

## Torry Stakeholder Visit 12<sup>th</sup> June 2017



## *Agenda*

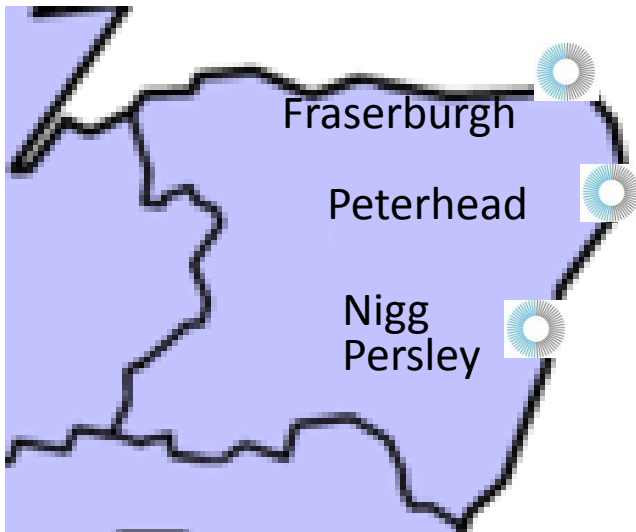
Welcome and Introduction

Health and Safety Induction

Site Tour

Close

## *What we do*



Operate and maintain 4 WwTW and 10 SPS

Treat waste water and discharge effluent to help protect the environment and bathing water quality

Minimise vehicle movements by providing a local treatment option for septic tanks etc.

Beneficially treat and recycle over 15,000 wt of biosolids to agriculture

Generate over 7,000MWh renewable energy per year

Minimise our impact on our neighbours

## *Minimising our impact*



Processes all enclosed within buildings

Odour Control Units to treat odorous air

Odour Management Plan

Daily and weekly odour checks

Risk Assessment processes

Commitment to minimising our impact

## *Investing in our site*



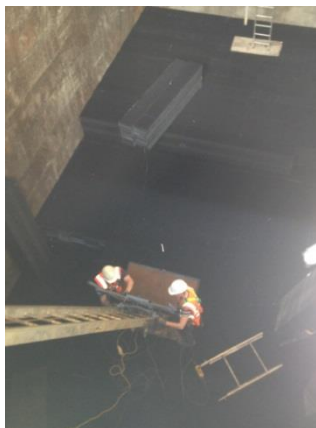
Number of significant refurbishment projects completed

Excellent process improvements as a result

All work odour risk assessed and where necessary re-designed to avoid odour impact

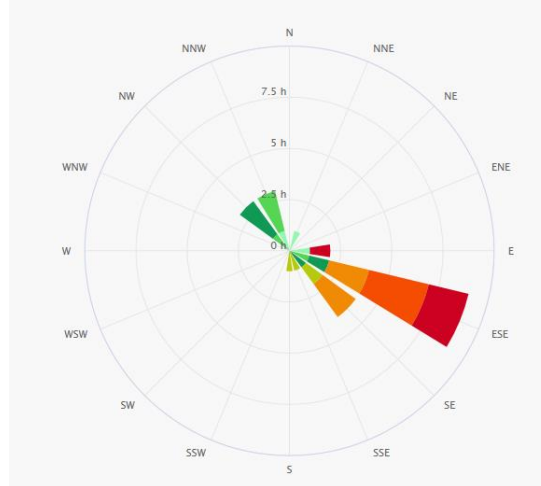
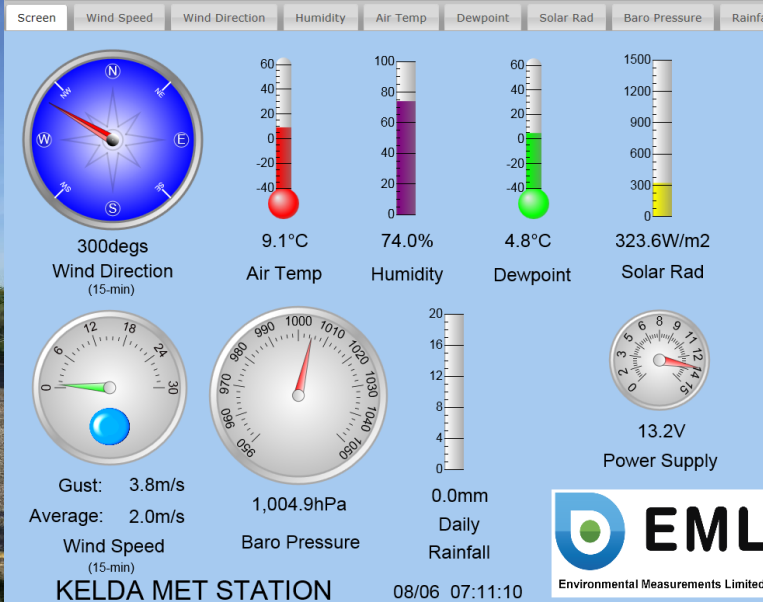
Continuing investment to improve the site

Odour treatment improvements

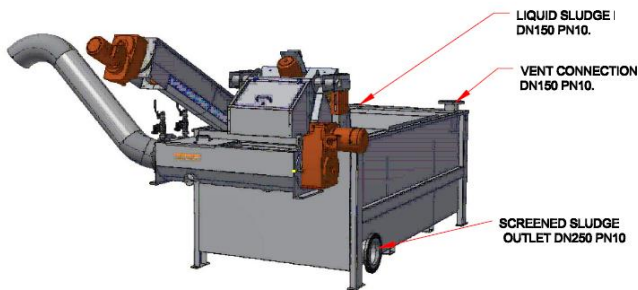
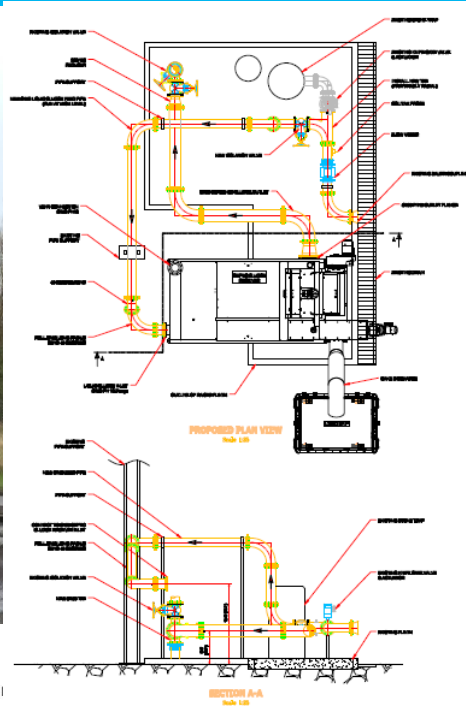




# On-site Weather Station



# Tanker Inlet Screen



3D View Of Liquid Sludge Screen

- Enclosed system connected to OCU
- Better odour containment
- Site Trials planned for August



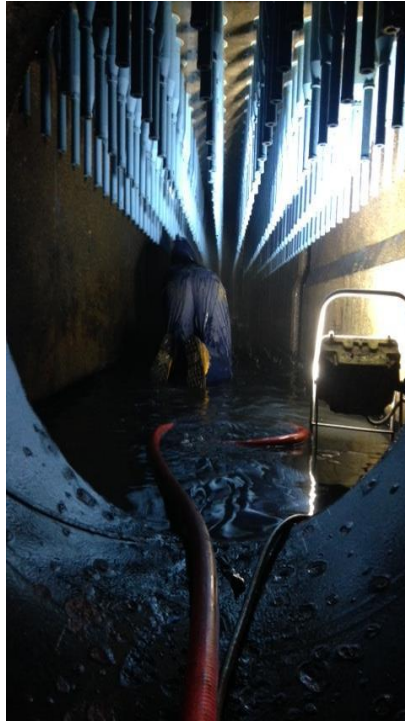
# Lamella refurbishment

- Lanes 1,2 and 5 completed
- 4 in progress
- 3 planned for later this year.
- Chemical dosing Improved optimisation in progress

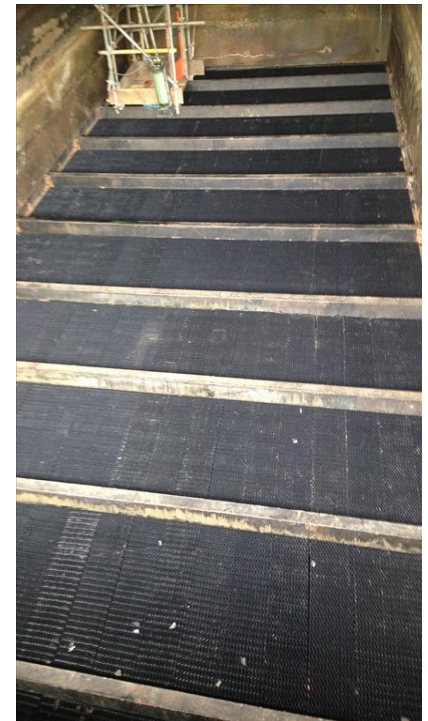




# BAFF (Biological Aerated Flooded Filter)



All tanks refurbished with new media and nozzles, back wash and sludge sump pumps



# Dewatering

7 belt presses replaced with 2 volutes, 1 centrifuge and 1 strain-press





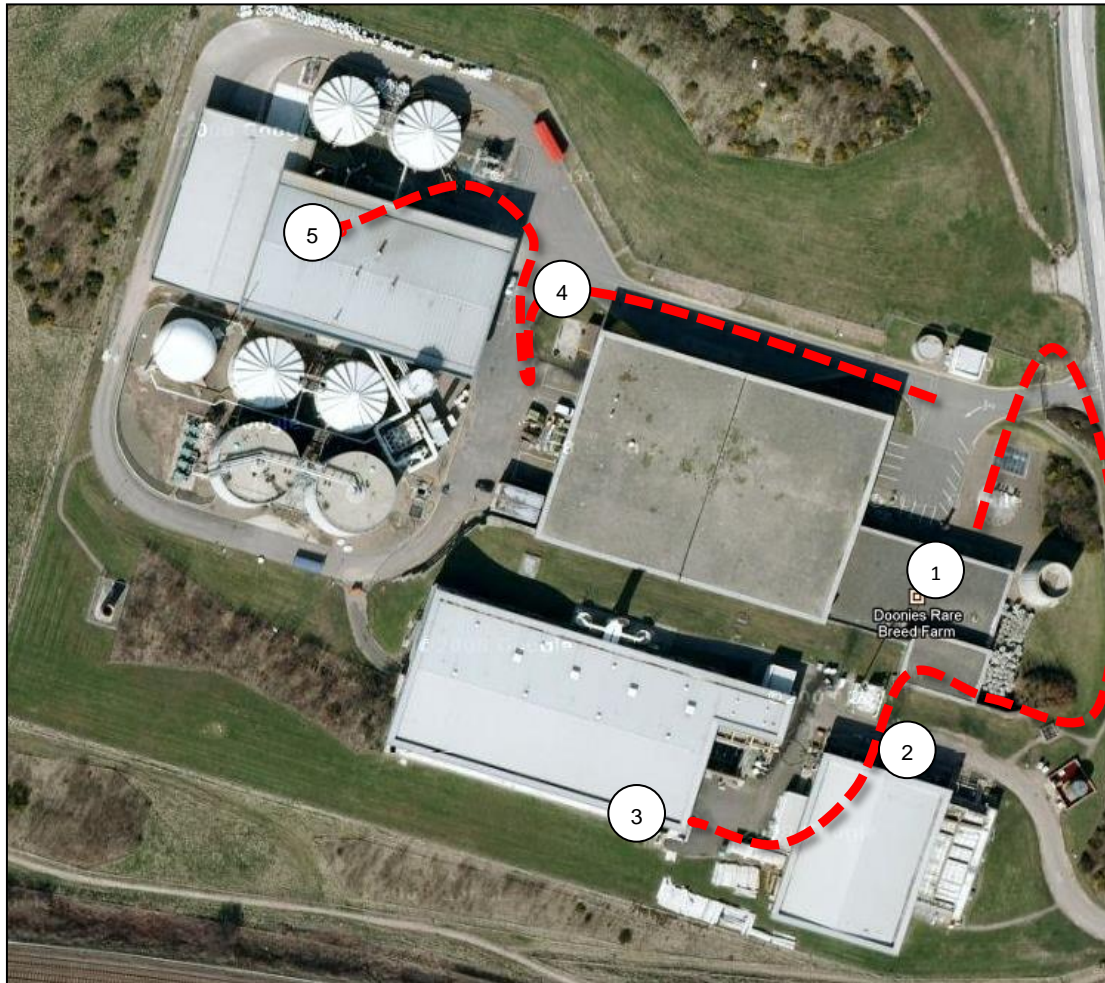
# Gas Bag/ Train/ Flare etc



- Gas holder replacement completed.
- Increased available capacity for odour control.
- Full system test and verification of Gas control systems.



## Visiting our site



1 Headworks  
(Preliminary treatment)

2 Lamella  
(Primary Treatment)

3 BAFF  
(Secondary treatment)

4 Imports  
(sludge and septic wastes)

5 CAMBI  
(Sludge treatment centre)





# Kelda Water Services Grampian Induction – Escorted Visitors Site: Nigg, Persley, Fraserburgh & Peterhead June 2017

# Content:

- To ensure that you are aware of all policy and procedures applicable during your visit.
- To raise awareness of site specific rules ,risks and hazards.

## Content

- Risk reporting
- Site Rules
- PPE
- First Aid
- Hazards
- Your responsibilities

# Risk Reporting

*“Health & Safety is more important than....”*

Richard Flint, CEO Kelda Group (Feb 2016)

**We know how we want to do things around here!**



STOP work if you feel  
is unsafe



# Life-Saving Rules



I never work or drive under the influence of drugs or alcohol



I always have authorisation, supervision and atmospheric monitoring in place before entering a confined space



I never use a hand held or hands free mobile phone, or exceed the speed limit, while driving



I always ensure a task has a risk assessment in place before I start



I never work with hazardous substances unless I'm trained and have appropriate equipment to do so



I always work with company authorised tools and equipment that I'm trained to use



I never work at height unless I'm trained and authorised to do so



I always keep myself out of the path of moving vehicles and mobile plant



I will never override or disable safety critical equipment



I never assume equipment is isolated and I always check before working on it





# Arrival On Site



**If you fail to comply, you will be instructed to leave site**

# Personal Protective Equipment (PPE)

Hard Hat

Eye Protection

Hi-Visibility Jacket/Coat

Gloves

Steel Toe Safety Boots



**P.P.E.  
must be  
worn in  
this area**

**If you fail to comply, you will be instructed to leave site**

# First Aid

- If you have an accident, report this immediately
- In an emergency call (9) 999 immediately
- Report all Hazards and Near Misses to KWSG
- Qualified First Aiders are:

Name	Position	Number
Noel Gallagher	Maintenance Supervisor	07790 615972
Gordon Stuart	Process Engineer	07471 038498

- Appointed Person:

Name	Position	Number
Paul Cowie	Process Engineer (Persley)	07880 195372
Paul Rennie	Process Engineer (Fraserburgh)	07594 794436
George Dyce	Process Engineer (Peterhead)	07785 615775



# Fire and Gas Alarms

- Smoke only in authorised areas
- In the event of a fire, raise the alarm immediately
- On hearing an alarm, evacuate to the muster point
- Do not return until it is safe to do so
- Know when fire alarm testing occurs



# High Hazard Chemicals

Ammonia

Stored/produced on site

Only enter buildings if authorised,  
or accompanied by AP

When alarm sounds, report to  
upwind muster point

Always use a calibrated gas  
monitor with correct sensor

Switch off any mobile phones  
prior to entry into these areas

H<sub>2</sub>S

Methane



**If you fail to comply, you will be instructed to leave site**

# Chemical Awareness

There are chemicals on each of our sites that could kill!  
It is essential that all work is risk assessed and appropriate control measures are in place, prior to work commencing.



# Hygiene and Housekeeping

## Risks

- Exposure to bacteria and pathogens
- Potential for H<sub>2</sub>S, ammonia and methane production

## Mitigation

- Maintain hygiene practises at all times
- No eating, drinking or smoking is allowed on site except in designated areas due to spread of pathogens
- If you become unwell, report to KWS Grampian
- Report any issues that could impact process
- Clean as you go, do not leave any waste behind

# High Risk Areas on Site (Nigg):

- Digester (Sludge Storage Tanks)
- Gas Holding Tank
- Radioactivity (Ionising Radiation)
- DSEAR Zoned Areas
- High Risk Activities on Site
  - Electrical Work
  - Pressure Systems
  - Confined Space
  - Working at Height
  - Manual Handling
  - Grinding / Cutting



# Odour Management Plan:

The OMP is necessary to prevent odorous gases causing a nuisance to the local neighbourhood. Please ensure the following whilst you are on site:

- Keeping all doors to process areas (man access and roller shutter) closed at all times
- Temporary enclosures, such as curtains should also remain closed at all times
- There are fixed odour extraction and treatment systems on site which are operating 24/7
- Report any spillages and/ or malodour detected
- Spillages of sludge/ cake/ wastewater must be cleaned up immediately

# Your Responsibilities

- You can impact your safety and the safety of others by your actions and omissions
- Do not enter areas, unless authorised to do so
- If it is suspected that you are under the influence of drugs or alcohol, you will be removed from site
- The use of cameras, including camera phones, is not permitted unless expressly permitted by KWS Grampian
- You must adhere to the instructions in this induction at all times
- Report all incidents and hazards

**If you fail to comply, you will be instructed to leave site**

# Your Commitment to Safety



By signing the Induction form, you are agreeing to comply with the policies and procedures detailed in this induction.

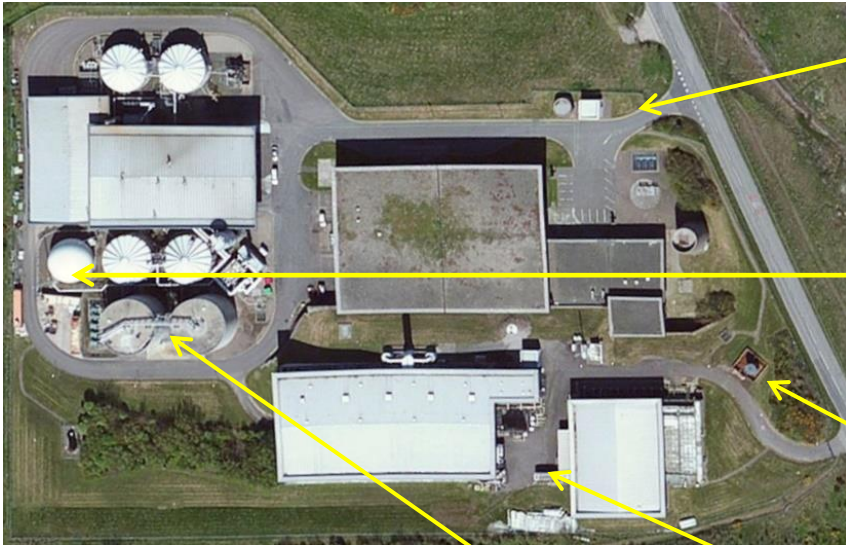
**Safety is everybody's responsibility. We are here to help, if in doubt ask**



# Additional Risks Today:

- No additional risk have been identified.
- No fire / gas alarm testing scheduled for today.
- Ask your Kelda site contact if any of todays other onsite activities may cause increased levels of risks or Hazards you should be aware of.
- No mobile phones or photography on site.
- PPE to be worn at all times. Stay with your host throughout the visit.

# H&S Site Map



Muster point

Gas Holder

Ferric tank

Polymer dosing

Digester tanks



# H2S Concentrations & Effects

Information source: HSE Offshore Information Sheet No. 6/2009

- 0.0047 ppm is the recognition threshold of human smell, the concentration at which 50% of humans can detect the characteristic odour of hydrogen sulphide.
- 10-20 ppm is the borderline concentration for eye irritation.
- 50-100 ppm leads to eye damage.
- At 150-250 ppm the olfactory nerve is paralyzed after a few inhalations, and the sense of smell disappears, often together with awareness of danger.
- 320-530 ppm leads to pulmonary edema with the possibility of death.
- 530-1000 ppm causes strong stimulation of the central nervous system and rapid breathing, leading to loss of breathing.
- Concentrations over 1000 ppm cause immediate collapse with loss of breathing, even after inhalation of a single breath.