Egdon Resources U.K. Limited
Environmental Management System
WASTE MANAGEMENT PROCEDURE

ISSUE DATE	September 2013
ISSUED BY	Egdon Production & HSE Manager
REVISION NUMBER	5

SUMMARY

This procedure details the management and control of wastes generated on Egdon Resources U.K. Limited ("Egdon") sites, to ensure that the all wastes are managed in accordance with regulatory and legal requirements, correct documentation is compiled and that accurate records of waste transfers are kept. It also serves to ensure that the Waste Management Plan is adhered to.

Egdon operational sites may have 4 different phases:-

1. **Site Construction**
2. **Drilling**
3. **Production/Production testing**
4. **Well decommissioning and Site Restoration**

Waste management for each phase will be set out within this document, setting out reporting lines, roles and responsibilities, potential waste streams and the management of such wastes. This procedure covers all operational phases, so other than the introduction section only the sections relating to the specific operational phase will be relevant and applicable during that phase.
It should also be noted that the Environmental Permits are only applicable to stages 2, 3 and 4.

Waste carrier and disposal sites – all operational phases

All waste carriers, and final-location waste disposal sites, must be legally registered to haul and dispose of waste. Hauliers and waste disposal sites used will be contacted and copies of their waste carriers and waste disposal site licences will be obtained to ensure that they are operating legally.

Definitions

- WTN – Waste Transfer Note
- WM3 – Waste Management Technical Guidance 3
- Waste Code – Individual waste codes that reference each specific waste type
- SIC - Standard Industrial Classification code. Each business sector is allocated specific SIC codes as follows:-

2007 SIC codes
- 06.10: Extraction of crude petroleum
- 06.20: Extraction of natural gas

Resources Required

Impermeable gloves, standard PPE and goggles for dealing with leaks or spillages;
Spill kit
Eyewash station
Fire extinguishers
Respirators (if required)
Pollution Accident Management Plan
Emergency Response Plan
Site Waste Inventory

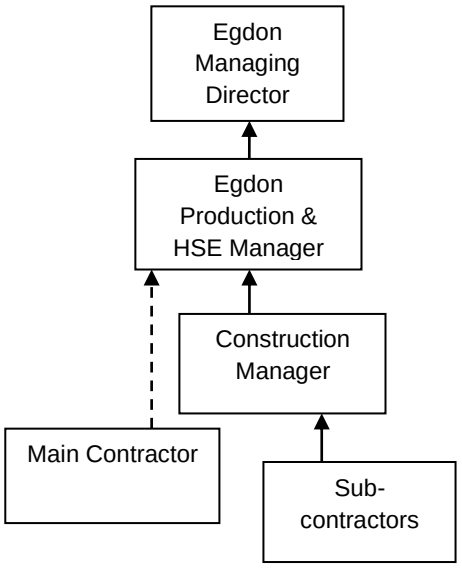
Safety

All personnel on site should understand, or be made aware of, the hazardous area site plan
Standard PPE should be worn on site, plus goggles and impermeable gloves for dealing with any leaks or spillages.

1. Site Construction

Roles And Responsibilities

Egdon utilises a third-party to manage the site construction phase, who in turn appoints (on Egdons' behalf through a tender process) a main construction contractor. There may be sub-contractors engaged to undertake specific works or services during the construction phase. Management reporting lines are as follows:-



Site Operatives

- Understanding of, and adherence to, the Waste Management procedure
- Initial management of waste streams
- Ensuring wastes are segregated and contained within appropriate waste containment on site
- Preventing spillages from waste streams
- Reporting any incidents to the Construction Manager
- First-response to spillages

Main Contractor - Site Supervisor

- Where possible, segregating wastes on site
- Ensuring that any waste spills are immediately cleaned up and managed
- Reporting any spills directly to the Construction Manager
- Coordinating and overseeing waste transfers from site
- Ensuring that Waste Transfer Notes (WTN's) are correctly and accurately completed for all consignments

Construction Manager

- Ensuring that any waste spills are immediately cleaned up and managed
- Recording any spills through Egdon's Incident Management Procedures, and reporting such directly to Egdon's Production and HSE Manager
- Maintaining a register of all wastes transferred off site
- Ensuring that the waste carriers and waste receiving facilities are licenced to move, receive and dispose of the waste
- Filing Waste Transfer Notes, and completing the site Waste Inventory after each consignment

Egdon Production and HSE Manager

- Ensuring that any wastes created and transferred/disposed of are managed in compliance with legislation and regulations
- Disseminating relevant Egdon procedures and documents to the Construction Manager and Main Contractor
- Ensuring that the Waste Management procedure is understood and adhered to on site
- Ensuring that the waste carriers and waste receiving facilities are licenced to move, receive and dispose of the waste
- Ensuring that waste management training is delivered where necessary to site personnel

Egdon Managing Director

- Overall responsibility for ensuring that the site construction phase is undertake in accordance with statutory and legal requirements in respect of wastes generated and transferred/disposed

Site construction wastes

There are usually minimal wastes created during the construction of a wellsite; soils are scraped back to form external storage/screening bunds, and aggregates form the surface area on top of stabilising geotextiles and an impermeable membrane. A perimeter containment ditch would be formed using perforated drainage pipe, and backfilled to surface with aggregates.

Table 1 sets out waste materials that may be generated during the site construction phase.

Table 1-

Product/waste type	**Storage and holding**	**Classification**
Surplus concrete	In skips, transferred off site	Non-hazardous
Surplus geotextiles and membrane offcuts		
Wooden, plastic and cardboard packaging		
"Domestic" waste from welfare units, including effluent contained in under-cabin tanks		
Small volumes of sub-surface strata that would result from any well cellar excavation, and from shallow monitoring borehole installations		

Construction Waste Management

Where possible, wastes will be segregated on site. If wastes are created as a result of a spillage, refer to the Pollution Accident Management Plan for the response mechanism.

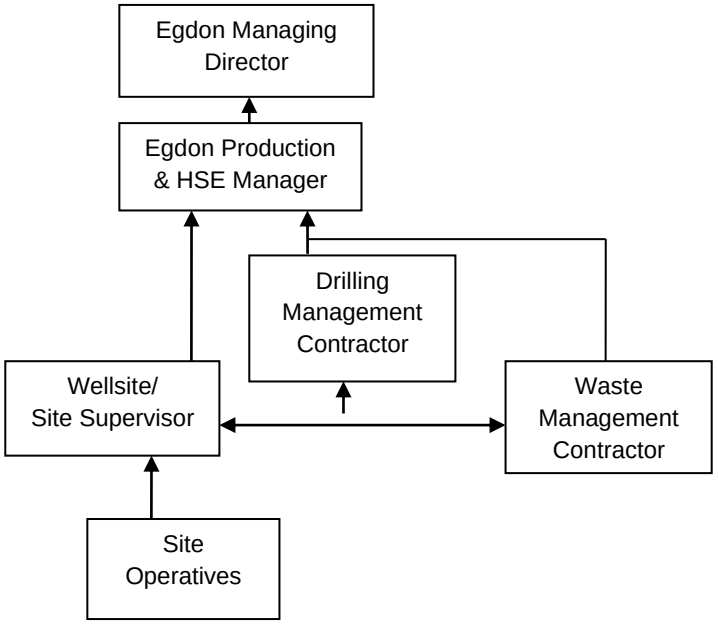
The Main Contractor will arrange for waste transfers, but the Egdon's nominated Site Construction Manager/Project Manager will have immediate responsibility for oversight of any wastes transferred from site. Waste Transfer Notes (WTN's) must be obtained for all transfers of waste, and these should be forwarded to Egdon to ensure that these are logged and filed.

2. Drilling Operations

Roles and Responsibilities

In terms of environmental and waste issues, the on-site responsibility for adherence to Egdon's documented procedures is the Wellsite Supervisor, who reports directly to Egdons Production and HSE Manager.

For drilling operations, a nominated Waste Management Contractor is contractually engaged to co-ordinate and manage waste streams arising from the drilling operation. The concise reporting structure is as follows:-



Site Operatives

- Initial management of waste streams
- Ensuring wastes are segregated and contained within appropriate waste containment on site
- Preventing spillages from waste streams
- Reporting any incidents to the Wellsite Supervisor
- First-response to spillages

Waste Management Contractor

- Understanding of, and adherence to, the site Waste Management Plan and to Egdon's Waste Management procedure
- Ensuring that individual wastes are assessed in line with WM3 guidance
- Co-ordinating waste transfers off-site via waste carriers and waste receiving locations
- Ensuring that the waste carriers and waste receiving facilities are licenced to move, receive and dispose of the waste

- Ensuring that Waste Transfer Notes (WTN's) are correctly and accurately completed for all consignments
- Correlating waste codes as per the Waste Management Plan to ensure correct codes are used
- Maintaining a register of all wastes transferred off site
- Ensuring that WTN's are transferred to Drilling Management/Egdon's Production and HSE Manager
- Ensuring that, at the end of drilling operations, the waste register is issued to Egdon
- Communication with Egdon's Production and HSE Manager on waste issues

Wellsite Supervisor

- Managing wastes on site, including clean-up of spills as necessary (reference Pollution Accident Management Plan)
- Ensuring that any waste spills are immediately cleaned up and managed
- Recording any spills through Egdon's Incident Management Procedures, and reporting such directly to Egdon
- Arranging waste transfers from site as and when required, via liaison with the Waste Management Contractor

Drilling Management Contractor

- Appointing a Waste Management Contractor with the necessary skills, experience and capability to manage wastes generated during drilling
- Disseminating relevant procedures and documents in advance of drilling operations (if required)
- Ensuring that the Waste Management Plan is understood and adhered to on site
- Communication with Egdon's Production and HSE Manager, and the Waste Management Contractor, on waste issues

Egdon Production and HSE Manager

- Completion and maintenance of the site Waste Management Plan, and ensuring that the Waste Management Plan is disseminated to the Wellsite Supervisor, Drilling Management and to the Waste Management Contractor
- Auditing waste activities on drill sites in accordance with the Risk Assessment, Waste Management Plan and Waste Management procedure
- Ensuring the requirements of the Mining Waste Permit are fulfilled
- Ensuring that waste management training is delivered where necessary to site personnel

Egdon Managing Director

- Overall responsibility for ensuring that the Mining Waste Activity is applied and operated in accordance with relevant legislation and permit requirements.

Drilling Wastes

Drilling activities may produce main waste streams as identified within the following table. As far as is possible, waste streams will be segregated, and the management of individual wastes will be progressed as per the site Waste Management Plan.

A summary of possible waste streams is set out with Table 2.

Table 2

Product/waste type	Storage and holding	Classification
Oil based drilling fluid (site dependant)	Within mud circulation tanks; transferred offsite by tanker when fluids degraded	Hazardous
Water based drilling fluid (site dependant)		Non-hazardous
Rock cuttings from oil based drilling fluid	Separated out through shaker system into dedicated skips/tanks, transferred off site as soon as volumes dictate	Hazardous
Rock cuttings from water based drilling fluid		Non-hazardous
Well suspension brine	Returned brine held in on-site tank pending off-site transfer as waste	Non hazardous
Solidified excess cement	Skips	Non-hazardous
Natural gas (methane)	n/a – small volumes of gas that may vent from returned drilling muds	Hazardous
Nitrogen	n/a – nitrogen may be used to lift wellbore fluids following suspension; vented to atmosphere	Non-hazardous
General waste	Skips	Non-hazardous
Used oiled rags and oiled absorbents	Hazardous waste bags	Hazardous
Used engine oil	Drums	Hazardous
Used oil filters	Hazardous waste bags	Hazardous
General waste packaging	Skips	Non-hazardous
Effluent waste	Effluent waste tanks	Non-hazardous

Waste Management

If wastes are created as a result of a spillage on site, refer to the Pollution Accident Management Plan for the response mechanism.

Any waste or potential waste from all operational phases must be classified in accordance with Technical Guidance WM3. This will involve:-

- Determining the waste streams applicable to each operational phase
- Applying a sampling plan to understand the composition of the waste
- Arranging for third-party analysis to verify the waste composition
- Clarifying any hazardous properties within the waste
- Confirming the waste code that is applied to the waste stream
- Determining the waste receiving location

Where possible, wastes will be segregated – as an example returned drilling fluids are passed through shaker system to separate out solids and liquids; the liquids are then returned to the mud circulation system. Solids are retained in skips and then transferred offsite through a licenced waste contractor.
When waste transfers are required:-

- A Waste Assessment will be undertaken if the waste is not already part of the existing Waste Sampling Plan
- The Waste Assessment will confirm the waste code and receiving location to either treat or dispose of the waste
- Samples of the waste may be required in order to confirm the waste receiving location
- The Wellsite Supervisor/Waste Management Contractor will arrange for a waste carrier Waste Management Contractor must oversee the loading of the waste
- Waste Transfer Notes must be completed for every shipment, using the correct waste codes and with reference to the Waste Management Plan
- When the waste has been transferred off site, the Waste Management Contractor will complete a Waste Inventory/Register, entering details for the individual waste consignment in relation to:
  - Date
  - Waste type
  - Quantity of waste transferred and the measurement unit
  - Waste Carrier
  - Waste Transfer Note number
  - Treatment method
  - Final disposal site
  - Waste code (found on the Waste Transfer Note)

On completion of the drilling activity, the Waste Management Contractor will ensure that the completed Waste Inventory, and associated Waste Transfer Notes and disposal documentation, is issued to Egdons Production and HSE Manager.

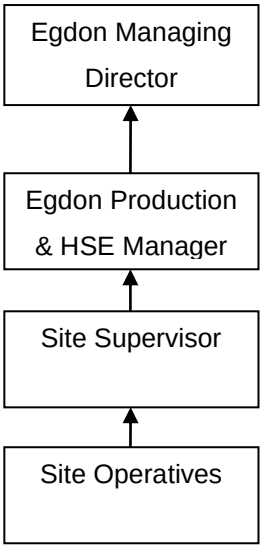
Note: The Waste Transfer Note is a legal document and must be kept in relation to every waste transfer from site. Waste Transfer Notes must be kept for a minimum of three years.

3. Production/Production Test Sites

Roles and Responsibilities

For Egdon production sites, these are usually single-person operated and as such the Site Operative/Site Supervisor may be one and the same. The Site Supervisor manages day to day operations and this includes initial management of any wastes generated. Any off-site transfers of waste will usually be coordinated by the Production and HSE Manager.

The concise reporting structure on Egdon production sites is as follows: -



Site Operatives

- Understanding of, and adherence to, the Waste Management procedure
- Initial management of waste streams
- Ensuring wastes are segregated and contained within appropriate waste containment on site
- Preventing spillages from waste streams
- Reporting any incidents to the Site Supervisor
- First-response to spillages

Site Supervisor

- Managing wastes on site, including clean-up of spills as necessary (reference Pollution Accident Management Plan)
- Ensuring that any waste spills are immediately cleaned up and managed
- Recording any spills through Egdon's Incident Management Procedures, and reporting such directly to Egdon
- Advising Egdon's Production and HSE Manager that wastes require transfer off site

- Coordinating and overseeing waste transfers from site
- Ensuring that Waste Transfer Notes (WTN's) are correctly and accurately completed for all consignments
- Correlating waste codes with those within the Waste Management Plan to ensure correct codes are used
- Maintaining a register of all wastes transferred off site
- Filing Waste Transfer Notes, and completing the site Waste Inventory after each consignment of waste

Egdon Production and HSE Manager

- If required, using a Waste Management Contractor with the necessary skills, experience and capability to manage wastes generated during production
- Disseminating relevant Egdon procedures and documents to Site Supervisors/Operatives
- Completion and maintenance of the site Waste Management Plan, and Waste Management procedure
- Ensuring that the Waste Management Plan and procedure are understood and adhered to on site
- Ensuring that the requirements of WM3 are adhered to, and that sampling plans and assessments are undertaken on waste streams
- Co-ordinating waste transfers off-site via waste carriers and/or waste management contractors when needed
- Ensuring that the waste carriers and waste receiving facilities are licenced to move, receive and dispose of the waste
- Auditing waste activities on sites in accordance with the Risk Assessment, Waste Management Plan and Waste Management procedure
- Ensuring the requirements of the Mining Waste Permit are fulfilled
- Ensuring that waste management training is delivered where necessary to site personnel

Egdon Managing Director

- Overall responsibility for ensuring that the Mining Waste Activity is applied and operated in accordance with relevant legislation and permit requirements.

Production Wastes

Site activities may produce fluids, gases or solids that may fall to be considered as waste streams. Table 3 below identifies all potential sources, and concludes whether they are classified as waste, whether they are stored on site and the classification of the waste.

Table 3

Product/waste type	Storage and holding	Classification
Produced water (if applicable)	Separated within storage tanks and stored separately for use as a well washing medium	n/a
Oil/water sludge	Contained within concrete well cellars. Pumped to storage tank(s) within storage tank bund area, or suctioned out directly from well cellars	Hazardous
Natural gas	Produced gas separated within system and incinerated in enclosed ground flare	Hazardous until incinerated
Natural gas	Small volumes vented off stored fluids in storage tank system	Hazardous
Circulated well fluids	Circulated well/kill fluids returned to storage tank system	n/a – usable product
Brine	Brine circulated back to storage tanks	n/a – usable product
Wax solids	Stored in either tanks or IBC's	Hazardous
H_2S absorbent material	When filtration is spent, vessel emptied and contents transferred immediately off site	Non-hazardous
NORM	n/a (see separate NORM Management procedures)	n/a
Oiled waste (rags/cloths/granules)	Contain within sealed hazardous waste bags and stored within bunded area	Hazardous
Metal	In skip as required	Non - hazardous
Wood	In skip as required	Non - hazardous
General consumable waste	Stored in black bags, disposed of with household waste	Non - hazardous

Waste Management

If wastes are created as a result of a spillage on site, refer to the Pollution Accident Management Plan for the response mechanism.

Any waste or potential waste from all operational phases must be classified in accordance with Technical Guidance WM3. This will involve:-

- Determining the waste streams applicable to each operational phase
- Applying a sampling plan to understand the composition of the waste
- Arranging for third-party analysis to verify the waste composition
- Clarifying any hazardous properties within the waste
- Confirming the waste code that is applied to the waste stream
- Determining the waste receiving location

Where possible, wastes will be segregated – as an example returned drilling fluids are passed through shaker system to separate out solids and liquids; the liquids are then returned to the mud circulation system. Solids are retained in skips and then transferred offsite through a licenced waste contractor.
When waste transfers are required:-

- A Waste Assessment will be undertaken if the waste is not already part of the existing Waste Sampling Plan
- The Waste Assessment will confirm the waste code and receiving location to either treat or dispose of the waste
- Samples of the waste may be required in order to confirm the waste receiving location
- The Wellsite Supervisor//Production and HSE Manager will arrange for a waste carrier
- Waste Transfer Notes must be completed for every shipment, using the correct waste codes and with reference to the Waste Management Plan
- When the waste has been transferred off site, the Well site Supervisor will complete a Waste Inventory/Register, entering details for the individual waste consignment in relation to:
  - Date
  - Waste type
  - Quantity of waste transferred and the measurement unit
  - Waste Carrier
  - Waste Transfer Note number
  - Treatment method
  - Final disposal site
  - Waste code (found on the Waste Transfer Note)

Note: The Waste Transfer Note is a legal document and must be kept in relation to every waste transfer from site. Waste Transfer Notes must be kept for a minimum of three years.

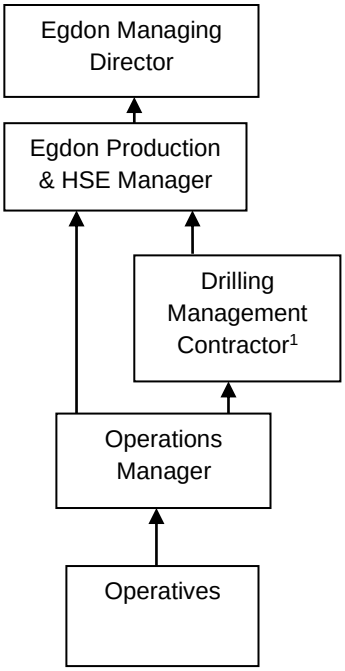
4. Well Decommissioning And Site Restoration

In the event that a drilled well does not encounter hydrocarbons, or where production rates are not commercial, the decision would be taken to decommission the well(s) and restore the site to its former condition. This process would be in accordance with OGA requirements and in line with Egdon's own management system "Site Closure and Restoration" Procedure. This procedure sets out the detailed steps that must be taken in respect of this phase, and must be communicated with all contractors engaged in the decommissioning of the well and the restoration of the site.

As there are two separate aspects to this phase - decommissioning the well and then restoring the site to its former use - there will be different contractors engaged, and therefore different roles and responsibilities, as set out in the following sections .

Roles and Responsibilities

Well decommissioning: -



For well decommissioning, there are few wastes created, but these are set out within Table 4.

Roles and responsibilities for managing any waste when decommissioning a well are set out below.

[1]Drilling Management Contractor may not be involved for decommissioning process

Operatives

- Initial management of waste streams
- Ensuring wastes are segregated and contained within appropriate waste containment on site
- Preventing spillages from waste streams
- Reporting any incidents to the Operations Manager
- First-response to spillages

Operations Manager

- Understanding of, and adherence to, the site Waste Management Plan and to Egdon's Waste Management procedure
- Ensuring that Waste Transfer Notes (WTN's) are correctly and accurately completed for all consignments
- Correlating waste codes as per the Waste Management Plan to ensure correct codes are used
- Maintaining a register of all wastes transferred off site
- Ensuring that WTN's are transferred to Egdon's Production and HSE Manager
- Communication with Egdon's Production and HSE Manager on waste issues
- Managing wastes on site, including clean-up of spills as necessary (reference Pollution Accident Management Plan)
- Ensuring that any waste spills are immediately cleaned up and managed
- Recording any spills through Egdon's Incident Management Procedures, and reporting such directly to Egdon

Drilling Management Contractor

- Appointing a Waste Management Contractor with the necessary skills, experience and capability to manage wastes generated during drilling
- Disseminating relevant procedures and documents in advance of drilling operations (if required)
- Ensuring that the Waste Management Plan is understood and adhered to on site
- Communication with Egdon's Production and HSE Manager, and the Waste Management Contractor, on waste issues

Egdon Production and HSE Manager

- Completion and maintenance of the site Waste Management Plan, and ensuring that the Waste Management Plan is disseminated to Drilling Management and to the main well decommissioning contractor
- Ensuring that Egdon's Site Closure and Restoration procedure is understood, applied and adhered to

- Co-ordinating waste transfers off-site via waste carriers and waste receiving locations
- Auditing waste activities on drill sites in accordance with the Risk Assessment, Waste Management Plan and Waste Management procedure
- Ensuring the requirements of the Mining Waste Permit are fulfilled
- Ensuring that waste management training is delivered where necessary to site personnel

Egdon Managing Director

- Overall responsibility for ensuring that the Mining Waste Activity is applied and operated in accordance with relevant legislation and permit requirements.

Site Restoration

Roles and responsibilities for site restoration are exactly as for the site construction phase

Well Decommissioning and Site Restoration Wastes

In terms of wastes created through well decommissioning and site restoration, waste types may be generated as set out in Table 4: -

Table 4

Product/waste type	Storage and holding	Classification
Excess cement	Skips on site, immediately transferred offsite	Non hazardous
Circulated suspension brine	On site storage tank, immediately transferred off site	Non hazardous
Water within well cellars	Pumped into vacuum tankers	Potentially hazardous (oil contamination)
Water within containment ditches	Pumped into vacuum tankers	Non hazardous
Concrete and masonry	Skips on site, immediately transferred offsite	Non hazardous
Surface aggregates - clean	Transferred into haulage vehicles for off-site transfer, or used by landowners	Non hazardous
Surface aggregates - contaminated	Transferred into skips if contaminated	Potentially hazardous (oil contamination)
Impermeable membranes	Transferred into skips or direct to haulage vehicles	Potentially hazardous if contaminated (oil)
Geotextiles	As above	As above
Soils below liners	Testing to determine status and if any contamination	As above
Plastic drainage pipe	Skips on site	Non hazardous
Damaged fencing	Transferred off site via low loaders	Non hazardous

Waste Management

The same process should be applied as set out for Production Wastes within this document.

Emergencies

In the event of the site fire or gas alarm activation (if applicable), the operation must be stopped immediately, and personnel evacuated from the site.

In the event of any spillages, the site Pollution Accident Management Plan details the response measures

References

Pollution Accident Management Plan

Waste Management Plan

Site Closure and Restoration procedure

Environmental Risk Assessment

Contacts list

Waste Inventory

Waste Transfer Notes

Waste Carriers Licenses

Appendicies

n/a

AMENDMENTS

Location (Page)	Change Description	Reason for Change	Issue	Date
All	Add drilling activity to process	To combine 2 separate procedures	1	April 2015
All	Added site construction, well decommissioning and site restoration, and referenced application of WM3	General update to cover all operational phases	2	April 2019
Header	Change Egdon logo	Egdon logo revised	3	June 2023
All	Expanded upon detail in relation to WM3 requirements	Not sufficiently detailed within procedure	4	August 2023
1	Reformat procedure header table	To align with new format	5	April 2024