



SEPA, Aberdeen City Council and Scottish Water

# Final Torry Odour Project Report

1st June 2015 – 1st September 2016

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9/30/2016

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## 1.0 EXECUTIVE SUMMARY

In 2014 Aberdeen City Council (ACC), Scottish Water (SW) and the Scottish Environment Protection Agency (SEPA) recognised a notable increase in sewage-odour related complaints from residents of the Torry area of Aberdeen. SW hired independent expert Professor Robert Jackson to undertake a review of potential sources of odour and prepare a report containing findings, observations and suggested actions to address identified potential sources. The April 2015 report recommended the appointment of a dedicated officer to investigate these odours. As of 1<sup>st</sup> June 2015 ACC, SEPA and SW appointed a dedicated officer with the title of Torry Odour Response Officer (TORO), who has conducted a fifteen month project investigating odour complaints, identifying potential sources and analysing data for patterns and trends of odours throughout Torry. The project has worked to achieve the mission of “Together Minimising the Impact of Odours in the Torry Community”. This mission statement has enabled the project to drive towards the continued direction of odour minimisation. From the 1<sup>st</sup> June 2015 to the 1<sup>st</sup> September 2016 there has been a gradual decrease in the number of received odour complaints, the number of complainants and the number of complaining households. The completion of Torry Odour Project on 30<sup>th</sup> September 2016 has allowed for the production of recommendations to ensure continual improvement and odour minimisation is successfully achieved in the Torry area.

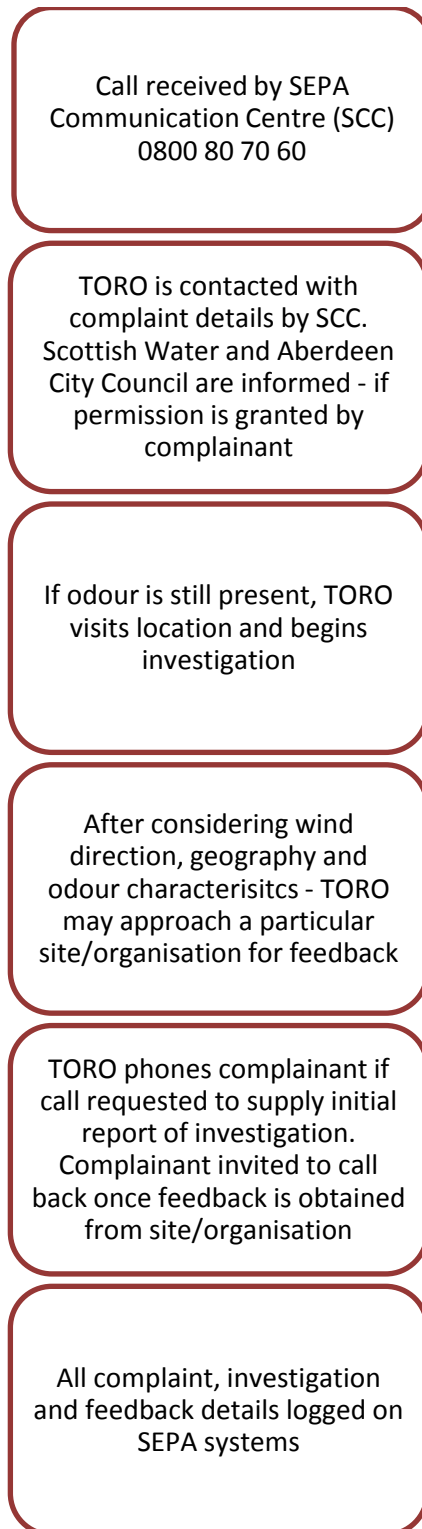
## 2.0 PROJECT STRUCTURE

2.1 The existing complaint handling process operated and managed by SW, SEPA and ACC was replaced by a procedure utilising SEPA's 24/7 pollution hotline number (0800 80 70 60). The new procedure enabled the engagement of SW, ACC and SEPA, through a process where any Torry odour complaint received by SEPA's hotline was shared with all three bodies (if consent was granted by the complainant). See *Image 1: Complaint Handling Process*. During working hours the TORO attended the location of the odour (if reported as still ongoing) and followed SEPA procedure of recording FIDOL: frequency, intensity, duration, offensiveness and location. Noting down this important information including; weather conditions, wind direction, wind strength and odour description – the TORO completed an odour risk assessment on each occasion. Odour complaints received out of hours were recorded following the same SEPA 24/7 hotline process but an on-call officer would only attend the location if it was deemed necessary for their investigation. All noted characteristics supported the investigation and allowed the TORO to approach potential odour sources and request feedback via a generic pro-forma complaint sheet (see appendix 1). Details of both the odour complaint and the feedback from potential sources were then input into a dedicated SEPA recording system. The SEPA recording system was used to generate monthly reports which were discussed at monthly Torry Odour Management Group (TOMG) meetings where a representative from ACC, SW and SEPA were in attendance. Findings were also presented at quarterly Stakeholder meetings and used to provide monthly Facebook updates for the Torry Community Council.

2.2 One major role of the TORO was daily proactive walk-rounds within the Torry area monitoring any potential sources and recording any odours present, including the intensity and duration. The walk-rounds covered three areas of Torry: *route a* was dedicated to the harbour area, *route b* the residential area closest to the sewage treatment plant and *route c* the East Tullos industrial area of Torry (see appendix 2). All three routes were established by identifying high complaint areas and known areas of historical offensive odours. After each walk-round the notes taken were added to a spreadsheet which allowed the development of odour hot-spot mapping of Torry. The use of hot-spots allowed the TORO to create a visual image of which areas in Torry were experiencing odours and where they may be emanating from throughout the fifteen month project. It is important to note that if an odour complaint was made from an address not located within either of the three routes, the TORO would alter their walk-round that day to include the location of the odour complaint.

2.3 At the beginning of the Torry Odour Project the message being received from the Torry Community Council was that they had very little trust and belief in the project. In order to drive a successful and well-received project it was agreed by all relevant stakeholders that a mission statement would help manage expectations of the project. During the Stakeholder meeting on 7<sup>th</sup> September 2015 – the TOMG presented the mission statement of "Together Minimising the Impact of Odours in the Torry Community". This mission statement was created to represent what the project set out to achieve and was continually used throughout the project to reiterate the objective.

Image 1: Complaint Handling Process – Working Hours



### 3.0 COMMUNICATION

- 3.1 Prior to the Torry odour project, it was suggested by ACC, SEPA and SW that the level of communication between all stakeholders was poor. The fifteen month project has since created and developed strong working relationships between all involved – where communication is not only on a reactive basis but also proactive. Moving forward all stakeholders will attend quarterly Nigg Monitoring Group meetings to ensure communication between all remains frequent. Additionally, SW will continue to produce communication updates to the Torry community when there are planned odour risk activities scheduled for Nigg WwTW.
- 3.2 Professor Robert Jackson attended the monthly Torry Community Council meetings to provide an update on odour complaints, findings and future activities on behalf of the TORO. Professor Robert Jackson discussed the status of the project each month and passed on any issues raised to the TOMG to discuss. It was agreed at the beginning of the project that the TORO would only attend these public meetings as and when required. The TORO attended two meetings during the project. The first of these was in August 2015 where the TORO was introduced to the Community Council, and the second in November 2015 where the TORO presented their findings of the out of hours campaign.
- 3.3 The TOMG was formed to ensure all three bodies (ACC, SEPA, and SW) could be kept up to date with the work of the TORO. TOMG meetings were held each month and chaired by the TORO. The TOMG reviewed all odour complaints that had been received during the preceding month and looked at statistically analysed data from odour complaints and daily walk-rounds.
- 3.4 Stakeholder meetings were held quarterly, chaired by Maureen Watt MSP. In attendance were Kelda Water Services (Grampian) (KWSG), SW, SEPA, ACC, the Torry Community Council and elected members for the Torry area. Aberdeen Harbour Board was invited as a corresponding member of the group and attended the meeting held in September 2016. Similar to the TOMG meetings, the TORO analysed the complaint and walk-round data to produce a presentation for all stakeholders and answered any questions raised. Additionally, SW, KWSG and ACC presented updates on current situations i.e. Nigg WwTW refurbishment, tanker movements, fish ice and road gully cleaning. Each stakeholder meeting allowed time for an overall discussion by all stakeholders. At the request of the Torry Community Council, “health” was a topic added to the agenda. The Environmental Health department of ACC contacted a representative of Consultants in Public Health Medicine NHS Grampian (CPHM) and invited them to attend the Torry odour stakeholder meeting on 7<sup>th</sup> December 2015. A representative of CPHM investigated odour and health risks prior to the meeting, their findings revealed that there were no known hot spots of infection in the area of Torry. Aneurysms were brought to the representative’s attention during the meeting and they confirmed there is no scientific evidence to support the theory that odours and aneurysms are linked. CPHM advises anybody who has health concerns to visit their GP. Health & Safety Executive (HSE) confirmed to the TORO that there is no proactive monitoring of health in industries within Torry. On occasion they may ask the duty holder to conduct sampling – this is

rare and HSE are not aware of this having ever been asked for in the premises located in Torry.

- 3.5 Occasionally the project attracted attention from local newspapers. This was handled well with all three regulatory bodies communicating and discussing appropriate responses. Although there was no formal communication strategy in place, the representatives from each authority continually conversed throughout the fifteen month project via email, telephone and pre-arranged meetings. The TORO was interviewed by The Aberdeen Evening Express newspaper which produced an article which explained the role of the TORO in September 2015.
- 3.6 SW carried out letterbox drops around the community to keep them updated with the progress of the Nigg WwTW refurbishment. Feedback from this drop was that Torry is a diverse community and unfortunately the leaflets were only available in English – this is something to consider for future issuing of community correspondence.
- 3.7 Volunteers from Torry produce a quarterly magazine which allows people to have a voice in the community. There is a column in each edition reporting on odours within the community and noting what improvements have been witnessed. This has been useful to help promote the project in the wider community.
- 3.8 The TORO has continued to email the secretary of the Torry Community Council with monthly Facebook updates for the Torry Community Council Facebook page. It was decided at the beginning of the project that this method of communication was important and allowed the project information to reach a wider audience each month.
- 3.9 SW set up an Odour Liaison Group which first met in July 2016. In attendance were SW, KWSG, ACC and SEPA. This meeting allowed KWSG to confirm what activities were being carried out which could have contributed to the odours and what changes they aim to make to ensure future odours are minimised. This is a meeting which SW wishes to continue on past the end of the project on 30<sup>th</sup> September 2016.
- 3.10 As of 1<sup>st</sup> October 2016 the quarterly Torry Odour Stakeholder group will be replaced by the quarterly Nigg WwTW Liaison Group (see appendix 4 – draft terms of reference). This meeting will discuss only Nigg WwTW as set out in the planning permission for the site.



## 4.0 PROJECT OUTCOMES

### **Kelda Water Services (Grampian)**

- 4.1 Throughout the fifteen month project, major improvements have been achieved at Nigg WwTW to help minimise the impact of odour on the Torry community. See Table 1: Nigg WwTW Improvements.
- 4.2 Tanker movements are being monitored by SW and KWSG. SW has created handouts which explain to drivers to take the route via Altens Industrial Estate when going to Nigg WwTW (see appendix 5). This action has seen a notable decrease in tanker movement throughout Torry but it is expected that with the Aberdeen Harbour expansion there is the potential for road closures meaning tankers will have to seek other routes towards Nigg WwTW.
- 4.3 KWSG have implemented a process where odour risk assessments (ORA) are prepared and issued which outline all odour risks associated with specific maintenance activities at Nigg WwTW. The ORA should provide details of robust odour mitigation measures being adopted during the period of works. At the beginning of the project it was raised to KWSG that some activities which were being carried out that caused odour complaints did not come with an ORA – this was potentially due to the subjective nature of these activities, i.e. what is viewed as an odour risk activity by one member of staff, may not be seen as a risk to another. KWSG has become more aware of this subjectivity which has resulted in ORA's being submitted more frequently – ensuring that all odour risks are identified (see appendix 6). Throughout the project all received ORA's were stored within SEPA's recording system. Storing of the ORA's allowed the TORO and KWSG to have a bank of standard ORA's for specific activities, confirming any deviations and/or additional measures taken.
- 4.4 Throughout the fifteen month project the TORO has observed notable improvements to the quality and level of detail of the KWSG ORA's.
- 4.5 SW is in discussions with the Torry Community Council and KWSG to have a procedure in place to inform residents of Torry ahead of any planned odour risk activities.
- 4.6 In July 2015, Stakeholder members were invited to a site visit at Nigg WwTW. This visit allowed Stakeholders to walk through the site and KWSG staff could then explain to the residents what refurbishments will be carried out. This visit received positive feedback from those in attendance. Following on from July 2015, residents were welcomed back to Nigg WwTW in May 2016. Members of the Torry community who attended the second site visit welcomed the changes at Nigg WwTW and it was agreed that significant improvements had been made since the last visit (minuted during June 2016 Stakeholder meeting).
- 4.7 Site visits have been conducted by SEPA, ACC and SW continually throughout the project. On occasions general housekeeping of the site had not been up to the necessary standard expected i.e. doors being left open, puddles of rain water contaminated with hydrocarbons and litter – all of which have odour potential. The TORO provided verbal feedback from site visits to TOMG and KWSG. During the second site visit in May 2016 general housekeeping of the site had notably improved. Moving forward KWSG should ensure the general housekeeping continues to meet expected standards.
- 4.8 Daily odour monitoring of Nigg WwTW and the local community is carried out by KWSG. A report is generated and issued to SW, ACC and SEPA. The TORO reviewed each daily report for any noted odours detected by KWSG in the Torry area, and any recorded incidents/activities occurring at Nigg WwTW. The daily odour reports are stored within SEPA's information system. In addition, KWSG staff remain proactive and when out and

about in Torry they remain vigilant for odours and report them through to SEPA's pollution hotline (see appendix 7).

- 4.9 Daily operational reports generated by Nigg WwTW are sent to SEPA and are recorded within SEPA's information system. These reports detail daily compliance, any operational failures and what corrective measures are scheduled to be carried out. These daily reports occasionally differed from the feedback the TORO received – this was communicated to Nigg WwTW and there have been no further discrepancies as internal communication across the site has vastly improved.
- 4.10 KWSG are looking to install their own on-site weather station. It has continued to be argued throughout the project that due to Torry's topography, the weather which is recorded online for Aberdeen doesn't truly reflect what is happening in Torry i.e. wind direction and wind strength. Therefore, having a weather station will allow KWSG to have an accurate reading of Torry's weather conditions – resulting in better planning for odour risk activities to be carried out when required.
- 4.11 In the last quarter of the project, KWSG has undergone significant / moderate restructuring with an increase in the number of people on site. This change will have a positive change on the operation of Nigg WwTW and ensure successful maintenance of the site. There has been the appointment of a new permanent site based General Manager who will replace the current seconded person in October 2016.

Table 1: Nigg WwTW Improvements

Improvement Made at Nigg WwTW	Benefit of Improvement
Improved grit removal	Redesign of the grit removal pumping system pipe work to improve performance and to reduce downtime with the addition of further standby pumps. The grit pumps have been replaced.
Improved fats, oils and grease (FOG) removal	The FOG plant has been extensively cleaned and refurbished, with the aeration system and sparge water pipe work replaced and new fog removal pumps installed. The wear parts of the scraper mechanism have been replaced and new pipe work and valves as part of the wash water system have been installed.
Improved air management at sludge import area	The liquid sludge import has been enhanced in a number of ways, with a new dedicated coupling arrangement for those vehicles that didn't have a fixed discharge point previously. This means that the manhole to the sludge well does not need to be opened during discharge. The discharge pipework within the well has been rearranged to minimise disturbance of sludge and the potential odour generation that could cause. The sludge well has been connected to the odour treatment system so that any odour that is created within the sealed well is treated and cannot escape to atmosphere. This upgrade allows for a greater volume of odour to be treated.
Enhanced treatment of internal process liquor	The replacement of the dewatering equipment (belt presses) with alternative technologies has substantially improved the quality of the process liquors which means it is less odorous and there is no need for the supplementary treatment process. In addition the new volute presses and centrifuge are fully contained units which significantly reduce the potential for odour release from this stage of the treatment process. Any odorous air produced from these processes is extracted and treated through the odour control units within the buildings.
Improved primary settlement capability	KWSG have entirely replaced one of the 5 lamellas with an improved and more robust design that reduces downtime and is easier to maintain. This new installation has been evaluated post installation and owing to its success they are planning a further investment of c. £750k to update a further 2 of the lamellas to this improved design in 2016/17.

## Scottish Water

- 4.12 On 16<sup>th</sup> December 2015, the duty gate of the Torry Siphon was changed. The TORO, Professor Rob Jackson and representatives from SW were present for this activity. KWSG collected samples before and after the flushing took place. This activity did not cause any odour complaints, with only a brief odour being detected above a manhole on Sinclair Road, Torry. Odour detected above the manhole was not particularly offensive and believed to be a result of the material being held up in the network for a long period of time. The changing of the duty gates has since been carried out on a regular monthly basis by SW and a project has been developed to automate the process. Since the regular flushing of the duty gates the odour emanating from the manhole on Sinclair Road at the time of the changeover has become less intense.
- 4.13 SW and the TORO attended Aberdeen Harbour on a day when a high volume of cattle were being transported. This was to investigate whether this activity could be contributing to odours in Torry. Both the TORO and SW observed the washing of the containers where the cattle had been held during shipment. The odours detected during the washing were localised and not comparable with any that the TORO had detected in Torry throughout the project. It was also confirmed that the transport of the accumulated sludge from this activity goes to Ellon, Aberdeenshire – not towards Torry, Aberdeen.
- 4.14 East Tullos Burn has continued to be reported by members of the public as being polluted and a potential odour source at times. SEPA have continued to monitor water quality data received from the deployed water quality monitoring equipment (Sonde) in East Tullos Industrial Estate. SW has proactively assisted SEPA with the monitoring of the burn. SW and SEPA conducted a joint inspection of East Tullos Burn including access to all manholes within the industrial estate. Together, SW and SEPA were able to identify upstream potential pollution sources which could give rise to odours emanating from East Tullos Burn.
- 4.15 In November 2015 a drain on Girdleness Road was found to be a source of odour. Hydrogen Sulphide odour (rotten egg odour) was detected around the vicinity of the drain and with the correct wind direction and speed, the odour was detectable along Girdleness Road. This was reported to SW who carried out an investigation. The Buchan trap was found to be faulty, causing sewage to spill onto the road. The sewage build up became worse over time and it was discovered by SW that the sewer pipeline on Girdleness Road had collapsed. This was repaired in May 2016. In July 2016, it was reported to SW that there was again sewage spilling from the same drain. SW has carried out a further investigation and further repairs are pending. This is being monitored by officers from Environmental Health ACC and SW.
- 4.16 SW have formed the “Odour Liaison Group” which has provided KWSG with the opportunity to discuss sewage related odours emanating from the whole site and all processes involved, potential causes of the odour and how to move forward and minimise the impact of any potential odours.

### **Scottish Environment Protection Agency**

- 4.17 The appointment of the TORO occurred on 1<sup>st</sup> June 2015 as per the April 2015 report recommendation. This is a joint funded post between SEPA, SW and ACC. The TORO is based within the SEPA office on Baxter Street; this was thought to be an appropriate location as this is within Torry and in close proximity to the locations where odour complaints are received from.
- 4.18 SEPA developed a complaint handling process specifically for the Torry Odour Project which enabled complainants to report any odour from any source in the Torry area 24/7 to a single point of contact. It was agreed by all Stakeholders that SEPA would process odour complaints through their hotline number even if the potential sources of these odours were not within their remit.
- 4.19 SEPA have continued to take appropriate action when odour complaints have been received in relation to activities they regulate.
- 4.20 The monitoring of East Tullos Burn has proved to be effective. In November 2015, a second water quality monitor (Sonde) was deployed in the watercourse under East Tullos Industrial Estate which helped SEPA monitor for potential pollution. With the addition of the second Sonde it became apparent that the pollution was occurring further upstream than East Tullos Industrial Estate. In November 2015 the pollution was traced to a source. The TORO continued to monitor the burn on walk-rounds. In May/June 2016, it was evident that the burn was being subject to pollution again which was traced back to a different source. Although the source of water pollution may not directly generate odours, there is the potential for the polluted water to emanate odours - as previously mentioned by local dog walkers and other members of the community who frequently visit the area. SEPA have therefore taken the necessary actions to resolve this and East Tullos Burn will continue to be monitored.
- 4.21 SEPA officers co-ordinated efforts with the TORO with respect to work being carried out at regulated activities with the potential to cause odour as well as completing ad hoc site inspections around times of high odour complaints to assist with the Torry odour project.

### **Aberdeen City Council**

- 4.22 ACC Environmental Health Department has continued to take any necessary action when odour complaints have been received from activities within their remit for regulation.
- 4.23 A joint Initiative between Environmental Health, SEPA, Environmental Services, Roads and City Wardens to tackle waste related issues associated with fish processors has been developed; this has looked at issues such as empty fish boxes and waste ice being stored outside premises. This project has been led by ACC Environmental Health.
- 4.24 Environmental Health has continued to support the Torry odour project and have proactively reported any odours detected to the TORO.
- 4.25 Environmental Health has scheduled routine and ad hoc site inspections of local fish processors around times of high odour complaints to assist with the TORO's investigations. The TORO accompanied the officers during these inspections.
- 4.26 Environmental Health are working with SW to resolve a defective drain on Girdleness Road which is spilling sewage onto a public road and which is thought to be a possible odour source.

## Local Industries

- 4.27 As a proactive approach to the odour investigation, the TORO visited a number of sites in the local area, which were deemed to have the potential to cause odours. These visits were arranged to allow the TORO to gain an understanding of the processes involved and what - if any - odour impact it could have on Torry residents. All sites that were approached by the TORO were happy to assist with the project and explain their operational procedures to the TORO.
- 4.28 Local industries have assisted with the odour investigations by completing complaint pro-forma sheets to provide feedback on any odour risk activities when odour was detected.
- 4.29 Local industries –when requested- have also provided the TORO with additional data such as dates, times and descriptions of imports/exports received, details of equipment testing and information relating to the cleaning of drains and interceptors.

## Project Extension

- 4.30 The Torry odour project was scheduled to end on 12<sup>th</sup> July 2016. However, during a Stakeholder group meeting members of the Torry community raised their concerns about the project ending before the warm summer months - when there could be a greater potential risk of odours. The project was then extended until 30<sup>th</sup> September 2016. This extension has allowed for data collected during the summer of 2015 to be compared with data for summer 2016.

## Hotspot Mapping

- 4.31 The TORO generated hotspot maps using Spotfire (Analysis and Visualisation Software) to create an image which clearly shows areas within Torry where odour was detected on TORO walk-rounds throughout the duration of the project. See Appendix 3 for hotspot map covering 1<sup>st</sup> June 2015 – 1<sup>st</sup> September 2016.

## Out of Hours' and On-Call Campaign

- 4.32 As the project progressed from June 2015 – October 2015 there became an apparent trend of out of hours' odour complaints. The TOMG agreed there was a need for an out of hours campaign to be carried out. The TORO, working independently with SEPA created a timetabled plan for this campaign to run in November 2015. Over the weekend of 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> November – the TORO and officers from SEPA conducted the out of hours campaign which involved walk-rounds of a modified Route B (Appendix 2) during the times of peak complaints. Route B was modified to ensure that the areas of Torry which presented high numbers of out of hours complaints were being covered during the campaign. Streets which were covered during this campaign were; Baxter Street, Victoria Road, Baxter Place, Balnagask Road, Morven Place, Girdleness Road and St Fittick's Road. See Table 2 for the outcome of the out of hours' campaign.
- 4.33 In July 2016 the TORO again working independently with SEPA created a further on-call campaign as a result of there being an increase in out of hours' odour complaints. The campaign ran for 7 days and for health and safety reasons three additional SEPA officers were on-call with the TORO for a number of days in the case of any odour complaints received after 11pm or before 6am. See Table 3 for the outcome of this on-call campaign.
- 4.34 During the out of hours walk-round a detectable pocket of hydrogen sulphide was identified on Girdleness Road and on investigation it was found to be emanating from the drainage network due to a broken Buchan Trap. ACC Environmental Health Department is currently working with SW to remediate this issue.

Table 2: Details of Out of Hours campaign 6<sup>th</sup>-8<sup>th</sup> November 2015

Date of Campaign	Number of Complaints Received	On-Call Campaign Observations	Background/Action
6 <sup>th</sup> November 2015	1 – Described as disgusting with a scale of 5 out of 5 for strength.	<p>The odour was detected on Victoria Road and Baxter street by the TORO and the on-call SEPA officer who described the odour as sewage sludge. The odour was not deemed offensive with a recorded strength of 2 out of 5. The duration of the odour was intermittent and only detectable when facing into the wind. The TORO and the on-call SEPA officer had been informed earlier that day that Nigg WwTW would be conducting an odour risk activity during the hours of 18:00 – 22:00 on 6<sup>th</sup> November 2015 as part of their planned maintenance project. Both the TORO and the SEPA officer attended the complainant's house shortly after the complaint was received to discuss the odour and what activities were occurring at Nigg WwTW which could be contributing to the detection.</p> <p>Fish odour was also detected on walk-round but no complaints were received relating to this. Notes detailing location, intensity, duration, weather conditions and potential sources were recorded and stored on SEPA's recording system.</p>	<p>The wind direction at the time of detection was southerly. The plant was operational but was conducting planned movement of dewatered sludge cake to the cake reception to undergo further treatment. Dewatered sludge cake was stored temporarily within the cake store during a CAMBI plant shutdown to allow for pressure system repair. KWSG informed SEPA of the planned odour risk activity taking place on 6<sup>th</sup> November – 8<sup>th</sup> November 2015. SEPA reviewed the ORA and discussed with KWSG the likelihood of being able to postpone the activity if there was an increase in odour complaints. KWSG confirmed that where the wind conditions were unfavourable (onshore) they would cease cake movements until a more favourable wind (offshore).</p>
7 <sup>th</sup> November 2015	1 – Described as human waste with a scale of 5 out of 5.	<p>The odour was detected by the TORO at the gates of Nigg WwTW and described the odour as sewage sludge. The odour was not deemed to be offensive and scaled as 1 out of 5 for strength. The odour was detected as a whiff by the TORO. The duration of the odour was intermittent and briefly detectable when facing</p>	<p>The wind direction at the time of detection was southerly. Nigg WwTW confirmed they were operational with no odour risk activities taking place at the time of detection. The odour was reported on the coast road when passing the sewage treatment plant, the TORO substantiated this whilst standing outside the gates of Nigg WwTW. The odour was not detectable</p>

		<p>the direction of the southerly wind. The TORO contacted the site who advised no odour risk activities were being carried out at the time of detection. No further action was taken. As the complaint was made anonymously, the TORO was unable to provide feedback to the complainant.</p> <p>Fish odour was detected on walk-round but no complaints were received relating to this.</p> <p>A pocket of hydrogen sulphide was detected on Girdleness Road. This odour strength was scaled 3 out of 5 by the TORO but the odour was intermittent and only present in one spot. The TORO recorded the odour characteristics within SEPA's information system and conducted an investigation to determine the source.</p>	<p>beyond this location. The TORO requested feedback from KWSG who informed SEPA that the CAMBI plant had become operational after a shutdown. KWSG have since reviewed their CAMBI plant shutdown procedures and made amendments to their operating procedure to ensure odour minimisation is continually achieved. The TORO reported a broken concrete drain cover to ACC which was a potential source of the hydrogen sulphide odour on Girdleness Road. ACC investigated this and fixed the broken drain cover. The TORO continued to monitor the area and confirmed the odour remained present. The TORO informed SW that the manhole on the road in the location of the hydrogen sulphide odour was spilling sewage. SW investigated this and discovered there was a broken Buchan trap. ACC Environmental Health Department are working with SW to resolve a defective drain on Girdleness Road which is spilling sewage onto a public road and which is thought to be a possible odour source.</p>
<p>8<sup>th</sup> November 2015</p>	<p>0</p>	<p>Similar to the other two days within the campaign the wind was southerly, however there were no odour complaints received on 8<sup>th</sup> November 2015.</p> <p>A pocket of hydrogen sulphide was detected on Girdleness Road. This odour strength was scaled 3 out of 5 by the TORO but the odour was intermittent and only present in one spot. The TORO recorded the odour characteristics within SEPA's information system and conducted an investigation to determine the source.</p>	<p>No odour complaints were received on this day.</p> <p>As above, ACC Environmental Health Department are working with SW to resolve a defective drain on Girdleness Road which is spilling sewage onto a public road and which is thought to be a possible odour source.</p>



Table 3: Details of on-call campaign 18<sup>th</sup>-25<sup>th</sup> July 2016

<b>Date of Campaign</b>	<b>Number of Out of Hours Complaints Received</b>	<b>On-Call Campaign Observations</b>	<b>Background/Action</b>
18 <sup>th</sup> July 2016	1 – Described as sewage with a scale of 2 out of 5 for strength.	The TORO attended the 1 odour complaint on Coast Road within 8 minutes of the report being received through SEPA's pollution hotline. The odour was not substantiated by the TORO. The TORO approached KWSG for feedback which was that 1 sludge import was received 30 minutes prior to odour complaint.	The wind direction at the time was northerly but a very light breeze. KWSG confirmed Nigg WwTW was operational at the time of detection. The feedback from KWSG is that a sludge import was received 30 minutes prior to the detection. Sludge import tankers occasionally release pressure from the vehicle prior to leaving the site and this activity has the potential to cause odorous air beyond the site boundary. SEPA has raised this issue with KWSG who have confirmed they are looking at options to improve their sludge import area to ensure odour minimisation is achieved. Details of both the odour complaint and KWSG feedback has been logged on to SEPA's information system by the TORO.
19 <sup>th</sup> July 2016	0	There were no odour complaints received on 19 <sup>th</sup> July 2016.	N/A
20 <sup>th</sup> July 2016	0	There were no odour complaints received on 20 <sup>th</sup> July 2016.	N/A
21 <sup>st</sup> July 2016	0	There were no odour complaints received on 21 <sup>st</sup> July 2016.	N/A
22 <sup>nd</sup> July 2016	0	There were no odour complaints received on 22 <sup>nd</sup> July 2016.	N/A
23 <sup>rd</sup> July 2016	0	There were no odour complaints received on 23 <sup>rd</sup> July 2016.	N/A
24 <sup>th</sup> July 2016	0	There were no odour complaints received on 24 <sup>th</sup> July 2016.	N/A

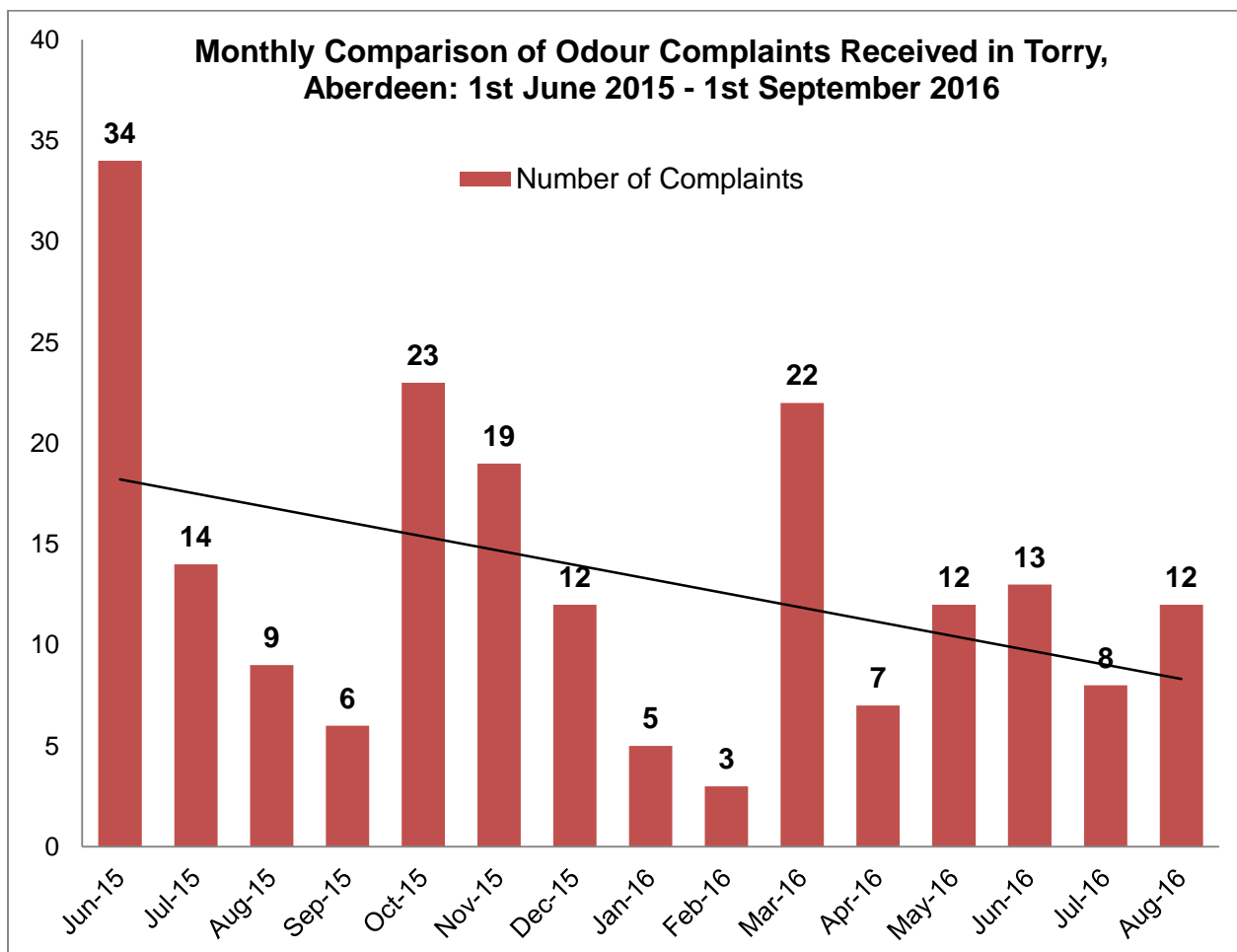
### 5.0 SUMMARY OF COMPLAINTS

Between the 1<sup>st</sup> June 2015 and 1<sup>st</sup> September 2016 there has been 199 odour complaints received in the Torry community. Of these 199 complaints there were 48 complainants belonging to 42 households in Torry. See Table 4 for a summary of odour complaints received.

Table 4: Complaint Data Summary

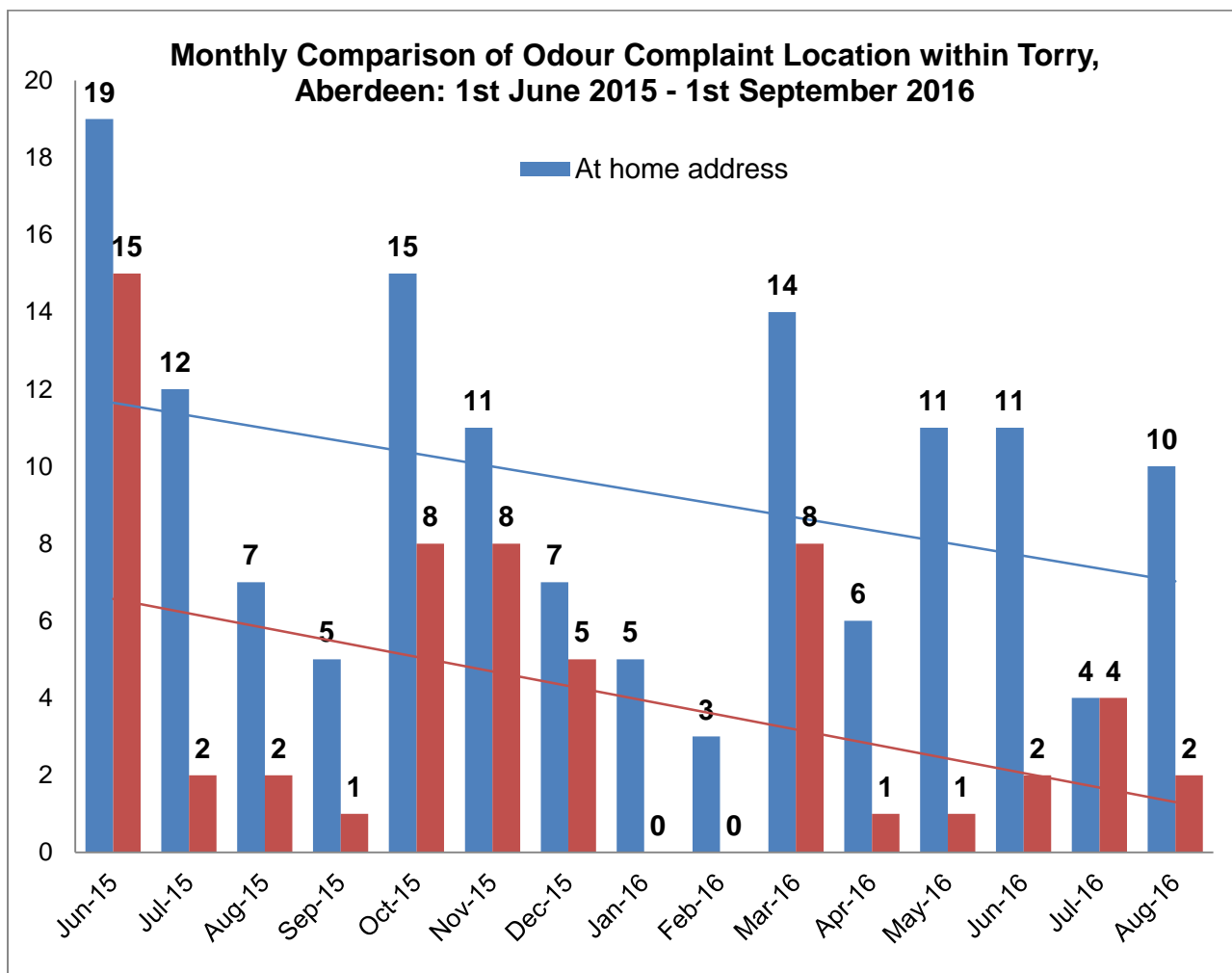
Factor	1 <sup>st</sup> June 2015 – 1 <sup>st</sup> September 2016
Number of Complaints	199
Number of days complaints received	154 out of 490 (approx. 32%)
Number of Events (2 or more complaints relating to same odour occurrence)	14
Number of days where 3+ complaints received	17
Number of Complainants	48
Number of households complaining	42
No of Complaints Attended	102 out of 199
Of the 97 not attended:	18 odour no longer present when reported 72 odours were reported out of hours 7 odours were reported whilst TORO was unavailable to attend
Number of odours substantiated as being present (by the TORO and Authorised Officers within SEPA and ACC)	71 out of 102
Substantiated odours as being present: complaints by type	Sewage 47 Fish 9 Oil 6 Drainage Network 4 Harbour dredging 3 Waste 2

Graph 1: Monthly comparison of odour complaints in Torry, Aberdeen



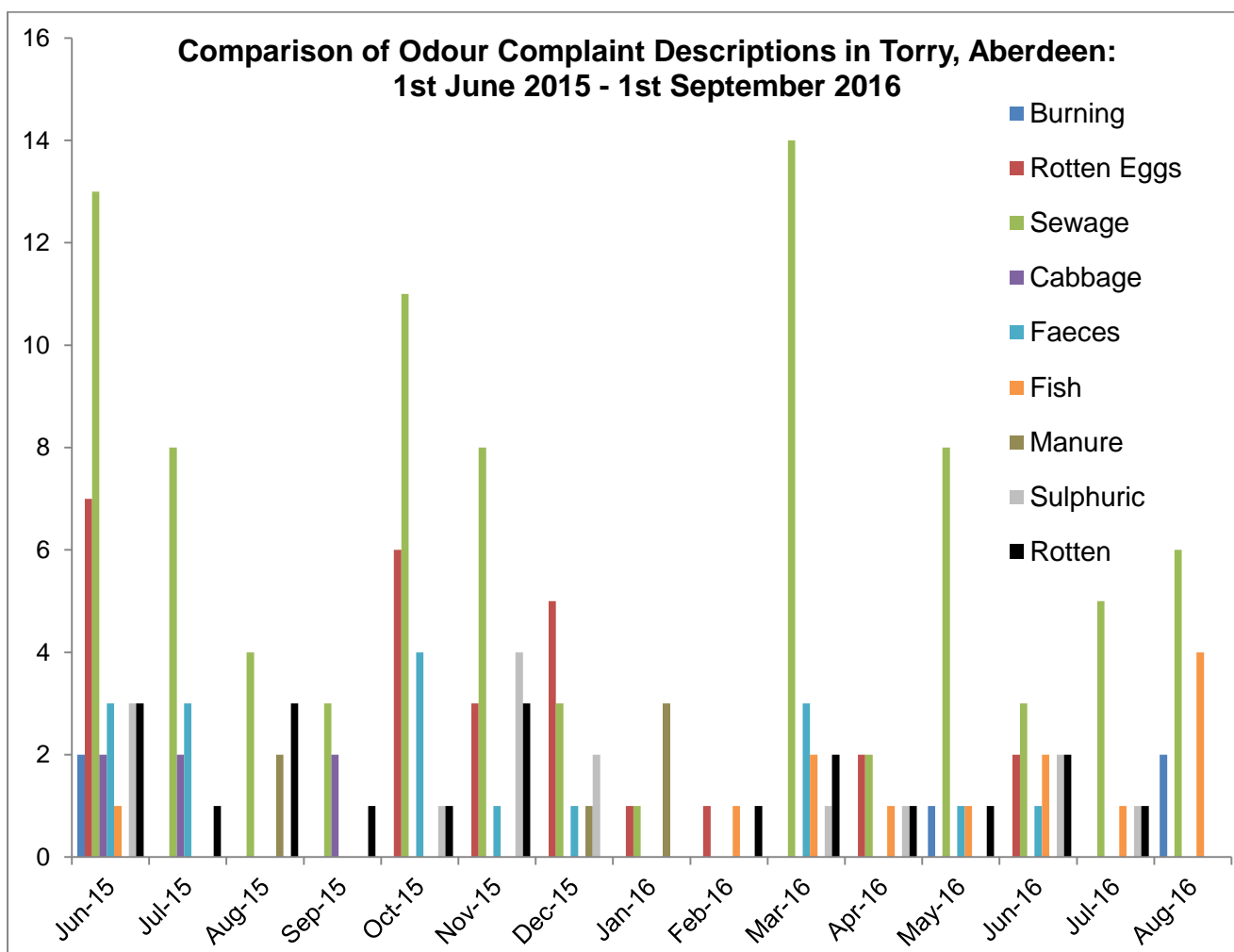
5.1 Graph 1 presents a decrease in odour complaints from 1<sup>st</sup> June 2015 – 1<sup>st</sup> September 2016 – displayed using the trend line. As seen in graph 1 there has continued to be a fluctuated pattern in odour complaints. It is positive to see that in the warmer months of 2016 (June – September) there were 24 less odour complaints than in 2015 (June – September). From April 2016 there has been no significant increase in odour complaints and the level of complaints has remained consistent. Note that although August 2016 has an increase in the number of complaints compared to August 2015, there has been a recorded decrease in the number of complainants.

Graph 2: Monthly comparison of location of odour complaints within Torry, Aberdeen



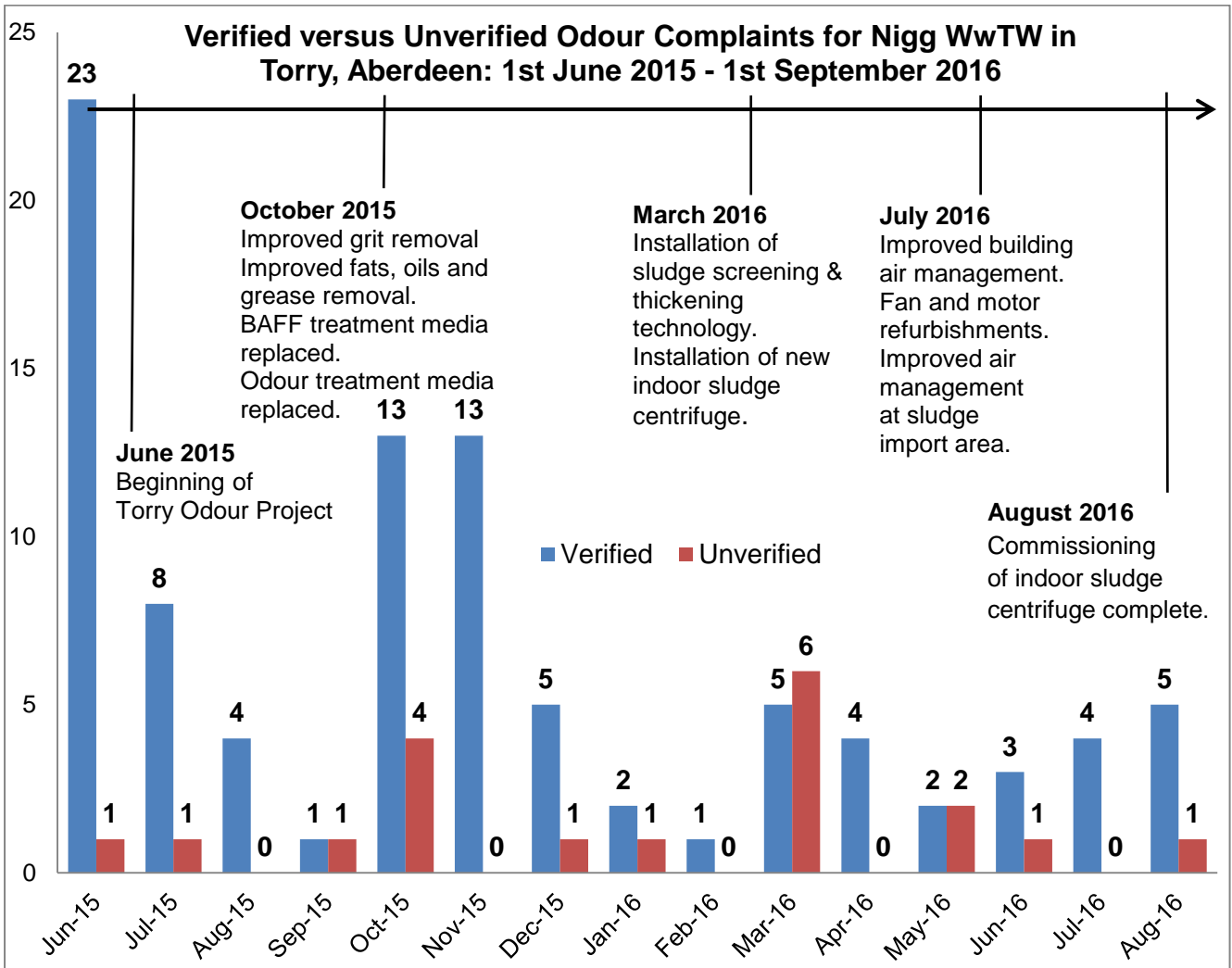
5.2 Graph 2 separates the complaints made from a complainants home address and those made when driving/passing through Torry, Aberdeen. The blue bars represent the complaints received where an odour was detectable at the complainant’s home address. The red bars on the graph represent odour complaints received from a complainant not at their property e.g. walking their dog away or driving past the sewage treatment plant. This graph identifies that 70% of the odour complaints are made from the complainants’ home address with 30% being reported when driving or walking. However, it is important to note that the data evidently shows from that odour complaints from the home address and when out walking/driving are both overall decreasing.

Graph 3: Quarterly comparison of odour complaint descriptions in Torry, Aberdeen



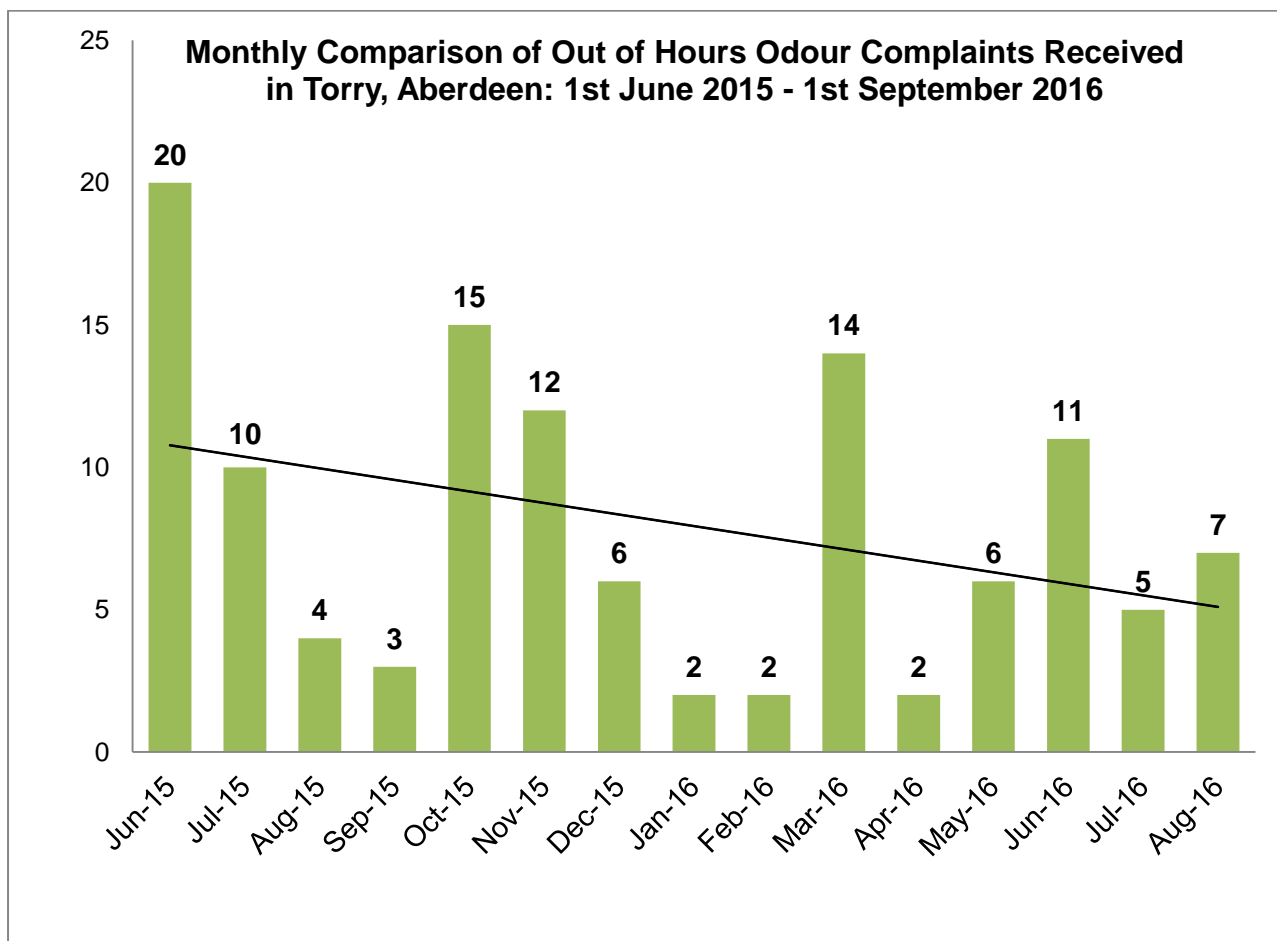
5.3 Graph 3 highlights the pattern of decreasing sewage related odours within Torry. As previously hypothesised, the number of complaints decreased dramatically during the colder months of the year (December 2015 – March 2016) impacting on both the potential generation of odours as well as the behaviours of those potentially impacted upon i.e. close windows of homes etc. If we compare the warmer months (June – September) of the year in 2015 to 2016 we can observe gradual achievement of our mission statement “Together minimising the impact of odours in the Torry Community”. While the potential for an increase in complaint numbers was considered a real possibility, during the concept stages, largely due to the publicising of the project as well as pooling and simplification of the complaint handling process it has been difficult to meaningfully quantify such an effect. This analysis may however suggest that the community has become more aware of other potential sources of odour within Torry and are either reporting these in addition to or are better able to differentiate from those attributed to be from Nigg WwTW.

Graph 4: Verified versus unverified odour complaints for Nigg WwTW in Torry, Aberdeen



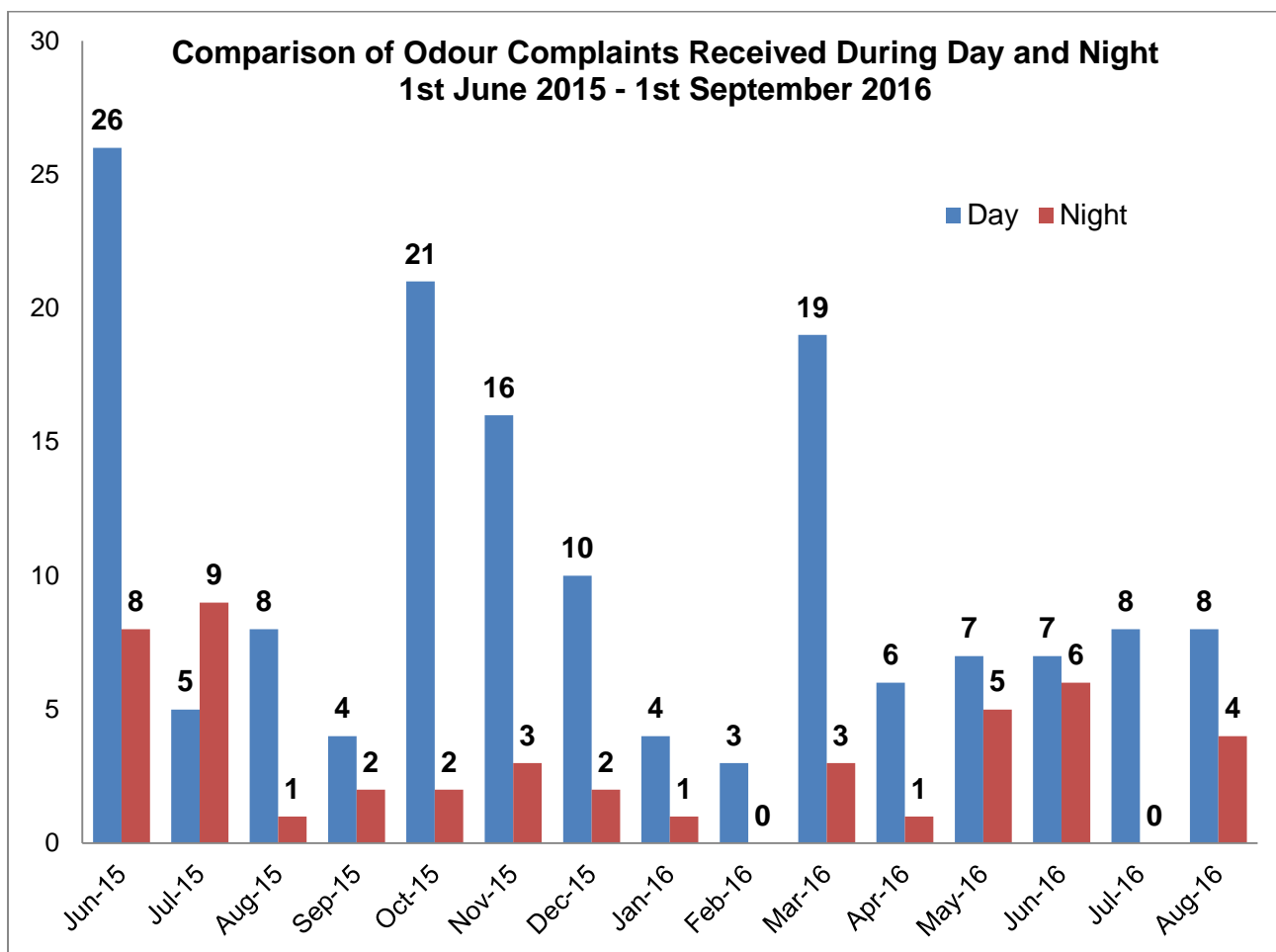
5.4 Graph 4 presents the comparison between verified and unverified odour complaints for Nigg WwTW. This data highlights that 83% of the sewage-related odours were verified, meaning an odour risk activity was confirmed to be occurring at the time of detection. Therefore, taking account the verified odour complaints, there is 17% of unverified sewage-related odours within Torry, Aberdeen. Overlaying this graph is a refurbishment timeline to represent the months throughout the project that major improvements occurred. From this graph it is evident that as the major improvements have been conducted and completed, the number of sewage-related odours has notably decreased.

Graph 5: Monthly comparison of “out of hours” odour complaints received in Torry, Aberdeen



5.5 Graph 5 represents the odour complaints received out of working hours’ i.e. before 09:00 and after 17:00 Monday to Friday and anytime during Saturday/Sunday. The number of out of hours complaints has fluctuated considerably throughout the project. However, there is an overall downwards trend – displayed using the trend line. In response to the high number of complaints received in October 2015, the project conducted an out of hours walk-round campaign and in response to the complaints received in March 2016 and June 2016, an on-call week campaign was rolled out in July 2016.

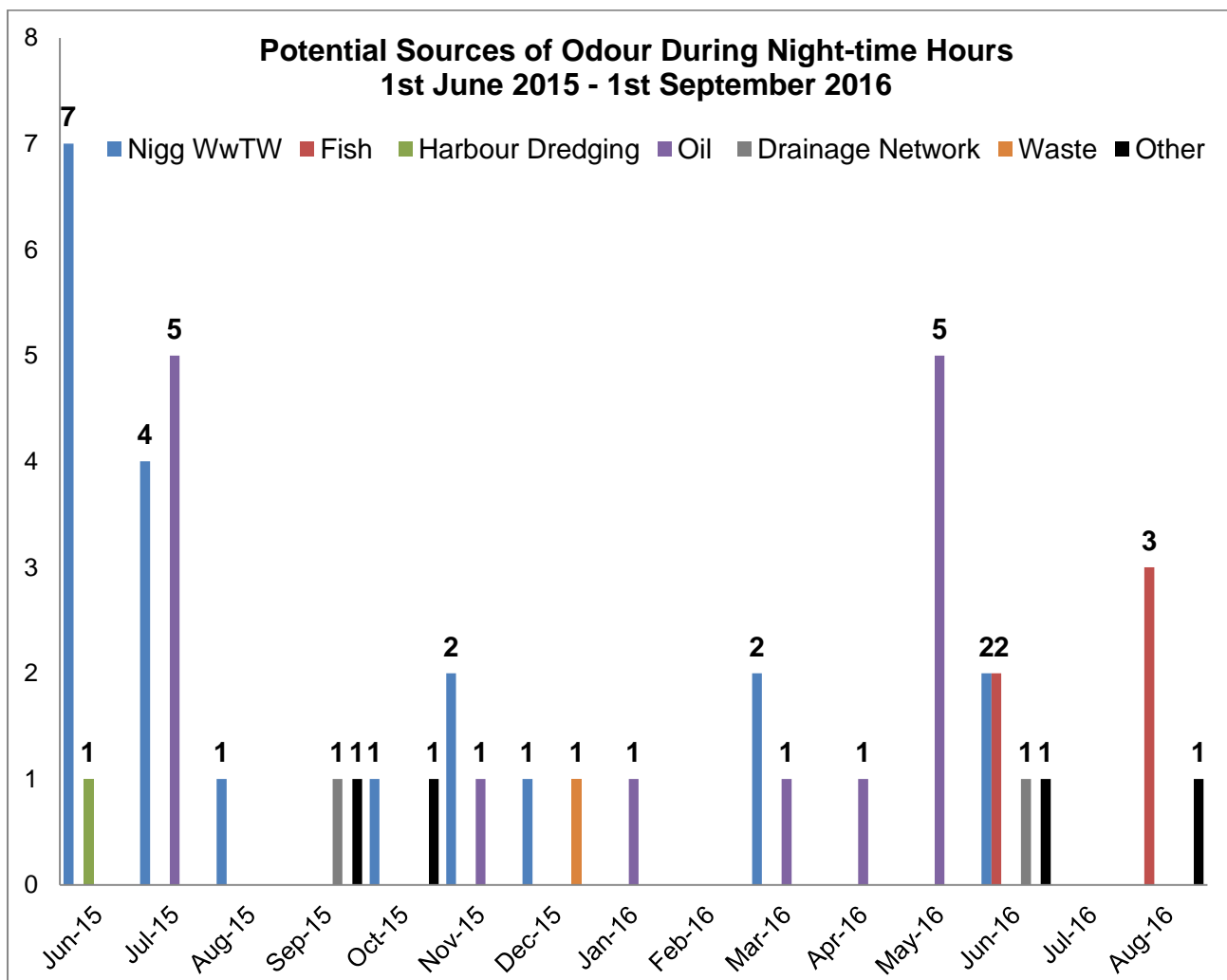
Graph 6: Comparison of odour complaints received during daylight hours and night-time hours in Torry, Aberdeen



5.6 Graph 6 allows the comparison between odour complaints received during daylight and night-time hours. From this data it is evident that as expected, during working hours there are more odour complaints received when activity within the industries surrounding Torry are at their peak. It is noted that from this data that there remains few odours throughout the night-time hours being reported. The odours detected during night-time hours are thought to be from 24/7 processes and that there is no reason to believe there is abnormal behaviour occurring. Additionally, from this data there is a pattern emerging that during the warmer months there are more odour complaints received during night-time hours, this could be due to the higher temperatures causing the odour to be more prominent and/or the changing behaviours of humans in the summer months i.e. staying awake longer and spending more time outside their homes.

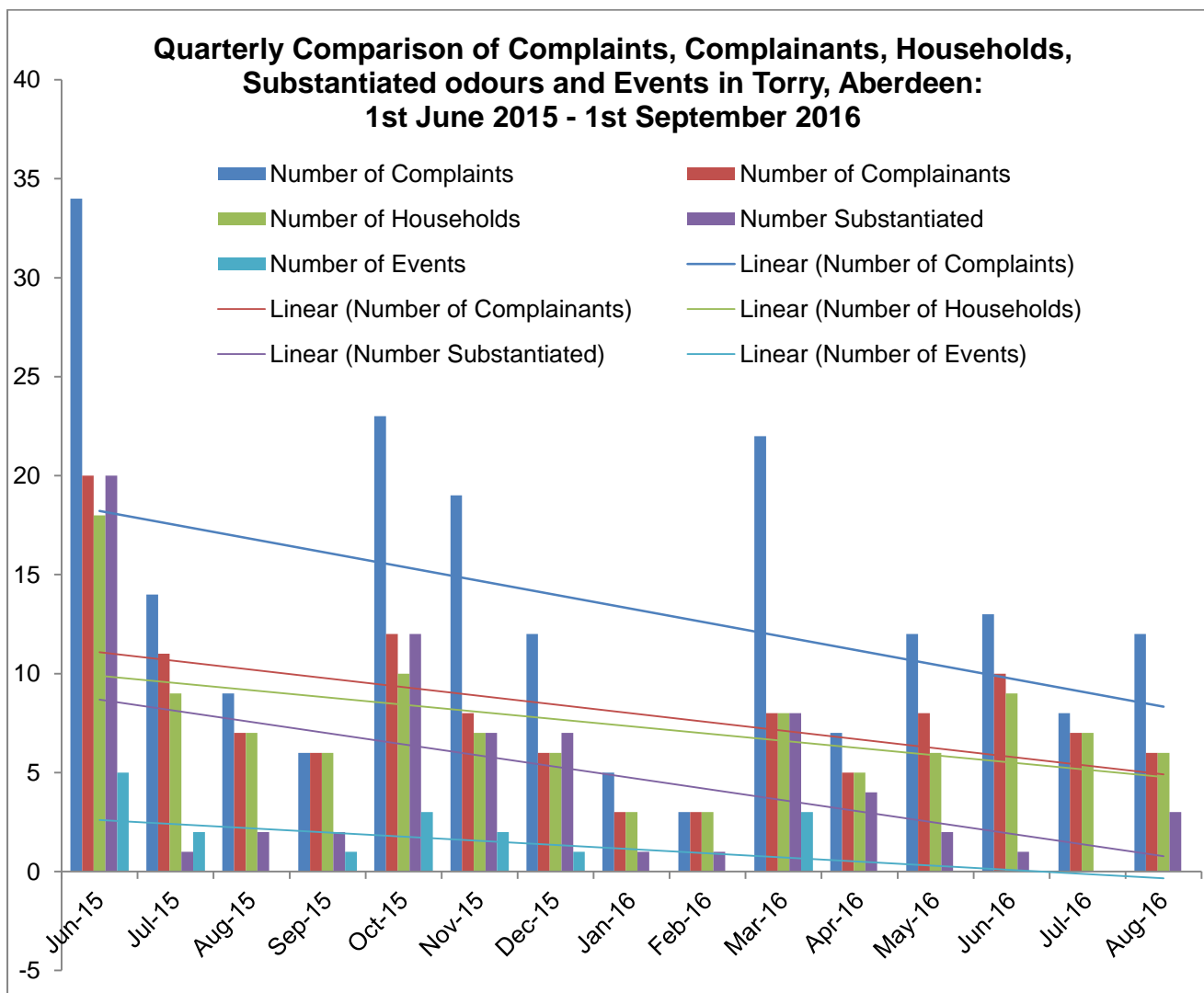


Graph 7: Potential sources of odour during night-time hours in Torry, Aberdeen



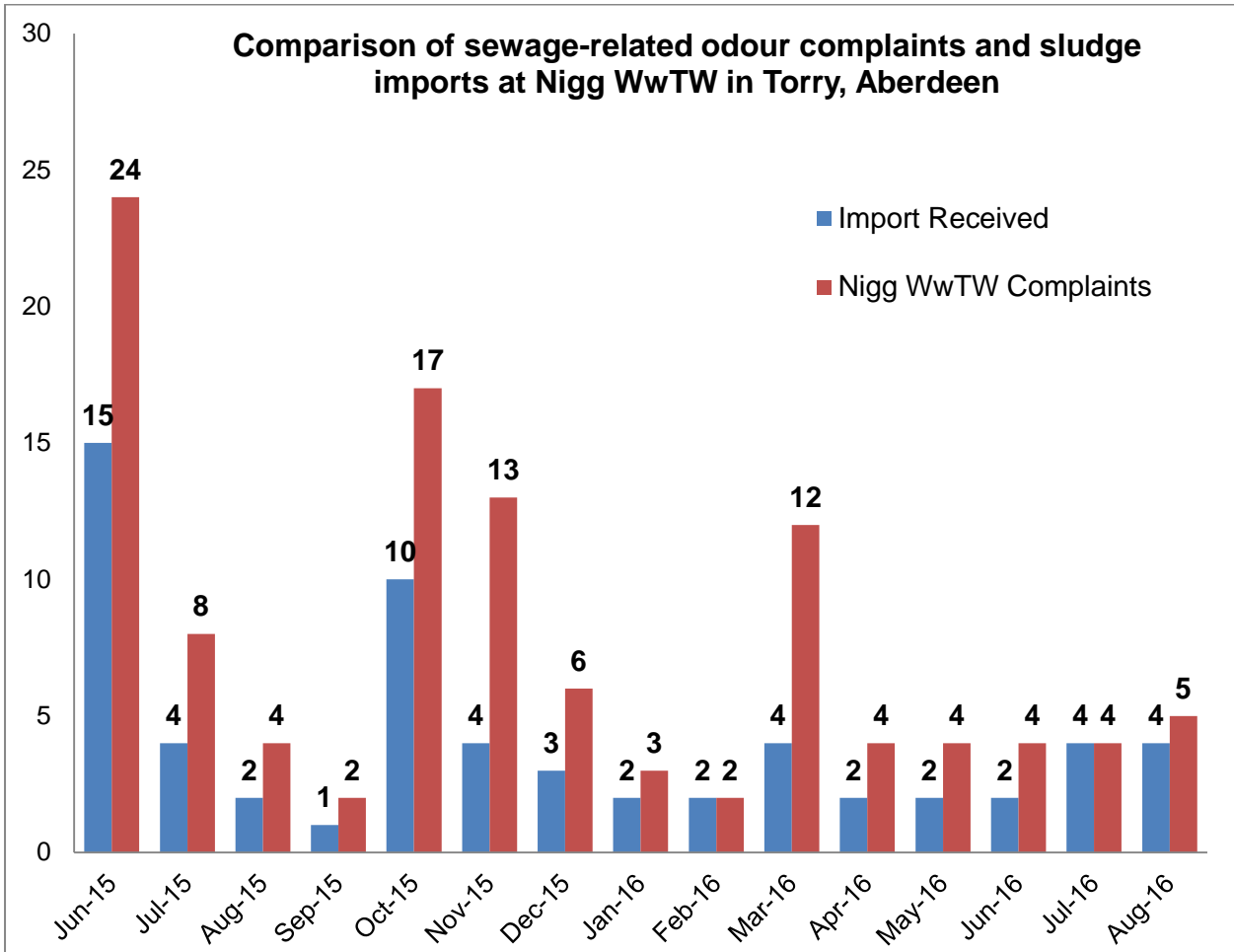
5.7 As discussed in Graph 6, it is possible that night-time odours are a result of the 24/7 processes in Torry. Graph 7 displays the night-time odours only throughout the fifteen month project to identify any pattern within the industries operating. From the data it is evident that Nigg WwTW and the oil industries (which are both 24/7 processes) are continued potential sources of the night-time odours in Torry, Aberdeen. However, with the major improvements at Nigg WwTW, there is a notable decrease in night-time sewage-related odours throughout the year, with the warmer summer months of 2016 being less odorous than the previous in 2015.

Graph 8: Quarterly comparison of complaints, complainants and households in Torry, Aberdeen



5.8 Graph 8 represents a summary of the number of complaints, the number of complainants and the number of households who have reported odours during the project. From the 1<sup>st</sup> June 2015 – 1<sup>st</sup> September 2016 the project has overall seen a reduction in the number of odour complaints, complainants and complaining households in Torry. It is important to recognise that the level of engagement with all interested stakeholders continued to develop throughout the project. Professor Robert Jackson attended monthly community council meetings to provide updates on behalf of the TORO to the members of the public. Additionally, SW developed a procedure with the help of the community council to distribute notifications of planned odour risk activities. At times the TORO contacted complainants who had not complained for a period of time to enquire if the odours had minimised or the complainants had started to believe complaining was not working. On the occasions where the TORO made contact, it was confirmed that the odours had minimised – reassuring the TORO that the project was continually driving towards the achievable mission statement.

Graph 9: Comparison of sewage-related odour complaints and sludge imports at Nigg WwTW in Torry, Aberdeen



5.9 Graph 9 has been created using the feedback provided from Nigg WwTW when a sewage-related odour complaint has been received – 51% of sewage related odours have been at the time of a sludge import. The orange bar represents the number of sewage-related odour complaints received from 1<sup>st</sup> June 2015 – 1<sup>st</sup> September 2016. The blue bar represents the number of times sludge imports were received within a 30-minute window of the odour complaint. As seen from the graph, in 2015 there were higher sewage-related odour complaints at the time of a sludge import but moving into the 2016 the number of complaints drops with less fluctuation. Nigg WwTW began their import area improvements in April 2016 – this therefore highlights that with the improvements to the import area, less offensive odours have been emitted from the process, resulting in less sewage-related odour complaints. From this data it can be suggested that there is a correlation between sludge imports at Nigg WwTW and sewage-related odour complaints in Torry.

## 6.0 RECOMMENDATIONS

- 6.1 From the odour complaint feedback from Nigg WwTW there is evidence of a correlation between sewage odours and tanker sludge imports. Between 1<sup>st</sup> June 2015 – 1<sup>st</sup> September 2016 data shows that 51% of sewage-related odour complaints were at the time of a sludge import to Nigg WwTW. See Graph 9 for monthly correlation. SEPA regulate a number of activities at Nigg WwTW which fall within their regulatory remit under the waste management licence. The licence states there should be no offensive odour beyond site boundary - determined by the environment protection officer. It is therefore recommended that KWSG investigate further upgrading to the sludge import area to ensure offensive odour is not detectable beyond the site boundary before summer 2017.
- 6.2 KWSG should continue to ensure that doors are closed where possible to control fugitive emissions. It is recommended that all doors at Nigg WwTW are upgraded to become alarmed by summer 2017 – ensuring no door is accidentally left open allowing for offensive odour escape.
- 6.3 KWSG should ensure all personnel on site understand the importance of odour abatement. Regular training, refresher training, team meetings and/or internal memos are options that KWSG should consider to ensure continued commitment to odour control within Nigg WwTW.
- 6.4 KWSG should create a formal cleaning programme whereby extensive cleaning of the FOG plant is carried out on a quarterly basis by summer 2017. Frequent cleaning of the FOG plant will minimise the generation of offensive odours which were detected during the most recent extensive clean. Additionally, with a more regular cleaning regime implemented this will reduce the stress on the pipe work and minimise any expected structural wear of the FOG plant.
- 6.5 ACC should make contact with premises within their regulatory remit which are identified by the TORO as potential sources of odour within Torry. ACC should ensure identified premises are aware of their responsibility to ensure no statutory nuisance is caused.
- 6.6 Premises carrying out activities regulated by SEPA were approached throughout the project by SEPA Environment Protection Officers to discuss the potential for these activities to release fugitive emissions and what impact this could have on the neighbouring community. This report recommends that SEPA officers follow up on the past visits by making some form of communication (i.e. letter, telephone call, site visit) with the identified potential sources to emphasise the importance of odour management and abatement. SEPA should ensure during these follow ups that the premises conducting regulated activities fully understand their environmental responsibilities by reviewing their licence odour conditions.
- 6.7 The existing complaint process utilising SEPA's Pollution Hotline should continue for a period of six months from the cessation of the project on 30<sup>th</sup> September 2016, at which point it will be reviewed.
- 6.8 The existing TOMG should be disbanded and replaced by the Nigg WwTW Operational Odour Liaison Group, with KWSG, SW, ACC and SEPA representatives present.
- 6.9 The existing Torry odour Stakeholder group should be disbanded and replaced by the Nigg WwTW Liaison Group with SW, ACC, KWSG, SEPA and Torry Community Council representatives present.
- 6.10 SW should continue to flush the Torry siphon on a regular basis whilst working on the upgrades to introduce the automated flushing system.
- 6.11 SW and KWSG should continue to supervise the tanker movements which are associated with Nigg WwTW – ensuring they do not drive through Torry.

- 6.12 SW should ensure the defective drain spilling sewage on to Girdleness Road is adequately fixed and cleaned up. ACC should monitor and ensure no public health nuisance exists until a permanent repair is successfully carried out.
- 6.13 SW should investigate the sewer network of Girdleness Road, Kirkhill Road, Kirkhill Place, Farquhar Road, Balnagask Road and Morven Place to ensure there are no defective drains and/or sewer chokes that may contribute to sewage related odours.

## 7.0 CONCLUSION

The Torry Odour Project has continued to drive towards achieving the mission statement of “Together Minimising the Impact of Odours in the Torry Community”. This is displayed with the notable decrease in the number of odour complaints, complainants and complaining households in Torry. From continual feedback from members of the Torry community (minuted during Stakeholder meetings and logged within SEPA’s information system from written feedback) it is apparent that the summer of 2015 and 2016 has seen major improvements compared to previous years but there is still more work to be done to minimise detectable odours further.

The development of the new odour complaint handling procedure and collaborative approach taken by all three regulatory bodies has hugely contributed to the success of the Torry Odour Project. The TORO role has allowed rapid response to odour complaints received during working hours and two out of hours campaigns to investigate odours throughout the night. The project followed the established procedure of electronically issuing odour complaint pro-forma sheets to potential sources of odour investigated by the TORO in response to odour complaints- enabling the TORO to receive quick and efficient feedback within 2-3 working days.

KWSG completed major refurbishments to Nigg WwTW and they have continued throughout the project to show commitment to improving and minimising odours in Torry. It was raised during the final Torry Odour Stakeholder meeting in September 2016 that sludge imports have continued to be a potential source of odour – KWSG confirmed they will investigate possible improvements that could further reduce odours and report back their findings/plans to the newly formed Nigg WwTW Liaison Group. The Torry Odour Stakeholder group will be disbanded to form the new Nigg WwTW Liaison Group with the first meeting being scheduled for December 2016.

Odour complaints will continue to be phoned through to SEPA’s 24/7 pollution hotline number who will then forward it on to ACC for investigation. ACC will adopt the procedure of issuing out odour complaint pro forma sheets to KWSG for efficient feedback..

The creation of the Torry Odour Project displays the significant efforts and commitment of ACC, SW, SEPA, Torry Community Council and local industries to minimise odours within Torry. The number of odour complaints, complainants and households complaining does not fully represent the achievements of the project. It should be recognised that the communication between regulatory bodies, the community of Torry, local industries and local councillors has significantly improved and will continue on past the existence of the project. In addition, the time, the additional campaigns, the cost and the management of the project highlight the commitment of all Stakeholders to minimise the impact of odour on the Torry Community. The completion of the Torry Odour Project is not the end of the commitment the regulatory bodies and stakeholders have to achieve the mission statement. There will continue to be a high level of engagement between all stakeholders including the Nigg WwTW Liaison Group meetings, notifications of planned and emergency odour risk activities and regulation of local industries by the relevant regulatory body.

Appendix 1: Blank Torry odour complaint pro-forma sheet

Complaint/Observation Detail - to be completed by TORO and issued to potential sources			
Reference		Log Date and Time (by SCC)	
Address		Postcode	
Odour Description		Scale (1-5)	
Date/Time First Detected		Where Detected	
Wind Direction (when first detected)		Wind Speed (m/s) & Scale (when first detected)	
Weather Description according to complainant and Temperature (deg C)		Air Pressure (hPa when first detected)	
Tide Status (when first detected)			
Other Information			
Complaint/Observation Feedback - to be completed by Recipient			
Completed by			
Details of odour risk activities taking place			
Details of any import/export of raw products or wastes during, or preceding half hour of complaint			
Details of any other site or local observations			
Completed Proforma to be sent back within 2-3 working days			



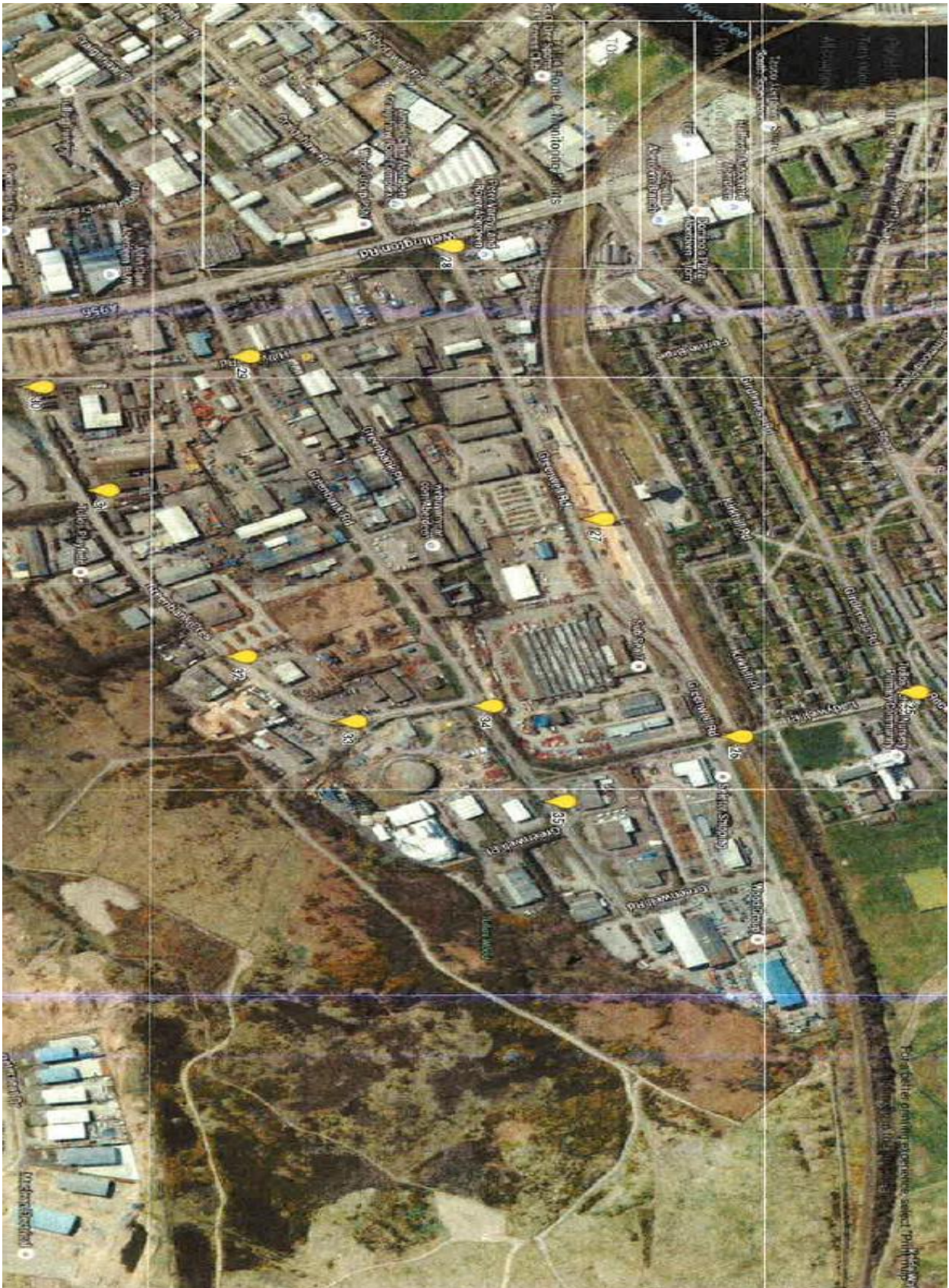
Appendix 2: Torry odour walk-round maps in the order of A, B and C.





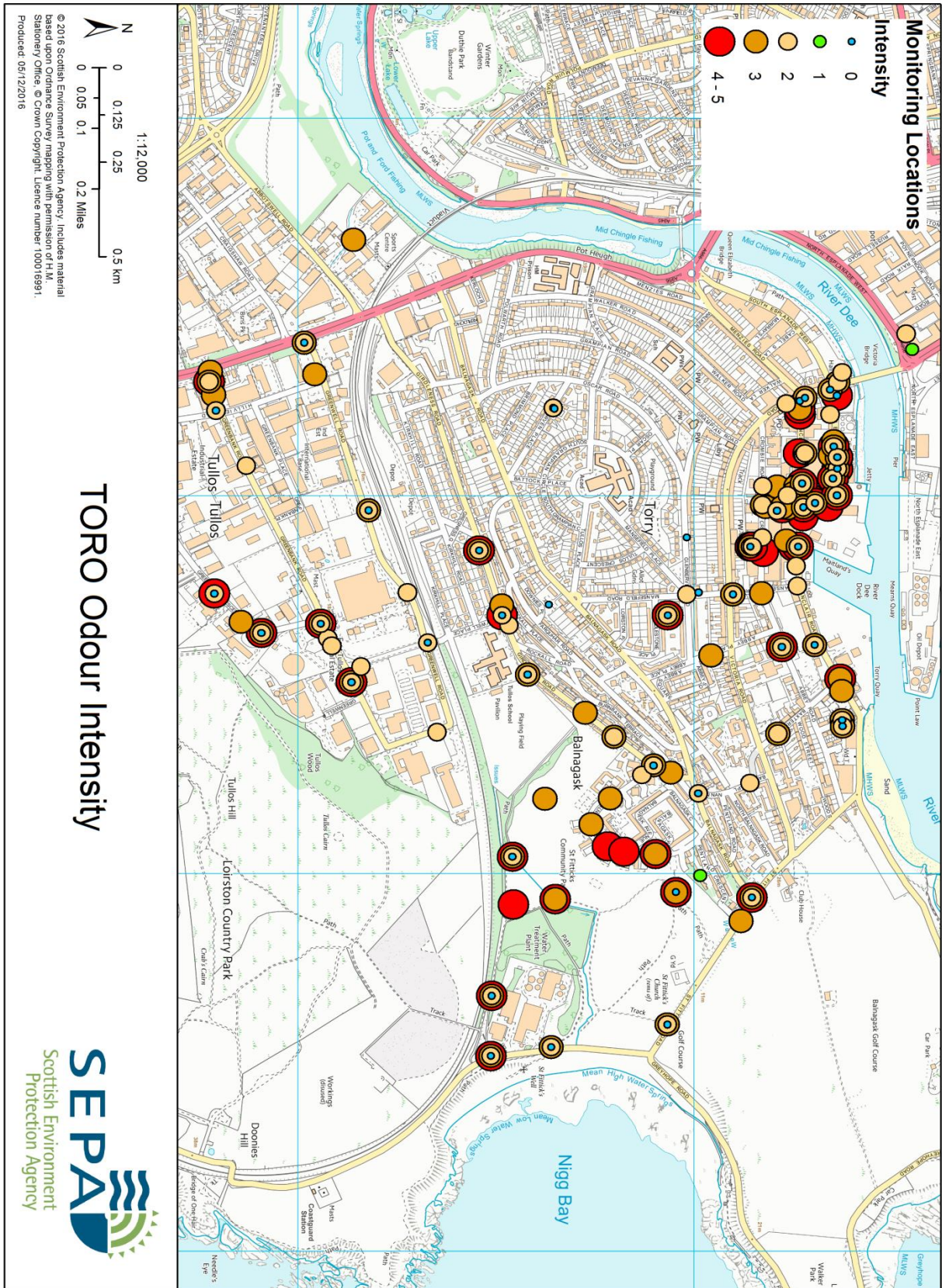








Appendix 3: Hotspot Mapping of Torry, Aberdeen



Appendix 4: Draft terms of reference for the Nigg WwTW Liaison Group

# Nigg WwTW Liaison Group

## DRAFT Terms of Reference

**Time:** 1hr

**Frequency:** Quarterly for 2016/17, Review annually

**Location:** SEPA, Inverdee House

**Chair:** to be confirmed

**Attendees:**

Scottish Water – Communities, PFI, CSD

ACC – EH Officer & Elected Members

Kelda, SEPA

Torry Community Council

plus any other invitee as agreed

**Objectives:**

To comply with the Nigg WwTW Planning Permission.

To maintain an open dialogue between the Torry community and the partners and Regulators of Nigg WwTW.

To minimise the impact of odours in the Torry Community.

To identify and implement Continual Improvement opportunities.

**Agenda:** (supported by additional specifics as required)

Introductions,  
Review of Action Log,  
Scottish Water update,  
Kelda operational update and look ahead  
Community issues

Circulated in advance of meeting.

**Ground Rules:**

Ensure attendance, come prepared

Start and finish on time, stick to Agenda

Mobile phones off/silent

Individuals responsible for own actions

**Outputs:**

Action Log circulated to attendees.

Circulated within 3 weeks of meeting.



Appendix 5: Route information leaflets given to tankers serving Nigg WwTW

### Nigg Wastewater Treatment Works Traffic Management

<p><b>What</b></p> <p>Scottish Water and Kelda request that all major deliveries and exports associated with Nigg Wastewater Treatment Works are routed through Altens Industrial Estate</p>	<p><b>Why</b></p> <p>We want to minimise the traffic impacts of Nigg WwTW operations on the residents of Torry, particularly by reducing heavy vehicles on Victoria Road, Balnagask Road and Girdleness Road</p>	<p><b>Where</b></p> <p>Heavy and articulated vehicles to use Altens Industrial Estate (Hareness Road) and Coast Road to access/egress Nigg Wastewater Treatment Works No heavy traffic through Cove village</p>	<p><b>When</b></p> <p>With immediate effect unless advised otherwise</p>	<p><b>Who</b></p> <p>All importers/exporters of liquid or caked sludge (Scottish Water, Kelda, contractors and 3<sup>rd</sup> party), all environmental service contractors and HGV deliveries associated with capital or maintenance works</p>
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July 2015

### Nigg Wastewater Treatment Works Traffic Management

**Diversion**  
Operational Traffic – avoid residential areas

➔

**TANKERS AND HGVs**

Help minimise traffic in Torry by using Altens Industrial Estate for onward travel

↻

**Victoria Road Torry is included in the Aberdeen Air Quality Management Area**



**Help reduce number of HGVs using Victoria Rd**




Sept 2015

Appendix 6: Blank odour risk assessment by Kelda Water Services (Grampian)

<b>Site:</b>		<b>Date of Assessment:</b>		<b>Date/Duration of Activity:</b>		<b>Assessment Conducted by:</b>			
<b>Activity:</b>									
<b>Current Conditions:</b>									
<b>Current and Expected Weather Conditions:</b>				<b>Receptors:</b>					
<b>Description of activity:</b>									
<b>Alternative options considered for carrying out the activity (if any):</b>									
<b>Risk Scoring:</b>									
<b>Description of Hazard</b>		<b>Initial Risk</b> (risk = severity x likelihood)			<b>Control Measures to be Implemented</b>		<b>Residual Risk</b> (risk = severity x likelihood)		
		Severity	Likelihood	Risk			Severity	Likelihood	Risk
<b>Conclusion:</b>									
<b>Odour Risk Scoring System</b>									
<b>RAG Risk Rating</b> = Severity x Likelihood  Low Risk 1-3 or 4 Medium Risk 4-12 High Risk 15-25	<b>Likelihood of Causing Odour</b>	<b>Severity of Odour (Odour Strengths at receptor point)</b>					<b>Repeat of Major (5)</b> "very strong odour" Large number of ongoing complaints, Stakeholder/Press interest		
		<b>Insignificant (1)</b> "very faint" No Complaints	<b>Minor (2)</b> "faint but noticeable" Very few localised complaints	<b>Moderate (3)</b> "clearly noticeable odour" Few complaints in vicinity of activity	<b>Major (4)</b> "strong odour" Large number of complaints attracting Regulator/ Stakeholder concerns				
		<b>Improbable (1)</b>	1	2	3	4		5	
		<b>Remote (2)</b>	2	4	6	8		10	
		<b>Occasional (3)</b>	3	6	9	12		15	
		<b>Probable (4)</b>	4	8	12	16		20	
<b>Frequent (5)</b>	5	10	15	20	25				
<b>Guidelines: odour management planning when carrying out an odour sensitive activity:</b>							Check		
The following checklist should be followed									
Relevant Stakeholders should be informed									
An agreed method of working shall be followed to ensure consistency and to minimise odour release									
Instructions to all personnel shall be delivered during site inductions and planning processes									
All risk assessments, Safe Systems of Work, spares and equipment (if applicable) will be available									
Any required equipment or transport to remove residual waste or odorous material shall be available									
A long range weather forecast shall be obtained prior to activity									
A complete site inspection shall be carried out to check if any other odour sensitive work has been planned for the area									
Wherever possible, a minimum of manholes or odour covers shall be lifted									
Operation of any odour abatement equipment (if applicable) shall be checked									
Season, weather, time of day shall be considered when scheduling the odour sensitive activity									
The site boundary or local vicinity shall be checked for odour or sulphide levels on a regular basis during the activity									
This odour risk assessment shall be reviewed immediately if odour complaints start to be received									
Appropriate parties shall be informed when work is completed or if the Safe System of Work has to be amended									
<b>Potential elements to consider when undertaking odour sensitive activity (operational vigilance)</b>									
Discharge points		Fugitive emissions		Source emissions		Weather conditions			
Spillages		Loose joint fittings		Manholes, hatches or covers		Vents			
Turbulent flows		Processing units		Transportation		Skips			
Local works by others		Be aware of local events							
<b>Control measures to be considered when undertaking an odour sensitive activity</b>									
Eliminate odour at source				Ensure an effective system of work					
Reduce odour at source				Programme suitable time/weather conditions for the activity					
Contain, extract and treat odour is possible				Reduce exposure to odour, minimise time of activity					

Appendix 7: Blank daily odour report from Kelda Water Services (Grampian)



Nigg WWTW Daily Odour Risk Assessment

<b>Date:</b>		<b>Current Weather Conditions:</b>		<b>Wind Direction / Speed:</b>	
<b>Any Sludge Spillages?</b>					
<i>If yes:</i>					
<b>Area of Plant:</b>		<b>Approx. Volume:</b>			
<b>Cause:</b>					
<b>Measures Taken:</b>					
<b>Any Hydrogen Sulphide Alarms?</b>					
<i>If yes:</i>					
<b>Area of Plant:</b>					
<b>Cause:</b>					
<b>Measures Taken:</b>					
<b>OMP tasks completed previous day (weekly / daily)</b>					
<b>Any Odour Complaints in Previous 24 hours?</b>					
<i>If yes:</i>					
<b>Details / Investigation:</b>					
<b>Are Any Odour Sensitive Activities Planned for Today?</b>					
<i>If yes:</i>					
<b>Details:</b>					
<b>Any Odour Observations as per OCU Checks in Previous 24 hours?</b>					
<i>If yes:</i>					
<b>Details:</b>					
<b>Is There a Need to Inform the Community?</b>					
<i>If yes:</i>					
<b>Key Information:</b>					