounding area.